



Consulting
Engineers
and Scientists

December 4, 2020

Project 201.01069.001

Mr. Eric Botterman, P.E.
Millennium Engineering, Inc.
62 Elm Street
Salisbury, Massachusetts 01952

RE: Response to Comments
City of Newburyport Department of Public Services
Proposed Property Redevelopment
Former Circle Finishing
U.S. Route 1 Traffic Circle
Newburyport, Massachusetts
MassDEP Release Tracking No. (RTN) 3-0392

Dear Mr. Botterman:

Ransom Consulting, LLC (Ransom) has prepared this letter for Millennium Engineering, Inc. (MEI) responding to comments from Mr. Jonathan Carey of the City of Newburyport Department of Public Services regarding the disturbance of soils and potential impacts to the public water supply connection to the proposed building at the above-referenced property (the Site).

BACKGROUND

Site Description

The Site is located at the intersection of US Route 1 and an area known as the "Newburyport Traffic Circle" in Newburyport, Massachusetts. The Site includes approximately 1.7 acres of land, where the topography is relatively level and includes a wetland area to the east. The fire-damaged building is no longer present and was abandoned prior to demolition in 2004.

Site History and Land Use

A former metal plating facility (Circle Finishing) discharged wastewater to an abutting wetland from approximately 1968 to 1975 and waste metal hydroxide sludge was placed on the ground. An industrial wastewater treatment system was installed in 1972 to perform cyanide destruction, hexavalent chromium reduction and acid/alkaline neutralization. A sewer connection was established in 1975 to the City of Newburyport sewage system.

In 1982 the Massachusetts Division of Water Pollution Control (DWPC) directed the sludge generated by the wastewater treatment to be removed. The waste sludge was stored on-site until June of 1983 when it was removed.

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Mr. Eric Botterman, P.E.
Millennium Engineering, Inc.

Release History and Summary of Completed Response Actions

In 1993, a fire occurred at the former metal plating facility destroying the building. Fire-fighting water carried contaminants east to an abutting wetland. Response actions following the fire included containing, treating and disposing of collected water within the building foundation and remaining plating bath tanks. Surface soils in the flow path of the fire-fighting water were stockpiled and tested. Contaminated soils were removed and disposed. Assessment activities following the fire identified metal impacts to the abutting wetland and metal, petroleum and volatile organic compound (VOC) impacts to soil and groundwater at the Site.

Prior to use of the Site as a metal plating facility, the Site was used for fuel oil storage and a gasoline station. The northern portion of the Site has been paved at least since the 1960s and was used for parking. This northern portion of the Site was not affected by the 1993 release based on current data and no known oil or hazardous material (OHM) use. OHM impacts are found in the central upland portion of the Site and to the south. Also, the wetlands to east and south of the Site have been affected primarily by metals. The Site is not located in a drinking water resource area.

A risk assessment was conducted for the Site that concluded there is No Substantial Hazard to health or the environment. Due to the VOC impacts to groundwater, conditions would need to be implemented to address potential for vapor migration to a future building, but currently there is no building on the Site.

In 2002 the former building was removed except for contaminated building materials (mostly stained flooring). In 2004, contaminated building materials and three underground storage tanks (USTs) were removed from the Site. Soil and wetland sediment remedial actions were conducted in 2014 to remove contaminated soil from various upland source areas at the Site and sediment from the wetland area to the east. The wetland remediation was conducted for an approximate 0.5-acre area in the wetland east of the former building, where the former sewer pipe discharged, and fire-fighting water flowed.

With substantial removal of contaminated soil and sediment from the Site, a Method 3 risk assessment has indicated that a condition of No Substantial Hazard exists.

CITY OF NEWBURYPORT COMMENTS

As provided in an October 15, 2020 email from Mr. Jonathan Carey of the City of Newburyport Department of Public Services, Mr. Carey voiced two general concerns:

1. Disturbances of potential VOC-contaminated soil; and
2. “Permeation risks to the public water supply with the connection to the proposed building.”

Mr. Eric Botterman, P.E.
Millennium Engineering, Inc.

RESPONSE TO COMMENTS

Disturbance of VOC-Contaminated Soils

Based on the results of the previously completed response actions as described above and a review of available soil and groundwater data, there is evidence of petroleum contamination in areas near the proposed force main and water line (see Site Plan and analytical summary tables provided as Attachment A). A review of the boring logs associated with the subsurface investigation completed at the Site in 2001 indicated that the greatest concentrations of organic vapors (as measured in the field during the drilling program) were detected in the samples collected at depths of greater than 4 feet below the ground surface (bgs) and below the water table as observed during the drilling; organic vapor screening data are summarized in Table 1, included as Attachment A.

As shown in Table 2 included as Attachment A, the soil samples exhibiting the greatest concentrations of petroleum VOCs were collected below the water table (which ranges from 1.25 to 5 feet bgs).

Regardless of the concentrations of contaminants in soil, projects that will disturb soil and/or groundwater at the Site and because the Site has not achieved regulatory closure (i.e., a Permanent Solution has not been achieved), must be performed in accordance with the available response actions provided in the Massachusetts Contingency Plan (MCP).

Permeation Risks to the Public Water Supply Connection

Ransom anticipates that the water lines servicing the proposed building at the Site will consist of copper, steel or PVC pipe. As such, there is no reason to suspect that VOCs in soil or groundwater at the Site will diffuse through the piping and contaminating the water the pipes carry.

If you have any questions regarding this letter, please contact me at (978) 465-1822.

Sincerely,

RANSOM CONSULTING, LLC

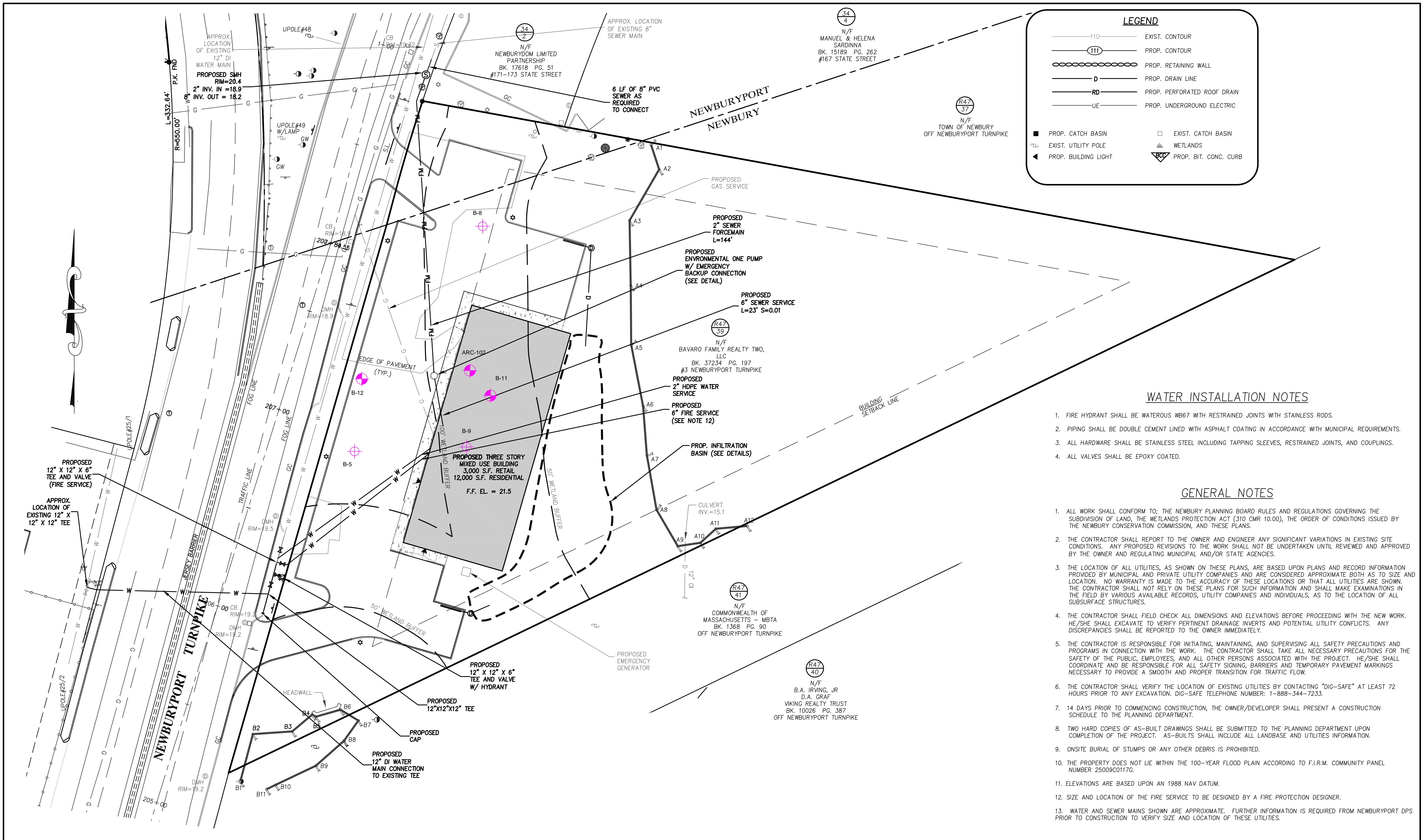
Timothy J. Snay, LSP, LEP
Principal, Vice President

TJS:ts
Attachment

ATTACHMENT A

Site Plan and Summary Tables

Response to Comments
City of Newburyport Department of Public Services
Proposed Property Redevelopment
Former Circle Finishing
U.S. Route 1 Traffic Circle
Newburyport, Massachusetts
MassDEP Release Tracking No. (RTN) 3-0392



LEGEND

- 110— EXIST. CONTOUR
- (111)— PROP. CONTOUR
- PROP. RETAINING WALL
- D— PROP. DRAIN LINE
- RD— PROP. PERFORATED ROOF DRAIN
- UE— PROP. UNDERGROUND ELECTRIC
- PROP. CATCH BASIN
- EXIST. CATCH BASIN
- EXIST. UTILITY POLE
- ◀ PROP. BUILDING LIGHT
- ◻ WETLANDS
- ◻ PROP. BIT. CONC. CURB

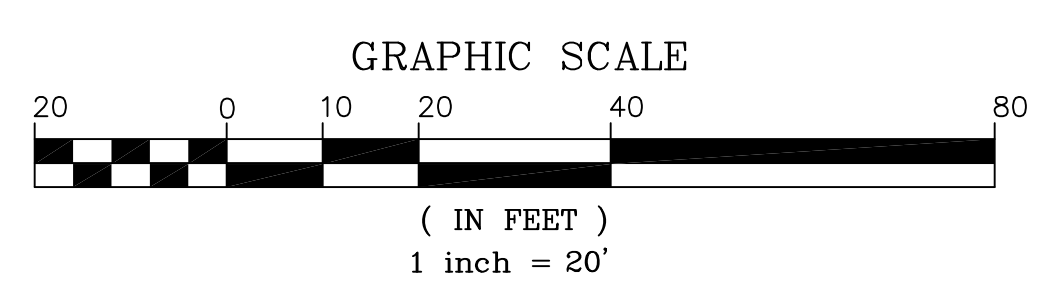
WATER INSTALLATION NOTES

1. FIRE HYDRANT SHALL BE WATEROUS WB67 WITH RESTRAINED JOINTS WITH STAINLESS RODS.
2. PIPING SHALL BE DOUBLE CEMENT LINED WITH ASPHALT COATING IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.
3. ALL HARDWARE SHALL BE STAINLESS STEEL INCLUDING TAPPING SLEEVES, RESTRAINED JOINTS, AND COUPLINGS.
4. ALL VALVES SHALL BE EPOXY COATED.

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO: THE NEWBURY PLANNING BOARD RULES AND REGULATIONS GOVERNING THE SUBDIVISION OF LAND, THE WETLANDS PROTECTION ACT (310 CMR 10.00), THE ORDER OF CONDITIONS ISSUED BY THE NEWBURY CONSERVATION COMMISSION, AND THESE PLANS.
2. THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS. ANY PROPOSED REVISIONS TO THE WORK SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND REGULATING MUNICIPAL AND/OR STATE AGENCIES.
3. THE LOCATION OF ALL UTILITIES, AS SHOWN ON THESE PLANS, ARE BASED UPON PLANS AND RECORD INFORMATION PROVIDED BY MUNICIPAL AND PRIVATE UTILITY COMPANIES AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION. NO WARRANTY IS MADE TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL NOT RELY ON THESE PLANS FOR SUCH INFORMATION AND SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE RECORDS, UTILITY COMPANIES AND INDIVIDUALS, AS TO THE LOCATION OF ALL SUBSURFACE STRUCTURES.
4. THE CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE NEW WORK. HE/SHE SHALL EXCAVATE TO VERIFY PERTINENT DRAINAGE INVERTS AND POTENTIAL UTILITY CONFLICTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER IMMEDIATELY.
5. THE CONTRACTOR IS RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE SAFETY OF THE PUBLIC, EMPLOYEES, AND ALL OTHER PERSONS ASSOCIATED WITH THE PROJECT. HE/SHE SHALL COORDINATE AND BE RESPONSIBLE FOR ALL SAFETY SIGNING, BARRIERS AND TEMPORARY PAVEMENT MARKINGS NECESSARY TO PROVIDE A SMOOTH AND PROPER TRANSITION FOR TRAFFIC FLOW.
6. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BY CONTACTING "DIG-SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION. DIG-SAFE TELEPHONE NUMBER: 1-888-344-7233.
7. 14 DAYS PRIOR TO COMMENCING CONSTRUCTION, THE OWNER/DEVELOPER SHALL PRESENT A CONSTRUCTION SCHEDULE TO THE PLANNING DEPARTMENT.
8. TWO HARD COPIES OF AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE PLANNING DEPARTMENT UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL INCLUDE ALL LANDBASE AND UTILITIES INFORMATION.
9. ONSITE BURIAL OF STUMPS OR ANY OTHER DEBRIS IS PROHIBITED.
10. THE PROPERTY DOES NOT LIE WITHIN THE 100-YEAR FLOOD PLAIN ACCORDING TO F.I.R.M. COMMUNITY PANEL NUMBER 25009C0117G.
11. ELEVATIONS ARE BASED UPON AN 1988 NAV DATUM.
12. SIZE AND LOCATION OF THE FIRE SERVICE TO BE DESIGNED BY A FIRE PROTECTION DESIGNER.
13. WATER AND SEWER MAINS SHOWN ARE APPROXIMATE. FURTHER INFORMATION IS REQUIRED FROM NEWBURYPORT DPS PRIOR TO CONSTRUCTION TO VERIFY SIZE AND LOCATION OF THESE UTILITIES.

PROGRESS PRINT



PREPARED FOR
BAVARO FAMILY REALTY TWO, LLC
 18 GRAF ROAD UNIT #31
 NEWBURYPORT, MA

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 ENGINEERING AND LAND SURVEYING
 62 ELM ST. SALISBURY, MA 01952 (978) 463-8980
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SITE PLAN
 IN
NEWBURYPORT, MA
 SHOWING
PROPOSED SITE IMPROVEMENTS
 AT
177 STATE STREET

UTILITIES PLAN

SHEET: 5 OF 8

NO.	DATE	DESCRIPTION	BY	SCALE: 1"=20'	DESIGN: J.T.M.	PROJECT: M193668
1	11/18/20	RESPONSE TO TOWN COMMENTS	J.T.M.	DATE: SEP. 22, 2020	CHKD. BY: E.W.B.	

TABLE 1**SUMMARY OF ORGANIC VAPOR CONCENTRATIONS**

Former Circle Finishing, Inc.

Route 1 Traffic Circle

Newburyport, Massachusetts

MassDEP Release Tracking No. (RTN) 3-0392

Boring ID	B-5			B-8			B-9		B-12		
Sample Depth (feet bgs)	2-4	6-8	8-12	1-4	4.5-8	8-10	1-4	5-8	2-4	5-8	8-12
Organic Vapors	Concentrations in parts per million by volume (ppmv)										
	<1	413	65	3	23	3	491	491	53	501	840
Soil Type	sand	sand	sand/clay	sand	clay	clay	sand	sand	sand	sand	clay

Note:

Samples collectect by LFR Levine Fricke, Inc. in October 2001.

TABLE 2

SUMMARY OF SOIL SAMPLE CHEMICAL ANALYSIS RESULTS

Former Circle Finishing, Inc.
 Route 1 Traffic Circle
 Newburyport, Massachusetts
 MassDEP Release Tracking No. (RTN) 3-0392

Boring ID	B-5	B-8	B-11	B-12
Sample Depth (feet bgs)	6-8	4.5-10	6-8	8-12
Volatile Organic Compounds	Micrograms/Kilogram			
1,2,4-Trimethylbenzene	ND	NA	115,000	116,000
1,3,5-Trimethylbenzene	ND	NA	36,300	37,600
4-Isopropyltoluene	ND	NA	2,040	6,330
Ethylbenzene	48.9	NA	12,100	73,000
Isopropylbenzene	ND	NA	5,560	18,500
n-Propylbenzene	ND	NA	13,400	23,500
Naphthalene	ND	NA	16,600	17,900
sec-Butylbenzene	ND	NA	2,990	5,760
Toluene	ND	NA	ND	7,470
Xylenes (total)	ND	NA	29,200	315,000
Volatile Petroleum Hydrocarbons	Milligrams/Kilogram			
C ₅ -C ₈ Aliphatics	ND	NA	NA	1,710
C ₉ -C ₁₂ Aliphatics	ND	NA	NA	446
C ₉ -C ₁₀ Aromatics	ND	NA	NA	363
Target VOCs	Milligrams/Kilogram			
Benzene	ND	NA	NA	ND
Ethylbenzene	ND	NA	NA	35.1
Naphthalene	ND	NA	NA	14.2
Toluene	ND	NA	NA	ND
Xylenes (total)	ND	NA	NA	193.2
Extractable Petroleum Hydrocarbons	Milligrams/Kilogram			
C ₉ -C ₁₈ Aliphatics	NA	ND	202	176
C ₁₉ -C ₃₆ Aliphatics	NA	ND	64.7	ND
C ₁₁ -C ₂₂ Aromatics	NA	ND	106	ND
Polycyclic Aromatic Hydrocarbons				
2-Methylnaphthalene	NA	ND	2.74	0.747
Naphthalene	NA	ND	1.99	1.15

Notes: Samples collected by LFR Levine Fricke, Inc. in October 2001.

ND = Not Detected. NA = Not Analyzed.