LUCAS
ENVIRONMENTAL, LLC

500A Washington Street, Quincy, MA 02169

April 4, 2023

Town of Franklin
Conservation Commission
355 East Central Street
Franklin, Massachusetts 02038

Re: Abbreviated Notice of Resource Area Delineation – Response Letter #2
121 Grove Street
Map 295, Lot 1 & Map 294, Lot 7
Franklin , Massachusetts 02038
MassDEP File #159-1261

Members of the Franklin Conservation Commission:

On behalf of Fairfield Residential, Lucas Environmental, LLC (LE) is pleased to submit this letter in response to the site walk conducted on March 31, 2023. The site walk was attended by members of the Conservation Commission, the Conservation Agent Breeka Lí Goodlander, the peer review consultant Jonathan Niro from BETA, John Shipe for Fairfield Residential, and Christopher Lucas with LE. This response is submitted as a supplement to the Abbreviated Notice of Resource Area Delineation (ANRAD) for the subject property located at 121 Grove Street (Map 295, Lot 1 & Map 294, Lot 7) in Franklin, Massachusetts (MassDEP File #159-1261).

Two specific areas of the site were discussed and evaluated:

1. LE and BETA have detailed their professional disagreement in the area between flags WFA-30 & 31 and WFC-5 & 6. LE respectfully disagrees with BETA's assessment and summary of said area based upon the information presented in our Response Letter #1, dated January 31, 2023, and as detailed during the site walk on March 31st. LE stands by the position that the maintained agricultural field between Wetland A and C is upland and non-jurisdictional.

2. LE and BETA had also previously disagreed about a wetland in the vicinity of TP-16. Based upon discussions and site observations, LE and BETA agreed to delineate a small Isolated Vegetated Wetland (IVW) in the vicinity of TP-16. Following the site walk with the Conservation Commission, the wetland was delineated with pink survey tape numbered sequentially from WFD-1 to WFD-9. LE and BETA are in agreement of the delineated flags. The attached Existing Conditions Site Plan prepared by Guerriere & Halnon, Inc., dated May 20, 2022, and revised through April 3, 2023, was updated to include Wetland D.

   Wetland D is very small, approximate 2,036 square foot, IVW, vegetated with a red maple (*Acer rubrum*) overstory. Vegetation within the wetland also includes white pine (*Pinus strobus*), sweet pepperbush (*Clethra alnifolia*), highbush blueberry (*Vaccinium corymbosum*), American beech (*Fagus grandifolia*), and princess pine (*Lycopodium obscurum*).

LE provided a general description of the upland vegetation and soils surrounding this area in LE's Response Letter #1. It was agreed during the site walk that the previous summary is sufficient. Data plots were requested for Wetland D, which are enclosed with this letter.

Enclosed please find one (1) original and one (1) copy of the ANRAD supplemental response and full-size plan, and six (6) copies of the reduced 11x17 plans. A link to an electronic copy of the pdf file of this response will be provided concurrently with this submittal via email.

On behalf of Fairfield, LE would like to thank the Conservation Commission for the time and energy they have contributed toward this submittal. The project team believes that the site visit was very worthwhile. The project team appreciates the technical input and professional opinions provided by both BETA and the Conservation Commission's Agent, Breeka Lí Goodlander.

If you have any questions, please do not hesitate to contact me at 617.405.4140 or cml@lucasenviro.com. Thank you for your consideration in this matter.

Sincerely,
LUCAS ENVIRONMENTAL, LLC

Christopher M. Lucas

Christopher M. Lucas, PWS, CWS, RPSS
Environmental Consultant/Wetland & Soil Scientist

Enclosures:
1. Vegetated Wetland Determination Forms
2. Existing Conditions Site Plan, prepared by Guerriere & Halnon, Inc.

cc: Bryn Smith – Owner (electronic copy)
Fairfield Residential Company LLC – Applicant (electronic copy)
R.J. O'Connell & Associates, Inc. (electronic copy)
MassDEP – CERO (electronic and hard copy)

VEGETATED WETLAND DETERMINATION FORM

Project/Site: 121 Grove Street City/Town: Franklin Sampling Date: 03/31/23

Applicant/Owner: Fairfield Residential Sampling Point or Zone: WFD-8 WET

Investigator(s): Lucas Environmental, LLC - Christopher M. Lucas Latitude / Longitude: 42° 4' 36.5" N / 71° 25' 21.55" W

Soil Map Unit Name: Charlton-Urban land-Hollis complex, 3-8% slopes (103B) NWI or DEP Classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes [✓] No [ ] (If no, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

Are Vegetation [ ], Soil [ ], or Hydrology [ ] naturally problematic? (If yes, explain in Remarks)

SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

Wetland vegetation criterion met?	Yes [✓] No [ ]	**Is the Sampled Area within a Wetland?**	**Yes [✓] No [ ]**
Hydric Soils criterion met?	Yes [✓] No [ ]		
Wetlands hydrology present?	Yes [✓] No [ ]		

Remarks, Photo Details, Flagging, etc.:

Water seeps out of the upgradient hillside, over a rocky soil, creating a limited perched water table sufficient to develop anaerobic conditions within the delineated area.

HYDROLOGY

Field Observations:

Surface Water Present?	Yes [✓]	No [ ]	Depth (inches) 0.25
Water Table Present?	Yes [✓]	No [ ]	Depth (inches) 16.00
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 8.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[✓] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
[ ] Evidence of aquatic fauna	[ ] Free water in a soil test hole	[ ] Drainage patterns
[ ] Iron deposits	[✓] Saturated soil	[ ] Drift lines
[ ] Algal mats or crusts	[ ] Water marks	[ ] Scoured areas
[ ] Oxidized rhizospheres/pore linings	[ ] Moss trim lines	[ ] Sediment deposits
[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
[ ] Plants with air-filled tissue (aerenchyma)	[ ] Woody plants with adventitious roots	[ ] Sparsely vegetated concave surface
[ ] Plants with polymorphic leaves	[✓] Trees with shallow root systems	[ ] Microtopographic relief
[ ] Plants with floating leaves	[ ] Woody plants with enlarged lenticels	[✓] Geographic position (depression, toe of slope, fringing lowland
[ ] Hydrogen sulfide odor		

Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

Trees may have shallow roots due to rocky nature of the area, which has likely created a shallow perched water table in this approximately 2,000 square foot area.

This form is only for BVW delineations. Other wetland resource areas may be present and should be delineated according to the applicable regulatory provisions.

VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Red maple	Acer rubrum	FAC	63.0	Yes	Yes
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

63.0 = Total Cover

Shrub/Sapling Stratum Plot size 15

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Highbush blueberry	Vaccinium corymbosum	FACW	20.5	Yes	Yes
2. White pine	Pinus strobus	FACU	10.5	Yes	No
3. Red oak	Quercus rubra	FACU	10.5	Yes	No
4.					
5.					
6.					
7.					
8.					
9.					

41.5 = Total Cover

Herb Stratum Plot size 5

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. N/A All <1%					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

0.0 = Total Cover

VEGETATION – continued.

Woody Vine Stratum Plot size 30

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. N/A					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☑

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	4	2	Yes ☑ No ☐

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
	FACW species		X 2	= 0.00
	FAC species		X 3	= 0.00
	FACU species		X 4	= 0.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 0		(B) 0
	Prevalence Index	B/A = 0.00		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☐

Wetland vegetation criterion met? **Yes** ☑ **No** ☐

Definitions of Vegetation Strata

Tree - Woody plants 3 in. (7.62 cm) or more in diameter at breast height (DBH), regardless of height

Shrub / Sapling - Woody plants less than 3 in. (7.62 cm) DBH and greater than or equal to 3.3 ft. (1 m) tall

Herb - All herbaceous (non-woody plants, regardless of size, and woody plants less than 3.3 ft. (1 m) tall

Woody vines - All woody vines greater than 3.3 ft. (1 m) in height

Cover Ranges	
Range	Midpoint
1-5 %	3.0 %
6-15 %	10.5 %
15-25 %	20.5 %
26-50 %	38.0 %
51-75 %	63.0 %
76-95 %	85.5 %
96-100 %	98.0 %

Sampling Point WFD-8 WET

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
5.00	10YR 2/1	100.0%		0.0%			Sapric	Organic
20.00	10YR 4/2	95.0%	10YR 5/1	5.0%	D	M	Sandy loam	
		0.0%	10YR 4/6	0.0%	D	M	Sandy loam	
24.00	10YR 4/3	65.0%	10YR 4/6	35.0%	RM	M	Sandy loam	
		0.0%	10YR 4/2	0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators (Check all that apply)		**Indicators for Problematic Hydric Soils**
☐ Histosol (A1)	☐ Polyvalue Below Surface (S8)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Thin Dark Surface (S9)	☐ 5 cm Mucky Peat or Peat (S3)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1)	☐ Dark Surface (S7)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	☐ Polyvalue Below Surface (S8)
☐ Stratified Layers (A5)	☑ Depleted Matrix (F3)	☐ Thin Dark Surface (S9)
☑ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F7)	☐ Iron-Manganese Masses (F12)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F8)	☐ Mesic Spodic (A17)
☐ Sandy Mucky Mineral (S1)		☐ Red Parent Material (F21)
☐ Sandy Gleyed Matrix (S4)		☐ Very Shallow Dark Surface (TF12)
☐ Sandy Redox (S5)		☐ Other (Include Explanation in Remarks)
☐ Stripped Matrix (S6)		
☐ Dark Surface (S7)		

Restrictive Layer (if observed) Type: Rock Depth (inches): 24.00

Remarks: The area is very rocky, holding water at the surface within the limit of the delineated area.

Hydric Soils criterion met? **Yes** ☑ **No** ☐

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Are Vegetation [ ], Soil [ ], or Hydrology [ ] significantly disturbed? (If yes, explain in Remarks)

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SUMMARY OF FINDINGS – Attach site map and photograph log showing sampling locations, transects, etc.

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Hydric Soils criterion met?	Yes [ ] No [✓]		
Wetlands hydrology present?	Yes [ ] No [✓]		

Remarks, Photo Details, Flagging, etc.:

Water seeps out of the upgradient hillside, over a rocky soil, creating a limited perched water table sufficient to develop anaerobic conditions within the delineated area.

HYDROLOGY

Field Observations:			
Surface Water Present?	Yes [ ]	No [✓]	Depth (inches) _____
Water Table Present?	Yes [ ]	No [✓]	Depth (inches) _____
Saturation Present (including capillary fringe)?	Yes [✓]	No [ ]	Depth (inches) 22.00

Wetland Hydrology Indicators

Reliable Indicators of Wetlands Hydrology	Indicators that can be Reliable with Proper Interpretation	Indicators of the Influence of Water
[ ] Water-stained leaves	[ ] Hydrological records	[ ] Direct observation of inundation
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[ ] Iron deposits	[ ] Saturated soil	[ ] Drift lines
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[ ] Thin muck surfaces	[ ] Presence of reduced iron	[ ] Surface soil cracks
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Remarks (describe recorded data from stream gauge, monitoring well, aerial photos, previous inspections, if available):

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VEGETATION – Use both common and scientific names of plants.

Tree Stratum Plot size 30

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Red maple	Acer rubrum	FAC	63.0	Yes	Yes
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

63.0 = Total Cover

Shrub/Sapling Stratum Plot size 15

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. Highbush blueberry	Vaccinium corymbosum	FACW	3.0	No	Yes
2. White pine	Pinus strobus	FACU	10.5	Yes	No
3. American beech	Fagus grandifolia	FACU	10.5	Yes	No
4. Black cherry	Prunus serotina	FACU	3.0	No	No
5. Witch hazel	Hamamelis virginiana	FACU	3.0	No	No
6. Sweet pepperbush	Clethra alnifolia	FAC	3.0	No	Yes
7. Sassafras	Sassafras albidum	FACU	3.0	No	No
8. Red oak	Quercus rubra	FACU	3.0	No	No
9.					

39.0 = Total Cover

Herb Stratum Plot size 5

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. White pine	Pinus strobus	FACU	3.0	Yes	N
2. Red maple	Acer rubrum	FAC	3.0	Yes	Y
3. Princess Pine	Lycopodium obscurum	FACU	3.0	Yes	N
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

9.0 = Total Cover

VEGETATION – continued.

Woody Vine Stratum Plot size 30

Common name	Scientific name	Indicator Status	Absolute % Cover	Dominant? (yes/no)	Wetland Indictor? (yes/no)
1. N/A					
2.					
3.					
4.					
			0.0 = Total Cover		

Rapid Test: Do all dominant species have an indicator status of OBL or FACW? Yes ☐ No ☐

Dominance Test:	Number of dominant species	Number of dominant species that are wetland indicator plants	Do wetland indicator plants make up ≥ 50% of dominant plant species?
	6	2	Yes ☐ No ☑

Prevalence Index:		Total % Cover (all strata)	Multiply by:	Result
	OBL species		X 1	= 0.00
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	FAC species		X 3	= 0.00
	FACU species		X 4	= 0.00
	UPL species		X 5	= 0.00
	Column Totals	(A) 0		(B) 0
	Prevalence Index	B/A = 0.00		Is the Prevalence Index ≤ 3.0? Yes ☐ No ☐

Wetland vegetation criterion met? Yes ☐ No ☑

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96-100 %	98.0 %

Sampling Point WFD-8 UPL

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Location[2]		
2.00	10YR 2/1	100.0%		0.0%			Hemic	Organic
4.00	10YR 3/2	100.0%		0.0%			Sandy loam	
8.00	10YR 3/4	100.0%		0.0%			Sandy loam	
16.00	10YR 5/4	100.0%		0.0%			Sandy loam	
24.00	10YR 5/6	98.0%	7.5YR 4/6	2.0%	D	M	Sandy loam	Redox at 22"
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				
		0.0%		0.0%				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains [2]Location: PL=Pore Lining, M=Matrix

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- ☐ 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)
- ☐ Polyvalue Below Surface (S8)
- ☐ Thin Dark Surface (S9)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
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- ☐ Redox Dark Surface (F7)
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Indicators for Problematic Hydric Soils

- ☐ 2 cm Muck (A10)
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- ☐ Iron-Manganese Masses (F12)
- ☐ Mesic Spodic (A17)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Include Explanation in Remarks)

Restrictive Layer (if observed) Type: N/A Depth (inches): _____

Remarks:

Hydric Soils criterion met? **Yes** ☐ **No** ☑