

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION

- 1. Report completion date for Preliminary Jurisdictional Determination (JD): March 24, 2020
- 2. Name and Address of Person Requesting Preliminary JD:

Josh Levy

Seabrook Development Associates, Inc.

322 Reservoir Street

Needham, Massachusetts 02494

- 3. District office, file name and number:
 New England District, Seabrook Development, NAE-2017-00395
- 4. Project location(s) and background information:

The project site totals 23.4 acres located immediately south of the I-95/Route 107 interchange which abuts the property to the north and west. Lafayette Road (Route 1) lies to the east and Seabrook Village, a manufactured and mobile home park, lies to the south. Roughly 2 acres of the property has frontage on Lafayette Road that is currently developed as a medical office building. The property was once used as a sand and gravel extraction area, creating opr modofiytiong much of the wetland on the site and leaving it significantly disturbed. The proposal involves the construction of 128,955 SF of retail space, 424 associated parking spaces, access ways, and stormwater management.

See attached table of waters and wetlands

State: NH County: Rockingham City: Seabrook

Coordinates of site (lat/long in degree decimal format):
Beginning Lat. 42.893666 ° N, Long. -70.874937 ° W
End Lat. 42.891882 ° N, Long. -70.879460 ° W

Universal Transverse Mercator: 18

Name of nearest waterbody:

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 700 linear feet and 2.7 acres.

Cowardin Class: R4UB3, POWX

Stream Flow: Intermittent

Wetlands: 5.6 acres

Cowardin Class: PSS1Bx, PFO1Bx, PEM5Bx

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal: No Section 10 Waters Non-Tidal: No Section 10 Waters

5.	Review performed for site evaluation (check all that apply):
	Office (Desk) Determination. Date: March 24, 2020
	Field Determination. Date(s):

- a. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
- In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization: (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

	c.	Supporting Data.	Data reviewed	for Preliminar	y JD - c	hecked item	s should	be include	ded
in	case file	e and, where checke	d and requested, a	appropriately re	eference	sources bel	ow):		

Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "W	ETLAND
IMPACT PLAN OVERALL" with a final revision date of "10/30/17" on 1 sheet	

	그 이 그리고 있다는 그 프랑스 그리는 것 같아요. 그 아니라 그 그 아이에 가는 아이들은 아이들은 사람들은 아이들은 아이들은 아이들은 아이들은 사람이 없었다.	
residence of Gove Environmental Services, men	, ACOE data forms in Appendix D of above	
☑Office concurs with data sheets/delineation	report.	
Office does not concur with data sheets/del	lineation report.	
Data sheets prepared by the Corps:		
Corps navigable waters' study:		
U.S. Geological Survey Hydrologic Atlas:		
USGS NHD data.		
USGS 8 and 12 digit HUC maps.		
U.S. Geological Survey map(s). Cite scale & q	quad name:	
USDA Natural Resources Conservation Service	ce Soil Survey. Citation:	
National wetlands inventory map(s). Cite nam	ne: National Wetlands Inventory	
☐ State/Local wetland inventory map(s):		
FEMA/FIRM maps:		
	nal Geodectic Vertical Datum of 1929)	
Photographs: Aerial (Name & Date):Seabro	ook Development Nov 3, 2017 (Google Earth)
or Other (Name & Date):		
Previous determination(s). File no. and date of	f response letter:	
Other information (please specify):		
IMPORTANT NOTE: The information recorded of		ed by
the Corps and should not be relied upon for later j	urisdictional determinations.	
-1 (
Rid CV dow To March 26, 2020		
Richard C. Kristoff Jr. Date	Josh Levy Date	
Pagulatary Project Manager	Seabrook Development Associates, Inc.	
Regulatory Project Manager	Scantook Development Associates, Inc.	

Project/Site: Waterstone- Seabrook		City/County: Seabro	ok	Sampling Date: 6-23-17		
Applicant/Owner: Waterstone Dev		Section, Township, Range: Section Sec				
Investigator(s): BW, SH						
Landform (hillside, terrace, etc.):	Local re	Local relief (concave, convex, none): concave Slop				
Subregion (LRR or MLRA): LRR R		Long:		Datum: WGS84		
Soil Map Unit Name:			NWI classification:			
Are climatic / hydrologic conditions on the sit	te typical for this time of year?	Yes				
Are Vegetation, Soil, or Hydr				ent? Yes No		
Are Vegetation, Soil, or Hydi			d, explain any answers in			
SUMMARY OF FINDINGS - Attach	1 site map snowing samp	oling point locat	ions, transects, im	portant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea			
Hydric Soil Present?	Yes X No	within a Wetland	? Yes X	No		
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID:			
Remarks: (Explain alternative procedures I	here or in a separate report.)					
	in.			<u></u>		
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)		
Primary Indicators (minimum of one is requ	ired; check all that apply)		Surface Soil Crack	s (B6)		
Surface Water (A1)	Water-Stained Leaves (B	39)	Drainage Patterns			
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (E			
X Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1)	Hydrogen Sulfide Odor (6		Crayfish Burrows (C8)			
Sediment Deposits (B2)	X Oxidized Rhizospheres of			on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iro	Carlotte and the second state of the	Stunted or Stresse			
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positi			
X Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (
Inundation Visible on Aerial Imagery (E	A Section of the sect	ks)	Microtopographic F			
Sparsely Vegetated Concave Surface	(B8)		X FAC-Neutral Test	(D5)		
Field Observations:	No. V. Dooth (inches)					
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes X	No Depth (inches):		nd Hydrology Present?	Yes X No		
Saturation Present? Yes X	No Depth (inches):	vvetial	na Hydrology Present?	Tes		
(includes capillary fringe) Describe Recorded Data (stream gauge, m	applicating well paried photos pro	vious inspections) If	available:			
Describe Recorded Data (stream gauge, m	torinoring well, aertal priotos, pre	vious irispections), ir	avallable.			
Remarks:	***					
Y .						

VEGETATION - Use scientific names of plants.	

				Sampling Point: T1-P1
Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
				machic obe, i how, or ho(A)
				Total Number of Dominant Species Across All Strata: 2 (B)
				(2)
		-		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/E
				Prevalence Index worksheet:
() - 1 1 1 1 1 1 1 1 1 1 	-	=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size:)		- rotal Gover		OBL species 20 x 1 = 20
Francula alous	1	No	FAC	FACW species 162 x 2 = 324
0.1	1	No	-1710	FAC species 16 x 3 = 48
			FACW	
			FACVV	FACU species 0 x 4 = 0 UPL species 0 x 5 = 0
-				
		-		Column Totals: 198 (A) 392 (B) Prevalence Index = B/A = 1,98
	-			Hydrophytic Vegetation Indicators:
1	2	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
erb Stratum (Plot size:)		Total Covol		X 2 - Dominance Test is >50%
Phramites australis	90	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
Mentha spicata	70	Yes	FACW	4 - Morphological Adaptations ¹ (Provide support
Solidage patula	20	No	OBL	data in Remarks or on a separate sheet)
. Eupatorium pubescens	15	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
	-		FACW	
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
				Tees Meady plants 3 in /7 6 am) or more in
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of heigh
0.				Sapling/shrub - Woody plants less than 3 in. DBH
1,				and greater than or equal to 3.28 ft (1 m) tall.
2.				Herb - All herbaceous (non-woody) plants, regardle
	195	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Voody Vine Stratum (Plot size:	0			Woody vines – All woody vines greater than 3.28 ft
	2	No	FACW	height.
. Rubus hispidus		-		
. Rubus hispidus				Hydrophytic
				Hydrophytic Vegetation Present? Yes X No

-	-	
•	()	

T1-P1

Depth	Matrix			x Featur		101 01 001	firm the absence of in	
	olor (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks
0-5 1	0YR 4/2		10YR 5/6	10	С	М	Sandy	Loamy Sand
5-8 2	2.5Y 5/2						Sandy	
	2.5Y 5/3		·	-			Sandy	
8-10	2.51 5/3			_			Salidy	
		_			_			
\-								
				_				
					-7-2			
¹Type: C=Concentr	ation, D=Depl	letion, RM	=Reduced Matrix,	MS=Mas	sked San	d Grains.	² Location: PL=I	Pore Lining, M=Matrix.
Hydric Soil Indicat		acut.					Indicators for I	Problematic Hydric Soils ³ :
Histosol (A1)			Polyvalue Bel		ce (S8) (LRR R,		(A10) (LRR K, L, MLRA 149B)
Histic Epipedon	ı (A2)		MLRA 149E	,				ie Redox (A16) (LRR K, L, R)
Black Histic (A3	Service and the service of the servi		Thin Dark Sur					y Peat or Peat (S3) (LRR K, L, R)
Hydrogen Sulfic			X High Chroma					Below Surface (S8) (LRR K, L)
Stratified Layers	And the second of the		Loamy Mucky			RK, L)	The state of the s	Surface (S9) (LRR K, L)
Depleted Below		e (A11)	Loamy Gleyed		(F2)			nese Masses (F12) (LRR K, L, R) Toodplain Soils (F19) (MLRA 149B)
Thick Dark Surf			Depleted Matr		EC)			dic (TA6) (MLRA 144A, 145, 149B)
Sandy Mucky M			Redox Dark S		A CONTRACTOR OF THE PARTY OF TH			t Material (F21)
Sandy Gleyed N			— Depleted Dark Redox Depres		7.00		and the second s	ow Dark Surface (F22)
Sandy Redox (S							The second secon	lain in Remarks)
Stripped Matrix			Mari (F10) (LF	(KK, L)			Office (Exp	iair ii Nomano,
Dark Surface (S	57)							
3Indicators of hydro	phytic vegeta	tion and v	vetland hydrology n	nust be p	oresent, u	ınless distu	rbed or problematic.	
Restrictive Layer (
Type:								
Depth (inches):							Hydric Soil Present	Yes X No
Remarks:								FINNESS CIENT OF FIRE
This data form is re Version 7.0, 2015 E	vised from No	orthcentra	I and Northeast Re	alonal C	unnlama			

Project/Site: Waterstone- Seabrook	City/County: Seabrook Sampling Date: 6-23-17
Applicant/Owner: Waterstone Dev	State: NH Sampling Point: T1-P2
Investigator(s): BQ	Section, Township, Range:
Landform (hillside, terrace, etc.):	Local relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR R	Lat: 42.89 Long: 70.88 Datum: WGS84
Soil Map Unit Name:	NWI classification:
	te typical for this time of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hyd	
Are Vegetation, Soil, or Hyd	있는 경우 보 기도 보기 하는 것이 있습니다. 그는 것이 없는 것이 없는 것이 되었습니다. 그 사람들이 되었습니다. 그는 것이 없는 것이다. 그는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이다. 그는 것이 없는 것이 없는 것이 없는 것이다. 그런 것이 없는 것이 없는 것이 없는 것이다. 그런 것이 없는 것이 없는 것이다. 그런 것이 없는 것이다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없다면 없
SUMMARY OF FINDINGS - Attac	h site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes X No Is the Sampled Area
Hydric Soil Present?	Yes No within a Wetland? Yes No X
Wetland Hydrology Present?	Yes No If yes, optional Wetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is requ	
Surface Water (A1)	Water-Stained Leaves (B9) Drainage Patterns (B10)
High Water Table (A2) Saturation (A3)	Aquatic Fauna (B13)Moss Trim Lines (B16) Marl Deposits (B15)Dry-Season Water Table (C2)
Water Marks (B1)	Marl Deposits (B15)Dry-Season Water Table (C2) Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)	Thin Muck Surface (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (I	
Sparsely Vegetated Concave Surface	(B8) X FAC-Neutral Test (D5)
Field Observations:	No. Doolly Made and
Surface Water Present? Yes Water Table Present? Yes	No Depth (inches): No Depth (inches):
Saturation Present? Yes	No Depth (inches): Wetland Hydrology Present? Yes No X
(includes capillary fringe)	Wettalia Hydrology (Tesent: Tes No A
	onitoring well, aerial photos, previous inspections), if available:
Remarks:	
	A A

VECETATION	Use scientific names	of mlanta
VEGETATION	LISA SCIANTIFIC DAMAS	of blants

	Absolute	Dominant	Indicator			
ree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:		
Acer rubrum	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)		
				Total Number of Dominant		
				Species Across All Strata: 4 (B)		
				Percent of Dominant Species		
				That Are OBL, FACW, or FAC: 100.0% (A/E		
· · · · · · · · · · · · · · · · · · ·				Prevalence Index worksheet:		
	20	=Total Cover		Total % Cover of: Multiply by:		
apling/Shrub Stratum (Plot size:)				OBL species0 x 1 =0		
Frangula alnus	20	Yes	FAC	FACW species 14 x 2 = 28		
Acer rubrum	5	Yes	FAC	FAC species 85 x 3 = 255		
				FACU species 0 x 4 = 0		
				UPL species 0 x 5 = 0		
				Column Totals: 99 (A) 283 (I		
				Prevalence Index = B/A = 2.86		
	**			Hydrophytic Vegetation Indicators:		
	25	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation		
erb Stratum (Plot size:)	-			X 2 - Dominance Test is >50%		
Solidago rugosa	40	Yes	FAC	3 - Prevalence Index is ≤3.0¹		
Mentha spicata	2	No	FACW	4 - Morphological Adaptations ¹ (Provide support		
Phragmites australis	10	No	FACW	data in Remarks or on a separate sheet)		
				Problematic Hydrophytic Vegetation ¹ (Explain)		
				Problematic Hydrophytic vegetation (Explain)		
				¹ Indicators of hydric soil and wetland hydrology mus be present, unless disturbed or problematic.		
				Definitions of Vegetation Strata:		
				Tree Woody plants 3 in. (7.6 cm) or more in		
				diameter at breast height (DBH), regardless of heigh		
0.				Sapling/shrub - Woody plants less than 3 in. DBH		
1.				and greater than or equal to 3.28 ft (1 m) tall.		
2.				Herb – All herbaceous (non-woody) plants, regardle		
	52	=Total Cover		of size, and woody plants less than 3.28 ft tall.		
Voody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 f		
. Ipomoea lacunosa	2	No	FACW	height.		
	-					
			-	Hydrophytic		
	-			Vegetation		
				Fresent: les X		
	2	=Total Cover				

-	0	
•		

T1-P2

Depth	Matrix	o the dep		x Featur		LOT OF CC	onfirm the absence of	maicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Rema	arks
0-7	10YR 3/3		· ·				Loamy/Clayey	Fine san	dy Ioam
7-10	10YR 3/2						Loamy/Clayey	Fill, fine sa	ndy loam
10-20	10YR 2/1	—		_			Loamy/Clayey _	loamy	sand
					=	_			
					<u>-</u>	<u> </u>			
¹Type: C=Cor	ncentration, D=Deple	etion. RM:	=Reduced Matrix. N	—— √S=Mas	ked Sand	Grains.	² Location: P	L=Pore Lining, M=M	atrix
Black Hist Hydrogen Stratified Depleted Thick Dar Sandy Mu Sandy Gle Sandy Re Stripped M Dark Surf	A1) pedon (A2) pic (A3) Sulfide (A4) Layers (A5) Below Dark Surface k Surface (A12) picky Mineral (S1) peyed Matrix (S4) dox (S5) Matrix (S6) ace (S7)		Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Si Depleted Dark Redox Depres Marl (F10) (LR	face (S9) Sands (S Mineral Matrix (ix (F3) urface (F Surface sions (F R K, L)	(LRR R, 111) (LRF (F1) (LRF (F2) (F7) (F7) (F7)	, MLRA 1 R K, L) R K, L)	2 cm Mu Coast Pr 5 cm Mu Polyvalu Thin Dar Iron-Mar Piedmon Mesic Sp Red Parv Very Sha	or Problematic Hydock (A10) (LRR K, L, airie Redox (A16) (Lcky Peat or Peat (Sie Below Surface (Sek Surface (S9) (LRF aganese Masses (F1 at Floodplain Soils (Foodic (TA6) (MLRA ent Material (F21) allow Dark Surface (xplain in Remarks)	MLRA 149B) LRR K, L, R) (3) (LRR K, L, R) (3) (LRR K, L) (4) (LRR K, L) (5) (LRR K, L, R) (6) (MLRA 149B) (144A, 145, 149B)
Depth (inc	ches):						Hydric Soil Presei	nt? Yes	No_X
Remarks: Fill									

Project/Site: Waterstone- Seabrook	City/County: Seabrook Sampling Date: 06-02-17
Applicant/Owner: Waterstone Dev.	State: NH Sampling Point: T2-P1
Investigator(s): BQ, SH	Section, Township, Range:
	ocal relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR R Lat: 42.89	Long: 70.88 Datum: WGS84
Soil Map Unit Name:	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year	ar? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly di	isturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally prob	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	Is the Sampled Area within a Wetland? Yes X No If yes, optional Wetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
X Surface Water (A1) Water-Stained Leav	ves (B9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13	Moss Trim Lines (B16)
Saturation (A3) Mari Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide O	
Sediment Deposits (B2) Oxidized Rhizosphe	eres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce	A TENTO EXPONENTE EL CONTROL E EL MESSO (SER CONTROL EN LA CONTROL EN LES CONTROL EN LES CONTROL EN LE CONTROL E
	tion in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)Thin Muck Surface	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re	
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes X No Depth (inc	
Water Table Present? Yes No Depth (inc	
Saturation Present? Yes No Depth (inc	ches): Wetland Hydrology Present? Yes X No
(includes capillary fringe)	(via inconstituta) If qualifolia
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), il avallable.
Remarks:	
The manual state of the state o	

VECETATION	I la a a alambido de como de	
VEGETATION -	Use scientific names	or plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1. Acer rubrum	65	Yes	FAC	Number of Dominant Species		
2.				That Are OBL, FACW, or FAC:5(A)		
3.				Total Number of Dominant		
4.				Species Across All Strata: 6 (B)		
5				Percent of Dominant Species		
6.				That Are OBL, FACW, or FAC: 83.3% (A/B)		
7,				Prevalence Index worksheet:		
	65	=Total Cover		Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0		
Clethra alnifolia	20	Yes	FAC	FACW species 37 x 2 = 74		
2. Frangula alnus	15	Yes	FAC	FAC species 107 x 3 = 321		
3. Ilex verticillata	35	Yes	FACW	FACU species 5 x 4 = 20		
4.				UPL species 0 x 5 = 0		
				Column Totals: 149 (A) 415 (B)		
U 				Prevalence Index = B/A = 2.79		
7						
		-Total Cause		Hydrophytic Vegetation Indicators:		
Hart Obstance (Districts	70	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation		
Herb Stratum (Plot size:)				X 2 - Dominance Test is >50%		
Osmundastrum cinnamomeum		No	FACW	X 3 - Prevalence Index is ≤3,01		
2. Arisaema triphyllum	2	No_	FAC	4 - Morphological Adaptations ¹ (Provide support data in Remarks or on a separate sheet)		
3.						
4.	-			Problematic Hydrophytic Vegetation ¹ (Explain)		
5.		تست.		¹ Indicators of hydric soil and wetland hydrology must		
6				be present, unless disturbed or problematic.		
7				Definitions of Vegetation Strata:		
8				Tree – Woody plants 3 in. (7.6 cm) or more in		
9.				diameter at breast height (DBH), regardless of height.		
10.				Sapling/shrub - Woody plants less than 3 in, DBH		
11,				and greater than or equal to 3.28 ft (1 m) tall.		
12.						
· ·	4	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
Woody Vine Stratum (Plot size:)						
Parthenocissus quinquefolia	5	Yes	FACU	Woody vines – All woody vines greater than 3.28 ft in height.		
Toxicodendron radicans	5	Yes	FAC	Togic		
3.		- 100	TAO	Hydrophytic		
				Vegetation		
4.			-	Present? Yes X No		
	10	=Total Cover				
Remarks: (Include photo numbers here or on a separate	rate sheet.)					

-	-		

T2-P1

Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	_%_	Type ¹	Loc2	Texture	Remarks
0-9	2.5Y 2.5/1	100					Muck	
9-12	2.5Y 5/1	98					Sandy	
	-	_						
				_				
	-					—		
-				,	-			
				_				
Type: C=C	Concentration, D=Depl	etion, RM	=Reduced Matrix, I	MS=Mas	ked San	d Grains.	² Location: PL=Po	ore Lining, M=Matrix.
	Indicators:							oblematic Hydric Soils³;
Histoso			Polyvalue Beld		ice (S8) (LRR R,	Recovered	(10) (LRR K, L, MLRA 149B)
	Epipedon (A2)		MLRA 149E		\	MIDA		Redox (A16) (LRR K, L, R) Peat or Peat (S3) (LRR K, L, R)
X Black H	en Sulfide (A4)		— Thin Dark Sur High Chroma	1				low Surface (S8) (LRR K, L)
	ed Layers (A5)		Loamy Mucky					rface (S9) (LRR K, L)
	ed Below Dark Surface	(A11)	Loamy Gleyed			, , ,	-	ese Masses (F12) (LRR K, L, R)
	ark Surface (A12)		Depleted Matr		,			odplain Soils (F19) (MLRA 149B)
	Mucky Mineral (S1)	1	Redox Dark S		F6)		Mesic Spodio	(TA6) (MLRA 144A, 145, 149B)
	Gleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent N	Naterial (F21)
Sandy	Redox (S5)		Redox Depres	sions (F	-8)		Very Shallow	Dark Surface (F22)
Strippe	d Matrix (S6)		Marl (F10) (LF	RK, L)			Other (Explai	in in Remarks)
Dark S	urface (S7)							
3Indicators	of hydrophytic vegetat	ion and w	vetland hydrology m	ust be r	resent, u	nless dist	urbed or problematic.	
	Layer (if observed):		, , , , ,					
Type:								
Depth	(inches):						Hydric Soil Present?	Yes_X No
Remarks:								
			41					

Project/Site: Waterstone- Seabrook	City/County:	Seabrook	Sampling Date: 06-02-17					
Applicant/Owner: Waterstone Dev.		State: NH	Sampling Point: T2-P2					
Investigator(s): BQ, SH	Section, Township, Range:							
Landform (hillside, terrace, etc.):	Local relief (concave, convex, none): concave Slope %:							
Subregion (LRR or MLRA): LRR R		Long: 70.88	Datum: WGS84					
Soil Map Unit Name:		NWI classification:	-					
Are climatic / hydrologic conditions on the site typical	for this time of year?		explain in Remarks.)					
Are Vegetation, Soil, or Hydrology		re "Normal Circumstances" pres						
	the state of the s							
Are Vegetation, Soil, or Hydrology		f needed, explain any answers i						
SUMMARY OF FINDINGS – Attach site n	nap showing sampling poin	t locations, transects, in	nportant features, etc.					
Hydrophytic Vegetation Present? Yes	No X Is the Sar	npled Area						
Hydric Soil Present? Yes	No X within a V		No_X_					
Wetland Hydrology Present? Yes	No X If yes, opti	ional Wetland Site ID:						
HYDROLOGY								
	-	Secondary Indicators	minimum of two required)					
Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; che-	ck all that apply)	Secondary Indicators (Surface Soil Crack						
	Vater-Stained Leaves (B9)	Drainage Patterns						
. 	quatic Fauna (B13)	Moss Trim Lines (
	farl Deposits (B15)	Dry-Season Water						
Water Marks (B1)	lydrogen Sulfide Odor (C1)	Crayfish Burrows	(C8)					
Sediment Deposits (B2)	xidized Rhizospheres on Living Roo	ots (C3) Saturation Visible	on Aerial Imagery (C9)					
	resence of Reduced Iron (C4)	Stunted or Stresse						
	lecent Iron Reduction in Tilled Soils	The second of the second of the second of the second						
	hin Muck Surface (C7)	Shallow Aquitard	The second secon					
Inundation Visible on Aerial Imagery (B7) C Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)	Microtopographic FAC-Neutral Test						
Field Observations:		- AO-Nedital Test	(66)					
Surface Water Present? Yes No	Depth (inches):							
Water Table Present? Yes No	Depth (inches):							
Saturation Present? Yes No	Depth (inches):	Wetland Hydrology Present?	Yes No X					
(includes capillary fringe)								
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspec	tions), if available:						
Remarks:								
	·							
31								
	7							

Tree Stratum (Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
4 Our water with the	30	Yes	FACU				
Quercus rubra Quercus alba	15	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)			
3. Pinus strobus	15	Yes	FACU				
4. Tsuga canadensis	10	No	FACU	Total Number of Dominant Species Across All Strata: 11 (B)			
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 36.4% (A/B)			
7.				Prevalence Index worksheet:			
	70	=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x1= 0			
1. Acer rubrum	15	Yes	FAC	FACW species 5 x 2 = 10			
2. Hamamelis virginiana	25	Yes	FACU	FAC species 30 x 3 = 90			
3. Clethra alnifolia	5	No	FAC	FACU species 115 x 4 = 460			
4				UPL species 0 x 5 = 0			
5.				Column Totals: 150 (A) 560 (B)			
		-		Prevalence Index = B/A = 3.73			
				Hydrophytic Vegetation Indicators:			
7.	45	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
He I Obstance (District)		- Total oover		2 - Dominance Test is >50%			
Herb Stratum (Plot size:)		Yes	FACU	3 - Prevalence Index is ≤3.01			
Vaccinium angustifolium	5		FACU	4 - Morphological Adaptations ¹ (Provide suppor			
2. Maianthemum canadense		Yes Yes	FACW	data in Remarks or on a senarate sheet)			
3. Ilex verticillata	5	Yes Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
4. Maianthemum racemosum	5	Yes					
5. Trientalis borealis	5		FAC	¹Indicators of hydric soll and wetland hydrology must be present, unless disturbed or problematic.			
6. Clethra alnifolia	5	Yes_	FAC	Definitions of Vegetation Strata:			
7.			-				
8				Tree – Woody plants 3 in. (7.6 cm) or more in			
9.	-		-	diameter at breast height (DBH), regardless of height			
10	-			Sapling/shrub – Woody plants less than 3 in. DBH			
11	-			and greater than or equal to 3.28 ft (1 m) tall.			
12				Herb – All herbaceous (non-woody) plants, regardles			
	35	_=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size:)		8		Woody vines - All woody vines greater than 3.28 ft i			
1.		_		helght.			
2.				Hydrophytic			
3.				- Vegetation			
				Present? Yes No X			
4.		=Total Cover					

T2-P2

Profile Description: (Describe to the Depth Matrix		ument tl		tor or co	nfirm the absence o	f indicators.)	
	6 Color (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-3 7.5YR 3/2					Sandy	loamy fine s	
3-8 7.5YR 4/6					Sandy	loamy fine s	
8-15 10YR 5/6					Sandy	loamy fine s	and
¹ Type: C=Concentration, D=Depletion Hydric Soil Indicators:Histosol (A1)	Polyvalue Bel	ow Surfa			Indicators fo	L=Pore Lining, M=Matri or Problematic Hydric ick (A10) (LRR K, L, ML	Soils ³ : .RA 149B)
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4)	MLRA 1499 Thin Dark Sur High Chroma	face (S9) Sands (S	611) (LRF	R K, L)	49B) 5 cm Mu Polyvalu	rairie Redox (A16) (LRR acky Peat or Peat (S3) (L de Below Surface (S8) (L de Surface (S8) (LBR K	LRR K, L, R) LRR K, L)
Stratified Layers (A5) Depleted Below Dark Surface (A1 Thick Dark Surface (A12)	Loamy Mucky Loamy Gleyed Depleted Mate	d Matrix ((K, L)	Iron-Mar	rk Surface (S9) (LRR K, nganese Masses (F12) (nt Floodplain Solls (F19)	(LRR K, L, R)
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4)	Redox Dark S Depleted Dark					podic (TA6) (MLRA 144 ent Material (F21)	A, 145, 149B)
Sandy Redox (S5)	Redox Depre	ssions (F			Very Sh	allow Dark Surface (F22	2)
Stripped Matrix (S6) Dark Surface (S7)	Marl (F10) (LI	RR K, L)			Other (E	explain in Remarks)	
3	and a second to idea be seen			dana diak	uland as asablamatia		
³ Indicators of hydrophytic vegetation a Restrictive Layer (if observed): Type:	nd wetland hydrology n	nust be p	resent, ur	ness distu	irbed or problematic.		
Depth (inches):					Hydric Soil Prese	nt? Yes	No X
Remarks:							
Ē							

Project/Site: Waterstone- Seabrook	City/County: Seabrook Sampling Date: 06-02-1							
Applicant/Owner: Waterstone Dev.	State: NH Sampling Poin							
Investigator(s): BQ, SH	Section, Township, Range:							
Landform (hillside, terrace, etc.):	Local r	Local relief (concave, convex, none): concave Slope 9						
Subregion (LRR or MLRA): LRR R	Lat: 42.89	Long:	70.88	Datum: WGS84				
Soil Map Unit Name:			NWI classification:					
Are climatic / hydrologic conditions on the s Are Vegetation, Soil, or Hy Are Vegetation, Soil, or Hy SUMMARY OF FINDINGS – Attack	drology X significantly disturb	ed? Are "Norm	l, explain any answers in	ent? Yes X No n Remarks.)				
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: (Explain alternative procedures	Yes X No Yes X No Yes X No	Is the Sampled A within a Wetland' If yes, optional We	Yes_X	No				
HYDROLOGY								
Wetland Hydrology Indicators: Primary Indicators (minimum of one is recompleted in the second in th	Water-Stained Leaves (E Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (I Oxidized Rhizospheres of Presence of Reduced Iro Recent Iron Reduction in Thin Muck Surface (C7) (B7) Other (Explain in Remark	C1) on Living Roots (C3) on (C4) on Tilled Soils (C6)	Surface Soil Crack Drainage Patterns Moss Trim Lines (Dry-Season Water Crayfish Burrows	(B10) B16) r Table (C2) (C8) on Aerial Imagery (C9) ed Plants (D1) ion (D2) (D3) Relief (D4)				
Field Observations: Surface Water Present? Yes X Water Table Present? Yes Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge,	No Depth (inches):	Wetlan	nd Hydrology Present? available:	Yes <u>X</u> No				
Remarks: Numerous standing dead trees, beaver a	ctivity. Area may have been alter	ed for drainage durrin	ng or following sand and	gravel mining.				

	Walter to all the Market In the company of the comp	
VEGETATION -	Use scientific names of plants.	

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:
. Acer rubrum	15	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
		•		
		-		Total Number of Dominant Species Across All Strata; 5 (B)
		-		opeolos Adioss Ali Otiata,
		. ——	-	Percent of Dominant Species
				That Are OBL, FACW, or FAC: 80.0% (A/B Prevalence Index worksheet:
	15	=Total Cover		A SAN AND A SAN AND AND A SAN A
apling/Shrub Stratum (Plot size:)	10	- Total Gover		
Clethra alnifolia	6	Von	FAC	OBL species 35 x 1 = 35
	5	Yes	FAC	FACW species 5 x 2 = 10
Frangula alnus	10	Yes	FAC	FAC species 32 x 3 = 96
				FACU species 0x 4 = 0
				UPL species 0 x 5 = 0
· · · · · · · · · · · · · · · · · · ·				Column Totals: 72 (A) 141 (E
				Prevalence Index = B/A = 1.96
				Hydrophytic Vegetation Indicators:
	15	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
rb Stratum (Plot size:)				X 2 - Dominance Test is >50%
Lythrum salicaria	10	No	OBL	X 3 - Prevalence Index is ≤3.0 ¹
Galium palustre	5	No	OBL	4 - Morphological Adaptations (Provide supporti
Impatiens pallida	5	No	FACW	data in Remarks or on a separate sheet)
Carex typhina	5	No	OBL	Problematic Hydrophytic Vegetation¹ (Explain)
Polygonum sagittatum	15	Yes	OBL	¹ Indicators of hydric soil and wetland hydrology must
Solanum dulcamara	2	No	FAC	be present, unless disturbed or problematic.
Unknown grass	15	Yes		Definitions of Vegetation Strata:
				The latest state 2 in (7.5 am) or more in
				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of heigh
).				
		, —		Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
)				
	57	=Total Cover		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.
oody Vine Stratum (Plot size:)	- 01	- Total Gover	-	of size, and woody plants loss than 5.25 it tall.
				Woody vines – All woody vines greater than 3.28 ft
		. ——		height.
		. —		Hydrophytic
				Vegetation
		() () () () () () () () () ()	-	Present? Yes X No
		=Total Cover		

	ription: (Describe t	o the dep				tor or co	firm the abse	nce of indica	tors.)	
Depth	Matrix (maint)			Featur		Loc ²	Texture		Remarks	
(inches)	Color (moist)	%	Color (moist)	%_	Type ¹	LOC	7.39		Remarks	
0-20	10YR 2/1	—					Muck	_		
		=	-	_	=	=	e.			
		_		_	_					
					_					
		_		_	_					
					_					
¹Type: C=Co	oncentration, D=Depl	etion, RM	=Reduced Matrix, N	 /S=Mas	 ked San	d Grains.	² Locat	ion: PL=Pore	Lining, M=Matri	х,
Black Hi Hydroge Stratified Depleted Thick Da Sandy M Sandy G Sandy F Stripped Dark Su	(A1) nipedon (A2)		Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matr Redox Dark S Depleted Dark Redox Depres Marl (F10) (LF) ace (S9 Sands (- Mineral Matrix x (F3) urface (Surface sions (F) (LRR F S11) (LR (F1) (LR (F2) F6) e (F7)	, MLRA 1 R K, L) R K, L)	Co So Po Th Iro M R Vo O	oast Prairie Recom Mucky Pea onlyvalue Belov hin Dark Surfa on-Manganese iedmont Flood lesic Spodic (T ed Parent Mat ery Shallow D	ark Surface (F2:	R K, L, R) LRR K, L, R) LRR K, L) , L) (LRR K, L, R) (LRR K, L, R)) (MLRA 149) JA, 145, 1496
Restrictive Type:	Layer (if observed):								Ves X	No.
	nches):			-			Hydric doil	riescher	100_K	
	nches):						Hydric Soil	Present?	Yes_X_	No

Applicant/Owner: Waterstone Dev. Development		unty: Seabrook	Sampling Date: 06-02-17
nvestigator(s): BQ. SH		State: N	H Sampling Point: T3-P2
		Section, Township, Range:	
andform (hillside, terrace, etc.):	Local relief (co	ncave, convex, none): concave	Slope %:
iubregion (LRR or MLRA): LRR R	Lat: 42.89	Long: 70.88	Datum: WGS84
oil Map Unit Name:		NWI classificat	
re climatic / hydrologic conditions on the	site typical for this time of year?	Yes X No (If	
	ydrology significantly disturbed?		
re Vegetation , Soil , or H		(If needed, explain any answe	
	ch site map showing sampling p		
Hydrophytic Vegetation Present?		Sampled Area	
Hydric Soil Present?			No X
Wetland Hydrology Present?	Yes No X If yes	, optional Wetland Site ID:	
IYDROLOGY			
Wetland Hydrology Indicators: Primary Indicators (minimum of one is re	guired; check all that apply)	Secondary Indicate Surface Soil C	rs (minimum of two required)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patte	
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Line	
Saturation (A3)	Marl Deposits (B15)	Dry-Season W	ater Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burro	ws (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living		ole on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)		ssed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled S		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquita	
to an deliber Chattele and Adalah Income	(B7) Other (Explain in Remarks)	Microtopograp	
Inundation Visible on Aerial Imagery	(BR)		1907.5 (1) 11 12
Sparsely Vegetated Concave Surface	ee (B8)	FAC-Neutral T	1907.5 (1) 11 12
Sparsely Vegetated Concave Surfactive Sparsely Vegetated Concave Surfactive Sparsely Vegetated Concave Surface Sparsely Vegetated Concave Sp			1907.5 (1) 11 12
Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Yes	No Depth (inches):		1907.5 (1) 11 12
Sparsely Vegetated Concave Surfactive Sparsely Vegetated Concave Surfactive Sparsely Vegetated Concave Surface Sparsely Vegetated Concave Sp			est (D5)

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum	50	Yes	FAC	Number of Dominant Species
2. Quercus rubra	20	Yes	FACU	That Are OBL, FACW, or FAC: 2 (A)
3. Pinus strobus	15	No	FACU	Total Number of Dominant
4. Quercus alba	5	No	FACU	Species Across All Strata: 5 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)
7.				Prevalence Index worksheet:
	90	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species0 x 1 =0
1. Frangula alnus	55	Yes	FAC	FACW species 12 x 2 = 24
2. Vaccinium corymbosum	5	No	FACW	FAC species 115 x 3 = 345
3. Hamamelis virginiana	20	Yes	FACU	FACU species 135 x 4 = 540
4. Clethra alnifolia	5	No	FAC	UPL species 0 x 5 = 0
5. Pinus strobus	5	No	FACU	Column Totals: 262 (A) 909 (B
6.				Prevalence Index = B/A = 3.47
7.				Hydrophytic Vegetation Indicators:
	90	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)				2 - Dominance Test is >50%
Maianthemum canadense	50	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
2. Trientalis borealis	5	No	FAC	4 - Morphological Adaptations ¹ (Provide supporting
3. Vaccinium angustifolium	10	No	FACU	data in Remarks or on a separate sheet)
4. Osmundastrum cinnamomeum	5	No	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Ilex verticillata	2	No	FACW	
6. Pteridium aquilinum	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7			17100	Definitions of Vegetation Strata:
		. —		Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of heigh
10 11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
			*	and greater than or equal to 0.25 it (1 m) tall.
				Herb - All herbaceous (non-woody) plants, regardles
12.	82	=Total Cover		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.
12.	82	=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody vines All woody vines greater than 3.28 ft
12.	82	=Total Cover		of size, and woody plants less than 3.28 ft tall.
12	82	=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody vines All woody vines greater than 3.28 ft height.
12	82	=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody vines All woody vines greater than 3.28 ft
12	82	=Total Cover		of size, and woody plants less than 3.28 ft tall. Woody vines All woody vines greater than 3.28 ft height. Hydrophytic

T3-P2

Depth	Matrix			Featur		. 2			-	6.7
inches)	Color (moist)		Color (moist)	_%_	Type ¹	Loc ²	Texture	-,\	Remai	rks
0-4	10YR 3/1						Sandy		loamy fine	sand
4-6	10YR 5/2						Sandy		loamy fine	sand
6-8	7.5YR 3/4						Sandy		discontinuous	E horizon
8-15	10YR 4/6	<u> </u>		_	_		Sandy		loamy fine	sand
				=	Ξ					
Гуре: С=Со	ncentration, D=Deple	tion, RM	=Reduced Matrix, M	S=Mask	ced Sand	Grains.	² Location:	PL=Pore	Lining, M=Ma	trix.
Black His Hydroger Stratified Depleted Thick Dan Sandy Mi Sandy Gl	A1) pedon (A2) tic (A3) Sulfide (A4) Layers (A5) Below Dark Surface k Surface (A12) ucky Mineral (S1) eyed Matrix (S4) dox (S5) Matrix (S6)	(A11)	Polyvalue Below MLRA 149B) Thin Dark Surfa High Chroma S Loamy Mucky N Loamy Gleyed Depleted Matrix Redox Dark Su Depleted Dark Redox Depress Marl (F10) (LRI	ace (S9) ands (S dineral (Matrix (I x (F3) arface (F) Surface sions (F8	(LRR R, 11) (LRF F1) (LRF -2) 6) (F7)	, MLRA 149 R K, L)	2 cm Coas Polyv Thin Iron-I Piedr Mesic Red I Very	Muck (A10 t Prairie Re Mucky Per alue Belov Dark Surfa Manganese nont Flood c Spodic (Tearent Mat Shallow Dare	v Surface (S8) ce (S9) (LRR e Masses (F12 plain Soils (F1	MLRA 149B) RR K, L, R) (LRR K, L, R) (LRR K, L) K, L) (LRR K, L, R) (LRR K, L, R) 9) (MLRA 149B
	hydrophytic vegetation	on and w	etland hydrology mu	ist be pr	esent, ur	nless disturi	oed or problemat	ic.		Y
Type: _ Depth (in	ayer (if observed); ches):						Hydric Soil Pre	sent?	Yes	No_X
	n is revised from Nor 1015 Errata. (http://w								d Indicators of	Hydric Soils,

Project/Site: Waterstone- Seabrook	City/County:	Seabrook	Sampling Date: 06-02-17		
Applicant/Owner: Waterstone Dev.		State: NH	Sampling Point: T4-P1		
Investigator(s): BQ, SH	Sec	tion, Township, Range:			
Landform (hillside, terrace, etc.):	State: NH Sampling Point Section, Township, Range: Local relief (concave, convex, none): concave Slope Lat: 42.89 Long: 70.88 Datum: NWI classification:		Slope %:		
Soil Map Unit Name:	Lat. 42.03		The state of the s		
Are climatic / hydrologic conditions on the site t	voical for this time of year?				
	Control of the second s				
SUMMARY OF FINDINGS – Attach s	ite map showing sampling point	t locations, transects, in	nportant features, etc.		
		[11] [11] [12] [13] [13] [14] [15] [15] [15] [15] [15] [15] [15] [15			
Wetland Hydrology Present?	/es_X_ No If yes, option	onal Wetland Site ID:			
HYDROLOGY			*		
	-11	A 1 1 1 1 1 1	() to the second second		
Wetland Hydrology Indicators:	de about all that applied				
Primary Indicators (minimum of one is require					
Surface Water (A1) X High Water Table (A2)					
Saturation (A3)					
Water Marks (B1)		Crayfish Burrows	(C8)		
Sediment Deposits (B2)		ots (C3) Saturation Visible	on Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stress	ed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils				
Iron Deposits (B5)					
Inundation Visible on Aerial Imagery (B7)					
Sparsely Vegetated Concave Surface (B	3)	X FAC-Neutral Tes	(D5)		
Field Observations:					
Surface Water Present? Yes					
Water Table Present? Yes X Saturation Present? Yes		Wetland Hydrology Present	? Yes X No		
(includes capillary fringe)	Depart (mores).	(Totalia il) al cirgo (Totalia			
	nitoring well, aerial photos, previous inspec	ctions), if available:			
Doubling Hospital Paris (excess 3-23-)					
Remarks:					

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Acer rubrum 2.	50	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
3				Total Number of Dominant Species Across All Strata: 4 (B)
5	1			Percent of Dominant Species That Are OBL, FACW, or FAC:100.0% (A/B)
7,				Prevalence Index worksheet:
	50	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 5 x 1 = 5
1. Frangula alnus	50	Yes	FAC	FACW species 70 x 2 = 140
2. Vaccinium corymbosum	15	Yes	FACW	FAC species 100 x 3 = 300
3. Lonicera tatarica	2	No	FACU	FACU species 4 x 4 = 16
4.				UPL species 0 x5= 0
5.				Column Totals: 179 (A) 461 (B)
•				Prevalence Index = B/A = 2.58
7.		-		Hydrophytic Vegetation Indicators:
" ——	67	=Total Cover	-	1 - Rapid Test for Hydrophytic Vegetation
Llock Chrotium (Diet sine)	- 07	- Total Gover		
Herb Stratum (Plot size:)	-	No.	F40\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	X 2 - Dominance Test is >50%
Osmundastrum cinnamomeum	5	No	FACW	X 3 - Prevalence Index is ≤3.0¹
2. Onoclea sensibilis	10	No_	FACW	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3. Rubus hispidus		Yes	FACW	
4. Quercus alba	2	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Carex typhina 6.	5	No No	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height
10.				Continue to Manda plants less than 2 in DDU
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
	62	=Total Cover		Herb – All herbaceous (non-woody) plants, regardles of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)		- Total Gover		
				Woody vines – All woody vines greater than 3.28 ft i height.
1			-	neight.
2.	-	-		Hydrophytic
3		-		Vegetation
4				Present? Yes X No No
		=Total Cover		

_	_		

T4-P1

Depth	Matrix			x Featur						
inches)	Color (moist)	<u>%</u>	Color (moist)	_%_	Type ¹	Loc ²	Texture		Remarks	
0-2	10YR 3/1						Muck			
2-16	2.5Y 4/2	_	7.5YR 4/3		_		Sandy		Coarse sand	
		_			_					
Type: C=C	oncentration, D=Deple	etion, RM	=Reduced Matrix, N	 MS=Mas	 ked San	d Grains.			ining, M=Matrix.	
Histosol Histic Ep Black Hi Hydroge Stratified X Depleted Thick Da Sandy M Sandy G X Sandy F Stripped Dark Su	poipedon (A2) stic (A3) en Sulfide (A4) d Layers (A5) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4) Redox (S5) d Matrix (S6) urface (S7)		Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma i Loamy Mucky Loamy Gleyed Depleted Matr Redox Dark S Depleted Dark Redox Depres Marl (F10) (LF	face (S9) Sands (S) Mineral Matrix (F3) urface (F3) Surface (F3) RR K, L)) (LRR R 611) (LR (F1) (LR (F2) -6) -6 (F7)	, MLRA 14 R K, L) R K, L)	98)	2 cm Muck (A10) Coast Prairie Rec 5 cm Mucky Peat Polyvalue Below Thin Dark Surfac ron-Manganese Piedmont Floodp Mesic Spodic (TA Red Parent Mate Very Shallow Da Other (Explain in	rk Surface (F22)	(A 149B) (, L, R) (R K, L, R) (R K, L) () () () () () () () () () () () () ()
Restrictive Type: Depth (i	Layer (if observed):inches):		_				Hydric Soi	il Present?	Yes_X_	No
Remarks: Plot is withir	n a former gravel and	sand extr	action area							

	City/County		te: Waterstone- Seabrook	roject/Site: Waterstone-
State: NH Sampling Poir			Owner: Waterstone Dev.	pplicant/Owner: Wat
Section, Township, Range:	Sec		or(s): BQ, SH	vestigator(s): BQ, SH
ave, convex, none); concave Slop	Local relief (concav		(hillside, terrace, etc.):	andform (hillside, terrace,
Long: 70.88 Datum:		Lat: 42.	(LRR or MLRA): LRR R	ubregion (LRR or MLRA)
				oil Map Unit Name:
	f vear? Y	site typical for this	TV C TO THE RESERVE T	
물건 살림이 되는 것 같은 그 아이지 않는 것이 없는 것이 없었다.				
그리아 아이 아이들은 아이 그리고 그리고 보다 되었다며 그 그리고 그래요?		The second secon		
				Hydrophytic Vegetation Pr
				Hydric Soil Present?
			Hydrology Present?	Netland Hydrology Prese
				er.
			LOGY	IYDROLOGY
Secondary Indicators (minimum of two r			Hydrology Indicators:	Wetland Hydrology Indi
Surface Soll Cracks (B6)			ndicators (minimum of one is requ	Primary Indicators (minim
				Surface Water (A1)
				High Water Table (A2
	Bridge Committee		The state of the s	Saturation (A3)
				Water Marks (B1) Sediment Deposits (B
Stunted or Stressed Plants (D1)				Drift Deposits (B3)
				Algal Mat or Crust (B
Shallow Aquitard (D3)	ace (C7)	Thin Muc		Iron Deposits (B5)
Microtopographic Relief (D4)	in Remarks)	(B7) Other (E	dation Visible on Aerial Imagery (
FAC-Neutral Test (D5)		ce (B8)	rsely Vegetated Concave Surface	Sparsely Vegetated (
		× 1.51	servations:	Field Observations:
		No		Surface Water Present?
William Daniel Von		No		Water Table Present?
Wetland Hydrology Present? Yes	(inches):	No		Saturation Present?
		monitoring woll o		(includes capillary fringe)
actions) if available:	notor provious inches		: Recorded Data (Stream gauge, i	Describe Recorded Data
ections), if available:	notos, previous inspec	, monitoring trent a		
ections), if available:	hotos, previous inspec	, memoring went a	3.5.	
ections), if available:	hotos, previous inspec	, mornioring won, a		
ections), if available:	notos, previous inspec	, mankering wan, a		Remarks:
Remarkes X s.) t featu of two r 2) Imagery (D1)	NWI classification: es X No (If no, explain in the "Normal Circumstances" present? Year If needed, explain any answers in Remarks at locations, transects, important in the location in the	NWI classification:	ite typical for this time of year? Yes X No (If no, explain Indiracy Significantly disturbed? Are "Normal Circumstances" present? Yes are "normal Circumstances" presents. It is the Sampled Area within a Wetland? Yes No X If yes, optional Wetland? Yes No X If yes, optional Wetland Site ID: Mare or in a separate report.)	cators: um of one is required; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B15) Mari Deposits (B15) Hydrogen Sulfide Odor (C1) Aquatic Fauna (B13) Aquatic Fauna (B13) Aquatic Fauna (B13) Aguatic Fauna (B13) Aguatic Fauna (B15) Hydrogen Sulfide Odor (C1) Aquatic Fauna (B16) Aguatic Fauna (B16) Hydrogen Sulfide Odor (C1) Aguatic Resente of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Acrial Imagery (B7) Other (Explain in Remarks) Yes No Depth (inches):

Tree Stratum (Plot size:	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size:) 1. Pinus strobus	25	Yes	FACU	
2 Agarenberra	35	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Quercus alba	5	No	FACU	
Quercus rubra	10	No	FACU	Total Number of Dominant Species Across All Strata: 7 (B)
5.		-		Percent of Dominant Species That Are OBL, FACW, or FAC: 42.9% (A/B)
7				Prevalence Index worksheet:
	75	=Total Cover	-	Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)		- Total Gover		OBL species 0 x1 = 0
Pinus strobus	25	Yes	FACU	FACW species 15 x 2 = 30
2. Frangula alnus	20	Yes	FAC	FAC species 62 x 3 = 186
Fagus grandifolia	5	No	FACU	FACU species 120 x 4 = 480
Vaccinium corymbosum	15	Yes	FACW	UPL species 0 x 5 = 0
-	-			Column Totals: 197 (A) 696 (B)
Name of the second of the seco				Prevalence Index = B/A = 3.53
7.		-		Hydrophytic Vegetation Indicators:
·· -	65	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:)		· · · · · · · · · · · · · · · · · · ·		2 - Dominance Test is >50%
Malanthemum canadense	30	Yes	FACU	3 - Prevalence Index is ≤3.01
Vaccinium angustifolium	15	Yes	FACU	4 - Morphological Adaptations (Provide supportin
Quercus alba	5	No	FACU	data in Remarks or on a separate sheet)
4. Frangula alnus	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
Kalmia angustifolia	2	No	FAC	¹ Indicators of hydric soil and wetland hydrology must
		-		be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in
9.				diameter at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH
11.				and greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardles
	57	=Total Cover		of size, and woody plants less than 3.28 ft tall.
	-			
Woody Vine Stratum (Plot size:)			Wandy vines All woody vines greater than 3.28 ft is
Woody Vine Stratum (Plot size:)			Woody vines – All woody vines greater than 3.28 ft in height.
1.	-			height.
1	-	=		height. Hydrophytic
1.	-			height.

	ription: (Describe t	o the de				tor or co	onfirm the absen	ce of indica	ators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Featur %	es Type ¹	Loc ²	Texture		Remark	
0-5	10YR 3/2		- color (molecy		1700		G-161		Constant	
7.77		_	1-11-14-11-1				Sandy	_	loamy sar	iu
5-16	10YR 5/3	=	7.5YR 4/6				Sandy		Coarse Sa	nd
¹ Type: C=Co	ncentration, D=Deple	etion, RM	=Reduced Matrix, M	S=Mas	ked Sand	Grains.	² Location	n: PL=Pore	Lining, M=Matri	х.
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains Hydric Soil Indicators: Histosol (A1) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, MLRA HL9B) Thin Dark Surface (S9) (LRR R, MLRA Hligh Chroma Sands (S11) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Depleted Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Dark Surface (S7)			, MLRA 1. R K, L)	2 cm2 cm	n Muck (A10 st Prairie Re n Mucky Pei value Belov Dark Surfa Manganese mont Flood ic Spodic (T Parent Mat	lematic Hydric) (LRR K, L, Ml edox (A16) (LRF at or Peat (S3) (v Surface (S8) (I ce (S9) (LRR K, e Masses (F12) plain Soils (F19) FA6) (MLRA 144 erial (F21) ark Surface (F22 n Remarks)	LRA 149B) R K, L, R) LRR K, L, R) LRR K, L) L) (LRR K, L) (LRR K, L, R) (MLRA 149 LA, 145, 149E			
	hydrophytic vegetation. .ayer (if observed):	on and w	etland hydrology mu	st be pr	resent, u	nless distu	urbed or problema	atic.		
Depth (in	ches):						Hydric Soil Pr	esent?	Yes	No X
	m is revised from Nor 2015 Errata. (http://w 213 inches								Indicators of H	ydric Solls,

Project/Site: Waterstone- Seabrook		City/County: Seabroo	ok	Sampling Date: 06-07-17		
Applicant/Owner: Waterstone Dev			State: NH	Sampling Point: T5-P1		
nvestigator(s): BQ		Section, Tov	Section, Township, Range:			
Landform (hillside, terrace, etc.):	Local re	elief (concave, conve	k, none): concave	Slope %:		
Subregion (LRR or MLRA): LRR R	Lat: 42,89	Long:	70.88	Datum: WGS84		
Soil Map Unit Name:			NWI classification:			
Are climatic / hydrologic conditions on the s	site typical for this time of year?	Yes X	No (If no,	explain in Remarks.)		
Are Vegetation, SoilX_, or Hy				sent? Yes X No		
Are Vegetation, Soil, or Hy	drology naturally problemat	tic? (If needed	, explain any answers i	a residence of the State of the		
SUMMARY OF FINDINGS – Attac	in site map showing samp	oning point locat	ons, transects, in	iportant reatures, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled A	rea			
Hydric Soil Present?	Yes X No	I STANGE AND ALCOHOLOGY TO SERVICE STANKING	Yes X	No		
Wetland Hydrology Present?	Yes X No	If yes, optional We	tland Site ID:			
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators	(minimum of two required)		
Primary Indicators (minimum of one is rec	quired; check all that apply)		Surface Soil Crac	1.44 ° 4 ° 7. ° 1.		
X Surface Water (A1)	Water-Stained Leaves (E	39)	Drainage Patterns			
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines			
Saturation (A3)	Marl Deposits (B15)	(0.4)	Dry-Season Water			
Water Marks (B1)	— Hydrogen Sulfide Odor (Oxidized Rhizospheres		Crayfish Burrows	on Aerial Imagery (C9)		
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Ire		Stunted or Stress			
Algal Mat or Crust (B4)	Recent Iron Reduction in		Geomorphic Posi			
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard			
Inundation Visible on Aerial Imagery	(B7) Other (Explain in Remar	rks)	Microtopographic			
Sparsely Vegetated Concave Surface	e (B8)		X FAC-Neutral Tes	t (D5)		
Field Observations:	6 4 4 1 2 3	. 0				
Surface Water Present? Yes X	No Depth (inches) No Depth (inches)					
Water Table Present? Yes Saturation Present? Yes	No Depth (inches) No Depth (inches)		nd Hydrology Present	? Yes X No		
(includes capillary fringe)			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Describe Recorded Data (stream gauge	monitoring well, aerial photos, pre	evious inspections), it	available:			
Remarks:						
Remarks.						
				el		

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test	workshee	ıt:		
1				Number of Domina That Are OBL, FA	ant Specie	s	4	_(A)
4.				Total Number of D Species Across Al			5	(B)
5 3				Percent of Domina That Are OBL, FA			0.0%	_(A/B)
7.				Prevalence Index	workshe	et:		
	-	=Total Cover		Total % Cove	er of:	Mul	tiply by:	_
Sapling/Shrub Stratum (Plot size:)		*		OBL species	2	x1=_	2	
. Frangula alnus	30	Yes	FAC	FACW species	50	x 2 = _	100	
. Acer rubrum	25	Yes	FAC	FAC species	55	x 3 = _	165	
. Salix nigra	_ 2	No	OBL	FACU species	0	x 4 =	0	
. Spirea	15	No		UPL species	0	x 5 =	0	
. Ilex verticillata	20	Yes	FACW	Column Totals:	107	(A)	267	(B)
				Prevalence	Index = E	3/A =	2.50	
				Hydrophytic Veg				
	92	=Total Cover		1 - Rapid Test			etation	
Herb Stratum (Plot size:)				X 2 - Dominance	e Test is >	50%		
. Osmunda regalis	20	Yes		X 3 - Prevalence				
2. Onoclea sensibilis	5	No	FACW	4 - Morpholog				
3. Osmundastrum cinnamomeum	25	Yes	FACW	data in Remarks or on a separate sheet))
				Problematic F	lydrophytic	c Vegetatio	n ¹ (Expl	ain)
5.				¹ Indicators of hydr	ic soil and	wetland h	ydrology	must
5.				be present, unless	disturbed	or probler	natic.	
7.				Definitions of Ve	getation S	Strata:		
3				Tree – Woody pla				
9.				diameter at breas	t height (D	BH), regar	dless of	height.
10				Sapling/shrub -	Woody pla	ants less th	an 3 in.	DBH ·
11				and greater than	or equal to	3.28 ft (1 i	n) tall.	
12.				Herb - All herbac				ardles
	50	=Total Cover		of size, and wood	y plants le	ss than 3.2	8 ft tall.	
Woody Vine Stratum (Plot size:)				Woody vines - A	II woody v	ines greate	er than 3	.28 ft ir
1.			-	height.				
2				Hudronbudio				
3				Hydrophytic Vegetation				
4.				Will be a second of the second	Yes X	No		
		=Total Cover						
Remarks: (Include photo numbers here or on a sep	arate sheet.)							
Remarks. (Include photo numbers here of our a sep	mi ate 0110011)							

-	_		
•	r 1	ш	

T5-P1

Depth	Matrix			x Featur			rm the absence of indic	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	2.5Y 4/2	95	7.5YR 3/3	5		_M	Sandy	coarse loamy sand
		_			_			
		_						
		=			_			
				_				ardive a second
	*			_				
	oncentration, D=Depl	etion, RM	=Reduced Matrix, N	.——. MS=Mas	ked San	d Grains.		re Lining, M=Matrix. oblematic Hydric Soils ³ :
Histosol			Polyvalue Beld	w Surfa	ce (S8) (LRR R,		10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149E		1.0.4-2.00			Redox (A16) (LRR K, L, R)
	istic (A3)		Thin Dark Surf	ace (S9	(LRR R	, MLRA 149	B) 5 cm Mucky F	Peat or Peat (S3) (LRR K, L, R)
Hydroge	en Sulfide (A4)		High Chroma	Sands (311) (LR	R K, L)	Polyvalue Bel	ow Surface (S8) (LRR K, L)
_	d Layers (A5)		Loamy Mucky	Mineral	(F1) (LR	RK, L)	Thin Dark Sur	rface (S9) (LRR K, L)
	d Below Dark Surface	(A11)	Loamy Gleyed	Matrix	(F2)		Iron-Mangane	ese Masses (F12) (LRR K, L, R
Thick Da	ark Surface (A12)		Depleted Matr	ix (F3)			Piedmont Flo	odplain Soils (F19) (MLRA 149
	Mucky Mineral (S1)		Redox Dark S	urface (F6)		Mesic Spodic	(TA6) (MLRA 144A, 145, 149)
	Gleyed Matrix (S4)		Depleted Dark	Surface	e (F7)		Red Parent M	laterial (F21)
X Sandy R			Redox Depres	sions (F	8)		Very Shallow	Dark Surface (F22)
	d Matrix (S6)		Marl (F10) (LF	RK, L)			Other (Explain	n in Remarks)
	ırface (S7)							
Indicators c	of hydrophytic vegetat	ion and w	etland hydrology m	ust be n	resent, u	ınless disturb	ned or problematic.	
	Layer (if observed):							
Type:						1		5.5 G ds
Depth (i	inches):						Hydric Soil Present?	Yes_X_No
Remarks:								
olot is withn	a gravel and sand ex	traction a	ırea					
	• • • • • • • • • • • • • • • • • • • •							

Project/Site: Waterstone- Seabrook	City/County: Se	abrook	Sampling Date: 6-23-17
Applicant/Owner: Waterstone Dev		State: NH	Sampling Point: T5-P2
Investigator(s): BQ	Section	n, Township, Range:	
Landform (hillside, terrace, etc.):			Slope %:
Subregion (LRR or MLRA): LRR R Lat: 42		ong: 70.88	Datum: WGS84
Soil Map Unit Name:		NWI classification:	
Are climatic / hydrologic conditions on the site typical for this	s time of year? Yes	No (If no,	explain in Remarks.)
Are Vegetation, Soil, or Hydrologysie			
Are Vegetation, Soil, or Hydrologyna		eded, explain any answers in	
SUMMARY OF FINDINGS – Attach site map s	nowing sampling point lo	cations, transects, in	iportant features, etc.
Hydrophytic Vegetation Present? Yes X	No Is the Sample	ed Area	
Hydric Soil Present? Yes	No X within a Wetl	and? Yes	No_X
Wetland Hydrology Present? Yes	No X If yes, optiona	I Wetland Site ID:	
LIVEROLOGY			
HYDROLOGY			
Wetland Hydrology Indicators:	not anni A	Secondary Indicators (Surface Soil Crack	minimum of two required)
Primary Indicators (minimum of one is required; check all the Surface Water (A1) Water-S	tained Leaves (B9)	Drainage Patterns	
	Fauna (B13)	Moss Trim Lines (
	posits (B15)	Dry-Season Water	
	en Sulfide Odor (C1)	Crayfish Burrows	(C8)
Sediment Deposits (B2) Oxidized	d Rhizospheres on Living Roots (C3) Saturation Visible	on Aerial Imagery (C9)
	e of Reduced Iron (C4)	Stunted or Stresse	
	Iron Reduction In Tilled Soils (C6)		
	ck Surface (C7)	Shallow Aquitard (Microtopographic	
	Explain in Remarks)	FAC-Neutral Test	The second second
Sparsely Vegetated Concave Surface (B8) Field Observations:			(60)
Surface Water Present? Yes No X	Depth (inches):		
Water Table Present? Yes No X	Depth (inches):		
Saturation Present? Yes No X	the state of the s	etland Hydrology Present?	Yes No X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspections	s), if available:	
A			
Remarks:			

-	-	**
•	11	

T5-P2

Depth	Matrix	tne de		ument tr x Featur		itor or co	onfirm the absence of i	ndicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-3	10YR 2/2						Loamy/Clayey	Fine Sandy Loam
3-8	10YR 4/4		7.5YR 4/6	10	С	m	Loamy/Clayey	Fine Sandy Loam
8-9	10YR 3/3						Loamy/Clayey	Fine Sandy Loam
9-18	10YR 5/6		10YR 5/8	15	С	m	Sandy	Loamy Sandy
				_	=	_		
				_	Ξ			
		_		_	_			
¹ Type: C=Ce	oncentration, D=Deplet	tion, RM	=Reduced Matrix, N	MS=Masl	ed Sand	Grains.	² Location: PL=	=Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted Thick Da Sandy N Sandy R Stripped Dark Su Restrictive	(A1) pipedon (A2)		Polyvalue Belo MLRA 149B Thin Dark Surf High Chroma S Loamy Mucky Loamy Gleyed Depleted Matri Redox Dark Si Depleted Dark Redox Depres Marl (F10) (LR) ace (S9) Sands (S Mineral (Matrix (I ix (F3) urface (F Surface slons (F8	(LRR R, 11) (LRF F1) (LRF F2) 6) (F7)	, MLRA 1 R K, L) R K, L)	2 cm Muck Coast Prai 5 cm Muck Polyvalue Thin Dark Iron-Mang Piedmont Mesic Spo Red Parer Very Shall Other (Exp	Problematic Hydric Soils ³ : (A10) (LRR K, L, MLRA 149B) irie Redox (A16) (LRR K, L, R) ky Peat or Peat (S3) (LRR K, L, R) Below Surface (S8) (LRR K, L) Surface (S9) (LRR K, L) sanese Masses (F12) (LRR K, L, R) Floodplain Soils (F19) (MLRA 149E) oid (TA6) (MLRA 144A, 145, 149E) oth Material (F21) low Dark Surface (F22) plain in Remarks)
Type: Depth (ii	nches):						Hydric Soil Present	? Yes No_X_
	m is revised from Norti 2015 Errata. (http://ww							S Field Indicators of Hydric Soils,

Project/Site: Waterstone- Seabrook	City/County: Seabrook Sampling Date: 06-07-17
Applicant/Owner: Waterstone Dev	State: NH Sampling Point: T6-P1
nvestigator(s): BQ	Section, Township, Range:
andform (hillside, terrace, etc.):	Local relief (concave, convex, none): concave Slope %:
Subregion (LRR or MLRA): LRR R Lat: 42.89	Long: 70.88 Datum: WGS84
Soil Map Unit Name:	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil _X_, or Hydrology significant	
Are Vegetation, Soil, or Hydrology naturally p	
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID:
HYDROLOGY	O Lead Color (calculations of these are release)
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required) Surface Soil Cracks (B6)
Primary Indicators (minimum of one is required; check all that appl Surface Water (A1) X Water-Stained I	
X High Water Table (A2) Aquatic Fauna	
X Saturation (A3) Marl Deposits (I	
Water Marks (B1) Hydrogen Sulfic	
	spheres on Living Roots (C3)Saturation Visible on Aerial Imagery (C9)
	educed Iron (C4) Stunted or Stressed Plants (D1)
	duction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surf	14 P-8-4/DA
Inundation Visible on Aerial Imagery (B7) Other (Explain Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Sparsely Vegetated Concave Surface (Bb) Field Observations:	
	(inches):
Culture Transfer	(inches): 2
	(inches): 0 Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pl	notos, previous inspections), if available:
Remarks:	
V. E. C. GERNAND V.	
X	

VEGETATION -	Use scientific names of	fnlante
VEGETATION -	use scientific names of	it blants.

Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:				
Table 2	1 1 17 17 1 1 1 1		Dominance Test worksneet:				
		FAC	Number of Dominant Species That Are OBL, FACW, or FAC:	3	(A)		
			Tatal Number of Developed				
			Species Across All Strata:	3	(B)		
			Percent of Dominant Species				
			That Are OBL, FACW, or FAC:	100.0%	(A/E		
			Prevalence Index worksheet:				
65	=Total Cover		Total % Cover of:	Multiply by:			
			OBL species 0 x 1	= 0			
70	Yes	FACW	FACW species 130 x 2	= 260			
20	No	FACW	FAC species 80 x 3	= 240			
15	No	FAC	FACU species 0 x 4	= 0			
			UPL species 0 x 5	= 0			
			Column Totals: 210 (A)	500	(E		
			Prevalence Index = B/A =	2.38			
			Hydrophytic Vegetation Indicato	rs:			
105	=Total Cover		1 - Rapid Test for Hydrophytic	Vegetation			
			X 2 - Dominance Test is >50%	N.E. E.M.			
40	Yes	FACW					
				(Provide sur	porti		
			Problematic Hydrophytic Vege	tation ¹ (Evnl	(nie		
			Problematic Hydrophytic vege	tation (Expir	ality		
	-				mus		
			Definitions of Vegetation Strata:				
			Tree - Woody plants 3 in. (7.6 cm)	or more in	ln		
			diameter at breast height (DBH), re	BH), regardless of height			
					DBH		
	-		and greater than or equal to 3.28 ft	t (1 m) tall.			
			Herb - All herbaceous (non-woody	y) plants, reg	ardle		
45	_=Total Cover		of size, and woody plants less than				
45	_=Total Cover		of size, and woody plants less than Woody vines – All woody vines gr	n 3.28 ft tall.	.28 ft		
45	_=Total Cover			n 3.28 ft tall.	.28 ft		
45	_=Total Cover		Woody vines – All woody vines gr height.	n 3.28 ft tall.	.28 ft		
45	=Total Cover		Woody vines – All woody vines gr height.	n 3.28 ft tall.	.28 ft		
45	=Total Cover		Woody vines – All woody vines gr height. Hydrophytic Vegetation	n 3.28 ft tall.	.28 ft		
	65 70 20 15 40 5	65 Yes 65 =Total Cover 70 Yes 20 No 15 No 105 =Total Cover 40 Yes 5 No	65 Yes FAC 65 =Total Cover 70 Yes FACW 20 No FACW 15 No FAC 105 =Total Cover 40 Yes FACW 5 No	Number of Dominant Species That Are OBL, FACW, or FAC:	Number of Dominant Species That Are OBL, FACW, or FAC: 3		

T6-P1

Depth	ription: (Describe Matrix			x Featur			110000 25000		300	
inches)	Color (moist)	%	Color (moist)	_ %	Type ¹	Loc2	Texture		Remarks	
0-5	2.5Y 3/1						Mucky Sand	d		
5-15	2.5Y 4/2	90	7.5YR 3/2	10	C	<u>M</u>	Sandy			
				=	<u>_</u>					
										· ·
Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix, I	MS=Mas	ked San	d Grains.	²Loca	tion: PL=Pore	Lining, M=Matrix	
Black His Hydroger Stratified X Depleted Thick Dar X Sandy M Sandy Gl Sandy Re Stripped X Dark Sur Indicators of Restrictive L	(A1) ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) I Below Dark Surfactork Surface (A12) lucky Mineral (S1) leyed Matrix (S4) edox (S5) Matrix (S6)	ition and w	Polyvalue Bele MLRA 149E Thin Dark Sur High Chroma Loamy Mucky Loamy Gleyer Depleted Matr Redox Dark S Depleted Dark Redox Depres Marl (F10) (Le	s) face (S9 Sands (S Mineral I Matrix (F3) urface (I S Surface Ssions (FRR K, L)) (LRR R 611) (LR (F1) (LR (F2) -6) -2 (F7)	t, MLRA 1 R K, L) R K, L)	2 	cm Muck (A10 coast Prairie Re cm Mucky Per colyvalue Belov hin Dark Surfa con-Manganese eledmont Flood Mesic Spodic (T Red Parent Mat Very Shallow D Other (Explain i	ark Surface (F22	RA 149B) K, L, R) RR K, L, R) RR K, L) L) LRR K, L, R) (MLRA 149I A, 145, 149E
Type: _ Depth (in	nches):						Hydric Soil	I Present?	Yes_X_	No
Remarks: Plot is within	a former gravel and	i sand extr	action area							
						*				

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Waterstone- Seabrook	City/County: Seabrook Sampling Date: 06-07-17					
Applicant/Owner: Waterstone Dev	State: NH Sampling Point: T6-P					
Investigator(s): BQ	Section, Township, Range:					
andform (hillside, terrace, etc.): Local relief (concave, convex, none): concave Slope %:						
	Lat: 42.89 Long: 70.88 Datum: WGS84					
Soil Map Unit Name:	NWI classification:					
Are climatic / hydrologic conditions on the						
Are Vegetation, SoilX_, or F	ydrologysignificantly disturbed? Are "Normal Circumstances" present? Yes X No					
Are Vegetation, Soil, or H	ydrology naturally problematic? (If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS - Atta	ch site map showing sampling point locations, transects, important features, etc					
Hydrophytic Vegetation Present?	Yes No _X Is the Sampled Area					
Hydric Soil Present?	Yes No X within a Wetland? Yes No X Yes No X If yes, optional Wetland Site ID:					
Wetland Hydrology Present?	Yes No X If yes, optional Wetland Site ID:					
HANDOI OCA						
HYDROLOGY						
Wetland Hydrology Indicators: Primary Indicators (minimum of one is re	Secondary Indicators (minimum of two required) quired; check all that apply) Surface Soil Cracks (B6)					
Surface Water (A1)	Water-Stained Leaves (B9) Drainage Patterns (B10)					
High Water Table (A2)	Aquatic Fauna (B13) Aquatic Fauna (B13) Moss Trim Lines (B16)					
Saturation (A3)	Mari Deposits (B15) Mari Deposits (B15) Dry-Season Water Table (C2)					
Water Marks (B1)	Hydrogen Sulfide Odor (C1) Crayfish Burrows (C8)					
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)					
Drift Deposits (B3)	Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)					
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3)						
Inundation Visible on Aerial Imagery Sparsely Vegetated Concave Surfa	하는 사용 으로 있는 경우 가입 이 경계에서 모든 경험이다.					
	(DO)					
Field Observations: Surface Water Present? Yes	No Depth (inches):					
Water Table Present? Yes	No Depth (inches):					
Saturation Present? Yes	No Depth (inches): Wetland Hydrology Present? Yes No X					
(includes capillary fringe)						
	monitoring well, aerial photos, previous inspections), if available:					
Remarks:						

ree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	rksheet:			
Acer rubrum	30	Yes	FAC					
With the same of t	10	No	FACU	 Number of Dominant Species That Are OBL, FACW, or FAC: 2 			(A)	
Quercus rubra	12.7.	-		Total Number of Dominant			(^)	
Pinus strobus	15	Yes	FACU				-	(D)
				Species Across All St	rata:		5	(B)
				Percent of Dominant That Are OBL, FACW		4	0.0%	(A/B
				Prevalence Index wo	orksheet:			
	55 =Total Cover			Total % Cover of: Multiply by:				
apling/Shrub Stratum (Plot size:)				OBL species	0 >	(1=	0	
Quercus rubra	15	No	FACU	FACW species	12	x 2 =	24	
Frangula alnus	30	Yes	FAC	The state of the s	30	x3=	180	_
Vaccinium corymbosum	10	No	FACW		_	x 4 =	348	
	25	Yes	FACU			x 5 =	0	_
Pinus strobus						-	552	
Fagus grandifolia	20	Yes	FACU	Carlos Control Secretario		(A) _		(E
				Prevalence Inc		_	3.47	_
				Hydrophytic Vegeta	tion Indic	ators:		
	100	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation				
erb Stratum (Plot size:)				2 - Dominance T	est is >50%	6		
llex verticillata	2	No	FACW	3 - Prevalence In	dex is ≤3.0	O ¹		
. Maianthemum canadense	2	No	FACU	CU 4 - Morphological Adaptations 1 (Pro				pporti
				data in Remar	ks or on a	separa	ate sheet))
			-	Problematic Hyd	rophytic Ve	egetati	on ¹ (Expl	ain)
				Problematic Hyd	rophytic Ve	egetati	on ¹ (Expl	ain)
				¹ Indicators of hydric s	soil and we	etland h	nydrology	
				¹ Indicators of hydric s be present, unless di	soil and we sturbed or	etland h proble	nydrology	
			=	¹ Indicators of hydric s	soil and we sturbed or	etland h proble	nydrology	
	-			¹ Indicators of hydric s be present, unless di Definitions of Vege	soil and we sturbed or tation Stra	etland h proble ata: cm) or	nydrology matic. more in	must
	-			¹ Indicators of hydric s be present, unless di Definitions of Vege	soil and we sturbed or tation Stra	etland h proble ata: cm) or	nydrology matic. more in	must
				¹Indicators of hydric s be present, unless di Definitions of Vege Tree – Woody plants diameter at breast he	soil and we sturbed or tation Stra 3 in. (7.6 eight (DBH	etland h proble ata: cm) or l), rega	matic. more in	must
0.				¹ Indicators of hydric s be present, unless di Definitions of Vege	soil and we sturbed or tation Strass 3 in. (7.6 eight (DBH	etland in proble proble proble proble cm) or cm), regals less the contract of	matic. more in rdless of	must
0				¹Indicators of hydric sepresent, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e	soil and we sturbed or tation Stra 3 3 in. (7.6 eight (DBH pody plants equal to 3.2	etland h proble ata: cm) or), rega s less tl 28 ft (1	more in rdless of han 3 in.	must heigh DBH
0		=Total Cover		¹Indicators of hydric sepresent, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Woand greater than or e Herb – All herbaceo	soil and we sturbed or tation Stra 3 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo	etland h proble ata: cm) or), rega s less tl 28 ft (1	more in rdless of han 3 in. m) tall.	heigh DBH gardle
0		=Total Cover		¹Indicators of hydric see present, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e Herb – All herbaceo of size, and woody p	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland I proble ata: cm) or i), rega s less ti 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle
0		=Total Cover		¹Indicators of hydric seep resent, unless did be present, unless did befinitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or each the same of size, and woody processive the same woody processive that the same woods wo	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland I proble ata: cm) or i), rega s less ti 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle
0		=Total Cover		¹Indicators of hydric see present, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e Herb – All herbaceo of size, and woody p	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland I proble ata: cm) or i), rega s less ti 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle
O. 1. 2. Voody Vine Stratum (Plot size:)		=Total Cover		¹Indicators of hydric see present, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e Herb – All herbaceo of size, and woody p Woody vines – All vheight.	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland I proble ata: cm) or i), rega s less ti 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle
0		=Total Cover		¹Indicators of hydric see present, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e Herb – All herbaceo of size, and woody p Woody vines – All wheight.	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland I proble ata: cm) or i), rega s less ti 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle
0	4	=Total Cover		¹Indicators of hydric see present, unless di Definitions of Vege Tree – Woody plants diameter at breast he Sapling/shrub – Wo and greater than or e Herb – All herbaceo of size, and woody p Woody vines – All wheight.	soil and we sturbed or tation Stra a 3 in. (7.6 eight (DBH pody plants equal to 3.2 us (non-wo plants less	etland if proble ata: cm) or), rega s less th 28 ft (1 pody) p than 3.	more in rdless of han 3 in. m) tall.	heigh DBH gardle

Sampling Point

T6-P2

Depth	Matrix	o the dep		x Featur		itor or co	onfirm the absence of in	idicators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc2	Texture	Remarks		
0-8	10YR 3/2						Loamy/Clayey	Sandy loam		
8-15	2.5Y 5/3			_			Loamy/Clayey	Sandy loam		
	-									
	•					-				
			-		_					
S = 3		—		_		—	· ·			
					_					
	ncentration, D=Deple	etion, RM	=Reduced Matrix, N	1S=Mas	ked Sand	Grains.		Pore Lining, M=Matrix.		
Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) Indicators of hydrophytic vegetation and vegetation			Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 148 High Chroma Sands (S11) (LRR K, L) Loamy Mucky Mineral (F1) (LRR K, L) Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L)			, MLRA 1 ₹ K, L) ₹ K, L)	Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Red Parent Material (F21) Very Shallow Dark Surface (F22) Other (Explain in Remarks) turbed or problematic.			
Depth (in	ches):						Hydric Soil Present?	YesNo_X		
Remarks: plot is within:	s former gravel and s	and extra	iction area							











































