CLA Engineers, Inc.
Civil • Structural • Survey

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August 7, 2020

Ms. Lisa Wilson-Foley
Blue Fox Run Golf Course, LLC
65 Nod Road
Avon, CT 06001

Re: Wetland Map Amendment Soils Report
Blue Fox Run Golf Course Avon
Wetland Boundary
CLA –6071

Dear Ms. Foley,

Introduction

This letter is provided in support of your application to the the Avon Inland Wetlands and Watercourses Commission for a wetland boundary line amendment for the referenced site, specifically the portion east of the Farmington River. CLA understands that you wish to plan for future site use and wish to understand the existing constraints for planning purposes.

As you know, a previous submittal was made in 2020 also for the purpose of wetland boundary amendment. The Town of Avon IWWC, retained the Northwest Connecticut Conservation District (NCCD) to review the submitted maps and to conduct their own field review. This review targeted the limit of the floodplain and alluvial soil, as determination of the poorly drained and very poorly drained soil on the site is straightforward. After the soil scientists at the NCCD conducted their review, they met with Town Staff, me and Michael Klein of Davison Environmental, who has served in a review capacity for this project. The meeting was held via GoTo Meeting on June 18, 2020.

During the meeting the findings of CLA, Davison and NCCD were discussed All parties recognized that portions of the site along the floodplain and alluvial soil boundary had been disturbed in many ways and that the the field determination of that boundary required careful analysis. After consultation, the soil scientists agreed that the use of the up to date FEMA 100-year floodplain line is the technically correct limit of floodplain and alluvial soils on the site.

Summary of Investigations

Robert Russo of CLA and Michael Klein of Davison Environmental, LLC (both Certified Soil Scientists) performed soil investigations during November of 2019 and March of 2020 in order to further delineate floodplain and alluvial soils at the referenced site. The test pit locations were chosen to supplement soil test pits and auger holes dug and logged on the

site in 2018 and earlier in 2019. All of the soil test pit logs are includes as Appendix A. Appendix B is a map of the site wide wetland delineation while Appendix C is a list of Natural Resources Conservation Service (NRCS) soils series defined as wetland by Connecticut State Statutes

Inland Wetlands are defined by the Town of Avon and CTDEEP regulations as

"Wetlands" means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture;

Because the regulatory definition depends on soil type designated by the National Cooperative Soil Survey, a list of those soil types defined by the National Cooperative Soil Survey that occur in Connecticut is attached as Appendix C. The soil survey serves as a general indicator of where these soils occur, however on-site mapping by a certified soil scientist is required per both the Avon regulations and CGS section 22a. Appendix A includes the current and previous test pit logs that demonstrate thorough coverage of the site in order to determine the boundaries of all regulated soils.

Previous soil investigations conducted on the site by CLA and Davison in 2018/2019 were used as a starting point for the current investigation. All of the previous test pit locations and the current wetland delineation are on the figure attached as Appendix B.

The November 19, 2019 excavator test pits that were used to determine the approximate edge of alluvial soils are numbered TPA-1 through TPA-12. As can been seen in Appendix B, these test pits run parallel to the Farmington River and are well riverward of the 100 year floodplain. These test pits lead to a rough delineation of alluvial soils that was then refined by shovel test pits labeled SP-1 through ST-38 on the figure in Appendix B. The shovel test pits were advanced to depths typically between 24-36 inches and were used to determine if alluvial soils (typically fine textures such as fine sand or fine loamy sand) occurred vs, glacial outwash soils (stratified sand and gravel). Additionally numerous soil auger borings were conducted to further refine the boundary. The delineation shown on the figure in Appendix B demonstrates that the 100 year floodplain delineation includes all of the areas field mapped by CLA as alluvium and some areas identified as glacial outwash and is thus conservative.

To further investigate areas that have previously been mapped as alluvial soils and or 100 year floodplain, the area around the clubhouse and parking lot were investigated with a hand auger and the area was found to be extensively re-graded for construction of the clubhouse, parking lot and adjacent golf holes. No alluvial soils were found outside of the delineated wetlands.

Also note that none of the test pits located in the areas outside of the wetland limit proposed by the applicant showed evidence of poorly drained, very poorly drained, alluvial or floodplain soils. Other than the test pits within the referenced boundary, no soils falling under the soil series listed designated by the Natural Resources Conservation Service as State of Connecticut Wetland soils were found. This includes soils in the areas of TH-6 through TH-17 which, although previously mapped as alluvial soils by NRCS, were in fact formed in glacial outwash and therefore not regulated as inland wetlands.

During the 2019 Avon Inland Wetlands Commission public hearing regarding the site reference was made to the Natural Resources Conservation Service (NRCS) and the CT Department of Energy and Environmental Protection (CT DEEP) written guidance on wetland soil delineations at disturbed sites (May 2015 "Clarification of Wetland Soil Criteria for Human-Altered and Human-Transported Soils in Connecticut). The mapping provided in Appendix B depicts the actual location of all of the regulated wetlands and watercourses, taking into consideration the 2015 clarification from NRCS and CT DEEP.

In summary, the additional investigations conducted during January 2019 through March 2020 were used to delineate the limits of alluvial soils. The wetland boundary currently before the Avon Inland Wetlands Commission, as shown on Appendix B; accurately depicts the limits of poorly drained, very poorly drained, floodplain and alluvial soils.

Sincerely,

Robert C Russo

Robert C. Russo
C.S.S.

Appendix A: Soils Data – Test Pit Logs

TH-11

	Component Name:								Map Unit Symbol:					Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		Ap	0-16	Ab	7.5 yr	2.5/2	lfs	0	w subang	bl				
2		Bw	16-21	wavy	7.5 yr	4/6	ls	0	w subang	bl				
3		Bw2	21-43+		5 yr	3/4	gmcs	subang-	massive					trace cobbles
4								subround						
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			c fine						
2	0			few fine						
3	0			0						
4										
5										
6										
7										
8										
9										
10										

TH-10

	Component Name:				Map Unit Symbol:				Date: 1/17/19					
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1	back	Ap	0-11	Ab	7.5 YR	3/3	lfs	0	w sang b					
2	hoe	Bw	11-28	gradual	7.5 YR	4/6	gms	subround-rounded	w sang b					
3		Bw2	28-45		5 YR	4/6	gm-cs	subround	massive					
4														
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			c fine						
2	0			0						
3	0			0						
4				0						
5				0						
6										
7										
8										
9										
10										

TH-9

	Component Name:				Map Unit Symbol:				Date: 1/17/19				
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		Ap	0-9	Ab	7.5 YR	2.5/2	sl	0	w sang b					
2		Bw	9-17	wavy	7.5 YR	4/6	ls	0	w sang b					
3		Bw2	17-22	wavy	7.5 YR	4/6	grm sand tr cobbles		w sang b					
4		C	22-38+		7.5 YR	5/4	fls	0	m					
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			cf						
2	0			0						
3	0			0						
4	0			0						
5										
6										
7										
8										
9										
10										

TH-8

	Component Name:				Map Unit Symbol:									Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1					5 YR	3/4	mixed sandy	loam irr	& test					Fill
2			29-0		5 YR	3.2								
3					5 YR	2.5/2								
4		A	0-6	Ab	5 YR	2.5/2	sl	0	w sang b					
5		Bw	6-16	wavy	5 YR	3/4	gcs	few gr	w sang b					out wash
6		Bw2	16-32+		7.5 YR	4/4	silvfs	0	massive					
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4	0			0						
5	0			0						
6	few 7.5 6/8 mottles			0						
7										
8										
9										
10										

TH-7

	Component Name:				Map Unit Symbol:								Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		Ap	0-12	Ab	7.5 YR	2.5/2	fsl	0	w sab					
2		Bw	12-22	wavy	7.5 YR	4/6	ls	0	w sab					
3		C	22-40	wavy	7.5 YR	4/4	m-cs	0	m					
4		C	40-48		5 YR	3/4	gcs	tr cobbles	& pebbles	red	sandstone			
5						dark parent		material						
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			fine c						
2	0			0						
3	0			0						
4	0			0						
5										
6										
7										
8										
9										
10										

TH-6

	Component Name:								Map Unit Symbol:					Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		Ap	0-14	Ab	7.5 YR	2.5/2	fsl	0	w sang b					
2		Bw	14-31	wavy	7.5 YR	4/6	fsl	tr g&c	w sang b					stones in bottom
3		Bw2	31-48	wavy	7.5 YR	5/6	m-cs	tr g&c	w sang b					
4		C	48+		7.5 YR	6/4	ms	0	m					
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			c fine						
2	0			few fine						
3	0			no						
4	0			0						
5										
6										
7										
8										
9										
10										

TH-5

	Component Name:				Map Unit Symbol:				Date: 1/17/19							
	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		Ap	0-12		Ab	7.5 YR	2.5/2	fsl	0	w sab					
2		Bw	12-28		wavy			ls	0	w sab					
3		C	28-40			7.5 YR	4/4	ms	0	m					
4									0	m					
5															
6															
7															
8															
9															
10															

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			c fine						
2	0			0						
3										
4										
5										
6										
7										
8										
9										
10										

TH-4

	Component Name:							Map Unit Symbol:					Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		Ap	0-16	Ab	7.5 YR	2.5/2	fls	0	0					
2		Bw	16-23	wavy	7.5 YR	4/6	sl	trace	pebbles w calc subang blocky weak sub lower part					
3		Bw2	23-30	wavy	7.5 YR	4/6	mc gravelly sand	trace cobbles	subang-subrad					
4		Bw3	30-36	wavy	7.5 YR	5/6	lvfs	0	massive					
5		C	36-66+	---	7.5 YR	5/3	lvfs	0	massive					
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			common						
2	0			common						
3	0			common						
4	0			0						no H2o
5	0			0						
6	0									
7										
8										
9										
10										

TH-3

	Component Name:								Map Unit Symbol:					Date: 1/17/19
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		Ap	0-12	Ab	7.5 YR	2.5/1	fsl	0	0					turf
2		Bw1	12-22	wavy	7.5 YR	4/6	sl	0						
3		Bw2	22-31	wavy	7.5 YR	4/6	gr m-cs	15-35%	subround-round					w/cobbles &
4		Bw3	31-43	---	7.5 YR	5/6	ms	0	0					stones
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			common						
2	0			common						outwash
3	0			0						outwash
4	0			0						outwash
5										
6										
7										
8										
9										
10										

USDA-NRCS | **PEDON DESCRIPTION** | **PEDON ID#:** | **2/2012**

Series or Component Name:	**Map Unit Symbol:**	**Photo #:**	**Classification:**	**Soil Moist. Regime (Tax.):**

Describer(s):	**Date:**	**Weather:** **Temp.:** *Air:* *Soil:* *Depth:*	**Latitude:** ° ' " N **Geodetic Datum:** **Longitude:** ° ' " W	**Location:** Sec. T. R.

UTM: *Zone:* *mE:* *mN:*	**Topo Quad:**	**Site ID:** *Yr:* *State:* *County:* *Pedon #:*	**Soil Survey Area:**	**MLRA/LRU:**	**Transect:** *ID:* *Stop#:* *Interval:*	

Landscape:	**Landform:**	**Microfeature:**	**Anthro:**	**Elevation:**	**Aspect:**	**Slope (%):**	**Slope Complexity:**	**Slope Shape:** *(Up & Dn / Across)*

Hillslope Profile Position:	**Geom. Component:**	**Microrelief:**	**Physio. Division:**	**Physio. Province:**	**Physio. Section:**	**State Physio. Area:**	**Local Physio. Area:**

Drainage:	**Flooding:** **Ponding:**	**Soil Moisture Status:**	**K_{sat}:** **Land Cover / Use:**

Parent Material:	**Bedrock:** *Kind:* *Fract.:* *Hard.:* *Depth:*	**Lithostrat. Units:** *Group:* *Formation:* *Member:*

Erosion: *Kind:* *Degree:*	**Surface Frag %:** *GR:* *CB:* *ST:* *BD:* *CN:* *FL:* *Kind:*	**P.S. Control Section:** *Ave. Clay%:* *Ave. Rock Frag %:* *Depth Range:*

Diagnostic Horz. / Prop.: *Kind:* *Depth:*

VEGETATION:

SYMBOL	COMMON NAME	% GD COVER

MISCELLANEOUS FIELD NOTES / SKETCH:

TH-2

	Component Name:				Map Unit Symbol:						Date: 1/17/19				
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		A	0-8	indist	7.5 YR	5/2	lfs	0	0					num
2		Bw	8-22	wavy	7.5 YR	3/3	lfs	0	0					num
3		C	22-78		7.5 YR	4/4	fs	0	0 fine lamina of					num
4					7.5 YR	5/3	fs	0	variable colors					
5					7.5 YR	3/4	fs	0	o.m. %					
6					7.5 YR	3/3	fs	0						
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			numerous						
2	0			numerous						
3				none						
4										
5										
6										
7										
8										
9										
10										

TH-1

	Component Name:				Map Unit Symbol:				Date: 1/17/19								
	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0	8	Abrupt	7.5 YR	3/2	fs	0			none							
2		Bw	8	14	Ab	7.5 YR	4/4	fs	0			none							
3		2A	14	22	Ab	7.5 YR	2.5/2	lfs	0			none							
4		2Bw	22	30	Ab	7.5 YR	3/4	fs	0			none							
5		3A	30	35	Ab	7.5 YR	2.5/2	lfs	0			0							
6		3Bw	35	37+		7.5 YR	3/4	fs	0			0							
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1	0			numerous						
2	0			numerous						
3	0			numerous						
4	0			numerous						
5	0			common						
6	0			common						
7										
8										
9										
10										

TPA1 (ALLUVIUM)

	Component Name:				Map Unit Symbol:								Date:
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0-11	Abrupt		db brn	fsl		mas					transport from elsewhere on site?
2		Bw	11-26	Abt		ybr	fg	20% rnd	mas					
3		IIC	26-75	Abt		gbrn			mas					
4														
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA2 (OUTWASH)

	Component Name:				Map Unit Symbol:				Date:								
	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0	12		brn		fsl	<5%			mas							
2		Bw	12	19		yb		s	10-20	grl		mas							
3		Bw2	19	42		yb		m-cs	10-20	grl		mas							strat by texture
4		C	42	54		gb		s	10-20	grl		mas							weakly strat
5		IIC	54	65		g		si	0			mas							lake bottom
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA3 (OUTWASH)

Component Name:				Map Unit Symbol:			Date:

	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0-38			dk brn		fsl	<5%			mas							graded & filled
2		Bw	38-64			yb		s	>25%			mas							rounded cob & peb
3		IIC	64-74			gb		fssi	<5%			mas							lake bed
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA4 (OUTWASH)

	Component Name:				Map Unit Symbol:				Date:							
	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0-17			dk brn		fsl	<5% rock frags			mas							rock fill
2		Bw	17-34			yb		fs				mas							
3		C	34-64			gb			15-20 peb & cob			mas							
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA5 (ALLUVIUM)

	Component Name:				Map Unit Symbol:				Date:							
	Obser. Method	Horizon	Depth (in)	(cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd %	Rnd	Sz	Structure Grade	Sz	Type	Consistence Dry	Mst	Stk	Pls	Notes
1		A	0-14			brn		fsl	0%			mas							
2		Bw	14-34			yb		fs	0%			mas							
3		Bw2	34-44			lt yb		fs	0%										
4		Bw3	44-56			lt yb		ms	0%			mas							
5		IIC	56-74			gb		crs sc	+20% peb										
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA6 (OUTWASH)

	Component Name:				Map Unit Symbol:							Date:	
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		A	0-8		brn		fsl	<5% rocks	mas					fill
2		A	8-16		dk g		sil		mas					
3		Bw	16-32		yb		sl	20-30 peb & cobs	weak sub & blocky					
4		C	32-71		gb		fs		mas					
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA7 (ALLUVIUM)

	Component Name:				Map Unit Symbol:				Date:							
	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0	9		yb		sl	10-15	peb		mas							fill
2		A	9	30		blk		sil	0			mas							
3		Bw/C	30	88		gb		fs-si	0			mas							
4		IIC	88	96		yb		csg	30-40			mas							
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA8 (ALLUVIUM)

	Component Name:				Map Unit Symbol:			Date:

	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0-8			dk brn		sl				mas							
2		Bw	8-16			yb		ls	peb			mas							
3		Bw	16-48			yb		san	peb & cob			mas							
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA9 (OUTWASH)

Component Name:						Map Unit Symbol:					Date:

	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0	22		dk brn		sl	5-10										
2		Bw	22	50		yb		ls	15-20				peb						
3		Bw	50	66		yb		san	25-30			peb & cob							
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA10 (ALLUVIUM)

	Component Name:				Map Unit Symbol:								Date:
	Obser. Method	Horizon	Depth (in) (cm)	Bnd	Matrix Color Dry	Moist	Texture	Rock Frags Knd % Rnd Sz	Structure Grade Sz Type	Consistence Dry	Mst	Stk	Pls	Notes
1		A	0-10		br		fs	0	mas					
2		C	10-14		gb		fs	0	mas					
3		A	14-17		dk gray		fs	0	mas					
4		IIC	17-64		gb		fs	0	mas					
5														
6														
7														
8														
9														
10														

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA11 (OUTWASH)

	Component Name:				Map Unit Symbol:			Date:

	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0-13			dk brn		ls				mas							
2		Bw	13-36			yb ls			10-15			mas							
3		C	36-64			csgr san			15-20			mas							
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

TPA12 (OUTWASH)

	Component Name:				Map Unit Symbol:			Date:

	Obser. Method	Horizon	Depth (in)	Depth (cm)	Bnd	Matrix Color Dry	Matrix Color Moist	Texture	Rock Frags Knd %	Rock Frags Rnd	Rock Frags Sz	Structure Grade	Structure Sz	Structure Type	Consistence Dry	Consistence Mst	Consistence Stk	Consistence Pls	Notes
1		A	0	18		dk brn		fsl				mas							
2		Bw	18	48		rd br		sand	30%	cob & peb		mas							
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

	Redoximorphic Features % Sz Cn Hd Sp Kd Loc Bd Col	Concentrations % Sz Cn Hd Sp Kd Loc Bd Col	Ped / V. Surface Features % Dst Cont Kd Loc Col	Roots Qty Sz Loc	Pores Qty Sz Shp	pH, method	Effer (agent)	Clay %	Sand %	Notes
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

CLA-6071
Feb. 11, 2019

Blue Fox Run
Test Holes

TH #12

0 – 13"	Ap
	Very dark brown (7.5 YR 2.5/3)
	Loamy fine sand
13-29"	Bw
	5 YR 4/6
	Loamy fine sand to fine sand
29-36"	Bw2
	Yellowish red (5 YR 4/6)
	Med sand, little gravel
	(not alluvium, parent material is outwash red subsoil,)

TH #13

0 – 24"	Ap
	Black (7.5 YR 2.5/1)
	Fine sandy loam
24-34"	Bw
	Dark reddish brown (5 YR 3/4)
	Fine sandy loam
34-38"	Bw2
	Yellowish red (5 YR 4/6)
	Fine sand
38-42"	Bw3
	Yellowish red (5 YR 4/6)
	Gravelly med sand,
	(not alluvium, parent material is outwash)

TH #14

	ALL FILL
0 – 32"	A/B
	Very dark brown (7.5 YR 2.5/2 – 2.5/3)
	Fine sandy loam trace gravel 2.5/3
	(Mixed, fill, near tee box, not alluvial)

TH #15

0 – 17"	Ap Black (7.5 YR 2.5/1) Very fine sandy loam
17-24"	Bw Reddish brown (5 YR 4/4) Fine sandy loam
24-34"	Bw2 (Yellowish red) 5 YR 4/6 Gravelly medium sand, (not alluvium, parent material is outwash)

TH #16

0 – 27"	A Very dark brown (7.5 YR 2.5/3) Very fine sandy loam
27-34"	Bw Reddish brown (5 YR 4/4) Very fine sandy loam
34-40"	Bw2 Yellowish red 5 YR 4/6) Gravelly loamy fine sand wet at 40", (till/outwash interface, not alluvium)

TH #17

0 – 26"	Dark Brown 7.5 YR 3/3 Topsoil fine sandy loam
26-32"	Bw Reddish brown (5 YR 4/4) Fine sandy loam
32-37"	Bw2 Yellowish red (5 YR 4/6) Gravelly sandy loam (till/outwash, interface, no alluvium)

TH #18

0 – 20"

A
Dark reddish brown (5 YR 3/3)
Very fine sandy loam

20-28" Bw
Yellowish red (5 YR 4/6)
Gravelly fine sand moist @ 38"
(till/outwash interface, not alluvium)

TH #19

0 – 13" A/B
Dark reddish brown (5 YR 3/4)
Fine loamy sand

13-36" Bw
Yellowish red (5 YR 4/6)
Gravelly fine med sand
(parent material is outwash)

TH #20

0 – 7" A/B
Reddish brown (5 YR 4/3)
Fine loamy sand

7-33" Bw
Yellowish red (5 YR 4/6)
Gravelly fine to med sand
(parent material is outwash)

TH #21

0 – 7" A/B
Dark reddish brown (5 YR 3/4)
Fine loamy sand

7-22" Bw
Yellowish red (5 YR 4/6)
Fine to med sand

22-34" Bw2
Reddish brown (5 YR 4/4)
Gravelly med sand
(parent material is outwash)

TH #22

0 – 13"	A
	Dark reddish brown (5 YR 3/3)
	Fine sandy loam
13-24"	B
	Yellowish red (5 YR 4/6)
	Gravelly sand with cobbles
	(parent material is outwash)
	Auger refusal on cobbles @ 24"

TH #23

0 – 14"	A
	Dark reddish brown (5 YR 3/3)
	Fine sandy loam
14-23"	Bw
	Yellowish red (5 YR 4/6)
	Gravelly sand with cobbles
	(parent material is outwash)
	Auger refusal on cobbles @ 23"

TH #24

0 – 15"	A
	Dark reddish brown (5 YR 3/3)
	Fine sandy loam
15-27"	Bw
	Yellowish red (5 YR 4/6)
	Sand
27-30"	Bw
	Yellowish red (5 YR 4/6)
	Gravelly sand with cobbles
	(parent material is outwash)
	Auger refusal on cobbles @ 30"

TH #25

0 – 18"	A
	Very dark brown (7.5 YR 2.5/2)
	Fine sandy loam
18-40"	Bw
	Strong brown (7.5 YR 4/6)
	Med sand
34-40"	Bw2
	Brown (7.5 YR 4/4)
	Med sand
	(parent material is outwash)

TH #26

0 – 14"	
	A
	Dark brown7.5 YR 3/3
	Fine sandy loam
14-26"	Bw
	Strong brown (7.5YR 4/6)
	Sand, trace gravel
26-32"	Bw2
	Brown (7.5 YR 4/4)
	Fine sand
32-37"	C
	Brown (7.5 YR 4/4)
	Gravelly fine sand
	(parent material is outwash)

TH #27

0 – 6"	A
	Very dark brown (7.5 YR 2.5/2)
	Fine sandy loam
6-30"	Bw
	Strong brown (7.5 YR 4/6)
	Sand
30-36"	Bw2
	Brown (7.5 YR 4/4)
	Sand trace gravel
	(parent material is outwash)
	Auger refusal @ 36"

CLA-6071
March 2020

Blue Fox Run
Shovel Test Holes

SP #1

0 – 15"	A (5 YR 3/3) Fine sandy loam
15-24"	Bw (5 YR 4/6) Sand
24-28"	Bw (5 YR 4/6) Gravelly sand with cobbles (Parent material is outwash)

SP #2

0 – 13"	A (7.5 YR 3/3) Fine sandy loam
13- 26"	Bw (7.5 YR 4/4) Sand
26-30"	Bw (7.5 YR 4/4 and 3/3 layers) Fine and medium sand layers (Parent material is alluvium)

SP #3

0 – 18"	A (7.5 YR 3/3) Fine sandy loam
18- 29"	Bw (7.5 YR 4/4) Sand
29-34"	Bw (7.5 YR 4/4 and 3/3 layers) Fine and medium sand layers (Parent material is alluvium)

SP #4

0 – 15"	A (5 YR 3/3) Fine sandy loam
15-27"	Bw (5 YR 4/6) Sand
27-32"	Bw (5 YR 4/6) fine sand (parent material is alluvium)

SP #5

0 – 13"	A (7.5 YR 3/2) Fine sandy loam
13-26"	Bw (5 YR 4/6) Sand
26-29"	Bw (5 YR 4/6) Sand with gravel (Parent material is outwash)

SP #6

0 – 11"	A (7.5 YR 3/2) Fine sandy loam
11-28"	Bw (7.5 YR 4/6) Sand
28-32"	Bw (7.5 YR 4/6) Sand with gravel (Parent material is outwash)

SP #7

0 – 10"	A (7.5 YR 3/2) Fine sandy loam
10-25"	Bw (7.5 YR 4/4) Sand

25-29" Bw
(7.5 YR 4/3)
Sand with gravel
(Parent material is outwash)

SP #8

0 – 14" A
(7.5 YR 5/2)
Loamy fine sand

14-29" Bw
(7.5R 3/3)
Loamy finesand

29-36" C
Layers of fine sand (7.5YR 4/4, 3/4, 3/3)
(Parent material is alluvium)

SP #9

0 – 9" A
(5 YR 3/3)
Fine sandy loam

9-27" Bw
(5 YR 4/6)
Loamy sand

27-31" Bw
(5 YR 4/6)
Gravelly sand with cobbles
(Parent material is outwash)

SP #10

0 – 11" A
(5 YR 3/3)
Fine sandy loam

11-22" Bw
(5 YR 4/6)
Loamy sand

22-35" Bw
(5 YR 4/6)
Gravelly sand with cobbles
(Parent material is outwash)

SP #11

0 – 13"	A (5 YR 3/3) Fine sandy loam
13-27"	Bw (5 YR 4/6) Loamy sand
27-32"	Bw Yellowish red (5 YR 4/6) Gravelly sand with cobbles

SP #12

0 – 9"	A (7.5 YR 3/3) Fine sandy loam
15-27"	Bw (7.5YR 4/4) Fine sand
27-34"	C (7.5 YR3/3 and 4/4) Layers of fine sand

SP #13

0 – 18"	A (7.5 YR 2.5/2) Fine sandy loam - FILL
15-27"	Bw (7.5 YR 4/6) Fine sand
27-36"	C (7.5 YR 3/2) Fine sand (Parent material is alluvium)

SP #14

0 – 13"	A (7.5 YR 2.5/2) Fine sandy loam - FILL
13-28"	Bw (7.5 YR 4/6) Fine sand
28-34"	C (7.5 YR 3/2) Fine sand

(Parent material is alluvium)

SP #15

0 – 12"	A
	(7.5 YR 3/2)
	Fine sandy loam
12-27"	Bw
	(7.5 YR 4/6)
	Loamy fine sand
27-36"	Bw
	(7.5 YR 4/3)
	fine sand with cobbles
	(Parent material is alluvium)

SP #16

0 – 11"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
11-23"	Bw
	(7.5 YR 4/6)
	Sand
23-29"	Bw
	(7.5 YR 4/4)
	Sand with gravel
	(Parent material is outwash)

SP #17

0 – 12"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
12-27"	Bw
	(7.5 YR 4/6)
	Sand, trace gravel
27-30"	Bw
	(7.5 YR 4/4)
	Sand with gravel
	(Parent material is outwash)

SP #18

0 – 14"	A
	(7.5 YR 2.5/2)

	Fine sandy loam
14-25"	Bw
	(7.5 YR 4/6)
	Sand, trace gravel
25-31"	Bw
	(7.5 YR 4/4)
	Sand with gravel
	(Parent material is outwash)

SP #19

0 – 14"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
14-24"	Bw
	(7.5 YR 4/6)
	Sand, trace gravel
24-28"	Bw
	(7.5 YR 4/4)
	Sand with gravel
	(Parent material is outwash)

SP #20

0 – 9"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
9-26"	Bw
	(7.5 YR 4/6)
	Fine sand
26-33"	Bw
	(7.5 YR 4/4)
	Very fine sand
	(Parent material is alluvium)

SP #21

0 – 11"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
11-25"	Bw
	(7.5 YR 4/6)
	Fine sand
25-32"	Bw
	(7.5 YR 4/4)

Very fine sand
(Parent material is alluvium)

SP #22

0 – 11" A
(7.5 YR 2.5/2)
Fine sandy loam

11-23" Bw
(7.5 YR 4/6)
Sand

23-29" Bw
(7.5 YR 4/4)
Sand with gravel
(Parent material is outwash)

SP #23

0 – 12" A
(7.5 YR 2.5/2)
Fine sandy loam

12-27" Bw
(7.5 YR 4/6)
Sand, trace gravel

27-33" Bw
(7.5 YR 4/4)
Sand with gravel
(Parent material is outwash)

SP #24

0 – 11" A
(7.5 YR 2.5/2)
Fine sandy loam

11-22" Bw
(7.5 YR 4/6)
Sand, trace gravel

22-24" Bw
(7.5 YR 4/4)
Sand with gravel
(Parent material is outwash)

SP #25

0 – 13" A
(7.5 YR 2.5/2)

	Fine sandy loam
13-28"	Bw
	(7.5 YR 4/6)
	Fine sand
28-31"	Bw
	(7.5 YR 4/4)
	Very fine sand
	(Parent material is alluvium)

SP #26

0 – 11"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
11-24"	Bw
	(7.5 YR 4/6)
	Sand with gravel and cobbles
	Auger refusal on cobbles @ 24"
	(Parent material is outwash)

SP #27

0 – 11"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
11-25"	Bw
	(7.5 YR 4/6)
	Sand, trace gravel
25-30"	Bw
	(7.5 YR 4/4)
	Sand with gravel
	(Parent material is outwash)

SP #28

0 – 14"	A
	(7.5 YR 2.5/2)
	Fine sandy loam
14-23"	Bw
	(7.5 YR 4/6)
	Sand, trace gravel
23-28"	Bw

(7.5 YR 4/4)
Sand with gravel
(Parent material is outwash)

SP #29

0 – 11" Ap
(7.5 YR 2.5/3)
Loamy fine sand

11-29" Bw
5 YR 4/6
Loamy fine sand to fine sand

29-33" Bw2
(5 YR 4/6)
Med sand, little gravel
(Parent material is outwash red subsoil)

SP #30

0 – 12" A
FILL
(5 YR 3/4)
Fine sandy loam and angular gravel

12-27" Bw
(5 YR 3/4)
Fine sandy loam

27-30" Bw2
(5 YR 4/6)
Fine sand
(Fill over alluvium)

SP #31

0 – 9" A
(7.5 YR 2.5/2)
Fine sandy loam

9-18" Bw
(7.5 YR 4/6)
Sand

18-30" Bw
(7.5 YR 4/4)
Sand with gravel
(Parent material is outwash)

SP #32

0 – 16"	A FILL (5 YR 3/4) Fine sandy loam and angular gravel
16-24"	Bw (5 YR 4/4) Fine loamy sand
24-34"	Bw2 7.5 YR 3/3 Very fine sand, (Fill over alluvium)

SP #33

0 – 27"	A (7.5 YR 2.5/3) Very fine sand
27-34"	Bw (7.5 YR 4/4) fine sand
34-40"	Bw2 (7.5YR 3/3 and 3/4) Banded fine and very fine sand (Parent material is alluvium)

SP #34

0 – 23"	A (7.5 YR 2.5/3) Very fine sand
23-29"	Bw (7.5 YR 4/4) Veryfine sand
29-33"	Bw2 (7.5YR 3/3 and 3/4) Banded fine and very fine sand (Parent material is alluvium)

SP #35

0 – 13"	A FILL (5 YR 3/4) Fine sandy loam and angular gravel
13-17"	Bw (5 YR 4/4) Fine loamy sand
17-32"	Bw2 7.5 YR 3/3 Very fine sand, (Fill over alluvium)

SP#36

0 – 10"	A (7.5 YR 2.5/2) Fine sandy loam
10-27"	Bw (7.5 YR 4/6) Sand, trace gravel
27-33"	Bw (7.5 YR 4/4) Sand with gravel (Parent material is outwash)

SP #37

0 – 7"	A (7.5 YR 3/4) Fine loamy sand
7-33"	Bw (7.5 YRYR 4/6) Silt loam with pebbles (parent material is not alluvial)

SP #38

0 – 7"	A (5 YR 3/4) Silt loam
7-22"	Bw Yellowish red (7.5 YR 4/6) Silt loam
22-34"	Bw2 Reddish brown (7.5 YR 4/4)

Silt loam with pebbles and sand
(Parent material is not alluvial)

Appendix B: Test Pit Location Map

LANDSCAPE ARCHITECT
Richter Cegan Inc.
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WETLANDS/SOILS/ENVIRONMENTAL
DAVISON ENVIRONMENTAL
10 MAPLE STREET CHESTER CT 06412
PHONE 860-833-9936
CONTACT NAME MICHAEL S. KLEIN
EMAIL michael@davisonenvironmental.com

OWNER
BLUE FOX RUN GOLF COURSE, LLC.
21 WATERVILLE ROAD
AVON CT 06001

OWNER
NOD ROAD PROPERTIES, LLC.
21 WATERVILLE ROAD
AVON CT 06001

OWNER
CORNOR PROPERTIES, LLC.
21 WATERVILLE ROAD
AVON CT 06001

Blue Fox Run Golf Course

NOD ROAD, AVON, CT

WETLANDS MAP AMENDMENT
8/7/2020 SUBMISSION

MARK	DATE	DESCRIPTION

PROJECT NO 2019005
CAD FILE 19005-3.0.dwg
DRAWN BY GJC/WHW
CHECKED BY MAC
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POTENTIAL GOLF COURSE MODIFICATIONS/ DEVELOPMENT

3.0

Appendix C: Connecticut Wetland Soil Types as Defined By NRCS

Connecticut Inland Wetland Soils

The state of Connecticut defines inland wetlands based on soils. The Connecticut Inland Wetlands and Watercourses Act defines wetland soils to include any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soil Survey, as may be amended from time to time, of the Natural Resources Conservation Service of the United States Department of Agriculture.

Map units may be dominated by Connecticut inland wetland soils, but have inclusions of non-wetland soils. Non-wetland map units may contain inclusions of Connecticut inland wetland soils. On site investigation is necessary to determine the presence or absence of wetland soils in a particular area.

The following map units meet the definition of Connecticut inland we

Map Unit No.	Map Unit Name
2	Ridgebury fine sandy loam
3	Ridgebury, Leicester, and Whitman soils, extrem
4	Leicester fine sandy loam
5	Wilbraham silt loam
6	Wilbraham and Menlo soils, extremely stony
7	Mudgepond silt loam
8	Mudgepond and Alden soils, extremely stony
9	Scitico, Shaker, and Maybid soils
10	Raynham silt loam
12	Raypol silt loam

Unlock Your Farm's Potential

The WSS App Delivers Data Straight to Your Smartphone

13	Walpole sandy loam
14	Fredon silt loam
15	Scarboro muck
16	Halsey silt loam
17	Timakwa and Natchaug soils
18	Catden and Freetown soils
96	Ipswich mucky peat
97	Pawcatuck mucky peat
98	Westbrook mucky peat
99	Westbrook mucky peat, low salt
100	Suncook loamy fine sand
101	Occum fine sandy loam
102	Pootatuck fine sandy loam
103	Rippowam fine sandy loam
104	Bash silt loam
105	Hadley silt loam
106	Winooski silt loam
107	Limerick and Lim soils
108	Saco silt loam
109	Fluvaquents-Udifluvents complex, frequently flooded
409B	Brayton mucky silt loam, 0 to 8 percent slopes, very stony
414	Fredon silt loam, cold
419	Loonmeadow mucky fine sandy loam, extremely stony
433	Moosilauke sandy loam
435	Scarboro muck, cold
436	Halsey silt loam, cold
437	Wonsqueak peat
438	Bucksport muck
442	Brayton loam
443	Brayton-Loonmeadow complex, extremely stony
457	Mudgepond silt loam, cold

458	Mudgepond and Alden soils, extremely stony, cold
501	Ondawa fine sandy loam
503	Rumney fine sandy loam
508	Medomak silt loam

DECEMBER 2018

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY THE PROPOSED BLUE FOX RUN GOLF COURSE DEVELOPMENT IN AVON, CONNECTICUT

PREPARED FOR:

ATTORNEY THOMAS W. FAHEY, JR.
FAHEY & LANDOLINA, ATTORNEYS LLC
487 SPRING ST.
WINDSOR LOCKS, CONNECTICUT 06096

PREPARED BY:

HERITAGE CONSULTANTS

P.O. BOX 310249
NEWINGTON, CONNECTICUT 06131

CHAPTER VII
RESULTS OF THE INVESTIGATION

Introduction

As mentioned in Chapter I, the current Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the area's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded archaeological sites, National and State Register of Historic Places properties/districts, and historic standing structures more than 50 years in age within the region encompassing the development area; 3) a review of readily available historic maps and aerial imagery depicting the project parcel to identify potential cultural resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel and the development area to determine their archaeological sensitivity; and augur and shovel testing throughout the project parcel and development area, respectively. Tasks 1 through 3 were completed and presented in Chapters II through V. The results of Tasks 4 and 5 are presented below.

Results of Pedestrian Survey and Photo-Documentation of the Project Items

As discussed throughout the report, the development area is located in the east-central portion of the Blue Fox Run Golf Course and it will be the site of a residential development. The larger project parcel is bordered by Nod Road on the east, Route 44 on the south, commercial development on the west, and farm fields on the north. The Farmington River extends through the project parcel (Figure 1). Heritage Consultants, LLC personnel completed the pedestrian survey and photo documentation of the proposed development area, as well as the larger project parcel in November and December of 2018. The pedestrian survey involved a walkover of the entire parcel, including the development area, and photo-documentation of existing conditions, buildings, previously disturbed areas, and existing landforms. The project parcel in Avon consists of a roughly 248.8-acre area that includes the Blue Fox Run Golf Course, several parking areas, a golf course club house, ancillary support facilities, and the golf course itself, as well as four large buildings and a parking lot in the southeastern portion of the parcel that serves as commercial space (Photos 11 through 20 and Figure 2016). The proposed development area is situated in the central portion of the project parcel and encompasses approximately 40. 9 acres of land and three of the Blue Fox Run Golf Course fairways, sand traps, and a large pond along Nod Road. This area is currently covered in manicured grass and has a few trees spread throughout the area. (Photos 16 through 20).

As seen in the photos referenced above, as well as in the most recent aerial image of the project parcel (Figure 2016), both the project parcel and the development area have been highly altered by construction of buildings, roadways, golf cart paths, sand traps, a pond, golf greens, and fairways. Based on the pedestrian survey alone, it does not appear that there are any unaffected areas remaining either within the larger project parcel or within the development area. Nevertheless, Heritage Consultants, LLC conducted auger testing across the project parcel to determine the level of previous disturbance throughout the area, as well as limited shovel testing at the location of a previously identified archaeological site (Site 4-1)

within the development area to determine if any intact cultural deposits remained in that location. The results of the augur testing and shovel testing are presented below.

Results of Augur and Shovel Testing

During the current investigation, a total of 16 of 16 (100 percent) planned augur tests were excavated throughout those portions of the large project parcel and the development area that did not contain buildings, parking lots, golf cart paths, or other obstacles that would have provided obstructions to excavation. Of these, four were completed in the northern portion of the Blue Fox Run Golf Course and 12 were positioned within the proposed development area. No augur tests were excavated in the southern portion of the project parcel to the south near Route 44 or on that part of the golf course on the western bank of the Farmington River. A typical augur test located in the northern portion of the golf course excavated to a depth of 120 cmbs (48 inbs) and it exhibited two strata in profile. Stratum I, the topsoil, extend from the ground surface to 15 cmbs (6 inbs) and consisted of a deposit of very dark brown (10YR 3/2) silty medium sand. It was underlain by Stratum II, which was described as a layer of strong brown (7.5YR 4/6) silty sand mixed with rocks. The augur tests typically met refusal at 100 to 120 cmbs (39.4 to 48 inbs), which is shallow in in the Farmington River floodplain area. In contrast, the excavation of a typical auger test excavated in the development area revealed three soil strata in profile and reached to an average depth of 140 cmbs (56 inbs), where either rocks or the water table were reached. Stratum I of the augur tests in the development area ranged in depth from 0 to 45 cmbs (0 to 18 inbs) and consisted of a layer of very dark brown (10YR 2/2) silty sand topsoil. Stratum I was underlain by Stratum II, which was characterized as layer of dark reddish brown (5YR 3/3) sand that extended from 45 to 60 cmbs (18 to 24). Finally, Stratum III consisted of a deposit of brown (7.5YR 5/3) sand mixed with pebbles and rocks; it appeared to represent glacially derived soils.

The above-referenced augur confirmed that soils throughout the project parcel and development area are not uniform in nature. Further, the soils identified within the development area are somewhat different than those as defined by the National Resources Conservation Service (NRCS) for this area. The topsoil within the proposed development area is twice as thick as that reported by the NRCS for this area and the subsoil deposits appear to be much thicker. As discussed in Chapter IV, this area has undergone prolonged plowing and more recent disturbance by the construction of the Blue Fox Run Golf Course. Comparisons of the 1957, 1958, and 1996 topographic maps in Figures 12, 13, and 17 also show significant grade alteration in the development area, with reductions of between 1.5 and 4 m (5 and 13 ft) from the originally recorded elevations. Taken together, the results of the augur testing, the analysis of historic maps and aerial images, and the known construction related activities that have taken place, it was determined that the development area has been disturbed in the past. Nevertheless, and in consideration of the recorded presence of Site 4-1 in the area, Heritage Consultants, LLC personnel conducted limited shovel testing in the recorded site location to determine if any intact cultural deposits may exist there.

During this investigation, a total of 9 of 9 (100 percent) planned shovel tests were excavated within the previously identified location of Site 4-1. The shovel tests were spaced at 10 m (32.8 ft) intervals along three survey transects spaced 10 m (32.8 ft) apart within the previously recorded location of Site 4-1. A typical shovel test was excavated to a depth of 100 cmbs (39.4 in bs) and exhibited three soil strata in profile. Stratum I, a deposit of topsoil, ranged in depth from 0 to 28 cmbs (11.2 inbs) and it was described as layer of dark brown (10YR 3/3) medium sand. It was underlain by Stratum II, a layer of strong brown (7.5YR 5/6) silty medium sand that extended from 28 to 52 cmbs (11.2 to 20.8 inbs). Finally, Stratum III, which was excavated to a depth of 100 cmbs (39.4 inbs) consisted of a deposit of strong brown (7.5YR 4/6) coarse sand mixed with gravel. During excavation, a total of three artifacts were recovered from Shovel Test 3 on Survey Transect 3. The artifact collected from this shovel test originated from the disturbed A-Horizon (Stratum I) and consisted of 2 clear bottle glass shards and a single quartzite secondary thinning flake. Based on the previous disturbances to the area, as well as the landscape alterations throughout the development area, including grade reduction as evidence by the difference in

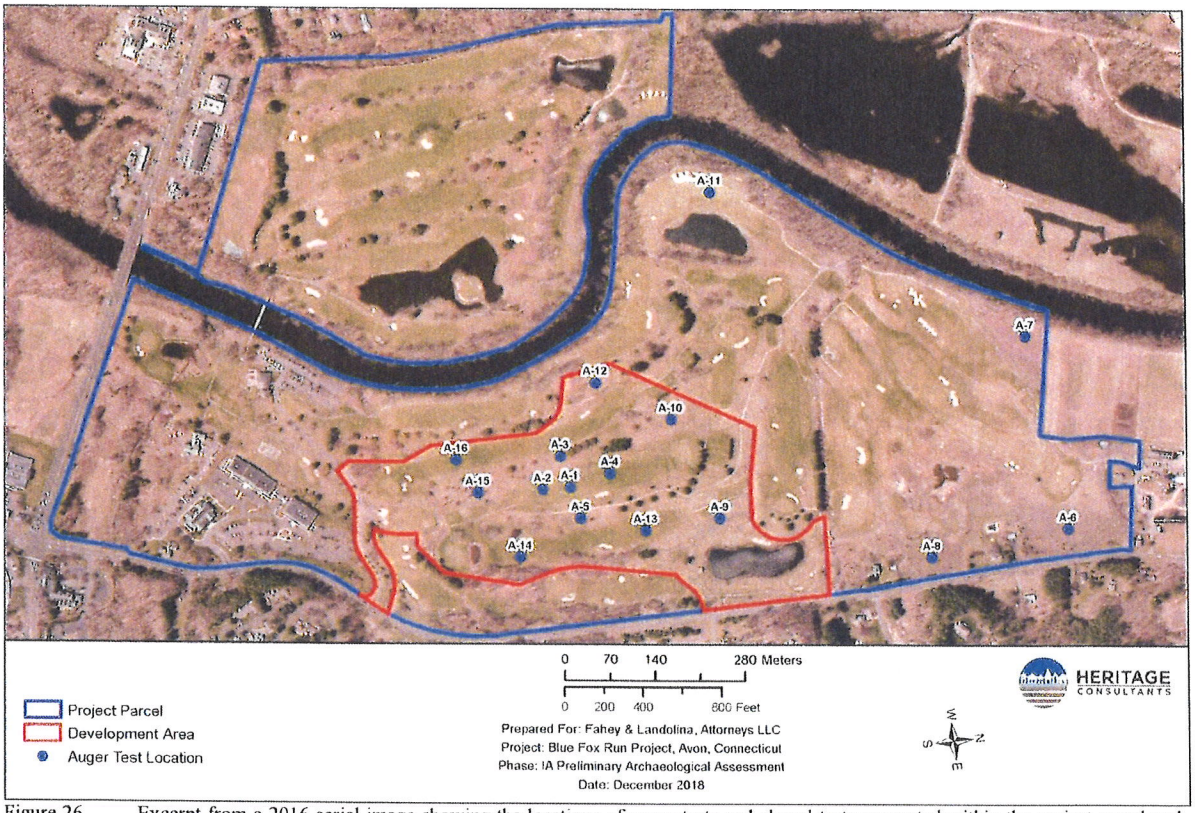


Figure 26. Excerpt from a 2016 aerial image showing the locations of augur tests and shovel tests excavated within the project parcel and development area in Avon, Connecticut.

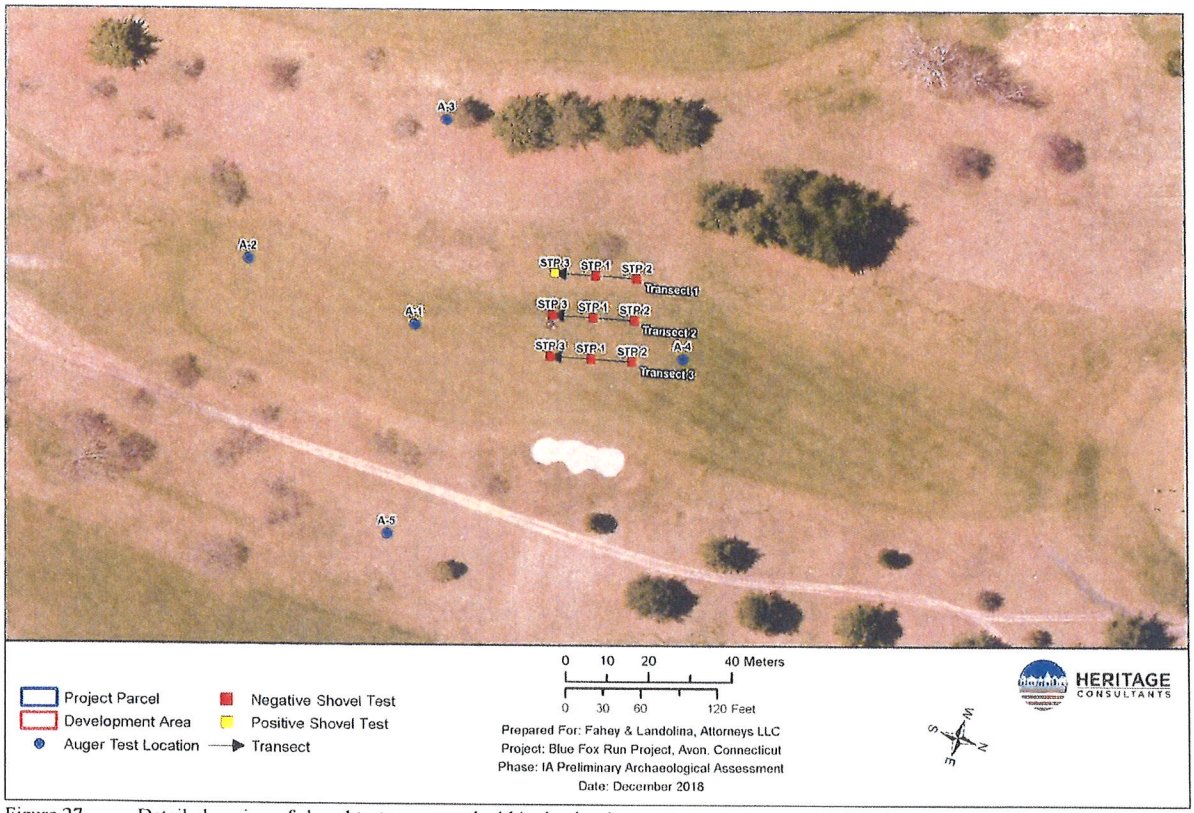


Figure 27. Detail plan view of shovel tests excavated within the development area in Avon, Connecticut.

WELTI GEOTECHNICAL, P.C.
Formerly Dr. Clarence Welti, PE. PC.

227 Williams Street · P.O. Box 397
Glastonbury, CT 06033-0397

(860) 633-4623 / FAX (860) 657-2514

November 5, 2018

Mr. David Ziaks, P. E.
F. A. Hesketh & Associates, Inc.
6 Creamery Brook
East Granby, CT 06026

Re: Preliminary Geotechnical Study for Proposed Residential Development at Blue Fox Run Golf Course, Nod Road, Avon, CT

Dear David:

1.0 Herewith are the data from the test borings taken at the above referenced site. Sixteen borings were drilled to a maximum depth of 31.5 feet below the existing grades. The boring locations are shown on the attached plan. Water level observation wells were installed in 4 of the borings to permit long term monitoring of the ground water levels. *The borings were drilled by Clarence Welti Associates, Inc. and sampling was conducted by this firm solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.* Grain size gradation and water content tests were performed on 9 samples taken from the borings. The results of the those tests are included in the Appendix.

2.0 The **Subject Project** will include a residential development on part of the Blue Fox Run Golf Course in Avon, CT. Up to 100 residences are proposed on a network of proposed streets. A grading plan was not available for this study. It is presumed the development will be serviced by public water and public sewers. The individual housing units could have basements or slabs on grade, dependent on the final grading plans. It is presumed there will be a storm water management plans, which could include underground storm water infiltration systems. The site development will abut the 100 year floor elevations of the Farmington River Basin.

2.1 The limited topography on the boring plan indicate about 10 feet of relief in the proposed developed area (from about Elev. 180 to about Elev.170). The 100 year flood elevation was at Elev. 162.5 and the 500 year flood elevation was at Elev.166.

3.0 The **Geologic Origin** of the natural inorganic soils at the site and environs is from glacial lake or glacial terrace deposits. These deposits consist generally of sand with trace to little silt and gravel

or silt and fine sand. The upper few feet of the soil profile can include disturbed soils or fills as part of the golf course development.

3.1 The **Soils Cross Section** from the borings is generally as follows:

Southerly and Northeast Portion of Site (see borings B-1, B-2 and, B-8 thru B-16)

Topsoil to 8" to 10"

Locally Subsoil or FILL; fine to medium SAND, little to some Silt, trace Roots and Gravel to 2 to 3.5 feet, loose

Fine to medium to fine to coarse SAND, trace to little Silt and Gravel to 10 to 30+ feet, medium compact

Locally (see B-12 & B-13); SILT and fine SAND to 13 to 25 feet, medium compact

Locally Moraine (see B-13 & B-15); fine to coarse SAND, some Silt , little Gravel at 10 to 25 feet below the existing grades, medium compact to dense

Northwest Portion of Site (see borings B-3, B-5 thru B-7)

Topsoil to 4" to 12"

Locally Subsoil or FILL; fine to fine to medium SAND, some Silt, trace Roots and Gravel; or SILT, trace Roots to to 2 to 5 feet, loose

SILT and fine SAND; SILT, trace fine Sand and Clay; or fine SAND, little Silt to 16+ feet, medium compact

Boring B-4

FILL; fine to medium SAND, some Silt, to 1.5 feet, loose

Fine to coarse SAND, little Silt and Gravel to 4 feet, dense

SILT and fine SAND to 8 feet, medium compact

Moraine; fine to coarse SAND, some Silt, little Gravel at 16+ feet, medium compact to dense

3.2 The **Water Table,** where evident in the borings, was at 13.5 to 22 feet below the existing grades at the completion of the borings. The groundwater levels are related to water levels in the river.

4.0 The **Criteria for Foundation Type and Loading** are as follows:

1. The maximum total settlement shall not exceed 1" and the maximum differential settlement shall not exceed ½ the maximum settlement.

2. The structures and foundations must address the seismic section of the building code where applicable. Residential structure would normally be exempt from seismic analysis.

3. The slab at grade floors must not settle differentially more than ½" in excess of the main structure subsidence.

4. Basement areas must address possible ground water levels in flood periods.

4.1 Regarding item 2 (above), the seismic site soil profile classification can be **"D"** based on the standard penetration resistance values from the test borings. The natural soils below the water table would not be susceptible to soil liquefaction during an earthquake. The mapped MCE spectral response acceleration values for Avon, CT are $\mathbf{S_1 = 0.064}$ for one second period and $\mathbf{S_s = 0.181}$ for short period. For transfer of ground shear into the soil the ultimate friction factor can be **0.60.**

5.0 Regarding **Foundation Type,** the buildings can be supported with spread footings. The footing sub grades should be on the natural inorganic soils, or on a controlled fill placed after the removal of fills, topsoil or subsoils. Strip footings should be at least 2 feet wide and column footings at least 3 feet x 3 feet. The footing sub grades should be at least 4 feet below grade. Controlled fills should conform to section 6.0 below and should extend horizontally beyond the footings for a distance equal to at least the depth of fill beneath the footings.

5.0.1 Where footings are in basement areas there should be a 6" layer crushed 3/8" stone beneath footings to address possible impacts rising water levels or capillary water above the static levels. The crushed stone should be also be placed in areas where the footing subgrade are atop silty soils.

5.1 The **Allowable Bearing Pressure** for footings on the natural inorganic coils or on a controlled fill can be 4,000 psf. The allowable loading can be increased by 1/3 for seismic or wind loading. At retaining walls the maximum pressure on the toe can be 50% higher than the average pressure, cited above.

5.2 The **Static Lateral Soil Loading** on retaining walls that are part of the buildings (if any) should be based on at-rest pressure using the at-rest coefficient $\mathbf{K_O = 0.45}$, as cited in the table below. Lateral soil loading on retaining walls apart from the buildings can be designed with active pressure using the coefficient $\mathbf{K_A = 0.28}$ for level backfill condition. The ultimate sliding coefficient for concrete on crushed stone or controlled fill is **0.60.**

5.3 The **Frost Protection Depth** required by the Building Code is 3.5 feet below the finish grades in areas, which are exposed to weather.

5.4 Summary of Foundation Design Parameters:

Parameter	Value
Allowable Bearing Pressure for Spread Footings	4,000 psf
Soil Unit Weight (Backfill) *	120 pcf
Internal Friction Angle (Backfill) *	34°
At-Rest Pressure Coefficient, K_O	0.45
Active Pressure Coefficient, K_A (level backfill)	0.28
Ultimate Sliding Coefficient, concrete on crushed stone over soil or rock	0.60
Seismic Site Soil Profile Site Classification	D
Mapped MCE Spectral Response Acceleration for one second period, S_1	0.064
Mapped MCE Spectral Response Acceleration for short period, S_S	0.181
Frost Protection Depth	3.5 feet

* Backfill material conforming to section 6.0 below

6.0 Regarding **Controlled Fill, Backfill for Retaining Walls and Excavations at Columns and Walls, plus Slab at Grade Underlayment** (to 4" below the slab bottom) the material should conform to the following or be 3/8" crushed stone:

Percent Passing	Sieve Size
100	3.5"
50 - 100	3/4"
25 - 100	No.4

The fraction, passing the No.4 sieve should have less than 15%, passing the No. 200 sieve.

All backfill and controlled fill must be compacted to at least 95% of modified optimum density.

Some of the on site materials may conform to above gradation.

6.1 Fill, topsoil and frost disturbed subsoils should be removed from beneath slab on grade floors. The sub grades should be surficially compacted to at least 93% of modified optimum density. There should be a minimum 16" of controlled fill beneath such floors placed to within 4" of the slab

bottom. The controlled fill should conform to section 6.0 above. The final 4" should be with 3/8" crushed stone or with 3/4" minus processed stone base. The floor designs should meet the flood requirements of FEMA, where applicable. A vapor retarder is required beneath the slab at grade floors.

6.2 In basement areas there should be (1) a minimum 6" of crushed 3/8" stone beneath the floors, (2) perimeter footing drains and (3) water stops at the wall/footing interface.

7.0 Regarding **Earthwork,** excavations in the natural soils will fall in OSHA Class C. This will require sloping excavations, which are unshored and exceed 5 feet in height, to be cut back to slopes less than 34° from the horizontal (1.5H:1V). Deep excavations (i.e., trenches for sewers, other utilities and related structures) should address OSHA requirements for personnel and equipment access. The trenching where located near proposed foundations should be completed prior to placing the those foundations.

7.1 Long Term Slopes in earth cuts or fills should be graded to 3H:1V, or flatter.

7.2 The recommendations for **Compactor Size versus loose Lift thickness** are as follows:

Static Weight	Dynamic Force	Lift Thickness
10 Tons	20 Tons	12"
7.5 Tons	15 Tons	10"
5 Tons	10 Tons	8"
2 Tons	4 Tons	7"
1 Ton	2 Tons	6"
< 1 Ton	< 2 Tons	< 5"

8.0 Regarding **Pavements,** the natural soils below the topsoil and subsoil in a large portion of the site are generally non-frost susceptible. The pavement design in these area should be based on vehicle load and load repetition. Dependent on final grading some of the pavement section subgrades may fall in a stratum of silt or silt and fine sand. To address this potential condition there should be a minimum 12" layer of subbase below the sections cited below. The subbase and controlled fills beneath the pavement section should conform to section 6.0 above. After removal of the topsoil and subsoil, the sub grades should be proof compacted by a least five passes of a vibratory roller compactor having a static weight of at least 6 Tons. The recommended pavement sections[1] above the compacted sub grades or on the subbase are as follows:

[1] If the town pavement criteria is applicable at the subject project, this would supercede the above sections unless the proposed sections exceed the town sections in depth

1. Passenger Car Parking: 3" of bituminous concrete (in two lifts) atop 8" of processed stone base

2. Truck Access (roadways: 4" of bituminous concrete (in two lifts) on 10" of processed stone base

8.1 For **Portland Cement Concrete** the concrete thickness for light truck traffic would be 6". This should be placed on 8"of processed stone base atop the proof compacted sub grades or subbase as cited in section 8.0 above. For passenger car parking the concrete thickness should be 5" atop 6" of processed stone. Concrete Dumpster Pads should be 8" thick on 8" of processed stone base. The modulus of sub grade reaction atop the processed stone base would be at least 250 pci.

9.0 Sewer piping should have 6" of crushed 3/8" beneath the piping and carried up to the pipes spring line. Backfill of piping in streets should conform to the gradation in section 6.0.

10.0 The location of possible storm water infiltration sites have not been delineated. When such location are known the soils can be tested for permeability. In generally the fine to medium sand with trace silt would have permeability rate of at least 20 feet/day.

11.0 This report has been prepared for specific application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. In the event that any changes in the nature, design and location of structures are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

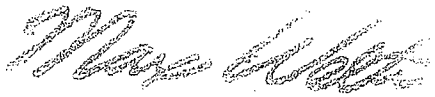
The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

Welti Geotechnical, P.C., should perform a general review of the final design and specifications in order that geotechnical design recommendations may be properly interpreted and implemented as they were intended.

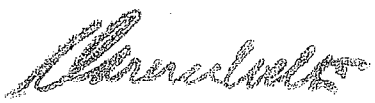
The report is labeled "Preliminary" based on the limited available topography, proposed grading and proposed utility plans.

If you have any questions, please call our office.

Very truly yours,



Max Welti, P.E.
President



Clarence Welti Ph.D., P. E.
Vice President

APPENDIX

BORING LOCATION PLAN
+
TEST BORING LOGS
+
GRAIN SIZE GRADATION REPORTS

BL-1

PROPOSED BORING LOCATIONS PLAN

PREPARED FOR

BLUE FOX GOLF COURSE

NOD ROAD & EAST MAIN STREET

AVON, CONNECTICUT

Date: 08-19-2018	Drawn by: KLL	Job no: 16132	
Scale: 1" = 80'	Checked by: DSZ	Sheet no: 1 OF 1	

Revisions		
No	Date	Description

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www.fahesketh.com · mail@fahesketh.com

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CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-1

GROUND WATER OBSERVATIONS
AT 20.0 FT. AFTER 0 HOURS
AT 21.0 FT. AFTER HOURS

START DATE 10/16/18
FINISH DATE 10/16/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-5-12-12	0.0'-2.0'		TOPSOIL	
					BR.FINE-CRS.SAND, LITTLE SILT & GRAVEL — 1.0	
	2	12-12-14-9	2.0'-4.0'			
					LIGHT GREY/BR.FINE-MED.SAND, TRACE SILT & GRAVEL — 3.5	
5	3	5-6-8-10	4.0'-6.0'			
					LIGHT GREY/BR.FINE-MED.SAND, TRACE SILT — 5.5	
10	4	5-8-9	10.0'-11.5'			
15	5	7-10-13	15.0'-16.5'		GREY/BR.FINE-MED.SAND, TRACE SILT — 15.5	
20	6	5-9-13	20.0'-21.5'			
25	7	6-7-7	25.0'-26.5'			
30	8	10-11-14	30.0'-31.5'			
					BOTTOM OF BORING @ 31.5' — 31.5	
					SET 2" DIA. PVC WELL @ 30.0'	
35					10.0' (.010 SLOT) SCREEN	

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 2 | HOLE NO. **B-1**

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033	CLIENT F.A. HESKETH & ASSOCIATES	PROJECT NAME PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE LOCATION NOD ROAD, AVON, CT

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
					20.0' RISER	
					BACKFILL FROM 31.5' TO 1.0'	
					CONCRETE FROM 1.0' TO SURFACE	
					7" DIA. ROADWAY BOX COVER	
40						
45						
50						
55						
60						
65						
70						
75						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 2 OF 2 | HOLE NO. **B-1**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-2

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/15/18
FINISH DATE 10/15/18

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-7-5-6	0.0'-2.0'		TOPSOIL 0.33	
					DARK BR.FINE-CRS.SAND, LITTLE SILT, TRACE GRAVEL	
	2	10-10-9-9	2.0'-4.0'			
					LIGHT GREY/BR.FINE-CRS.SAND, TRACE SILT & GRAVEL 3.0	
	3	11-15-15-12	4.0'-6.0'			
5						
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT 8.0	
10	4	18-12-10	10.0'-11.5'			
					BR.FINE SAND, LITTLE SILT 10.5	
15	5	10-9-10	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1

HOLE NO. **B-2**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. **B-3**

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/15/18
FINISH DATE 10/15/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-3-3-3	0.0'-2.0'		TOPSOIL 0.33	
					BR.SILT, TRACE ROOTS	
	2	4-8-15-15	2.0'-4.0'		LIGHT BR.SILT AND FINE SAND 3.0	
5	3	15-10-14-15	4.0'-6.0'			
10	4	7-5-5	10.0'-11.5'		BR.FINE SAND, LITTLE SILT 11.0	
15	5	7-6-9	15.0'-16.5'		BOTTOM OF BORING @ 16.5' 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-3**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET 120'E
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-4

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/16/18
FINISH DATE 10/16/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-4-5-10	0.0'-2.0'		DARK BR.FINE-MED.SAND, SOME SILT	
					BR.FINE-CRS.SAND, LITTLE SILT & GRAVEL — 1.5	
	2	12-16-21-60	2.0'-3.8'			
					BR.SILT AND FINE SAND — 4.0	
5	3	6-7-7-10	5.0'-7.0'			
					BR.FINE-CRS.SAND, SOME SILT, LITTLE GRAVEL — 8.0	
10	4	11-8-10	10.0'-11.5'			
15	5	22-18-20	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' — 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-4**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-5

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/16/18
FINISH DATE 10/16/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-6-7-10	0.0'-2.0'		TOPSOIL 0.50	
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT	
	2	6-16-27-25	2.0'-4.0'			
					BR.FINE SAND, LITTLE SILT 3.5	
	3	20-20-27-30	4.0'-6.0'		BR.SILT AND FINE SAND 4.5	
5						
10	4	6-8-9	10.0'-11.5'			
15	5	8-8-12	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-5**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-6

GROUND WATER OBSERVATIONS
AT 15.0 FT. AFTER 0 HOURS
AT 18.0 FT. AFTER HOURS

START DATE 10/12/18
FINISH DATE 10/12/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-3-3-4	0.0'-2.0'		TOPSOIL 0.66	
					BR.FINE SAND, SOME SILT	
	2	3-6-7-7	2.0'-4.0'		3.0	
					LIGHT BR.FINE SAND, LITTLE SILT	
5	3	5-6-8-10	4.0'-6.0'		5.0	
					LIGHT BR.FINE SAND AND SILT	
10	4	7-9-10	10.0'-11.5'		10.0	
					BR.SILT, TRACE FINE SAND	
15	5	5-7-9	15.0'-16.5'			
20	6	4-7-7	20.0'-21.5'			
25	7	7-8-9	25.0'-26.5'			
					26.5	
					BOTTOM OF BORING @ 26.5'	
					SET 2" DIA. PVC WELL @ 25.0'	
					10.0' (.010 SLOT) SCREEN	
30					15.0' RISER	
					SAND FROM 25.0' TO 13.0'	
					BACKFILL FROM 13.0' TO 1.0'	
35					CONCRETE FROM 1.0' TO SURFACE	

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033	CLIENT F.A. HESKETH & ASSOCIATES	PROJECT NAME PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE LOCATION NOD ROAD, AVON, CT

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
					7" DIA. ROADWAY BOX COVER	
40						
45						
50						
55						
60						
65						
70						
75						

LEGEND: COL. A:

SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON

PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA

INSPECTOR:

SHEET 2 OF 2 | HOLE NO. **B-6**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET 30'E
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.
HOLE NO. B-7

GROUND WATER OBSERVATIONS
AT 15.0 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/12/18
FINISH DATE 10/12/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION - REMARKS	ELEV.
0	1	1-2-2-1	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, SOME SILT, TRACE ROOTS & GRAVEL	1.0
	2	2-3-2-2	2.0'-4.0'			
	3	3-4-6-6	4.0'-6.0'			
5					BR.SILT, TRACE CLAY	5.0
10	4	10-10-11	10.0'-11.5'		BR.SILT, TRACE FINE SAND	10.0
15	5	7-10-10	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5'	16.5
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 | HOLE NO. **B-7**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-8

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/11/18
FINISH DATE 10/11/18

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-2-4-2	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, LITTLE SILT, TRACE ROOTS	0.66
	2	6-22-13-10	2.0'-4.0'		BR.FINE-MED.SAND, TRACE SILT	2.5
5	3	10-5-5-10	4.0'-6.0'		BR.FINE-CRS.SAND, TRACE SILT & GRAVEL	5.5
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT	9.0
10	4	21-25-18	10.0'-11.5'			
15	5	9-14-18	15.0'-16.5'		BOTTOM OF BORING @ 16.5'	16.5
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-8**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-9

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/17/18
FINISH DATE 10/17/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-4-5-5	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, LITTLE SILT	0.80
	2	5-5-10-16	2.0'-4.0'			
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT	3.0
	3	12-14-14-16	4.0'-6.0'			
5						
					LIGHT GREY/BR.FINE-MED.SAND, TRACE SILT	8.0
10	4	9-10-10	10.0'-11.5'			
15	5	10-8-8	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5'	16.5
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-9**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET 36'E
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-10

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/16/18
FINISH DATE 10/16/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-2-2-3	0.0'-2.0'		TOPSOIL 0.66	
					BR.FINE-MED.SAND, SOME SILT, TRACE GRAVEL	
	2	4-12-15-20	2.0'-4.0'		BR.FINE-CRS.SAND, LITTLE SILT & GRAVEL 2.5	
5	3	12-15-15-15	4.0'-6.0'			
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT 7.0	
10	4	11-21-16	10.0'-11.5'			
15	5	12-10-11	15.0'-16.5'		GREY/BR.FINE SAND, LITTLE SILT 15.0	
					BOTTOM OF BORING @ 16.5' 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 HOLE NO. **B-10**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET 30'W
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-11

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/17/18
FINISH DATE 10/17/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-4-4-4	0.0'-2.0'		TOPSOIL	
					DARK BR./BR.FINE-MED.SAND, SOME SILT	0.80
	2	3-8-12-17	2.0'-4.0'			
					BR.FINE-CRS.SAND, LITTLE SILT, TRACE GRAVEL	3.0
	3	20-32-26-14	4.0'-6.0'			
5						
					BR.FINE-CRS.SAND, SOME GRAVEL, LITTLE SILT	8.0
10	4	26-24-24	10.0'-11.5'			
15	5	26-26-28	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5'	16.5
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 | HOLE NO. **B-11**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-12

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/11/18
FINISH DATE 10/11/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-2-1-2	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, LITTLE SILT — 0.66	
	2	2-3-3-3	2.0'-4.0'			
					BR.FINE-MED.SAND, TRACE SILT — 3.0	
5	3	3-4-5-5	4.0'-6.0'			
10	4	6-5-6	10.0'-11.5'		GREY/BR.FINE SAND, SOME SILT — 10.0	
					BR.FINE-CRS.SAND, TRACE SILT — 13.0	
15	5	8-8-7	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' — 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 | HOLE NO. **B-12**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-13

GROUND WATER OBSERVATIONS
AT 15.0 FT. AFTER 0 HOURS
AT 16.0 FT. AFTER HOURS

START DATE 10/17/18
FINISH DATE 10/17/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-2-3-3	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, SOME SILT, TRACE GRAVEL	0.80
	2	4-8-12-24	2.0'-4.0'			
					BR.FINE-MED.SAND, LITTLE SILT, TRACE GRAVEL	3.0
	3	17-21-20-23	4.0'-6.0'			
5					BR.FINE-CRS.SAND, SOME SILT, LITTLE GRAVEL	4.5
10	4	11-20-21	10.0'-11.5'			
					BR.SILT AND FINE SAND	14.0
15	5	10-7-5	15.0'-16.5'			
20	6	3-2-6	20.0'-21.5'			
25	7	8-14-17	25.0'-26.5'			
					BR.FINE-CRS.SAND, SOME SILT, LITTLE GRAVEL	25.5
					BOTTOM OF BORING @ 26.5'	26.5
					SET 2" DIA. PVC WELL @ 25.0'	
					10.0' (.010 SLOT) SCREEN	
30					15.0' RISER	
					SAND FROM 25.0' TO 13.0'	
					BACKFILL FROM 13.0' TO 1.0'	
					CONCRETE FROM 1.0' TO SURFACE	
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033	CLIENT F.A. HESKETH & ASSOCIATES	PROJECT NAME PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE LOCATION NOD ROAD, AVON, CT

DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
					7" DIA. ROADWAY BOX COVER	
40						
45						
50						
55						
60						
65						
70						
75						

LEGEND: COL. A:

SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON

PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA

INSPECTOR:

SHEET 2 OF 2 | HOLE NO. **B-13**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-14

GROUND WATER OBSERVATIONS
AT none FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/11/18
FINISH DATE 10/11/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-4-4-4	0.0'-2.0'		TOPSOIL	
					BR.FINE-MED.SAND, LITTLE SILT — 0.66	
	2	2-3-4-5	2.0'-4.0'		BR.FINE-MED.SAND, TRACE SILT — 2.0	
	3	5-6-8-11	4.0'-6.0'			
5					BR.FINE-CRS.SAND, TRACE SILT — 5.0	
10	4	9-10-9	10.0'-11.5'			
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT — 13.0	
15	5	18-16-15	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' — 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1

HOLE NO. **B-14**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-15

GROUND WATER OBSERVATIONS
AT 13.5 FT. AFTER 0 HOURS
AT FT. AFTER HOURS

START DATE 10/11/18
FINISH DATE 10/11/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-4-4-4	0.0'-2.0'		DARK BR.FINE-MED.SAND, SOME SILT	
	2	2-3-2-5	2.0'-4.0'			
	3	9-10-7-5	4.0'-6.0'		BR.FINE-CRS.SAND, LITTLE SILT, TRACE GRAVEL 3.5	
5					BR.FINE-MED.SAND, TRACE SILT 5.0	
10	4	10-11-12	10.0'-11.5'		RED/BR.FINE-CRS.SAND, SOME SILT, LITTLE GRAVEL 10.0	
15	5	15-13-12	15.0'-16.5'			
					BOTTOM OF BORING @ 16.5' 16.5	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 1 | HOLE NO. **B-15**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT
F.A. HESKETH & ASSOCIATES

PROJECT NAME
PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

LOCATION
NOD ROAD, AVON, CT

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.

HOLE NO. B-16

GROUND WATER OBSERVATIONS
AT 20.0 FT. AFTER 0 HOURS
AT 22.0 FT. AFTER HOURS

START DATE 10/12/18
FINISH DATE 10/12/18

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-4-9-8	0.0'-2.0'		TOPSOIL	
					BR.FINE-CRS.SAND, TRACE SILT & GRAVEL	0.66
	2	7-7-7-7	2.0'-4.0'			
					LIGHT BR.FINETO FINE-MED.SAND, TRACE SILT	3.0
	3	5-8-8-10	4.0'-6.0'			
5						
10	4	3-5-6	10.0'-11.5'			
15	5	7-8-8	15.0'-16.5'		LIGHT GREY/BR.FINE-CRS.SAND, TRACE SILT	15.0
20	6	4-5-6	20.0'-21.5'		LIGHT BR.FINE-MED.SAND, TRACE SILT	20.0
					BR.FINE-CRS.SAND, LITTLE GRAVEL, TRACE SILT	24.0
25	7	4-5-6	25.0'-26.5'			
30	8	2-4-6	30.0'-31.5'			
					BOTTOM OF BORING @ 31.5'	31.5
					SET 2" DIA. PVC WELL @ 30.0'	
35					10.0' (.010 SLOT) SCREEN	

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 1 OF 2 HOLE NO. **B-16**

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033	CLIENT F.A. HESKETH & ASSOCIATES	PROJECT NAME PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE LOCATION NOD ROAD, AVON, CT

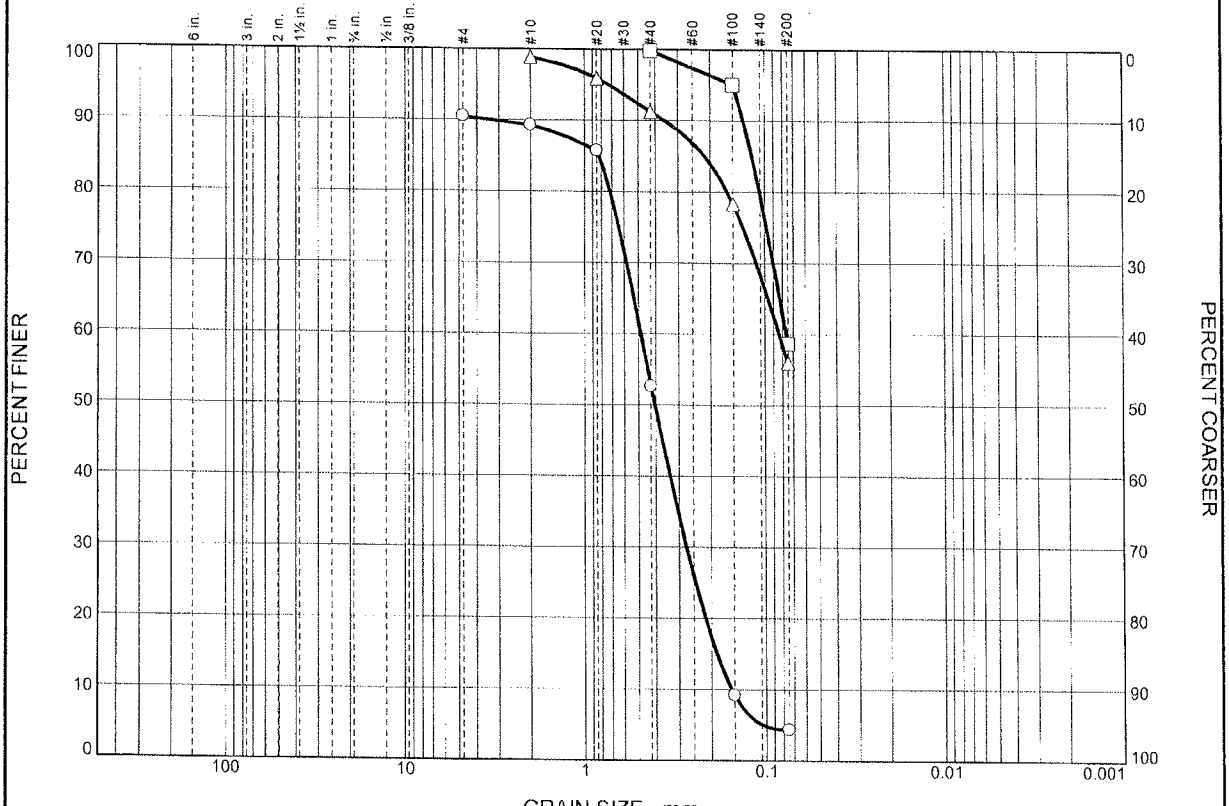
DEPTH	SAMPLE NO.	SAMPLE BLOWS/6"	SAMPLE DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
					20.0' RISER	
					BACKFILL FROM 31.5' TO 1.0'	
					CONCRETE FROM 1.0' TO SURFACE	
					7" DIA. ROADWAY BOX COVER	
40						
45						
50						
55						
60						
65						
70						
75						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:

SHEET 2 OF 2 | HOLE NO. **B-16**

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○				1.1	36.6	48.3	4.4	
□						41.1	58.7	
△					7.6	35.2	56.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.8285	0.4845	0.4050	0.2741	0.1875	0.1558	1.00	3.11
□			0.1181	0.0766						
△			0.2152	0.0837						

	Material Description	USCS	AASHTO
○			
□			
△			

Project No. **Client:** F.A. HESKETH & ASSOCIATES

Project: PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

○ **Source of Sample:** B-1 **Depth:** 2.0 **Sample Number:** 2

□ **Source of Sample:** B-3 **Depth:** 4.0 **Sample Number:** 3

△ **Source of Sample:** B-4 **Depth:** 5.0 **Sample Number:** 3

Remarks:

○water content = 5.4%

□water content = 10.4%

△water content = 18.9%

CLARENCE WELTI ASSOCIATES, INC.

Figure

Particle Size Distribution Report

	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○					2.0	43.3	54.6	
□				0.6	2.3	68.0	28.8	
△				5.4	19.5	35.2	34.2	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.1770	0.0857						
□			0.2542	0.1384	0.1129	0.0767				
△			1.0311	0.2890	0.1894					

	Material Description	USCS	AASHTO
○			
□			
△			

Project No. **Client:** F.A. HESKETH & ASSOCIATES

Project: PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

○ **Source of Sample:** B-5 **Depth:** 4.0 **Sample Number:** 3

□ **Source of Sample:** B-6 **Depth:** 1.0

△ **Source of Sample:** B-7 **Depth:** 2.0 **Sample Number:** 2

Remarks:

○water content – 15.2%

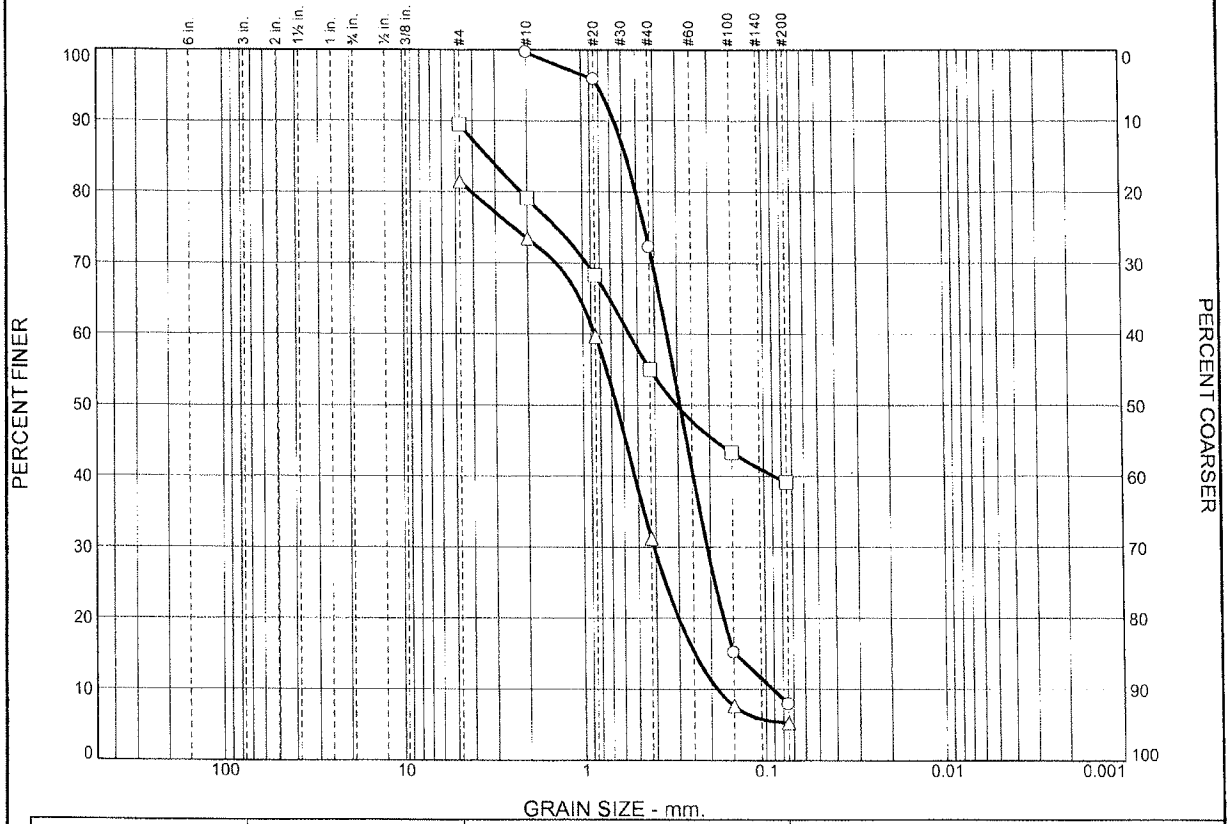
□water content = 9.7%

△water content = 14.0%

CLARENCE WELTI ASSOCIATES, INC.

Figure

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○					27.4	64.3	7.9	
□				10.4	24.1	15.8	39.2	
△				8.0	42.2	26.0	5.3	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.5675	0.3426	0.2914	0.2088	0.1470	0.0914	1.39	3.75
□			3.3047	0.5523	0.3033					
△				0.8577	0.6578	0.4114	0.2471	0.1855	1.06	4.62

	Material Description	USCS	AASHTO
○			
□			
△			

Project No. **Client:** F.A. HESKETH & ASSOCIATES

Project: PROPOSED DEVELOPMENT ON BLUE FOX RUN GOLF COURSE

○ **Source of Sample:** B-12 **Depth:** 1.0

□ **Source of Sample:** B-13 **Depth:** 4.0 **Sample Number:** 3

△ **Source of Sample:** B-16 **Depth:** 1.0

Remarks:

○water content = 8.0%

□water content = 10.2%

△water content = 6.2%

CLARENCE WELTI ASSOCIATES, INC.

Figure

F. A. Hesketh & Associates, Inc.
3 Creamery Brook, East Granby, CT 06026
Phone (860) 653-8000 Fax (860) 844-8600
Civil & Traffic Engineers • Surveyors • Planners • Landscape Architects
www.fahesketh.com • mail@fahesketh.com

CONCEPT SEPTIC DESIGN PLAN FOR
FIVE PROPOSED LOTS ON NOD ROAD
BLUE FOX GOLF COURSE
NOD ROAD & EAST MAIN STREET
AVON, CONNECTICUT

Date 10-01-18	Drawn by CAD	Job no. 16132	
1" = 50'	Checked by GAH	Sheet no. 1 OF 1	

No.	Date	Description
Revisions		

SP-1

TEST PITS CONDUCTED ON SEPTEMBER 27, 2018 SUNNY, BREEZY, 55° MORN, 78° AFTERNOON

PRESENT: GUY HESKETH, KIAN DOWNES, DANNY THE EXCAVATOR
FVHD REVIEWER: DIANE HARDING

TEST PIT ID	HORIZON/INTERVAL		DESCRIPTION
TP-1-1	AP	0-12"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B1	12"-24"	RED/BROWN COMPACT LOAMY SAND FRIABLE, MOIST
	B2	24"-34"	RED/BROWN COMPACT LOAMY SAND W/ 50% STONES TO 2" Ø, ROUNDED AND ANGULAR, COMPACT, FRIABLE, MOIST
	C1	34"-52"	LENSES/LAYERS OF RED/BROWN SAND AND GRAVEL COMPACT, TRACE LOAM, STONES TO 10-12" Ø INTER DISPERSED, MOIST
	C2	52"-96"	TAN COARSE SAND (BEACH SAND), LOOSE, MOIST, NO FINES
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 34"			
TP-1-2	AP	0"-12"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B1	12"-22"	RED/TAN/BROWN COMPACT LOAMY SAND, FRIABLE, MOIST
	B2	22"-38"	RED/TAN COMPACT LOAMY SAND AND GRAVEL COMPACT, FRIABLE, MOIST
	C1	38"-64"	LENSES/LAYERS OF RED/BROWN SAND AND GRAVEL COMPACT, TRACE LOAM, STONES TO 4-6" Ø INTER DISPERSED, MOIST, HIGHLY STRATIFIED
	C2	64"-74"	LENSES/LAYERS OF RED/BROWN SAND AND GRAVEL COMPACT, TRACE LOAM, STONES TO 10-12" Ø INTER-DISPERSED, MOIST
	C3	74"-96"	TAN COARSE SAND (BEACH SAND), LOOSE, MOIST, NO FINES, WELL GRADED
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 38"			
TP-1-3	AP	0-10"	DARK BROWN LOAMY SANDY TOPSOIL LOOSE/VERY FRIABLE, MOIST
	B	10"-35"	RED/BROWN COMPACT LOAMY COURSE SAND GRAVEL W/ 15% STONES TO 6" Ø (ROUNDED AND ANGULAR), COMPACT FRIABLE, MOIST
	C1	35"-48"	RED/BROWN, COMPACT SAND/GRAVEL, TRACE LOAM, MOIST, LOOSE (BEACH SAND)
	C2	48"-60"	RED COMPACT SAND AND GRAVEL W/ STONES TO 2" Ø INTER-DISPERSED, MOIST, FRIABLE
	C3	60"-90"	RED COMPACT LOAMY SAND AND GRAVEL W/ STONES TO 10" Ø INTER-DISPERSED (30%), MOIST, FRIABLE
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 35"			
TP-2-1	AP	0"-10"	DARK BROWN, LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	10"-26"	RED/BROWN COMPACT LOAMY COURSE SAND, COMPACT FRIABLE, MOIST
	C1	26"-60"	RED/BROWN, COURSE SAND W/ LENSES/LAYERS OF GRAVEL MIXED IN, COMPACT, FRIABLE, MOIST
	C2	60"-72"	TAN COURSE SAND/GRAVEL, INTERMIXED STONES TO 2" Ø COMPACT, MOIST, FRIABLE
	C3	72"-96"	RED COMPACT LOAMY SAND AND GRAVEL, W/ STONES TO 10" Ø INTER-DISPERSED (30%), MOIST, FRIABLE
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 35"			
TP-2-2	AP	0"-12"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	12"-22"	BROWN COMPACT LOAMY COURSE SAND, COMPACT FRIABLE, MOIST
	C1	22"-52"	RED/BROWN, COURSE SAND/GRAVEL, INTERMIXED STONES TO 2" Ø (ROUNDED AND ANGULAR), MULTIPLE LAYERS W/ INTERBEDDED SAND LAYERS, COMPACT, MOIST, FRIABLE
	C2	52"-96"	TAN/BROWN COURSE SAND (BEACH SAND) W/ LENSES/LAYERS OF GRAVEL, MOIST, LOOSE
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 22"-24"			
TP-2-3	AP	0"-12"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	12"-26"	BROWN, COMPACT LOAMY COURSE SAND/GRAVEL, COMPACT, FRIABLE, DENSE, MOIST
	C1	26"-44"	TAN/BROWN LENSES/LAYERS OF COURSE SAND/GRAVEL, INTERMIXED STONES TO 2" Ø (15-20%), COMPACT, MOIST, FRIABLE
	C2	44"-96"	TAN/BROWN COURSE SAND (BEACH SAND) W/ LENSES OF RED, MOIST, LOOSE
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 26"			
TP-3-1	AP	0"-14"	DARK BROWN, LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	14"-32"	RED/BROWN, COMPACT LOAMY MEDIUM SAND, MOIST, FRIABLE, DENSE
	C1	32"-44"	RED/BROWN COURSE SAND/GRAVEL W/ LITTLE LOAM, INTERMIXED STONES TO 2" Ø, COMPACT, MOIST, FRIABLE
	C2	44"-96"	BROWN/RED COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTERBEDDED LAYERS WITH ROUNDED LENSES OF SAND/GRAVEL WITH ROUNDED STONES 1.5-2" Ø, LOOSE, MOIST.
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 32"			
TP-3-2	AP	0"-14"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	14"-30"	RED/TAN/BROWN, COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES TO 2" Ø (20%), COMPACT, FRIABLE, DENSE, MOIST
	C1	30"-48"	RED/BROWN MED. TO COURSE SAND W/ LITTLE LOAM, INTERMIXED STONES TO 6" Ø, COMPACT, MOIST, FRIABLE
	C2	48"-96"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTERBEDDED LAYERS WITH NO STONES, LOOSE, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 30"			
TP-3-3	AP	0"-15"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	15"-32"	RED/TAN/BROWN, COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES TO 2" Ø (20%), COMPACT, FRIABLE, DENSE, MOIST
	C1	32"-48"	RED/BROWN MED. TO COURSE SAND W/ LITTLE LOAM, INTERMIXED STONES TO 6" Ø, COMPACT, MOIST, FRIABLE
	C2	48"-96"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTER BEDDED LAYERS WITH NO STONES, LOOSE, MOIST.
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 32"			
TP-4-1	AP	0"-15"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	15"-32"	RED/TAN/BROWN, COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES TO 2" Ø (20%), COMPACT, FRIABLE, DENSE, MOIST
	C1	32"-45"	RED/BROWN MED. TO COURSE SAND W/ LITTLE LOAM, INTERMIXED STONES TO 6" Ø, COMPACT, MOIST, FRIABLE
	C2	45"-96"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTER-BEDDED LAYERS WITH NO STONES, LOOSE, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 32"			
TP-4-2	AP	0"-12"	DARK BROWN, LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	12"-18"	RED/TAN/BROWN COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES TO 2" Ø (20%), COMPACT, FRIABLE, DENSE, MOIST
	C1	18"-24"	RED/BROWN MED. TO COURSE SAND/GRAVEL W/ LITTLE LOAM, MOIST, DENSE
	C2	24"-52"	RED/BROWN COURSE SAND/GRAVEL, INTERMIXED STONES TO 2-3" Ø (25%), COMPACT, MOIST
	C3	52"-114"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTERBEDDED LAYERS SAND/GRAVEL WITH NO STONES, LOOSE, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 24"			
TP-4-3	AP	0"-11"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	11"-22"	RED/TAN/BROWN COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES TO 2" Ø (20%), COMPACT, FRIABLE, DENSE, MOIST
	C1	22"-40"	RED/BROWN MED. TO COURSE SAND/GRAVEL W/ LITTLE LOAM, MOIST, DENSE
	C2	40"-50"	RED/BROWN COURSE SAND/GRAVEL, INTERMIXED STONES TO 2-3" Ø (25%), COMPACT, MOIST
	C3	50"-108"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTERBEDDED LAYERS SAND/GRAVEL WITH NO STONES, LOOSE, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 22"			
TP-5-1	AP	0-12"	DARK BROWN, LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	12"-26"	RED/BROWN, COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES, COMPACT, FRIABLE, DENSE, MOIST
	C1	26"-36"	RED/BROWN MED. TO COURSE SAND/GRAVEL W/ LITTLE LOAM, MOIST, DENSE
	C1	36"-46"	RED MED. TO COURSE LOAMY SAND/GRAVEL, MOIST, DENSE
	C2	46"-84"	RED COURSE LOAMY SAND, INTERBEDDED STONES, COBBLES AND BOULDERS (75% STONES), VERY COMPACT, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 26"			
TP-5-2	AP	0-12"	DARK BROWN LOAMY SANDY TOPSOIL, LOOSE/VERY FRIABLE, MOIST
	B	12"-26"	RED/TAN/BROWN, COMPACT LOAMY SAND/GRAVEL, TRACE LOAM, INTERMIXED STONES, COMPACT, FRIABLE, DENSE, MOIST
	C1	26"-56"	RED/BROWN MED. TO COURSE SAND/GRAVEL W/ LITTLE LOAM, MOIST, DENSE
	C2	56"-100"	RED/BROWN COURSE SAND (BEACH SAND) W/ LITTLE LOAM, INTERBEDDED LAYERS SAND/GRAVEL WITH NO STONES, LOOSE, MOIST
NO GROUNDWATER, NO SEEPS, NO NOTED REDOX FEATURES, ROOTS TO 36"			

PERC. TEST DATA

PT-1 - LOT 1

INTERVAL PERC'D: 12"-31" BELOW GRADE

PRE-SOAK BEGAN AT 10:00 AM, HOLE DRY BY 10:11
PERC TEST CONDUCTED AT 10:12 AM

READING	TIME (M:S)
3.5"	0:00
7.0"	1:00
9.5"	2:00
11.25"	3:00
12.25"	4:00
14.0"	5:00
15.25"	6:00
16.50"	7:00
17.50"	8:00
18.50"	9:00

PERCOLATION RATE = 0.6 MIN./IN

PT-2 - LOT 2

INTERVAL PERC'D: 12"-30" BELOW GRADE

PRE-SOAK BEGAN AT 11:22 AM, HOLE DRY BY 11:40 AM
PERC TEST CONDUCTED AT 11:43 AM

READING	TIME (M:S)
3.5"	0:00
6.5"	1:00
8.0"	2:00
9.0"	3:00
10.0"	4:00
11.0"	5:00
11.5"	6:00
12"	7:00
12.75"	8:00
13.0"	9:00
14.0"	10:00
14.25"	11:00
16"	16:00
17"	21:00
18"	24:00

PERCOLATION RATE = 0.93 MIN./IN.

PT-3 - LOT 3

INTERVAL PERC'D: 18"-36" BELOW GRADE

PRE-SOAK BEGAN AT 12:57 PM, HOLE DRY BY 1:15 PM
PERC TEST CONDUCTED AT 1:15 AM

READING	TIME (M:S)
4.25"	0:00
6.5"	2:00
7.5"	4:00
8.5"	6:00
9.5"	8:00
10.5"	10:00
11.5"	12:00
12.5"	14:00
13.5"	16:00
14.0"	18:00
15.0"	20:00
16.0"	22:00

PERCOLATION RATE = 2.1 MIN./IN

PT-4 - LOT 4

INTERVAL PERC'D: 15"-33" BELOW GRADE

PRE-SOAK BEGAN AT 2:40 PM, HOLE DRY BY 3:00
PERC TEST CONDUCTED AT 3:07 AM

READING	TIME (M:S)
5.0"	0:00
7.75"	2:00
9.5"	4:00
10.5"	6:00
12.0"	8:00
13.0"	10:00
14.0"	12:00
15.0"	14:00
15.5"	16:00
16.0"	18:00

PERCOLATION RATE = 1.6 MIN./IN.

PT-5 - LOT 5

INTERVAL PERC'D: 18"-36" BELOW GRADE

PRE-SOAK BEGAN AT 2:55 PM, HOLE DRY BY 3:25
PERC TEST CONDUCTED AT 3:30 PM

READING	TIME (M:S)
4.25"	0:00
6.5"	2:00
7.5"	4:00
8.5"	6:00
9.5"	8:00
10.5"	10:00
11.5"	12:00
12.5"	14:00
13.5"	16:00
14.0"	18:00
15.0"	20:00
16.0"	22:00

PERCOLATION RATE = 2.1 MIN./IN.

PRELIM. SEPTIC DESIGN COMPUTATIONS

LOT 1

Type of System: Residential, Reserve Area 100% Required.
Proposed 4-Bedroom House (no garbage grinder or large tub).
Required Septic Tank Capacity = 1,250 gal. minimum
Design Perc. Rate = Less than 10.1 min./in
Required Leaching Area = 577.5 s.f.
MLSS Calculation: MLSS = HF x FF x PF
Depth to Restrictive Layer: >60" MLSS Need not be considered

For Leaching Field: Use 12"x48" leaching trenches.
Effective Leaching Area = 3.0 s.f./l.f.

Find length of trench required:
577.5 s.f./3.0 s.f./l.f. = 192.5 l.f.
Use 2 rows of double 47' + end connection (2x4') = 196 l.f. > 192.5 l.f.

LOT 2

TYPE OF SYSTEM: RESIDENTIAL, RESERVE AREA 100% REQUIRED
PROPOSED 4-BEDROOM HOUSE (NO GARBAGE GRINDER OR LARGE TUB)
REQUIRED SEPTIC TANK CAPACITY = 1,250 GAL. MINIMUM
DESIGN PERC. RATE = LESS THAN 10.1 MIN./IN
REQUIRED LEACHING AREA = 577.5 S.F.
MLSS CALCULATION: MLSS = HF X FF X PF
DEPTH TO RESTRICTIVE LAYER: >60" MLSS NEED NOT BE CONSIDERED

FOR LEACHING FIELD: USE 12"X48" LEACHING TRENCHES.
EFFECTIVE LEACHING AREA = 3.0 S.F./L.F.

FIND LENGTH OF TRENCH REQUIRED
577.5 S.F./3.0 S.F./L.F. = 192.5 L.F.
USE 2 ROWS OF DOUBLE 47' + END CONNECTION (2X4') = 196 L.F. > 192.5 L.F.

LOT 3

TYPE OF SYSTEM: RESIDENTIAL, RESERVE AREA 100% REQUIRED.
PROPOSED 4-BEDROOM HOUSE (NO GARBAGE GRINDER OR LARGE TUB)
REQUIRED SEPTIC TANK CAPACITY = 1,250 GAL. MINIMUM.
DESIGN PERC. RATE = LESS THAN 10.1 MIN./IN.
REQUIRED LEACHING AREA = 577.5 S.F.
MLSS CALCULATION: MLSS = HF X FF X PF
DEPTH TO RESTRICTIVE LAYER: >60" MLSS NEED NOT BE CONSIDERED

FOR LEACHING FIELD: USE 12"X48" LEACHING TRENCHES
EFFECTIVE LEACHING AREA = 3.0 S.F./L.F.

FIND LENGTH OF TRENCH REQUIRED:
577.5 S.F./3.0 S.F./L.F. = 192.5 L.F.
USE 2 ROWS OF DOUBLE 47' + END CONNECTION (2X4') = 196 L.F. > 192.5 L.F.

LOT 4

TYPE OF SYSTEM: RESIDENTIAL, RESERVE AREA 100% REQUIRED.
PROPOSED 4-BEDROOM HOUSE (NO GARBAGE GRINDER OR LARGE TUB)
REQUIRED SEPTIC TANK CAPACITY = 1,250 GAL. MINIMUM.
DESIGN PERC. RATE = LESS THAN 10.1 MIN./IN.
REQUIRED LEACHING AREA = 577.5 S.F.
MLSS CALCULATION: MLSS = HF X FF X PF
DEPTH TO RESTRICTIVE LAYER: >60" MLSS NEED NOT BE CONSIDERED

FOR LEACHING FIELD: USE 12"X48" LEACHING TRENCHES.
EFFECTIVE LEACHING AREA = 3.0 S.F./L.F.

FIND LENGTH OF TRENCH REQUIRED.
577.5 S.F./3.0 S.F./L.F. = 192.5 L.F.
USE 2 ROWS OF DOUBLE 47' + END CONNECTION (2X4') = 196 L.F. > 192.5 L.F.

LOT 5

TYPE OF SYSTEM: RESIDENTIAL, RESERVE AREA 100% REQUIRED
PROPOSED 4-BEDROOM HOUSE (NO GARBAGE GRINDER OR LARGE TUB).
REQUIRED SEPTIC TANK CAPACITY = 1,250 GAL. MINIMUM.
DESIGN PERC. RATE = LESS THAN 10.1 MIN./IN.
REQUIRED LEACHING AREA = 577.5 S.F.
MLSS CALCULATION: MLSS = HF X FF X PF
DEPTH TO RESTRICTIVE LAYER: >60" MLSS NEED NOT BE CONSIDERED

FOR LEACHING FIELD: USE 12"X48" LEACHING TRENCHES.
EFFECTIVE LEACHING AREA = 3.0 S.F./L.F.

FIND LENGTH OF TRENCH REQUIRED:
577.5 S.F./3.0 S.F./L.F. = 192.5 L.F.
USE 2 ROWS OF DOUBLE 47' + END CONNECTION (2X4') = 196 L.F. > 192.5 L.F.

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Civil & Traffic Engineers - Surveyors - Planners - Landscape Architects

CONCEPT SEPTIC DESIGN PLAN FOR
FIVE PROPOSED LOTS ON NOD ROAD
PREPARED FOR
BLUE FOX GOLF COURSE
NOD ROAD & EAST MAIN STREET
AVON, CONNECTICUT

Date: 10-01-18	Drawn by: CAD	Job No.: 16132
Scale:	Checked by: GAH	Sheet 1 of 1

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