

September 10, 2019

City of Rochester Division of Environmental Quality City Hall, Room 300B 30 Church Street Rochester, New York 14614

Attention: Dennis Peck

Subject: Preliminary Geotechnical Engineering Investigation

101-113 Franklin Street and 106 Pleasant Street

Rochester, New York

Readers:

This report presents the results of a preliminary geotechnical engineering investigation for the site identified above. The work was performed in conjunction with a Phase II Environmental Site Assessment, which was also performed by Ravi Engineering & Land Surveying, P.C.

It is understood that the future use of the site has not yet been determined.

SUBSURFACE EXPLORATIONS

Subsurface explorations for this investigation consisted of nine test pits, 21 environmental probes (Geoprobes), and five conventional test borings. Microwells were installed at five of the probe locations. Monitoring wells were installed at all five of the conventional test boring locations.

The nine test pits were identified as TP-1 through TP-9, and were performed on 7/11/19.

The 21 probes were identified as BH-1 through BH-21, and were performed on 7/17/19 and 7/18/19. Microwells were installed at the locations of BH-9, BH-11, BH-15, BH-20, and BH-21.

The conventional test borings were identified as BH-22 through BH-26, and were performed between 7/24/19 and 7/26/19. As noted above, monitoring wells were installed at all five locations.

A plan showing the locations of all of the explorations is presented as Attachment A.

The logs of all of the explorations were prepared by Ravi Engineering & Land Surveying, P.C. These logs are presented as Attachment B.

COMMENTS ON SUBSURFACE CONDITIONS

Many of the subsurface explorations encountered random fill materials, to depths as great as approximately 10 feet below the ground surface. Greater depths of random fill may be present at other locations. It is likely that the greatest amounts of random fill exist within the outlines of former basements and underground tanks.

As previously noted, this preliminary geotechnical engineering investigation was performed in conjunction with a Phase II Environmental Site Assessment, which was also performed by Ravi Engineering & Land Surveying, P.C.

In general, soils at the east end of the site were found to consist of varying amounts of brick and rock rubble intermixed with loamy fill soils from zero to 10 feet below ground surface, with native soils encountered at a typical depth of 5 feet below ground surface across the site. The brick and stone rubble that is predominant throughout the eastern portion of the site is absent in borings advanced on the west side of the site, with the exception of a small amount of brick rubble at shallow depths near the northwest portion of the site. Typical soils in the west portion of the site consist of sandy loam and silty fine sand.

If fill material is disturbed during redevelopment activities, it may not be acceptable for re-use on the site and will likely need to be handled/disposed of as a regulated solid waste. This could have significant cost implications for future development.

The encountered natural soils contain varying amounts of silt, sand, and gravel. Lesser amounts of clay were also noted.

Bedrock was not core sampled at any of the exploration locations. It appears likely, however, that the depth to bedrock ranges from roughly 15 to 30 feet below the ground surface.

The depths to groundwater, in the five monitoring wells, were measured on 8/7/19 and 8/8/19. These measurements indicated depths to groundwater of approximately 13 to 18 feet below the ground surface.

It should be noted that groundwater levels will vary with factors including location, time, precipitation, season, and site activities.

More detailed descriptions of the subsurface conditions, as encountered by the subsurface explorations, are provided on the logs in Attachment B.

PRELIMINARY COMMENTS ON DESIGN AND CONSTRUCTION

General

All design and construction should meet or exceed the requirements of all applicable codes.

With regard to the International Building Code, it currently appears that a seismic Site Class of "D" will be applicable to this site. This corresponds to a "Stiff soil profile."

Conventional Footing Foundation Option

It currently appears that conventional footings are one foundation option. Preliminary recommendations are a follows:

- No topsoil, organic matter, existing pavement, existing fill, existing utilities, remnant foundations, remnant floor slabs, or other unsuitable materials should be left in place below a footing.
- Footings should bear on stable natural soil, or on compacted granular fill.
- Any granular fill below a footing should be placed directly on stable natural soil. The granular fill should extend laterally beyond each edge of the footing, a distance at least as great as the vertical thickness of granular fill below the footing.
- Individual column footings could be sized using a preliminary bearing pressure of 2,000 pounds per square foot or less, and should in no case be less than 36 inches wide.
- Continuous wall footings could be sized using a preliminary bearing pressure of 2,000 pounds per square foot or less, and should in no case be less than 24 inches wide.
- Footings should be seated at least 2 feet below the lowest adjacent final surface, and at least 4 feet below the lowest adjacent final surface exposed to freezing temperatures.

It should be noted that the bearing pressure above is preliminary, and that this pressure may be revised on the basis of additional subsurface explorations.

Given the presence of random fill materials, it currently appears that conventional footing foundations would be well suited to structures having basements.

Drilled Pier (Caisson) Foundation Option

It currently appears that drilled piers (caissons) are another foundation option. Preliminary recommendations are a follows:

- Drilled piers should bear directly on sound bedrock, below any severely weathered or fractured zones.
- Drilled piers could be sized using a preliminary bearing pressure of 30,000 pounds per square foot or less, and should in no case be less than 2.5 feet in diameter..
- The bearing surface below each pier should be relatively level, with a slope no steeper than 1 vertical on 10 horizontal.
- Exterior grade beams between drilled piers should be seated at least 4 feet below final adjacent exterior grade.

It should be noted that the bearing pressure above is preliminary, and that this pressure may be revised on the basis of additional subsurface explorations.

Given the presence of random fill materials, it currently appears that drilled pier foundations would be well suited to structures without basements.

Floor Slabs on Grade

Complete removal of the existing random fill materials, below new floor slabs on grade, may not be necessary. This would depend on additional evaluations, on environmental acceptability, on exposure and examination during construction, and on the anticipated floor loads and usage requirements. For typically moderate floor loads and normal usage requirements, it is likely that at least some of the existing fill could be left in place.

If unusually heavy floor loads are anticipated, however, or if the use of the floors would be unusually sensitive to settlement, complete removal of the fill should be considered.

It currently appears that a subgrade modulus (K) of 75 pounds per cubic inch would be appropriate for the design of floor slabs on grade.

For a structure supported on drilled pier foundations, and not having a basement, consideration could also be given to a structural floor.

Basement Walls

All earth-retaining walls should be designed and constructed to meet or exceed applicable code requirements, and to resist lateral movement. Any wall subjected to unbalanced lateral earth pressures will serve as an earth-retaining structure.

The backfill materials, any surcharge loads, and any sloping ground surfaces should all be considered.

Drained, unsaturated conditions should be maintained within the backfill.

Pavement

It appears that conventional pavement design and construction will be feasible.

For auto parking areas, a preliminary minimum flexible pavement section would consist of a 1-inch asphaltic top course, a 2-inch asphaltic binder course, and a 12-inch course of compacted granular fill.

For areas subjected to more frequent and/or heavier vehicles, the minimum combined thickness of asphaltic top and binder courses would be increased to 5 inches. The minimum thickness of the granular subbase would be increased to 16 inches.

It currently appears that a subgrade modulus (K) of 75 pounds per cubic inch would be appropriate for the design of rigid (concrete) pavement.

Depending on environmental acceptability, it appears that most of the existing random fill materials could be left in place below new paved areas.

Utilities

It appears that conventional utility construction will generally be feasible.

At some locations, excessively weak and/or compressible random fill materials may be present. This may require undercutting of the trench bottom, and the placement of increased thicknesses of better-quality material.

Excavation, Construction Dewatering, and Subgrade Preparation

Excavation should be performed in accordance with all applicable local, state, and federal requirements. The sides of all excavations should be sloped or supported as required by safety regulations. Existing structures, utilities, and other property should be protected.

With regard to the current OSHA regulations, Type C soil should be assumed. This would apply to adequately dewatered soil.

To minimize subgrade disturbance, excavation should be performed with increasing care as subgrade levels are approached.

All work should be performed in the dry. In addition, the dewatering should be sufficient to permit suitable preparation of the subgrade and compaction of any subsequent fill materials.

The contractor should be prepared to dewater as necessary, and should choose and employ an appropriate type of dewatering system. Any dewatering system should be operated in such a way that disturbance or removal of the subgrade soil does not occur.

It is cautioned that the soils at this site contain fine-grained material, and that they will be sensitive to disturbance. Subgrades should be kept free of water, subjected to a minimum amount of construction traffic, exposed no longer than necessary, and not permitted to freeze.

Subgrades should be carefully prepared and thoroughly examined by qualified personnel. Subgrades should also be tamped using vibratory equipment, to the greatest extent possible without loosening or softening the subgrade soils. Where space permits, subgrades should be proofrolled using a fully-loaded ten-wheel dump truck or full-size (ten-ton or larger) roller.

No new fill or foundation concrete should be placed over material that is loose, soft, wet, frozen, organic, or otherwise unsuitable.

Granular Fill and Backfill

Granular fill should consist of a durable sand and gravel or crusher-run stone, free of any organic matter. The plasticity index should be less than 5. It should meet the NYSDOT requirements for Subbase Course; 304-2.02; Type 1, 2, or 4.

Granular fill should be compacted, in lifts of 9 inches or less, to at least 95 percent of the maximum dry density determined by ASTM D 1557.

CLOSING COMMENTS

Professional services for this investigation were performed in accordance with generally accepted geotechnical engineering practices, exclusively for the subject project. No warranty, expressed or implied, is made.

Subsurface conditions are inferred from the logs of subsurface explorations. Conditions between, beyond, and below these explorations are likely to vary. It should also be noted that subsurface conditions are often described on the basis of visual examinations of recovered samples, that these visual descriptions may not always agree well with descriptions made on the basis of laboratory tests, and that the distinction between fill and naturally-deposited soil can not always be readily determined on the basis of recovered samples. If subsurface conditions are subsequently revealed that appear to be significantly different or less favorable than those described, we should be given the opportunity to revise the statements in this report.

This report is preliminary. As more information becomes available, and as the project proceeds toward final design and construction, additional geotechnical evaluations will be necessary. These additional evaluations are likely to include subsurface explorations, laboratory testing, and engineering analyses. The preliminary information in this report can be refined, expanded, and presented in a design-level report.

If you have questions or comments regarding this report, please contact the undersigned.

Yours truly,

RAVI ENGINEERING & LAND SURVEYING, P.C.

Nagappa Ravindra, P.E.

President

Attachments:

Ray M. Teeter, P.E. Geotechnical Engineer

Attachment A – Location Plan

Attachment B – Logs of Subsurface Explorations

Attachment A

Location Plan





Figure 1: Location Map 101-113 Franklin Street and 106 Pleasant Street

Date: August 2019

Scale: NTS

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RAVI ENGINEERING

& LAND SURVEYING, P.C.

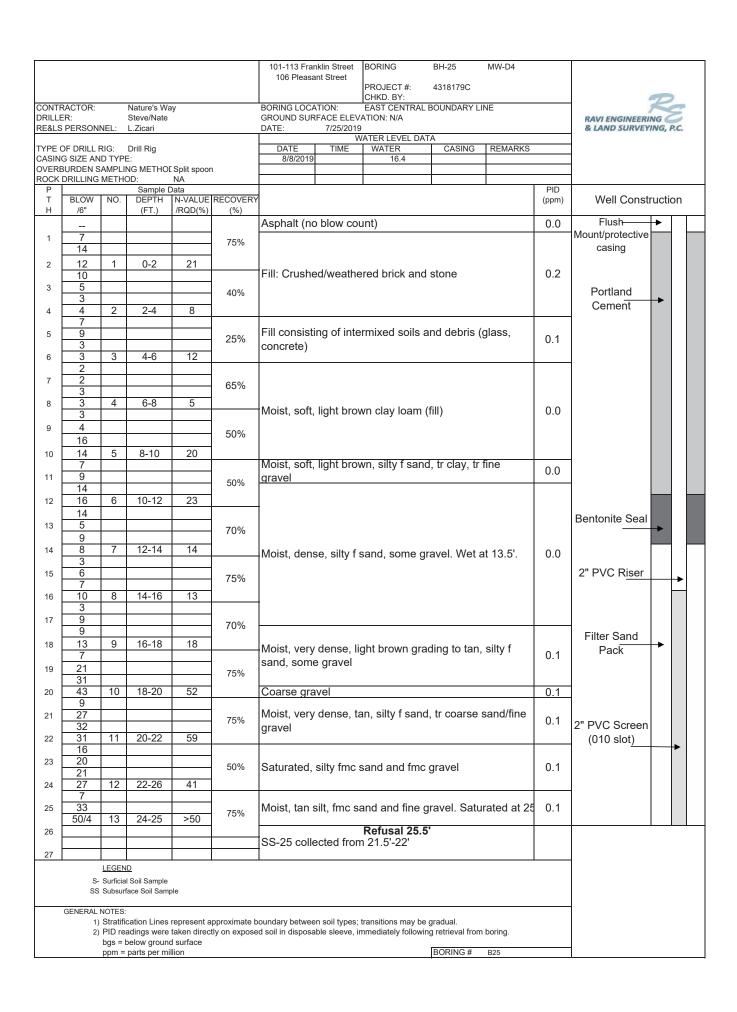
Attachment B

Logs of Subsurface Explorations

						101-113 Fran 106 Pleasa		BORING PROJECT #	BH-22 4318179C	MW-D1			
DRILLE	RACTOR: ER: PERSON	NEL:	Nature's Wa Steve/Nate L.Zicari	у		BORING LOCA GROUND SUR DATE:	7/24/2019)		IDARY LINE		RAVI ENGINEERIN	RE
CASING OVERE		ID TYP SAMPLI	NG METHOD		n	DATE 8/7/2019	TIME	WATER LEVEL WATER 14.27	CASING	REMARKS	6	& LAND SURVEYII	VG, P.C.
P	DRILLING	METH	OD: Sample D								PID		
T H	BLOW /6"	NO.	DEPTH (ET.)	N-VALUE /RQD(%)	RECOVERY (%)	7					(ppm)	Well Construc	tion
1	76		(FT.)	/KQD(%)	(76)	-						Flush Mount/protective casing	→
2						-							
3												Portland Cement	→
5	2 3 5 12	1	4-6	8	50%	Moist, dens orange/bro				n and	0.0	Bentonite Seal	→
7 8	- 12										ı	2" PVC Riser	-
9	3					-					T		
10 11	6 5 5	2	9-11	11	50%	Moist, brow	vn silty f s	and, tr cla	ıy, some	gravel	0.1	Filter Sand Pack	
12			<u> </u>			-							
13						-							
14 15	6 15 26				50%	Moist, dens	se, tan sil	t, some gr	avel (till)		0.0	2" PVC Screen (010 slot)	
16	29 50/1	3 4	14-16 16-16.5	41									
17						_							
18								Refusal 1	7.4"				
19						SS-22 colle	ected at 1	7'					
20						- - -							
22						- - -							
23						_							
24 25						-							
20													
26			I <u>D</u> Il Soil Sample face Soil Samp	le]							
		Stratifi PID re bgs =	cation Lines adings were below ground	taken direc I surface		oundary betwee d soil in disposa		nmediately fo	llowing retrie	eval from bo	ring.		
<u> </u>		ppm =	parts per mil	lion					BORING #	B22		<u> </u>	

				101-113 Fran 106 Pleasai		BORING PROJECT # CHKD. BY:	BH-23 4318179C	MW-D2			
ONTRACTOR: RILLER: E&LS PERSONNEL:	Nature's Wa Steve/Nate L.Zicari	у		BORING LOCA GROUND SURI DATE:	FACE ELEV 7/24/2019	EAST CENT ATION: N/A	RAL BOUND	ARY LINE		RAVI ENGINEERI	
'PE OF DRILL RIG: ASING SIZE AND TYI /ERBURDEN SAMPL DCK DRILLING METH	PE: .ING METHOI	Split spoor	n	DATE 8/7/2019	TIME	WATER 13.3	CASING	REMARI	KS .	& LAND SURVEY	ma, r.
P	Sample D)ata	RECOVERY	-					PID (ppm)	Well Constru	ction
1 2 3	(*)		(.0)							Flush ————————————————————————————————————	→
6 15 17 1 7 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1	4-6	32	80%	Moist, loose gravel	e, brown	silty f sand	, tr. Clay,	some	0.4	Portland <u>Cement</u>	→
6 0 14 16 17 2	9-11	30	75%	Moist, loose Dense from		silty f sand	, some gr	avel.	0.2		
2 3 4 10 5 25 33 3 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			65%	Moist, dens			d, some g	ravel.	0.2	- Bentonit <u>e Seal</u>	→
6 26 3 7 8	14-16	58								2" PVC Riser	•
18 18 15 50/5 4	19-20.5	65	75%	Wet, very d sand, some dense silt, t	gravel to	20'. Satu	rated, gra	y very	0.2	Filter Sand Pack	->
222 23 23 24 24 25 27 49 26 50/5 5	24-*26	76	60%	Saturated, I saturated m silty f sand					0.1	2" PVC Screen	
27 LEGE	ND.	70				Refusal 2			1	(010 sl <u>ot)</u>	>
SS Subsu			pproximate h	ooundary betweel		-23 collect					
2) PID r bgs =		taken direc d surface		ed soil in disposal					ing.		

DRILLE	RACTOR: ER: 5 PERSON	NEI ·	Nature's Wa Steve/Nate L.Zicari	ay		101-113 Frai 106 Pleasa BORING LOCA GROUND SUR DATE:	ATION:	'ATION: N/A	BH-24 4318179C FRAL BOUNDA	MW-D3		RAVI ENGINEERI		
TYPE (CASING OVERE	OF DRILL I G SIZE AN	RIG: ID TYP SAMPLI	Drill Rig E: NG METHOI	Split spoor	n	DATE 8/8/2019	TIME	WATER LEVE WATER 14.49	L DATA CASING	REMARKS		& LAND SURVEY	ING, P.C.	
P	DRILLING	MEIH	Sample D	Data							PID			_
T H	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)						(ppm)	Well Constr	ruction	
1 2 3												Flush — Mount/protective casing	•	
5 6	1 1 1 0	1	4-6	2	20%	Fill: Sand,	brick, cin	ders and	ash		0.3	Portland Ceme <u>nt</u>	 ▶	
7 8 9														
10	4 13 13 10	2	9-11	26	20%	Soft, dry, b Stiff, dry, b Moist, med	rown clay	/ loam 9.5		I, tr gravel	0.1	Bentonite Seal		
12 13												2" PVC Riser		
14												Filter Sand		
15 16	9 11 12	3	14-16	20	75%						0.1	Pac <u>k</u>	→	
17 18	4 10 22 29	4	16-18	32	50%	Moist, med gravel. De			silty f sand ed from 17'		0.1			
19 20	29 22 24 27	5	18-20	46	60%						0.1	2" PVC Screen (010 slot)		
21	10 25 31 21	6	20-22	56	30%	Saturated, sand.	fine to co	oarse grav	vel intermix	ed with fmc	0.2	, <u>, , , , , , , , , , , , , , , , , , </u>		
23	29 50/5	7	22-22.5	_				Refu	ısal 22.5		4.9			
24	30,0							. 1010				1		
25														
26														
27			ID al Soil Sample face Soil Samp	ble										
		Stratifi PID re bgs =	ication Lines	taken direc d surface		ooundary betwee				al from boring. B24				



						Street 106 Pleasant BORING BH-26 MW-D5 Street PROJECT #: 4318179C		
						CHKD. BY:		2
DRILLE	ACTOR: R: PERSON	INEL:	Nature's Steve/Na L.Zicari			BORING LOCATION: EAST CENTRAL BOUNDARY LINE GROUND SURFACE ELEVATION: N/A DATE: 7/26/2019		RAVI ENGINEERING & LAND SURVEYING, P.C.
ГҮРЕ О	F DRILL	RIG:	Drill Rig			WATER LEVEL DATA DATE TIME WATER CASING REMARKS		
	SIZE AN			Split spoon		8/8/2019 18.32		
ROCK D	RILLING	METI		NA ole Data			PID	
T H	BLOW /6"	NO.			RECOVERY (%)		(ppm)	Well Construction
1	7 7				75%	8" topsoil over 4' concrete	0.0	Mount/protective casing
2	9	1	0-2	14	•	Dry, loose, dark brown sandy loam. Brick		
3	11 9				75%	fragments and rock from 3'-3.25'	0.0	
4 5	9 3 10	2	2-4	20				Portland
6	16 20	3	4-6	26	75%	Dry, med dense/soft dark brown loam, some		Cement
7	8 15 21				- 75%	gravel	0.0	
8	24	4	6-8	36				
9	15 19				75%			
10 11	7 18	5	8-10	34	-	Dry, dense/stiff dark brown loam, some grave	0.0	
12	21	6	10-12	34	60%			Bentonite Seal
13	11				60%			Bernorlite Seal
14	13 16 3	7	12-14	24				2" PVC Riser
15	7				60%	Moist, dense, light brown, silty f sand, some	0.0	
16 17	19 7 18	8	14-16	23		gravel		
18	24	9	16-18	42	60%			Filter Sand Pack
19	17 28				- 60%			
20	32 30 10	10	18-20	60	-	Saturated, dense, light brown silty f sand	0.0	
21	27 50/5	11	20-21.5	72	50%	Wet, dense, light brown, silty f sand	0.0	2" PVC Screen
22	12							(010 slot)
24	33 34	12	22-24	69	40%		2.5	
25	18 50/5	13	24-25	-	40%	Saturated, dense, fmc sand, fmc gravel	0.0	
26						Refusal 25.3' SS-26 collected from 18.5'-19'		
27		LEGEN						
			al Soil Sam rface Soil S					
		Stratif	ication Lir			boundary between soil types; transitions may be gradual.	m borina.	
	-)	bgs =		ound surface		BORING # B26	55.1119.	

				D		101-113 Fran		BORING	BH-21		
			INEER	ING P.O		106 Pleasa	nt Street	PROJECT #: CHKD. BY:	4318179C		
CONTR	RACTOR:	IND 3	Nature's			BORING LOCA	TION:	EAST CENTRAL E	OUNDARY LIN	E	
DRILLE RE&LS	R: PERSONI	NEL:	Tom L.Zicari			GROUND SUR DATE:	FACE ELEV 7/17/2019				
			Truck M	auntad Car	nraha	DATE		ATER LEVEL DATA		LDEMARKS	
	OF DRILL F G SIZE AN			ounted Geo	oprobe	DATE	TIME	WATER	CASING	REMARKS	
OVERB	SURDEN S	AMPLI	NG MET								
P	DRILLING	METH	OD: Sample	NA Data							PID
T H	BLOW /6"	NO.			RECOVERY (%)						(ppm)
	70		(1 1.)	71100 (70)	(70)	Asphalt and	d weather	ed asphalt over	er 4" dark g	ray clayey fill	
1						grading to I	brown cla	y loam (fill)			0.0
2											
3											
4											
5											
6											
7						Moiet loos	a cilty f c	and, grading to	n dense Sa	turated at 8'-	
8						8.5	c, silly i s	and, grading to	o delise. Ga	turated at 0 -	0.0
9											
10											
11											
12											
13											
14								Refusal	13.5'		
15						SS-21 colle	ected fron	า 8'-8.5			
16						Microwell N	/IW-3 inst	alled			
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
			al Soil Sam								
			face Soil S	Sample							
		Stratifi	cation Li					es; transitions may			
	2)			ere taken d ound surfac		osed soil in disp	osable sleev	e, immediately follo	wing retrieval fro	m boring.	
			parts pe						BORING#	B21	

	2		101-113 Franklin Street BORING BH-20 106 Pleasant Street	
	SINEERING SURVEYING, P.		PROJECT #: 4318179C CHKD. BY:	
CONTRACTOR:	Nature's Way		BORING LOCATION: SOUTH OF HISTORIC GAS TANKS	
DRILLER: RE&LS PERSONNEL:	Tom L.Zicari		GROUND SURFACE ELEVATION: N/A DATE: 7/18/2019	
TYPE OF DRILL RIG:	Truck Mounted Ge	onrobe	WATER LEVEL DATA DATE TIME WATER CASING REMARKS	
CASING SIZE AND TYP		oprobe	DATE TIME WATER CASING REMARKS	
OVERBURDEN SAMPL				
ROCK DRILLING METH	IOD: NA Sample Data			PID
T BLOW NO.		RECOVERY		(ppm)
H /6"	(FT.) /RQD(%)	(%)		
, —			Asphalt	0.0
1				
2		. 75%		
3		1		
4				
5		İ		
		1		
6		75%	Moist, dense, silty f. sand, tr clay, more dense from 5'-12'	0.8
7		}		
8				
9		1		
10		75%		
11		75%		
		1		
12			Dry, loose light brown silty f sand.	
13		75%		0.4
14		1	Moist, dense light brown silty f sand tr gravel	
15			Refusal @ 14.2'	
16			Microwell MW-1 installed	
17			SS-20 collected at 5'-6'	
18				
19				
20				
21				
22				
23				
24				
25				
26				
LEGE!	ND	<u> </u>		
	al Soil Sample rface Soil Sample			
GENERAL NOTES		ent approvime	te boundary between soil types; transitions may be gradual.	
2) PID re		directly on exp	te boundary between soil types; transitions may be gradual. losed soil in disposable sleeve, immediately following retrieval from boring.	
	= parts per million	.~	BORING # B20	

	2016	ENC	CINIEED	7		106 Pleas	ant Street	DDO IECT #	ДП 424					
			URVE	YING, P.	c.			PROJECT #: CHKD. BY:	431	8179C				
	RACTOR:		Nature's			BORING LOC		SOUTHWEST COF	RNER OF	PROPERT	1			
DRILLE		NIEL .	Tom			GROUND SUF								
REALS	PERSONI	NEL.	L.Zicari			DATE:	7/18/2019 W	/ATER LEVEL DATA						
TYPE (OF DRILL F	RIG:	Truck M	lounted Geo	oprobe	DATE	TIME	WATER	·	CASING	REMARKS			
	G SIZE AN													
	BURDEN S DRILLING			HOD: NA										
P	DRILLING	IVIEID	Sample									Т	PID	
Т	BLOW	NO.		N-VALUE	RECOVERY								(ppm)	
Н	/6"		(FT.)	/RQD(%)	(%)									
						topsoil						_	0.0	
1														
_					80%	loose mo	ist liaht h	rown sandy loa	ım (ann	ears to h	ne rework	he		
2					0070	native soil		TOWIT Sariay loa	ш (арр	cars to i	oc rework		0.0	
3						manve son	/							
0														
4														
5														
					85%									
6					0070									
7						Dense, mo	oist, tan si	lty f sand					0.0	
8														
9			 	-										
												_		
10			-		95%	Loose, dry	, tan silty	f sand					0.0	
11			 	 	1									
						Dense, mo	oist, tan si	lty f sand					0.0	
12						·								
						End of boring @ 12'								
13						00.40 "		41.51						
4.4			 	-		SS-19 coll	ected fron	n 4'-5'						
14														
15			1	<u> </u>										
16														
17				-										
17			 	 										
18														
19														
20		\vdash	-											
20		\vdash		-										
21														
22														
23		\vdash	-											
20		\vdash												
24														
25														
26		 												
∠0		LEGEN	ND	<u> </u>										
		Surficia	al Soil Sam											
	SS	Subsur	face Soil S	Sample										

- GENERAL NOTES:

 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.

 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.

 bgs = below ground surface

 ppm = parts per million

 BORING # B19 B19

				2		101-113 Fran		BORING	BH-18		
			INEER			106 Pleasa	nt Street	PROJECT #:	4318179C		
CONTR	RACTOR:	IND 3	Nature's	YING, P.O Way	L.	BORING LOCA	TION:	CHKD. BY: WEST BOUNDAR	Y LINE		
DRILLE RE&LS	ER: PERSONI	NEL:	Tom L.Zicari			GROUND SUR DATE:	FACE ELEV 7/18/2019				
TVPF (OF DRILL F	SIG.	Truck M	ounted Ge	onrobe	DATE	TIME	ATER LEVEL DATA WATER	CASING	REMARKS	
CASIN	G SIZE AN	D TYP	E:		орговс	DATE	THVIL	WAILK	OAGIIVO	TEMATIO	
	BURDEN S DRILLING			HOD: NA							
Р			Sample	Data	RECOVERY					•	PID
T H	BLOW /6"	NO.	(FT.)	/RQD(%)	(%)						(ppm)
						Topsoil					0.0
1											
2											
3											
4											
5											
								rown, sandy lo			0.0
6						silty f sand.	Appears	to be reworke	d native soil		0.0
7											
8											
Ü											
9											
10											
11						Dense mo	ist tan silt	(till), tr gravel			0.9
12						Bonoo, mo	iot tarr ont				0.0
13								End of bo	oring @ 12'		
13						SS-18 colle	ected at 3	'-4'			
14											
15											
40											
16											
17											
18											
19											
20											
21											
00											
22											
23											
24											
0-											
25											
26		1505									
	S-		l Soil Sam								
	SS	Subsur	face Soil S	Sample							
	GENERAL I				nt ar	to bound 1 1 1		aai tran-iti	ho arodinal		
		PID re	adings w	ere taken o	lirectly on exp			es; transitions may l e, immediately follo		n boring.	
			below gro parts pe	ound surfac r million	ce				BORING#	B18	

				2		101-113 Fra 106 Pleasa		BORING	BH-17		
			INEER			TUO FIERS	ant Street	PROJECT #:	4318179C		
CONTE	& LA RACTOR:	ND S	Nature's	YING, P.C	C	BORING LOCA	ATION:	CHKD. BY:	REA OF GRASSY L	OT	
DRILLE	R:		Tom	o vvay		GROUND SUF	RFACE ELEV		NEA OF GRASSY L	.01	
RE&LS	PERSON	NEL:	L.Zicari			DATE:	7/18/2019 W	ATER LEVEL D	ATA		
	OF DRILL F			lounted Geo	probe	DATE	TIME	WATER	CASING	REMARKS	
	G SIZE AN BURDEN S			HOD:						-	
ROCK	DRILLING		OD:	NA							
P T	BLOW	NO.	Sample		RECOVERY						PID (ppm)
H	/6"	10.	(FT.)	/RQD(%)	(%)						(ррш)
						Topsoil					0.0
1											
2						Loose, bla	ck loam				0.9
2					90%						
3											
4						Loose, dry	, tan silty t	sand, tr cla	y with orange	mottles	
5											
											_
6					95%	Dry, loose,	, light brov	vn silty f san	nd		
7											1
											0.7
8											
9						Dry, dense	light brov	vn silty f sar	nd		
9								•			
10					95%						
					9370						_
11						Maiat dan	aa liabtba	rouge oiltu f	and aradina	a wat	
12						ivioist, den	se, light bi	rown Silly i S	sand, grading t	o wet.	
								End o	of boring @ 12		
13											
						SS-17 coll	ected at 1	1.5'-12'			
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
20											
26		1565									
		LEGEN Surficia	I <u>D</u> I Soil Sam	nple							
			face Soil S								
	GENERAL I	NOTES:									
	1)	Stratifi	cation Li					es; transitions m			
	2)			rere taken d ound surfac		osed soil in disp	posable sleev	e, immediately fo	ollowing retrieval fro	m boring.	
			parts pe						BORING #	B17	

				K	3	106 Pleasa		BORING	DП-10		
			URVE	YING, P.C	C.			PROJECT #: CHKD. BY:	4318179C		
CONTF DRILLE	RACTOR:		Nature's Tom	s Way		BORING LOCA GROUND SUF		WEST BOUNDARY	LINE		
	PERSONI	NEL:	L.Zicari			DATE:	7/18/2019	ı			
TYPE (OF DRILL F	RIG:	Truck M	lounted Ged	oprobe	DATE	TIME	WATER LEVEL DATA	CASING	REMARK	S
	G SIZE AN BURDEN S			HOD.							
ROCK	DRILLING		OD:	NA						1	
P T	BLOW	NO.	Sample		RECOVERY						PID (ppm)
Н	/6"		(FT.)	/RQD(%)	(%)						
1		_				6" topsoil					0.0
2						Loose, dry	, light bro	wn sandy loam			0.0
2					90%						0.0
3						Dense, dry	, tan sand	dy loam			
4											
_						l oose slig	htly moist	, silty f sand			0.0
5						Loose, slig	THEY THOISE	i, siity i sailu			0.0
6					95%						
7						D	! - 4 - 1! - 1- 4 l-		(4:11)		0.0
						Dense, mo	ist, light b	rown, silty loam	ı (tili)		0.0
8											
9						Loose, mo	ist, light b	rown, silty loam	(till)		0.0
40											
10				 	95%						
11						Dense, mo	ist silt (till)			0.0
12											
								End of bo	ring @ 12"		
13			-			SS-16 colle	ected at 3	'- 4 '			
14						10 00	octou at o				
15											
16											
17											
18											
19			-								
20											
21			\vdash								
22			-								
23											
24			-								
25											
26											
	S-	LEGEN Surficia	<u>ID</u> al Soil Sam	nple							
			face Soil S								
	GENERAL I										
		PID re	adings w	ere taken d	lirectly on exp			es; transitions may be e, immediately followi		oring.	
	,	bgs =	below gro	ound surfac	e	·		•	BORING#	B16	
		РЫШ –	parto pe	, millon					DOMING#	סום	

				2		101-113 Fran		BORING		BH-15					
	RAV	ENG	INEER	ING P.O		106 Pleasa	int Street	PROJECT #: CHKD. BY:		4318179	С				
	RACTOR:	140 3	Nature's		-	BORING LOCA		CENTER OF G	RASSY FI	ELD					
DRILLE RE&LS	R: PERSON	NEL:	Tom L.Zicari			GROUND SUR DATE:	RFACE ELEV 7/18/2019								
				aunted Co.	anraha	DATE		ATER LEVEL D WATER	ATA	CA	SING	Lpc	MARKS		
CASIN	OF DRILL F G SIZE AN	D TYP	E:	ounted Ge	oprobe	DATE	TIIVIE	WATER		CA	SING	RE	VIARKS)	
	BURDEN S DRILLING			HOD: NA								+			
Р	BLOW	NO.	Sample	Data	RECOVERY										PID
T H	/6"	NO.	(FT.)	/RQD(%)											(ppm)
1						8" topsoil o	ver dry,lo	ose, dark bi	own sa	ndy loa	am				0.1
2					90%										0.0
3															
4						Dry, dense	, light bro	wn sitly f sa	nd						
						,	. 0	,							0.0
5															
6					90%										
7															
8															
9					000/	Very dense	e, dry, ligh	it brown silty	/ f. sand	I, mois	t at 10'	-10.	ō'		0.0
10					90%										
11								F	Refusal	@ 10.5	5"				
12															
13						Microwell N	/IW-2 Inst	alled							
14						SS-15 colle	ected at 4								
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26		LEGEN	ID												
		Surficia	ID Il Soil Sam face Soil S												
	GENERAL			nes renres	ent annrovima	te houndary bet	ween soil t <i>u</i> n	es; transitions m	av he grad	fual					
		PID re	adings w		lirectly on exp			e, immediately fo			om boring				
		ppm =	parts pe	r million						BORING	#	B15			

			INEER	ZING ENING, P.O.		101-113 Fra 106 Pleasa		BORING PROJECT #: CHKD. BY:	BH-14 4318179C							
DRILLE	RACTOR:		Nature's Tom L.Zicari	s Way		BORING LOCA GROUND SUP DATE:	RFACE ELEV 7/18/2019	NORTHWEST BOY ATION: N/A								
TYPE (OF DRILL I	RIG:	Truck M	lounted Geo	oprobe	DATE		/ATER LEVEL DAT/ WATER	CASING	REMARKS						
OVER	BURDEN S	SAMPLI	NG MET													
P	DRILLING	METH	OD: Sample	NA e Data							PID					
T H	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)			fill consisting	of brick and sand	1 (£11)	(ppm)					
1						4 topson o	over loose	illi consisting	of brick and sand	1 (1111)	0.0					
2					75%	Loose, dry	, light bro	wn loam, tr. bri	ck fragments (fill)	0.0					
4											 					
5																
6					95%											
7																
8						Dry, dense	e, light bro	wn silty f sand	, moist at 11.5'-1	2'	0.0					
9																
10					90%											
11]]											
12								End of	boring @ 12'							
13						SS-14 collected at 3.5'-4'										
14																
15 16																
17																
18																
19																
20																
21																
22																
23		F														
24																
25																
26		LEGEN														
			l Soil Sam face Soil S													
		Stratif	ication Li					es; transitions may								
	2)	bgs =		ound surfac		osed soil in dis	posable sleev	e, immediately follo	wing retrieval from borin	ng. B14						

				D		101-113 Franklin Street BORING BH-13 106 Pleasant Street BROJECT #: 4318179C					
			INEER	ING P.O		106 Pleasa	nt Street	PROJECT #: CHKD. BY:	4318179C		
CONTR	RACTOR:	1142 3	Nature's			BORING LOCA	TION:	NORTH BOUNDAR	Y LINE		
DRILLE RE&LS	ER: PERSON	NEL:	Tom L.Zicari			GROUND SUR DATE:	7/17/2019				
TYPE (OF DRILL F	RIG:	Truck M	ounted Geo	oprobe	DATE	TIME	ATER LEVEL DATA WATER	CASING	REMARKS	
CASIN	G SIZE AN	D TYP	E:						0.15		
	BURDEN S DRILLING			HOD: NA							
P T	BLOW		Sample		RECOVERY						PID (ppm)
H	/6"	NO.	(FT.)	/RQD(%)	(%)						
4											0.0
1							ver very l	oose, dry, brov	n silty loam (reworked soil	
2					80%	or fill)					
3											0.0
Ü											0.0
4		_									
5											
6											
U					95%						
7						Dry, dense	, tan, silty	f sand, tr clay,	grading to lig	ght brown,	
8						moist.				·	
9											
10					60%						
11											
12								End of boring	<u>⋒</u> 12'		
13								_	W 12		
4.4						SS-13 sam	pled at 4'	-4.5'			
14											
15											
16											
17											
17											
18		_									
19											
20											
21											
22											
23											
24		\vdash									
25											
26		\vdash									
	_	LEGEN									
			il Soil Sam face Soil S								
	GENERAL	NOTES:	:								
	1)	Stratifi	cation Li					es; transitions may b		horing	
	2)	bgs =	below gro	ound surfac		iosea soli in disp	osable sleev	e, immediately follow	_	boring.	
		ppm =	parts pe	r million					BORING #	B13	

				2	-	101-113 Franklin Street BORING BH-12	
			INEER			PROJECT #: 4318179C	
CONTE	& LA RACTOR:	ND S		YING, P.C	C.	CHKD. BY: BORING LOCATION: NORTHWEST CORNER OF PROPERTY	
DRILLE			Nature's Tom	vvay		GROUND SURFACE ELEVATION: N/A	
RE&LS	PERSON	NEL:	L.Zicari			DATE: 7/17/2019	
TYPE C	OF DRILL F	RIG:	Truck M	ounted Geo	oprobe	WATER LEVEL DATA DATE TIME WATER CASING REMARKS	
CASING	G SIZE AN	D TYPI	E:				
	BURDEN S. DRILLING			HOD: NA			
Р			Sample	Data			PID
T H	BLOW /6"	NO.			RECOVERY	Y	(ppm)
П	/6		(FT.)	/RQD(%)	(%)		
1					1	4" topsoil and 3" crushed stone over loose, dry, light brown	0.0
						silty f. sand (fill)	0.0
2					95%		
,							0.0
3						Dry,light brown, dense silty f sand	
4							
_							0.0
5							
6					95%	SAA - very dense	
					95%	SAA - Very dense	
7							
8							
9							
10					50%	SAA - less dense, moist from 11'-12'	0.0
11							
12						Find of howing (2) 401	
13						End of boring @ 12'	
10						SS-12 collected @ 3'-4'	
14							
45							
15						+	
16							
						4	
17						-	
18							
[4	
19						-	
20]	
21						4	
22						1	
23							
24						-	
]	
25							
26						-	
∠∪		LEGEN	ID		ı	1	
			l Soil Sam face Soil S				
	GENERAL 1						
						ate boundary between soil types; transitions may be gradual. posed soil in disposable sleeve, immediately following retrieval from boring.	
		bgs = I	below gro	ound surfac			
		ppm =	parts per	r million		BORING# B12	

				D		101-113 Franklin Street 106 Pleasant Street BORING BH-11 106 Pleasant Street						
			INEER			106 Pleasa	nt Street	PROJECT #:	4318179C			
CONTR	& LA RACTOR:	ND S	Nature's	YING, P.O S Way	C	BORING LOCA	TION:	CHKD. BY: SOUTH BOUNDA	RY LINE			
DRILLE	R: PERSON	NEL:	Tom L.Zicari	·		GROUND SUR DATE:	FACE ELEV 7/17/2019					
	OF DRILL F			lounted Geo	onrohe	DATE		ATER LEVEL DAT WATER	CASING	REMARKS		
CASIN	G SIZE AN	D TYP	E:		probe	DAIL	TIIVIL	WAILK	CASING	KLIVIAKKO		
ROCK	BURDEN S DRILLING		OD:	NA								
P T	BLOW	NO.	Sample DEPTH	Data N-VALUE	RECOVERY						PID (ppm)	
Н	/6"		(FT.)	/RQD(%)	(%)							
1												
2					10%	Ashphalt, li	ttle recov	ery			0.4	
3												
4												
5												
6					100%							
7												
8						Dry, dense, light brown silty f sand, tr clay with orange streaks. Loose, silty f sand at 5'-6'						
9												
10					75%							
11												
12												
13												
14					75%							
15						NASSA Ass.					0.0	
16						Moist, tan s	siit, some	gravei (tili)			0.6	
17												
18					100%							
19								Dof	sal @ 19'			
20						Microwell N	1\1/ 1 :mc+		sai (W 19			
21												
22						SS-9 collec	nea @ 5'-	·o				
23												
24												
25												
26												
			I <u>D</u> Il Soil Sam face Soil S									
	GENERAL 1)			nes renrese	ent approxima	te boundary bet	ween soil tyn	es; transitions may	be gradual			
		PID re	adings w		irectly on exp			e, immediately follo		m boring.		
			parts pe		-				BORING#	B11		

				2			lin Street 106	BORING	BH-10		
			INEER			Pleasar	nt Street		4318179C		
CONITE	RACTOR:	ND S		YING, P.	<i>c</i> .	DODING LOCA	TION	CHKD. BY:	VI INIT		
DRILLE			Nature's Tom	s vvay		BORING LOCA	TION: FACE ELEVATI	EAST BOUNDAR	Y LINE		
	PERSONI	NEL:	L.Zicari			DATE:	7/17/2019				
								ER LEVEL DATA			
TYPE (OF DRILL F	RIG:	Truck M	ounted Geo	oprobe	DATE	TIME	WATER	CASING	REMARKS	
	G SIZE AN										
	BURDEN S										
	DRILLING	METH		NA D-t-						J	DID
Д Ч	BLOW	NO.	Sample		RECOVERY						PID (ppm)
H	/6"	110.	(FT.)	/RQD(%)	(%)						(ррііі)
	70		(1.1.)	/11QD(70)	(70)						
					ļ						
1					J						
					J	Asphalt, cr	ushed stone	e intermixed w	ith dark g	ray sand	
2					20%			ed brick interm			0.0
					1	amount of					0.0
3					1	arriourit or s	sariu				
				i e	1						
4					1						
5					E0/	Cwiched by	ial and bria	l fragmanta			0.0
				i e	5%	Crusned br	ick and brid	k fragments			0.0
6					1						
								Refusal at 6'			
7											
8						Driller had	difficulties a	dvancing pro	be. Probe	kept getting	kicked
								ecame lodged			
9								untered same			
										very little i	ecovery.
10					ĺ	ino soli san	npie collecte	ed in this locat	tion.		
11											
12											
13											
14											
15											
40											
16		-	1								
17		\vdash	 	 							
.,			l								
18			1								
19											
20											
21											
22											
22		-									
23		\vdash	1	-							
24				 							
24		\vdash									
25		\vdash									
20											
26			l								
		LEGEN	<u>ID</u>								
			l Soil Sam								
	SS	Subsur	face Soil S	Sample							

GENERAL NOTES:

- AL NOTES:

 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.

 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring. bgs = below ground surface ppm = parts per million

 BORING # B10

Re							lin Street 106	BORING	BH-9		
			INEER	ING P.		Pleasar	nt Street	PROJECT #: CHKD. BY:	4318179C		
CONTF	RACTOR:		Nature's	Way		BORING LOCA	ATION:	SOUTHEAST C	ORNER OF PA	RKING LOT	
DRILLE RE&LS	R: PERSONI	NEL:	Tom L.Zicari			GROUND SUR DATE:	RFACE ELEVATI 7/17/2019				
TYPE (OF DRILL F	RIG:	Truck M	ounted Ge	oprobe	DATE	TIME	ER LEVEL DAT. WATER	A CASING	REMARKS	
CASIN	G SIZE AN	D TYP	E:		ор. одо	57112		***************************************	0/1010	1121174410	
	BURDEN S										
P	DRILLING	METH	Sample	NA Data					<u> </u>		PID
T H	BLOW /6"	NO.	DEPTH		RECOVERY (%)						(ppm)
				(/		3-4" 'weath	ered aspha	lt			0.0
1											
2					70%						
3											
4											
5						Fill consisti intermixed	ing of broke with sand to	n/crushed/w o 9'	eathered b	rick	0.3
6					40%						
7											
8											
9											
10					95%						
11					0070						
12						Dry, dense	, light-browr	n silty f sand	grading to	moist	0.3
13					40004						
14					100%						
15								Refusa	ıl @ 14'		
16 17						Two at	tempts to a		ng with no r tions	ecovery in firs	t two
18						SS-9 collec	cted at 10' B	BGS			
19							лW-5 Install				
20											
21											
22											
23											
24											
25											
-											
26											
	6	LEGEN		ınle							
			l Soil Sam face Soil S								

- GENERAL NOTES:

 1) Stratification Lines represent approximate boundary between soil types; transitions may be gradual.

 2) PID readings were taken directly on exposed soil in disposable sleeve, immediately following retrieval from boring.

 bgs = below ground surface
 ppm = parts per million

 BORING # B9

			INEER			101-113 Franklin Street 106 BORING BH-8 Pleasant Street PROJECT #: 4318179C CHKD. BY: BORING LOCATION: SOUTH CENTRAL SECTION OF PARKING LOT					
DRILL	RACTOR: ER:		Nature's Tom	YING, P.O S Way	C.		RFACE ELEVATION:	SOUTH CENTRA N/A	L SECTION OF PA	RKING LOT	
RE&LS	PERSON	NEL:	L.Zicari			DATE:	7/17/2019 WATER I	EVEL DATA			
TYPE	OF DRILL F	RIG:	Truck M	lounted Ge	oprobe	DATE	TIME	WATER	CASING	REMARKS	
	G SIZE AN										
	BURDEN S DRILLING			HOD: NA					+	+	
Р			Sample	e Data			<u> </u>	<u> </u>			PID
T H	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)						(ppm)
1					_			Asphalt			
2					75%	Crushed br	rick intermixed	with clavey loa	ım (fill)		
3					75%	Ordonod bi	TOK III KOTI II KOG	with dayby loa			0.0
4											
5						Very dark ເ	gray gravelly fm	ic sand (fill)			
6								Refusal	@ 5'		
7											
8						Driller mad first two bo	e three attemp	ts to advance l	boring with sha	allow refusal	(2') in
						ill St two bo	riligs.				
9						Sample SS	S-8 collected at	4'			
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
			I <u>D</u> Il Soil Sam face Soil S								
		Stratifi	cation Li				ween soil types; tran				
	2)	bgs =		ound surfac		oseu son ni uisp	oosable sieeve, iiillite	Januareny Tollowilly Pet	BORING #	B8	
		hhiii =	parts pe	THIIIIOH					DOLING #	DO	

RAVI ENGINEERING						101-113 Franklin Street 106 BORING BH-7 Pleasant Street PROJECT #: 4318179C						
						Fleasa	iii Sileet		4318179C			
CONTE	& LA RACTOR:	ND S	Nature's	Way	C	BORING LOCA	ATION:	CHKD. BY: SOUTHWEST CORN	FR OF PARKING	TOT		
DRILLE		NEL:	Tom L.Zicari	,			FACE ELEVATIO 7/17/2019	DN: N/A		, , ,		
	OF DRILL F		Truck M	ounted Ged	nrohe	DATE	WATE TIME	R LEVEL DATA WATER	CASING	REMARKS		
CASIN	G SIZE AN	D TYPI	E:		эргово	DATE	THVIL	WATER	G/ (CII VC	T LEWIS II THE		
	BURDEN S DRILLING			HOD: NA								
Р			Sample	Data	DE001/ED1						PID	
T H	BLOW /6"	NO.	(FT.)	/RQD(%)	RECOVERY (%)						(ppm)	
						4" Asphalt					0.0	
1												
2					60%							
3												
4						Fill materia crushed br	l consisting o	of light brown sai	nd intermixe	d with	0.0	
5						crusned bi	ICK					
6					40%							
7					4070							
8												
9												
10					80%	Moist. med	lium dense. t	an, silty f sand, o	dense at 10'.		0.0	
11						,	•	, ,				
12												
								End of boring	at 12'		1	
13						SS-7 collected beneath fill materials at 12'						
14						50-7 conceted beneath iii materials at 12						
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
۷۷		LEGEN	_	unlo								
			l Soil Sam face Soil S									
	GENERAL I				.nt an '	to bornede 1.1.1	ween s-lit .	ronaition '	ual.			
		PID re	adings w	ere taken d	irectly on exp			ransitions may be grad nmediately following ref		g.		
			below gro parts pe	ound surfac r million	e				BORING #	B7		

	& LA			YING, P.	S.c.	101-113 Fra 106 Pleas	ant Street	BORING PROJECT #: CHKD. BY:	BH-6 4318179C		
DRILL	RACTOR: ER: S PERSON	NEL:	Nature's Tom L.Zicari	s Way		BORING LOC GROUND SUI DATE:			KING LOT		
CASIN OVER	OF DRILL FIG SIZE AN	ID TYP SAMPLI	E: NG MET		oprobe	DATE	TIME	VATER LEVEL DATA	A CASING	REMARKS	
Р	DRILLING		Sample								PID
T H	BLOW /6"	NO.	DEPTH (FT.)	N-VALUE /RQD(%)	RECOVERY (%)	1					(ppm)
1					30%	(fill)		asphalt over d	ry, stiff, brown	clayey loam	0.0
				 		Moist, dari	k br/gray s	sandy silt (fill) Refusal at	+ 1 5'		
2						1		i (Ciusai ai	1.5		
3]				1 112	
4						shallow re		wo attempts to	advance borir	ng but hit	
_						- Silallow ie	iusai botii	unes.			
5						1					
6						Sample S	S-6 collec	ted from 1-1.5'			
7						<u> </u>					
8											
9						1					
10						<u> </u>					
11]					
						1					
12											
						1					
14											
15						1					
16						}					
17						-					
18						1					
19						1					
20						1					
21						1					
22						-					
23]					
24]					
25						1					
20						1					
26			I <u>D</u> Il Soil Sam face Soil S								
	GENERAL										
	1)	Stratifi PID re	cation Li adings w	ere taken o	directly on exp			es; transitions may ve, immediately follo		poring.	
			below gr ⊧parts pe	ound surfac er million	ce				BORING #	B6	

			NEERIN		3	101-113 Frai 106 Pleasa		BORING PROJECT #:	BH-5 4318179C		
CONTE	RACTOR:	ND SL	IRVEYII Nature's Tom	WG, P.C.	C	BORING LOCA GROUND SUF		CHKD. BY: SOUTH OF HISTO ATION: N/A	RIC GAS TANKS		
RE&LS	PERSON	NEL:	L.Zicari			DATE:	7/17/2019 W	ATER LEVEL DATA	Δ		
	OF DRILL F			lounted Geo	oprobe	DATE	TIME	WATER	CASING	REMARKS	
OVER	G SIZE AN BURDEN S	SAMPLI	NG MET	HOD:							
ROCK P	DRILLING	METH	OD: Sample	NA Data							PID
T H	BLOW /6"	NO.			RECOVERY (%)						(ppm)
1						Asphalt an	d weathe	ed asphalt inte	ermixed with sil	t and sand	
2					80%	1.5-3.5': 'Fi	ill - Dry, d	ense, black sil	t over dry, tan f	sand, wet at	0.0
3											
4											
5											
6					75%						
7						2 5' 40'. 5)mr donos	top ciltufoc	nd grading to m	aciat	0.0
8						3.5 - 12 i L	ry, dense	e, tari, siity i sa	nd grading to n	IOISI	0.0
9											
10					80%						
11											
12								End of	boring at 12'		
13									J		
14						Sample SS	S-5 - samp	oled black silt f	ill at 2'		
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26		LEGEN	ID	<u> </u>							
		Surficia	I Soil Sam								
	GENERAL I										
		PID re	adings w		lirectly on exp			es; transitions may l e, immediately follo	oe gradual. wing retrieval from bo	ring.	
			parts pe						BORING #	B5	

RAVI ENGINEERING						101-113 Frai 106 Pleasa		BORING	BH-4		
				IG ONG, P.C.		106 Pleasa	ant Street	PROJECT #: CHKD. BY:	4318179C		
CONTR	RACTOR:		Nature's	-		BORING LOCA	ATION:	SOUTHWEST OF H	ISTORIC GAS TANK	(S	
DRILLE RE&LS	R: PERSON	NEL:	Tom L.Zicari			GROUND SUF DATE:	7/17/2019				
TVDE (DE DOUL I	DIC:	Truck M	lounted Geo	nroho	DATE	TIME	WATER LEVEL DATA	CASING	REMARKS	
	G SIZE AN			lourited Get	phone	DATE	TIIVIE	WATER	CASING	REWARKS	
	BURDEN S										
P	DRILLING	METH	OD: Sample	NA Data							PID
Т	BLOW	NO.	DEPTH	N-VALUE	RECOVERY	1					(ppm)
Н	/6"		(FT.)	/RQD(%)	(%)	0 1 51: 1/1/0	athered a	sphalt over blad	sk organic mate	arial	
1						0-1.5. VVG	allieleu a	ispriait over blac	organic mate	silai	
'											
2					65%						0.0
								y dense, light b	rown silty f san	d grading to f	
3						sand, tr. cl	ау				
4											
_											
5											
6					75%	4 0 51 5					0.0
7					7070	4-8.5': Dry	, dense li	ght brown mf sa	nd		0.0
8											
9						8.5-10.0': \$	Saturated	Gravel			0.0
10					70%						
11						10.0'-12.0'	: Brown s	ilty f sand gradir	ng to f sand		0.0
12								End of boring	. @ 12'		
13								Elia oi poliliĝ	1 (2)		
14						Sample SS	S-4 collect	ted at 8' above s	saturated interv	/al.	
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
	S-	LEGEN Surficia	<u>ID</u> al Soil San	nple							
	SS	Subsur	face Soil S								
	GENERAL 1)			nes represe	nt approxima	ate boundarv bet	tween soil tvn	es; transitions may be	gradual.		
		PID re	adings w	ere taken d	irectly on exp			e, immediately followi		ng.	
			below gr parts pe	ound surfac r million	е				BORING#	B4	

			Z			101-113 Franklin Street 106 Pleasant Street PROJEC			NG BH-3		
			ERING (P.C.		100110000	ant Otroot	PROJECT #: CHKD. BY:	4318179C		
DRILLE	RACTOR: ER:		Nature's Tom			BORING LOCA GROUND SUR	FACE ELEV	EAST OF HISTO ATION: N/A	RIC GAS TANKS		
RE&LS	PERSON	NEL:	L.Zicari			DATE:	7/17/2019 W	/ATER LEVEL DA	TA		
	OF DRILL F G SIZE AN			lounted Ge	oprobe	DATE	TIME	WATER	CASING	REMARKS	
OVER	BURDEN S DRILLING	AMPLI	NG MET	HOD: NA							
P T	BLOW	NO.	Sample	e Data	RECOVERY				I		PID (ppm)
Н	/6"	NO.	(FT.)	/RQD(%)	(%)						(ррпі)
						Asphalt					
1						0.5'-2'; Dry	, brown lo	amy fill (rewo	orked soil or fill),	few rocks.	0.0
2					85%						
3											
4											
						01.7.511.5		5 1.7000			0.0
5						2'-7.5": Dry	, tan siity	vf sand (till)			0.0
6					75%						
7											
8							Refu	ısal at 7.5' on	tight silt/sand		
9						Sample SS		oled fill materi			
9						Sample Sc	5-0 - Saiii	oled IIII IIIateii	iai w z		
10											
11											
12											
40											
13											
14											
15											
16											
17											
18											
10											
19		_									
20											
21											
22		_									
23											
24					<u> </u>						
25											
26											
			l Soil Sam								
_			face Soil S	Sample							
	GENERAL I			nes represe	ent approxima	te boundary bet	ween soil typ	es; transitions may	y be gradual.		
	2)	PID re	adings w		lirectly on exp				owing retrieval from bo	ring.	
			parts pe						BORING #	B3	

		9	2			101-113 Franklin Street 106 Pleasant Street PROJECT #: 4318179C			BH-2		
	I ENGIN					106 Pleasa	ant Street	PROJECT #: CHKD. BY:	4318179C		
	RACTOR:		Nature's	Way		BORING LOCA		NORTH OF HISTOR	RIC GAS TANKS		
DRILLE RE&LS	PERSON	NEL:	Tom L.Zicari			GROUND SUF DATE:	7/17/2019				
TYPE (OF DRILL I	RIG:	Truck M	ounted Geo	probe	DATE	TIME	ATER LEVEL DATA WATER	CASING	REMARKS	
CASIN	G SIZE AN	D TYPI	E:								
ROCK	BURDEN S DRILLING		OD:	NA							
P T	BLOW	NO	Sample		RECOVERY						PID (ppm)
H	/6"	110.		/RQD(%)	(%)						(PPIII)
						0-6" 'Aspha	alt and cru	ushed stone bas	sed		0.0
1											
2					50%	0 5 3 5"· E	ill consisti	ng of crushed h	orick intermixed v	with dry tan	0.0
						0.0-0.0 . 1	001131311	ng or crushed b	TICK IIIICIIIIACU V	vitir dry, tari,	0.0
3											
4						3.5-4: Dry,	tan, mf s	and			0.0
5											
									ixed with sandy	loam. Light	0.0
6					50%	gray layere	ed/fracture	ed rock (baseme	ent slab?) at 7'.		0.0
7											
8											
9											
9						7' 12'· 'Tan	mf sand	; wet at 12'			0.0
10					75%	7 - 12 . Tal	i, iiii Saiiu	, wet at 12			0.0
11											
12											
12								End of boring	g at 12'	l	
13						Sample SS	S-2 collect	ed at 7.5-8'			
14						'					
15						NOTE: D	RILLER MA		MPTS TO ADVANCI FIRST TWO ATTE		HIT SHALLOW
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
	LEGEND S- Surficial Soil Sample										
			face Soil S								
	GENERAL										
								es; transitions may be e, immediately followi	e gradual. ing retrieval from boring] .	
			below gro parts pe	ound surface r million	е				BORING#	B2	
		4.1 11									

2						101-113 Franklin Street		BORING BH-1			
	I ENGINEE		B.C			106 Pleasant Street		PROJECT #: 4318179C			
& LAND SURVEYING, P.C. CONTRACTOR: Nature's Way						CHKD. BY: BORING LOCATION: WEST OF HISTORIC GAS TANKS					
DRILLER: Tom						GROUND SURFACE ELEVATION: N/A					
RE&LS	PERSON	NEL:	L.Zicari			DATE:	7/17/2019		•		
TYPE OF DRILL RIG: Truck Mounted Geoprobe						DATE	TIME	ER LEVEL DATA WATER	CASING	REMARKS	
	G SIZE AN BURDEN S			THOD:							
ROCK	DRILLING		OD:	NA							
P T	BLOW	NO.	Sample		RECOVERY						PID (ppm)
н	/6"	140.	(FT.)	/RQD(%)	(%)						
						Asphalt over we	eathered roo	k base to 6'	1		0.0
1											
2					750/	0 E! 4!: Eill con:	sisting of lo	مم طار امحمد		aradina	
_					75%	0.5'-4': Fill cons		se ak browi sandy loam		i grading	0.0
3							เบ เสา	Sariuy Ioari	•		
4											
7											
5											
6											
ь					80%						
7											
8											
0						4'-12.0': Dense	silty f sand.	Saturated a	t 9.5 ft. bgs.		0.0
9											
10					90%						
11											
••											
12									01		
13							End of	boring @ 1	2'		
13						0 1 00 1				. = 6	
14						Sample SS-1 co	ollected abo	ve saturated	interval at s	9.5 π. bgs.	
45											
15											
16											
17		-									
17											
18											
10		-									
19											
20											
21				-							
۷1											
22											
23				-							
23											
24											
25											
25											
26											
	c	LEGEN Surficia	<u>ID</u> al Soil San	mple							
			face Soil :								
	GENERAL										
	1)	Stratifi	cation Li			te boundary between s					
	2)			vere taken o ound surfac		osed soil in disposable	e sleeve, immed	iately following re	trieval from borin	g.	
				ound suriac er million					BORING #	R1	



101-113 Franklin Street, Test Pit No. TP-1 Project Name 106 Pleasant Street Page 1 of 1 Approx. Elev. 533 Project Number 4318179C Date 7-11-19 Location: 101-113 Franklin Street Ground Water Data Field Eng./Geo. L. Zicari Date Actual Time Depth Weather: Cloudy 80F Equipment Used: Mini Excavator 9 ft. Test Pit 9 ft. 8 ft. 648 cf Dimensions: length width depth volume Not encountered **PID Reading Description Depth** 0-6" Asphalt, 1.5" thick over 6" crushed stone. 0.0 6" to 8.25' 0.0 Dry, loose, brown loam with crushed brick and large blocky stone (up to 1 cf). More brick than stone. **Comments** \boxtimes No rock encountered; or Rock encountered at 0-2 feet Perch/Seepage water encountered at feet X No groundwater encountered; or Ground water encountered at feet Remarks:

Did not reach bottom of fill due to equipment limitations (excavator could not reach any deeper).

No tanks or metal objects (anomaly C not found)

No odors or staining; no C&D debris





101-113 Franklin Street, Test Pit No. 106 Pleasant Street TP-2 Project Name Page 1 of Project Number Approx. Elev. 533 ft. Date 7-11-19 4318179C Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari Date Actual Time Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 7 ft 6.5 ft 11 ft 500.5 cf Dimensions: length width depth volume X Not encountered

Depth	PID Reading	Description
0-6"	0.0	Asphalt, 1.5" thick over 6 "crushed stone.
6"-24"	0.0	Fill consisting of dry, loose, brown loam intermixed with brick and brick fragments, stone, some sand and ash. Metal I-beam at surface, encased in concrete (loose in pit).
24"-78"	0.0	Moist, brown, sandy loam.

Comments					
	No rock encountered; or				
	Rock encountered at0-2 feet				
	Perch/Seepage water encountered at feet				
X	No groundwater encountered; or				
	Ground water encountered at feet				
Remar	ks:				
I-bean	I-beam appears to be anomaly #4 as no other metal was found in pit.				





Not encountered

101-113 Franklin Street, Test Pit No. 106 Pleasant Street TP-3 Project Name Page 1 of 2 Project Number 4318179C Date 7-11-19 Approx. Elev. 533 ft. Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari Date Actual Time Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 6.5 ft. 4 ft. 208 cf 8 ft. Dimensions: length width depth volume X

Depth	PID Reading	Description
0-12"	0.0	Asphalt, 6" thick over 6" black sandy crushed stone
12"-48"	0.0	Fill consisting of tan sand intermixed with brick and brick fragments, coarse tan sand with some ash, glass, metal shards and other debris. Loose 2" pipe (30" length) and buried rusted crushed metal drum at 4' depth.
48"		Refusal on Slab at 4 ft.
No rock	c encountered; or	Comments

Rock encountered at0-2 feet
Perch/Seepage water encountered at feet
X No groundwater encountered; or
Ground water encountered at feet
Remarks:
Anomaly #1 appears to be 30" length of water pipe and remnants of a crushed steel drum found in pit.









101-113 Franklin Street, Test Pit No. 106 Pleasant Street TP-4 Project Name Page 1 of Date 7-11-19 Project Number Approx. Elev. 533 ft. 4318179C Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari Date Actual Time Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 8 ft. 5 ft. 320 cf 8 ft. Dimensions: length width depth volume X Not encountered

Depth	PID Reading	Description
0-24"	0.0	Asphalt, 2-3" thick over fill consisting of light gray angular rock (limestone, dolostone) intermixed with dry clayey loam. Foundation wall encountered near middle of excavation in E/W direction, then south near the east end of pit.
24"-60"	0.0	Moist, brown clayey loam. Metal conduit and electrical box at southwest corner of pit approximately 2.5-3 ft bgs.

	Comments					
\boxtimes	No rock encountered; or					
	Rock encountered at0-2 feet					
	Perch/Seepage water encountered at feet					
X	No groundwater encountered; or					
	Ground water encountered at feet					
Remar	·ks:					
	aks or other large metal objects to explain Anomaly #2. A small metal conduit and electrical box are					
only n	netal found at approximately 2.5-3 ft has					





101-113 Franklin Street, Test Pit No. 106 Pleasant Street TP-5 Project Name Page 1 of Date 7-11-19 Project Number 4318179C Approx. Elev. 533 ft. Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari **Actual Time** Date Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 7 ft. 7 ft. 5.5 ft. 269.5 cf Dimensions: length width depth volume Not encountered X

Depth PID Reading Description						
0-6"	0.0	Asphalt, 1.5" thick over 3-4" brown sand and gravel.				
6"-65" 0.0		Reworked soil/fill consisting of moist, brown clay loam, few large limestone boulders, trace brick. Native clay loam at 5". One inch conduit on south end of excavation running E/W direction approximately 2.5" bgs.				
		Comments				

	Rock encountered at0-2 feet
	Perch/Seepage water encountered at feet
X	No groundwater encountered; or
	Ground water encountered at feet
Remar	ks:
1" m	etal conduit pipe is only metal object found. No tanks or other metal to
expla	in anomaly.

 \boxtimes

No rock encountered; or





101-113 Franklin Street, Test Pit No. TP-6 Project Name 106 Pleasant Street Page 1 of Date 7-11-19 Project Number Approx. Elev. 533 ft. 4318179C Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari Actual Time Date Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 7.5 ft. 9 ft. 5.6 ft 378 cf Dimensions: length width depth volume Not encountered X **PID Reading Depth Description** 0-10" Asphalt 1.5" over black sandy soil intermixed with crushed stone, trace 0.0 brick and wood fragments. 10"-66" 0.0 Moist, brown clayey loam, no debris.

	Comments To rock encountered; or	
	ock encountered at0-2 feet	
	erch/Seepage water encountered at feet	
X	o groundwater encountered; or	
	fround water encountered at feet	
Remar		
No me	found to explain Anomaly #3.	





101-113 Franklin Street, Test Pit No. TP-7 Project Name 106 Pleasant Street Page 1 of Date 7-11-19 Approx. Elev. 532 ft. Project Number 4318179C Location: 101-113 Franklin Street (parking lot – SE corner) Ground Water Data Field Eng./Geo. L. Zicari Date Actual Time Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 9 ft. 6.25 ft. 15.25 ft. 857.8 cf Dimensions: length width depth volume

Not encountered X

Depth	PID Reading	Description
0-6"	0.0	Asphalt, 1.5" thick, over 4" crushed stone and sand. Steel I-beam encased in concrete just beneath asphalt.
6"-75"	0.0	Brick intermixed with brown sandy loam, some limestone. Several large pieces of metal. Concrete slab at south perimeter of excavation at 2.25 ft. bgs. over foundation wall. Wall is 4 ft high. Refusal on tile floor at 6.25 ft. bgs.

| No rock encountered; or | Rock encountered at __0-2_____ feet | | Perch/Seepage water encountered at ______ feet | | X No groundwater encountered; or | | Ground water encountered at ______ feet | | Remarks: | | • Footer or foundation wall is on south end of excavation running E/W − appears to be constructed of field stone and mortar with a plaster skim coat painted dark gray. | | • Several metal objects in excavation to explain Anomaly B include a steel safe (22"x24.5"x31"), an I-

beam encased in concrete, and several sheets of metal (12"x48")









101-113 Franklin Street, Test Pit No. TP-8 Project Name 106 Pleasant Street Page 1 of Date 7-11-19 Approx. Elev. 534 ft. Project Number 4318179C Location: 101-113 Franklin Street (parking lot) Ground Water Data Field Eng./Geo. L. Zicari Actual Time Date Depth Weather: Cloudy 80F Equipment Used: Mini Excavator Test Pit 4 ft. 120 cf 5 ft. 6 ft. Dimensions: length width depth volume X Not encountered **PID Reading** Depth **Description** 0-6" 0.0 Asphalt, 1.5" thick over crushed stone 6"-48" 112 ppm Fill consisting of stone and brick intermixed with dry, loose tan/brown mf sand. At 12" bgs, brick wall encountered on east perimeter of excavation. Black soil staining observed on north side of excavation from 6" to approximately 18". Strong chemical odor emanating from pit. **Comments** \boxtimes No rock encountered; or Rock encountered at 0-2 feet Perch/Seepage water encountered at ______ feet X No groundwater encountered; or Ground water encountered at feet Remarks:

Chemical odor appears to be coming from north perimeter of pit where black staining was observed, but could not find any elevated PID readings on perimeter walls. Elevated PID readings were detected on soils in bucket

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101-113 Franklin Street,

Test Pit No. TP-	-9 Pro	ject Name _	106 Pleasant Street		Page _1	_ of <u>1</u>
Approx. Elev. 53	rox. Elev. 530 ft. Project Number 4318179C Date 7-11-19					1-19
Location: 106 Ple	Ground Water Data					
Field Eng./Geol	L. Zicari			Date	Actual Time	Depth
Weather: Cloudy 8	0F					
Equipment Used:	Mini Excavator					
Test Pit Dimensions:	5' 8' width	5'depth				_
					Not encounter	red X
Depth PID Reading Description						
0-6"	0.0	Topsoil - dry	y, loose, brown sandy	loam		
12" – 30"	0.0	Dry, loose, brown sandy loam with some brick (large and small fragments) and light gray angular rock (limestone). Loose 2" steel pipe encountered at 24" deep on north end of excavation. Small amount of sand, ash, debris at bottom of interval.				
30"-60"						
		<u>C</u>	Comments			
No rock encountered; or Rock encountered at0-2 feet Perch/Seepage water encountered at feet X No groundwater encountered; or Ground water encountered at feet Remarks: Black film (possibly a vapor barrier) observed on one limestone block Pipe appears to be debris, not attached to anything. Approximately 8' in length.						

