

**TOWN OF WATERBORO
PLACEMENT ON
PLANNING BOARD AGENDA**

Date received: 01-19-2022

APPLICATION TO BE PLACED ON PLANNING BOARD AGENDA _____

I, Hillel Weisel agent for E23 LLC Owner ☐ Agent ☒
Address: 1120 Sokokis Trail Tax Map # 013 Lot # 043-001
N. Waterboro ME 04061 Zone ag/res
Telephone # 207-550-1963 cell
207-465-0142 office

HEREBY MAKE APPLICATION TO BE PLACED ON THE AGENDA OF THE WATERBORO
PLANNING BOARD:

Description of project to be presented before the board:

Installation of bulk LP storage tank for filling bobtail delivery trucks and installation of small tank filling station

Is the project in the Shoreland Zone? _____ yes ☒ no

Name (s) of person (s) who will be appearing before the Planning Board:

Hillel Weisel

Please file this form with the Code Enforcement Officer, at which time a **non-refundable** fee* must be paid. You will be notified of the date and time you are to appear. **You shall notify all abutters within 500' of your property of the date, time and purpose of your meeting and allow them 10 days prior to the meeting date to submit any concerns they may have in writing to the Planning Board.** Attach all supporting documentation per appropriate checklist.

WATERBORO PLANNING BOARD FEES

<input checked="" type="checkbox"/> Conditional use	\$100.00
_____ Subdivision Review	\$1,000.00 + \$250.00 per home and \$.75 linear feet of interior road.
_____ Cluster development (Section 7.02)	\$100.00 + \$50.00 for each residential, commercial or industrial unit in the development
_____ Planned Unit (Section 7.01)	\$100.00 + \$50.00 for each development review residential, commercial or industrial unit in the development
_____ Site Plan Review	Less than 1,999 sq. ft. of development \$300.00 2,000 sq. ft. to 9,999 sq. ft. of development \$600.00 10,000 sq. ft. or more of development \$2,000.00



500 foot Abutters List Report

Waterboro, ME

January 19, 2022

Subject Property:

Parcel Number: 013-043-001
CAMA Number: 013-043-001
Property Address: 1120 SOKOKIS TRAIL

Mailing Address: E23 LLC
20 OAK STREET
OAKLAND, ME 04963

Abutters:

Parcel Number: 013-020
CAMA Number: 013-020
Property Address: 0 CARPENTER ROAD

Mailing Address: WOODSOME DAVID C
PO BOX 203
LIMERICK, ME 04048

Parcel Number: 013-030A-005
CAMA Number: 013-030A-005
Property Address: 0 CLARKS BRIDGE ROAD

Mailing Address: WATERBORO LAND TRUST INC
PO BOX 282
NO WATERBORO, ME 04061

Parcel Number: 013-042A
CAMA Number: 013-042A
Property Address: SOKOKIS TRAIL

Mailing Address: PRESCOTT KIMBERLY
29239 HEATHERCLIFF ROAD #5
MALIBU, CA 90265

Parcel Number: 013-042B
CAMA Number: 013-042B
Property Address: 1094 SOKOKIS TRAIL

Mailing Address: PRESCOTT DANA
37 BEACH STREET
SACO, ME 04072

Parcel Number: 013-042C
CAMA Number: 013-042C
Property Address: SOKOKIS TRAIL

Mailing Address: PRESCOTT LAURA A & JACQUELINE C &
PAUL W JR
C/O BRADFORD E PRESCOTT PO BOX
37
SOUTH WOODSTOCK, VT 05071

Parcel Number: 013-043
CAMA Number: 013-043
Property Address: 5 HANSEL DRIVE

Mailing Address: BOUDREAU DAVID P
5 HANSEL DRIVE
NORTH WATERBORO, ME 04061

Parcel Number: 013-043-002
CAMA Number: 013-043-002
Property Address: 0 HANSEL DRIVE

Mailing Address: SELLERS DAVID
PO BOX 6
DENMARK, ME 04022

Parcel Number: 013-044-001
CAMA Number: 013-044-001
Property Address: 1156 SOKOKIS TRAIL

Mailing Address: WOODSOME DAVID
PO BOX 203
LIMERICK, ME 04048

Parcel Number: 013-050-001
CAMA Number: 013-050-001
Property Address: 0 CARPENTER ROAD

Mailing Address: WOODSOME DAVID C
PO BOX 203
LIMERICK, ME 04048

Parcel Number: 013-059-001
CAMA Number: 013-059-001
Property Address: E/S SOKOKIS TRAIL

Mailing Address: SOKOKIS ESTATES
PO BOX 151
SANFORD, ME 04073



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

1/19/2022

Page 1 of 2



249 Western Ave.
Augusta, ME 04330

T 207.621.7000
TRCcompanies.com

January 18, 2022

Mr. Hillel Wiesel
Fabian Oil, Inc.
P.O. Box 99
20 Oak Street
Oakland, Maine 04963

via E-mail

**Re: Fabian Waterboro Facility Proposed 30,000-gallon Propane Tank
Fire Safety Analysis (2020 Edition of NFPA 58)
TRC Project No. 473774.0000.0000**

Dear Mr. Wiesel,

TRC Environmental Corporation (TRC) prepared the attached Fire Safety Analysis (FSA) for Fabian Oil, Inc. (Fabian). This FSA was for the proposed above ground tank for storing propane (also referred to as Liquefied Petroleum Gas, LP-Gas, or LPG) at the Fabian North Waterboro, Maine facility located at 1120 Sokokis Trail (see **Figure 1**).

Proposed Installation

Fabian provided the information about the facility and the propane tank. The proposed propane storage tank will be designed and installed in general accordance with the requirements of the 2020 Edition of National Fire Protection Association (NFPA) Standard 58: Liquefied Petroleum Gas Code (NFPA 58) and applicable requirements of the Maine Uniform Building and Energy Code (MUBEC), which incorporates the 2015 International Building Code (IBC).

The site layout showing the location of the propane tank at the facility was shown on the Site Sketch Plan prepared by Gartley & Dorsky Engineering and Surveying of Camden, Maine, dated December 15, 2021 (Project No. 2021-0394, Drawing No. SK1), which presented in **Attachment 1**. The tank will be located in the western portion of the property, behind the existing storage buildings.

The proposed location is over 160 feet from the existing storage buildings and over 114 feet from the closest property boundary. There are no nearby assembly, institutional, or educational occupancies, such as churches, long-term care facilities, or schools. In addition, Fabian will establish and maintain separation distances between the propane storage tank and internal facility exposures (e.g., site dumpster, idle or waste pallets, and combustibles) and designated parking areas for bobtails and transports that exceed required minimum distances required by NFPA 58.

Fabian provided preliminary tank design details and TRC understands the following:

1. Proposed propane tank will be 30,000 gallons water capacity and have connections for transport unloading (i.e., filling the tank) and bobtail loading.

Note: Validity of this FSA depends upon TRC confirming the Redundant Fail-Safe Design and Physical Protection measures are as described on Forms 5.6, 6.1, and 6.7 in **Attachment 2** before tank installation. In addition, the FSA should be repeated when required by state or local regulations or there is a significant change of the assumptions used as the basis for this FSA.

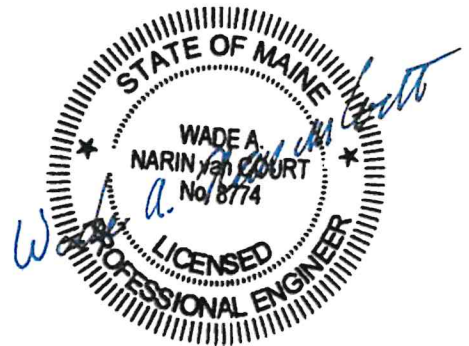
Certification

This Fire Safety Analysis was prepared in accordance with good engineering practices, including consideration of applicable codes and industry standards. I understand the input data was accurate and the conclusions were consistent with NFPA 58 and NPGA guidance. Based on the information provided by Fabian Oil, Inc. this installation exceeded the fire safety requirements for this facility.

This certification is no longer valid when any change takes place at Fabian Oil's North Waterboro facility that may have an effect on the operations of the storage tank or the potential for a propane incident (e.g., fire or release). It is understood that Fabian Oil, Inc. also certifies that the description of existing facility, propane storage tank, practices, procedures, etc., were accurately described in this Fire Safety Analysis.

Furthermore, the validity of the FSA and this certification depends upon TRC reviewing the Redundant Fail-Safe Design and Physical Protection measures incorporated into the tank design and confirming these measures are as described, as noted above.

Signature: Wade A. Narin van Court
Name: Wade A. Narin van Court
Company: TRC Environmental Corporation
State: Maine License No. 8774
Date: January 17, 2022



Thank you for the opportunity to support this important project. If you have questions regarding this FSA or require any additional information, please contact Wade A. Narin van Court, PE at wnarinvancourt@TRCcompanies.com or (207) 509-0397.

Sincerely,
TRC Environmental Corporation

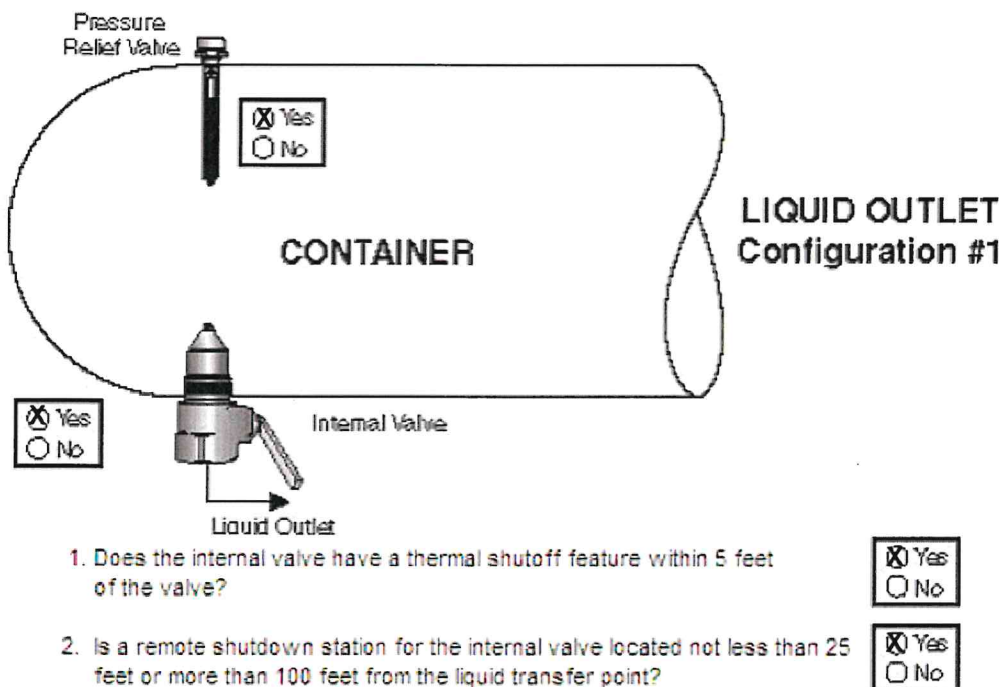
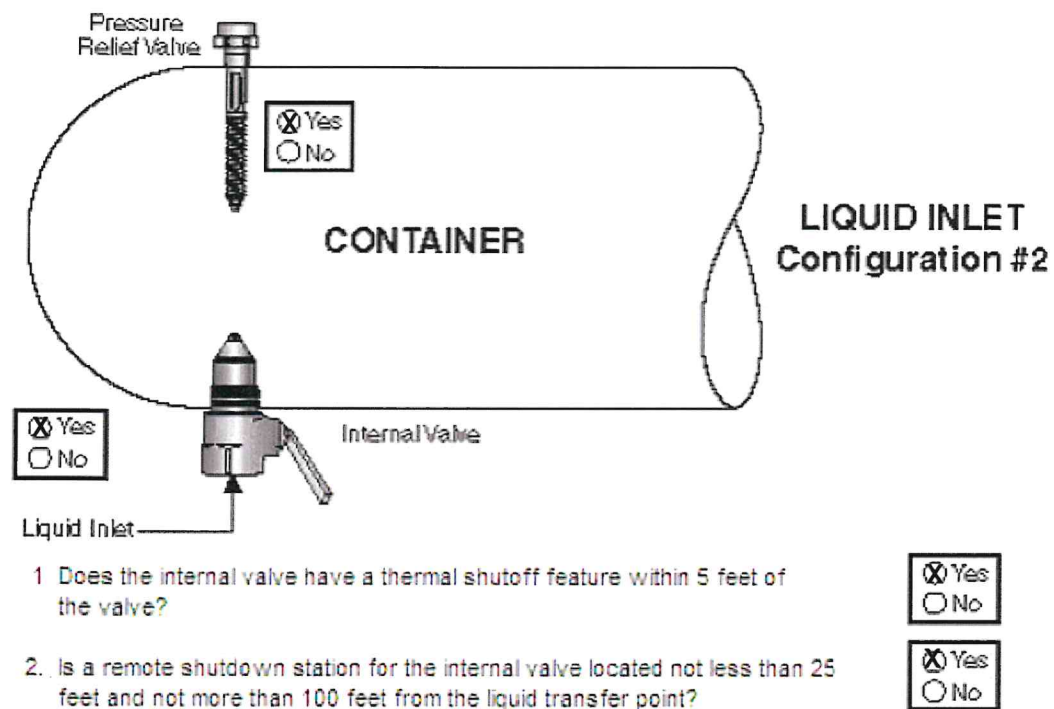
Wade A. Narin van Court
Digitally signed by Wade A. Narin van Court
Date: 2022.01.18 19:40:51 -05'00'

Wade A. Narin van Court, PhD, PE
Senior Engineer

Figure 1: Fabian North Waterboro Facility Location
(Formerly known as Deer Pond Fuel)



Figure 3: Propane Tank Liquid Valve Configurations



Form 4.1 Initial Data on the LP-Gas Facility

A	B	C
Item #	Information Item	Data
1	Name of the LP-Gas Facility Owner or Operator	Fabian Oil, Inc.
2	Contact Name	Hillel Weisel
3	Contact Telephone & Fax Numbers	Tel: (207) 465-2000 Fax: (207) 465-9667
4	Contact Email Address	hillel.weisel@fabianoil.com
5	Mailing Address	Street 1: 20 Oak Street
		Street 2:
		City, State, Zip: Oakland, ME 04963

Form 4.2 Facility Storage Capacity ^{1,2,3}

A	B	C	D
Item #	Individual Container Water Capacity (w.c.) (gallons)	Number of containers	Total Water Capacity (w.c.) of each container size (gallons)
1	500	0	
	1,000	0	
	2,000	0	
	4,000	0	
	10,000	0	
	18,000	0	
	30,000	1	30,000
	60,000	0	
	Other:	0	
	Other:	0	
	Other:	0	
	Other:	0	
2	Aggregate Water Capacity ⁴		30,000

- Notes:**
- (1) Column D = Column B x Column C.
 - (2) Parked bobtails, transports and tank cars should not be considered for aggregate capacity calculations.
 - (3) Do not consider containers that are not connected for use.
 - (4) For the purpose of this manual, "Aggregate Water Capacity" means any group of single ASME storage containers separated from each other by distances less than those stated in the aboveground containers column of Table 6.4.1.1.
 - (5) **This form contains formulas that will automatically calculate results based on the values entered in the related cells. To activate the calculations, click in another number field, such as one in Column C.**

If the aggregate water capacity (w.c.) of the LP-Gas facility is less than or equal to 4,000 gallons, no further assessment is required.

YOU CAN STOP HERE.

Form 5.1
Compliance with Code Requirements for Appurtenances on Containers of
4,000 Gallons Water Capacity or Less
NOT APPLICABLE

A	B	C	D	E
Container #	Service Configuration Subfigure (in Figure 5-1)	Number of Product Control Appurtenances		NFPA 58 Section Reference (2020 edition)
		Required by NFPA 58 (applicable edition)	Installed on the Container	
1				5.9.4.1, Table 5.9.4.1 (B) and 5.9.4.4
2				
3				
4				
5				
6				
7				

If, in Form 5.1, any one of the numbers in column D is less than the number in Column C of the corresponding row, then these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

Form 5.3
Requirements for Transfer Lines of 1½-inch Diameter or Larger,
Liquid-into-Containers
NOT APPLICABLE

A Item #	B Appurtenance (Either No. 1 or No. 2)**	C Appurtenance Provided with the Feature	D Installed in the facility?		F NFPA 58 Section Reference (2020 edition)
			Yes	No	
1	Emergency shutoff valve (ESV) (Ref § 6.14)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.2
		Automatic shutoff through thermal (fire) actuation element with maximum melting point of 250 °F.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Temperature-sensitive element (fusible link) installed within 5 ft. from the nearest end of the hose or swivel-type piping connected to liquid transfer line.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Manually operated remote shutoff feature provided for ESV.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.1
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV in the path of egress.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.2
		An ESV is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5 and 6.21.2.6 (1)
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
2	Backflow check valve (BCK)**	Installed downstream of the hose or swivel-type connection.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.3
		BCK is designed for this specific application.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.4
		A BCK is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
3	Debris protection ++	Liquid inlet piping is designed or equipped to prevent debris and foreign material from entering the system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.21.2.5
4	Emergency discharge control	Flow-through facility hose used to transfer LP-Gas from non-metered cargo tank vehicle into containers will stop within 20 seconds of a complete hose separation without human intervention.	<input type="checkbox"/>	<input type="checkbox"/>	6.21.2.6 (3)

** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.14.3, 6.14.4).

++ Retrofit required for existing facilities by July 1, 2011.

Form 5.5
Requirements for Vapor Transfer Lines 1¼-inch Diameter or Larger
NOT APPLICABLE

A	B	C	D	E	F
Item #	Appurtenance	Appurtenance Provided with the Feature	Installed in the facility?		NFPA 58 Section Reference (2020 edition)
			Yes	No	
1	Emergency shutoff valve (ESV) (Ref § 6.14)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.2
		Automatic shutoff through thermal (fire) actuation element with maximum melting point of 250 °F.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Temperature-sensitive element installed within 5 ft. from the nearest end of the hose or swivel-type piping connected to liquid transfer line.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Manually operated remote shutoff feature provided for ESV.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.1
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV in the path of egress.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.2
		An ESV is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5 and 6.21.2.6 (1)
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
2	Backflow check valve (BCK)**	Installed downstream of the hose or swivel-type connection.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.3
		BCK is designed for this specific application.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.4
		A BCK is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8

** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and it shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.14.3, 6.14.4).

If a check mark is made in the “No” column of any one of Form 5.3, Form 5.4 or Form 5.5, then these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

If the LP-Gas facility is designed using ALTERNATE PROVISIONS for the installation of ASME CONTAINERS, then continue the analysis below. Otherwise skip Section 5.3 and go to Chapter 6.

If the LP-Gas facility is provided with LOW EMISSION TRANSFER EQUIPMENT, then continue the analysis below. Otherwise skip section 5.3.2 and go to Chapter 6.

Form 5.7
Evaluation of Low Emission Transfer Equipment
NOT APPLICABLE

A	B	C		D			E	F
Item #	Description	Features		Installed in the facility?			NFPA 58 Section Reference (2014 Edition)	
				Yes	No	NA		
1	Transfer into permanently mounted ASME containers on vehicles	Delivery nozzle and filler valve - Max. liquid release after transfer of 4 cm ³ (0.24 in ³)	Fixed maximum liquid level gauge not used during transfer operations	<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.3 (A) and (B)	
2	Transfer into stationary ASME containers delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	Does not exceed 4 cm ³ (0.24 in ³) from a hose of nominal size 1 inch or smaller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (A)	
			Does not exceed 15 cm ³ (0.91 in ³) from a hose of nominal size larger than 1 inch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (B)	
3	Transfer into stationary ASME containers maximum filling limit	Do containers of less than 2,001 gal (w.c.) have an overfilling prevention device or another approved device?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (F)	
		Do containers 2,001 gal (w.c.) or greater have a float gauge or other non-venting device?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (E)	
4	Transfer into stationary ASME containers fixed maximum liquid level gauge	Not used during routine transfer operations but used to calibrate other non-venting liquid level gauges in the container		<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.4 (C) and (D)	

Note: 1) If the facility does not have a particular feature described in items 2 or 3, check "NA" corresponding to its row.

If separation distance reductions are intended, check marks made in the "No" column of either Form 5.6 or Form 5.7 must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

Form 6.2

Assessment of Sources of Ignition and Adjacent Combustible Materials

A	B	C		D	E
#	Sources of Ignition and Requirements Pertaining to Adjacent Combustible Materials	Is the Facility compliant?			NFPA 58 Section Reference (2020 Edition)
		Yes	No	NA	
1	Are combustible materials not closer than 10 ft. from each container?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.5.3.3
2	Is a distance at least 20 ft. provided between containers and tanks containing flammable liquids with flash point less than 200 °F (e.g., gasoline, diesel)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.5.3.6
3	Are electrical equipment and wiring installed per Code requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.25.2
4	Is open flame equipment located and used according to Code?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.25.3.1
5	Are ignition control procedures and requirements during liquid transfer operations complied with?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2.3.2
6	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided in the facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.29.4.2
7	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided on each truck or trailer used to transport portable containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.3.5 and 9.4.7
8	Is the prohibition on smoking within the facility premises strictly enforced?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2.3.2 (B) and 9.4.10

Note: Check "NA" in the row of any items that are not applicable.

Form 6.4

Separation Distances between Points of Transfer and other Exposures

A	B		C	D	E		F	G
#	Type of Exposure within or outside the facility boundary		Check if exposure is present	Minimum Distance (ft)	Is the Facility compliant?			NFPA 58 Section Reference (2020 Edition)
					Yes	No		
1	Buildings, mobile homes, recreational vehicles, and modular homes with at least 1-hour fire-rated walls		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>		6.7.2 and Table 6.7.2.1
2	Buildings with other than at least 1-hour fire-rated walls		<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
3	Building wall openings or pits at or below the level of the point of transfer		N/A	25	<input type="checkbox"/>	<input type="checkbox"/>		
4	Line of adjoining property that can be built upon		<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
5	Outdoor places of public assembly, including school yards, athletic fields, and playgrounds		<input checked="" type="checkbox"/>	50	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
6	Public ways, including public streets, highways, thoroughfares, and sidewalks	From points of transfer in LP-Gas dispensing stations and at vehicle fuel dispensers	N/A	10	<input type="checkbox"/>	<input type="checkbox"/>		
		From other points of transfer	<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7	Driveways		<input checked="" type="checkbox"/>	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
8	Mainline railroad track centerlines		N/A	25	<input type="checkbox"/>	<input type="checkbox"/>		
9	Containers other than those being filled		<input checked="" type="checkbox"/>	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
10	Flammable and Class II combustible liquid dispensers and the fill connections of containers		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>		
11	Flammable and Class II combustible liquid aboveground containers and filling connections of underground containers		N/A	20	<input type="checkbox"/>	<input type="checkbox"/>		
12	LP-Gas dispensing device located close to a Class I liquid dispensing device		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>	6.27.4.3	

NOTE: Place a check mark in column C against an exposure that is present in or around the facility. Fill columns E or F for only those rows for which there is a check mark in column C.

If the facility contains low emission transfer equipment (i.e., all equipment identified in Form 5.7 are installed and are in working order), then the minimum separation distances in column D of Form 6.4 can be reduced to one half of the indicated values.

If the containers in the LP-Gas facility are provided with SPECIAL PROTECTION MEASURES, then continue the analysis below. Otherwise skip Forms 6.5 and 6.6 and go to Form 6.7. Also see Chapter 9.

Form 6.7

Protection Against Vehicular Impact

Note: Validity of this FSA depends upon TRC confirming the information provided below prior to the tank installation.

#	System Protected	Is physical protection provided?		Type of physical protection installed	NFPA 58 Section Reference (2020 Edition)
		Yes	No		
1	Storage containers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Crash Barriers*	6.8.1.2, 6.8.6.1(B), 6.8.6.1(C), 6.11.3.11 and 6.27.3.14
2	Transfer stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Crash Barriers*	
3	Entryway into plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

* 36-inch-high crash-protection barriers (e.g., bollards, guardrails, or jersey barriers).

Form 7.1

Types of Occupancies⁽¹⁾ Near or Surrounding the LP-Gas Facility

Type of Occupancies	Model # from Table 7.1	Hazard Distance ⁽²⁾ (feet)	Is Occupancy located within the hazard distance from the Facility?	
			Yes	No
Assembly Occupancies (Places of worship, Libraries, Theaters and Auditoriums, Food or Drink Bars, Sports Stadiums, Amusement Parks, Transportation Centers, etc., with 50 or more people).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Institutional Occupancies (Elderly Persons Homes or Nursing Homes, Hospitals, Alcohol & Drug Rehabilitation Centers, Prisons).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Educational Occupancies (Elementary Schools, Day Care facilities, etc.).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTES: (1) Different types of occupancies are defined in NFPA 5000.

- (2) Table 7.1 provides a number of scenarios that can result in propane release, and the resulting area exposed, for different ignition mechanisms. Determine the scenarios that are applicable to the facility, for the quantities that can be released, and enter the greatest value from Table 7.1. Use the hose diameters and length that will be used at the facility if they differ from the ones in Table 7.1 and recalculate the hazard distances using a spreadsheet method that is available at npga.org. Some scenarios may not be applicable to an installation because of other mitigation measures implemented, such as a hose management procedure to minimize the possibility of hose failure.

Form 8.1

Data on the Responding Fire Department

A	B		C
Item #	Data Item		Data Entry
1	Name of the Fire Department (FD).		Waterboro Fire Department
2A	Name of the person in the FD assisting with the data acquisition.		Matt Bors
2B	Position of the person in the FD assisting with the data acquisition.		Fire Chief
3A	Date on which FD data was collected.		December 16, 2021
3B	Name of the person collecting the data.		Matt Bors
4	Number of firefighters on duty at any time.		Generally 4 Staff- Min 3
5	Average number of firefighters available for response.		Varies, average = 3.3
6A	Number of firefighters qualified to:	"Firefighter I" level.	FD has BLS/FF1/FF2 *
6B		"Firefighter II" level.	
7A	Number of firefighters who would:	Respond on the first alarm to the facility.	3 to 6
7B		Respond on the first alarm and who are qualified to the operations level requirements of NFPA 472 or <u>similar</u> local requirements.	3 to 6
7C		Respond on the first alarm with specific knowledge and training on the properties of LP-Gas and LP-Gas fires.	All have basic LPG Training
8A	Number of fire apparatus that have the capability to deploy a 125 gpm hose line supplied by onboard water for at least 4 minutes, and, which:	Are in service in the department.	5
8B		Would respond on a first alarm.	3

Notes:

1. Waterboro FD Chief Bors stated they had firefighters who were qualified for Basic Life Support and Firefighter Level I and II, but did not provide the number of personnel with these qualifications.
2. Waterboro FD has three (3) Engines with a maximum flow rate of 1250 gpm and 1000-gallon water tanks; one (1) Tanker with a maximum flow rate of 1000 gpm and a 2500-gallon tank; and one (1) Quint.
3. Waterboro FD's response plan assigns two (2) Engines and one (1) Tanker for water supply to respond to fires such as an incident at the Fabian facility.

Form 8.3
Water Flow Rate and Total Water Volume
Required to Cool Containers Exposed to a Fire

A	B	C	D	E	F	G	H
Item #	ASME Container Size (gallons)	Total Surface Area of each Container ¹ (ft ²)	Surface Area of each container to be Cooled (ft2)	Water flow rate required per container (gpm)	Number of containers of the size indicated‡	Total Water flow rate required (gpm)	Total volume of water required for 10 min (gal)
1	500	86	43	10.8	0	0.0	
	1,000	172	86	21.5	0	0.0	
	2,000	290	145	36.3	0	0.0	
	4,000	374	187	46.8	0	0.0	
	6,500	570	285	71.3	0	0.0	
	9,200	790	395	98.8	0	0.0	
	12,000	990	495	123.8	0	0.0	
	18,000	1,160	580	145	0	0.0	
	30,000	1,610	805	201.3	1	201.3	
	45,000	2,366	1,183	295.8	0	0.0	
	60,000	3,090	1,545	386.3	0	0.0	
	90,000	4,600	2,300	575	0	0.0	
	Other Size		0	0.0	0	0.0	
2a	Calculated water flow rate for container protection					201.3	
2b	Water flow rate rounded up to nearest multiple of 125					250	
3	Water for firefighter protection, if required <input type="checkbox"/>					0	
4	Total water flow rate and volume					250.0	

Note: Column D = (1/2) x Column C
Column E = 0.25 (gpm/ft²) x Column D;
Column G = Column F x Column E
Column H = 10 x Column G
Line 2a, Column G and Column H are the sum of numbers in each row above line 2 of each column.
Line 4, Column G and Column H are the sum of numbers in rows 2b and 3.

‡ Consider only three containers for water supply evaluations even if the number of containers in a group is more than three. See Section 8.2.

1 ASME container approximate dimensions.

The total water requirement for the facility is indicated in item 4, column G (water flow rate) and column H (total water volume or quantity) of Form 8.3. If multiple groups of containers are present in the facility, repeat the calculations in Form 8.3 for each group of containers. The total water requirement for the facility is the largest value for any single group of containers.

Form 9.3

Analysis Summary on Fire Department Evaluations

A	B	C	D	E	F
Item #	Chapter Title	Section & Title	Reference Form #	Number "zeros" entered in Column C, Lines 6 through 8 of Form 8.1	Number of "Yes" checked in Column C of Form 8.4
1	Fire department capability, adequacy of water supply and Emergency Planning	8.1 Data on the Fire Department	8.1	0	
2		8.2 Fire response water needs and availability	8.4		1

If the entry number in row 1, Column E of Form 9.3 is greater than zero, consider one or more of the following design alternatives: **N/A**

1. Discuss with the local Fire Department the needs of the LP-Gas facility and the evaluation results on the capability and training inadequacies of the Department.
2. Consider developing a cadre of personnel within the LP-Gas facility to respond to emergencies.
3. Institute container special protection system based on active protection approaches or passive approaches. Complete Form 9.6 and Form 9.7 below.

If the entry number in row 2, Column F of Form 9.3 is equal to zero, consider one or more of the following design alternatives: **N/A**

1. Provide special protection (other than water spray or monitor systems) to containers, satisfying the requirements of section 6.29.5 of NFPA 58, 2020 edition. Complete Form 9.6 to ensure compliance.
2. Consider implementing the various options indicated in Table 9.1.

Form 9.5
Evaluation of Low Emission Transfer Equipment
NOT APPLICABLE

A	B	C		D		E	F
Item #	Description	Features		Proposed for the facility?			NFPA 58 Section Reference (2014 Edition)
				Yes	No	NA	
1	Transfer into permanently mounted ASME containers on vehicles	Delivery nozzle and filler valve - Max. liquid release after transfer of 4 cm ³ (0.24 in ³)	Fixed maximum liquid level gauge not used during transfer operations	<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.3 (A) and (B)
2	Transfer into stationary ASME containers delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	Does not exceed 4 cm ³ (0.24 in ³) from a hose of nominal size 1 inch or smaller	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (A)
			Does not exceed 15 cm ³ (0.91 in ³) from a hose of nominal size larger than 1 inch	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (B)
3	Transfer into stationary ASME containers maximum filling limit	Do containers less than 2,001 gal (w.c.) have an overfilling prevention device or another approved device?		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (F)
		Do containers greater than 2,000 gal (w.c.) have a float gauge or other non-venting device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (E)	
4	Transfer into stationary ASME containers fixed maximum liquid level gauge	Not used during routine transfer operations but may be used in calibrating other non-venting liquid level gauges in the container		<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.4 (C) and (D)

Note: If the facility does not have a particular feature described in items 2 or 3, check "NA" in column corresponding to its row.

Equivalent Protection to a Water Supply for Industrial and Bulk Facilities

In the case where water supply is not available in or near the LP-Gas facility, or is inadequate, or it is prohibitively expensive to connect to a public or private water supply hydrant, alternative methods for providing protection should be considered. In lieu of providing a water supply, several alternatives are indicated in Table 9.1, which can offer an equivalency to a water supply system.

The intent of the controls identified in Table 9.1 is to maintain the entire system as a gas-tight entity. These methods include reducing the service life of equipment, increasing the design pressure rating of the system beyond the requirements of NFPA 58, or providing early detection and isolation of the system to ensure product control. This list is not exhaustive and is not ranked in an order of priority.

Table 9.1
Suggested Alternative Methods for Industrial and Bulk Plants
That Do Not Pose a Hazard But Lack a Water Supply

Item #	Possible options to implement when adequate water supply is not available
1	Reduce the service life of hoses.
2	Increase frequency of equipment inspection.
3	Establish a service life program for the maintenance of the container pressure relief devices. This could include the installation of a listed multiple port valve and certifying that the relief devices are properly set and maintained every 5 to 10 years.
4	Increase the design strength of the piping and fitting systems.
5	Install emergency shutoff valves in conjunction with container internal valves.
6	Install emergency shutoff valves downstream of transfer pump outlets and upstream of the vapor and liquid valves at the bulkhead.
7	Install pneumatic tubing along the facility boundary to serve as a perimeter fire detection system. This would provide protection of the facility against exposure fires.
8	Provide optical flame detection or linear heat detection, or a gas detection system connected to an isolation valve installed downstream of every liquid and vapor nozzle on the container. This system could also be monitored to send a signal to an alarm company that notifies the fire department of an event.
9	Increase the separation distances of internal facility exposures to the container. These exposures would include a site dumpster, idle or waste pallets and combustibles, and increasing the parking distances between the bobtails and transports in relation to the container.
10	Relocate overhead power lines away from all container and cylinder storage areas to protect against ignition in the event of a line dropping due to wind or power pole impact.
11	Eliminate all combustible vegetation within 30 feet of the LP-Gas container. This can be accomplished using gravel, or paving the site yard.
12	Install tanks using the mounding or burial method.

Note: Fabian will implement the highlighted alternative methods to reduce fire hazards, although this Fire Safety Analysis does not indicate that additional hazard reduction measures are required or necessary.



249 Western Ave.
Augusta, ME 04330

T 207.621.7000
TRCcompanies.com

January 18, 2022

Mr. Hillel Wiesel
Fabian Oil, Inc.
P.O. Box 99
20 Oak Street
Oakland, Maine 04963

via E-mail

**Re: Fabian Waterboro Facility Proposed 30,000-gallon Propane Tank
Fire Safety Analysis (2020 Edition of NFPA 58)
TRC Project No. 473774.0000.0000**

Dear Mr. Wiesel,

TRC Environmental Corporation (TRC) prepared the attached Fire Safety Analysis (FSA) for Fabian Oil, Inc. (Fabian). This FSA was for the proposed above ground tank for storing propane (also referred to as Liquefied Petroleum Gas, LP-Gas, or LPG) at the Fabian North Waterboro, Maine facility located at 1120 Sokokis Trail (see **Figure 1**).

Proposed Installation

Fabian provided the information about the facility and the propane tank. The proposed propane storage tank will be designed and installed in general accordance with the requirements of the 2020 Edition of National Fire Protection Association (NFPA) Standard 58: Liquefied Petroleum Gas Code (NFPA 58) and applicable requirements of the Maine Uniform Building and Energy Code (MUBEC), which incorporates the 2015 International Building Code (IBC).

The site layout showing the location of the propane tank at the facility was shown on the Site Sketch Plan prepared by Gartley & Dorsky Engineering and Surveying of Camden, Maine, dated December 15, 2021 (Project No. 2021-0394, Drawing No. SK1), which presented in **Attachment 1**. The tank will be located in the western portion of the property, behind the existing storage buildings.

The proposed location is over 160 feet from the existing storage buildings and over 114 feet from the closest property boundary. There are no nearby assembly, institutional, or educational occupancies, such as churches, long-term care facilities, or schools. In addition, Fabian will establish and maintain separation distances between the propane storage tank and internal facility exposures (e.g., site dumpster, idle or waste pallets, and combustibles) and designated parking areas for bobtails and transports that exceed required minimum distances required by NFPA 58.

Fabian provided preliminary tank design details and TRC understands the following:

1. Proposed propane tank will be 30,000 gallons water capacity and have connections for transport unloading (i.e., filling the tank) and bobtail loading.

Note: Validity of this FSA depends upon TRC confirming the Redundant Fail-Safe Design and Physical Protection measures are as described on Forms 5.6, 6.1, and 6.7 in **Attachment 2** before tank installation. In addition, the FSA should be repeated when required by state or local regulations or there is a significant change of the assumptions used as the basis for this FSA.

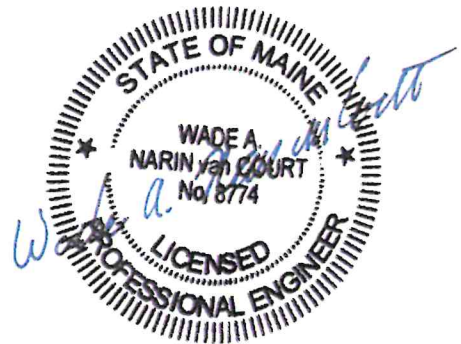
Certification

This Fire Safety Analysis was prepared in accordance with good engineering practices, including consideration of applicable codes and industry standards. I understand the input data was accurate and the conclusions were consistent with NFPA 58 and NPGA guidance. Based on the information provided by Fabian Oil, Inc. this installation exceeded the fire safety requirements for this facility.

This certification is no longer valid when any change takes place at Fabian Oil's North Waterboro facility that may have an effect on the operations of the storage tank or the potential for a propane incident (e.g., fire or release). It is understood that Fabian Oil, Inc. also certifies that the description of existing facility, propane storage tank, practices, procedures, etc., were accurately described in this Fire Safety Analysis.

Furthermore, the validity of the FSA and this certification depends upon TRC reviewing the Redundant Fail-Safe Design and Physical Protection measures incorporated into the tank design and confirming these measures are as described, as noted above.

Signature: Wade A. Narin van Court
Name: Wade A. Narin van Court
Company: TRC Environmental Corporation
State: Maine License No. 8774
Date: January 17, 2022



Thank you for the opportunity to support this important project. If you have questions regarding this FSA or require any additional information, please contact Wade A. Narin van Court, PE at wnarinvancourt@TRCcompanies.com or (207) 509-0397.

Sincerely,
TRC Environmental Corporation

Wade A. Narin van Court
Digitally signed by Wade A. Narin van Court
Date: 2022.01.18 19:40:51 -05'00'

Wade A. Narin van Court, PhD, PE
Senior Engineer

Figure 1: Fabian North Waterboro Facility Location
(Formerly known as Deer Pond Fuel)



Figure 3: Propane Tank Liquid Valve Configurations

Pressure Relief Valve

☒ Yes
☐ No

CONTAINER

LIQUID INLET Configuration #2

☒ Yes
☐ No

Internal Valve

Liquid Inlet

1. Does the internal valve have a thermal shutoff feature within 5 feet of the valve? ☒ Yes ☐ No
2. Is a remote shutdown station for the internal valve located not less than 25 feet and not more than 100 feet from the liquid transfer point? ☒ Yes ☐ No

Pressure Relief Valve

☒ Yes
☐ No

CONTAINER

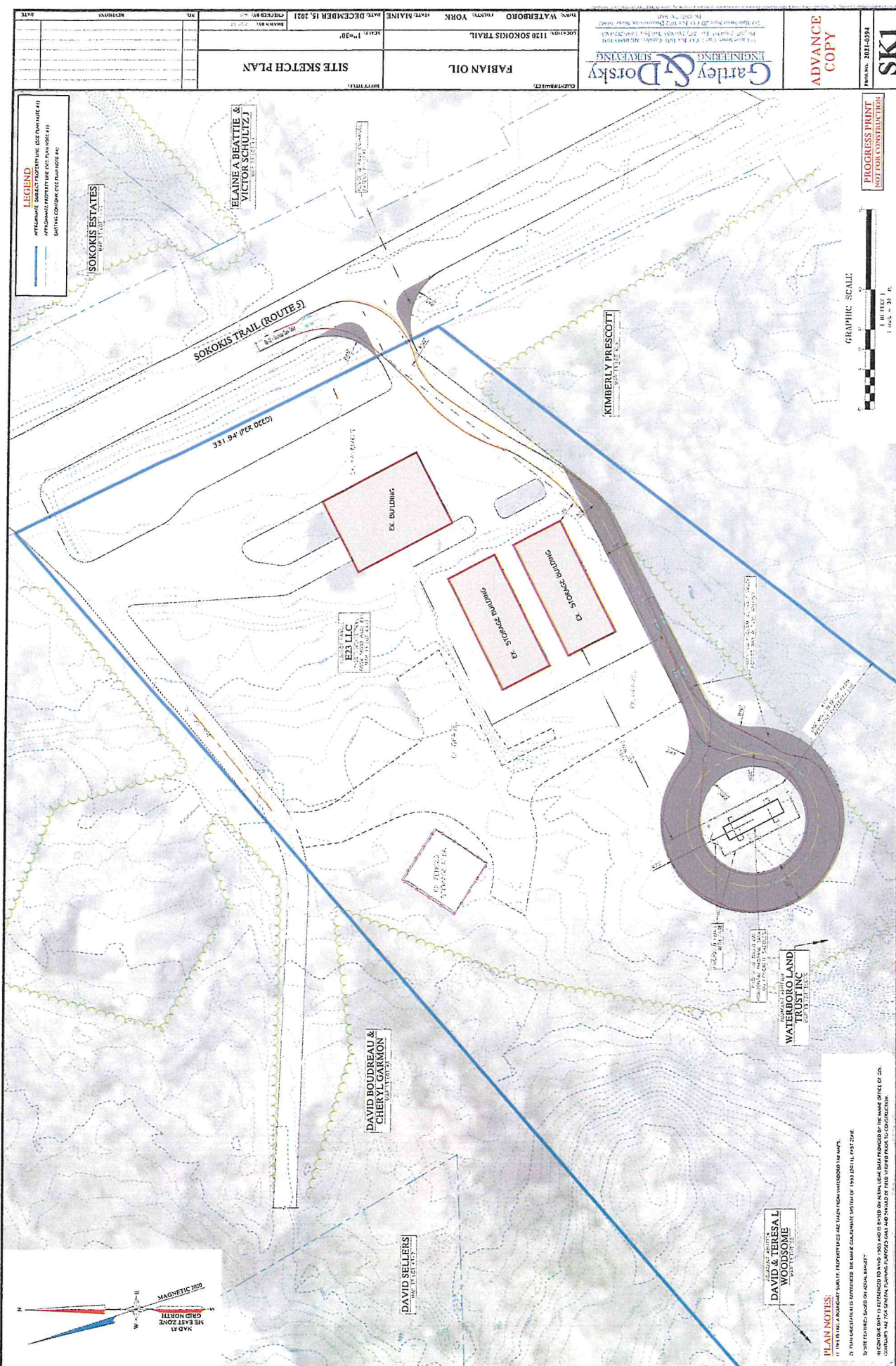
LIQUID OUTLET Configuration #1

☒ Yes
☐ No

Internal Valve

Liquid Outlet

1. Does the internal valve have a thermal shutoff feature within 5 feet of the valve? ☒ Yes ☐ No
2. Is a remote shutdown station for the internal valve located not less than 25 feet or more than 100 feet from the liquid transfer point? ☒ Yes ☐ No



LEGEND
PROPOSED ROAD (SEE PLAN SHEET #2)
PROPOSED PROPERTY LINE (SEE PLAN SHEET #2)
EXISTING PROPERTY LINE (SEE PLAN SHEET #2)

SOKOKIS ESTATES
100 SOKOKIS TRAIL
WATERBORO, ME 04095

**ELAINE A. BEATTIE &
VICTOR SCHULTZ**
100 SOKOKIS TRAIL
WATERBORO, ME 04095

KIMBERLY PRESCOTT
100 SOKOKIS TRAIL
WATERBORO, ME 04095

EX BUILDING
100 SOKOKIS TRAIL
WATERBORO, ME 04095

STORAGE BUILDING
100 SOKOKIS TRAIL
WATERBORO, ME 04095

EX LLC
100 SOKOKIS TRAIL
WATERBORO, ME 04095

**DAVID BOUDREAU &
CHERYL GARKON**
100 SOKOKIS TRAIL
WATERBORO, ME 04095

DAVID SELLERS
100 SOKOKIS TRAIL
WATERBORO, ME 04095

**DAVID & THERESA
WOODSON**
100 SOKOKIS TRAIL
WATERBORO, ME 04095

**WATERBORO LAND
TRUST INC.**
100 SOKOKIS TRAIL
WATERBORO, ME 04095

PLAN NOTES:
1. THIS IS A PRELIMINARY PLAN. THE PROPERTY LINES AND ADJACENT LANDS ARE BASED ON THE 1930 AERIAL PHOTOGRAPHY.
2. THE PROPOSED ROAD IS BASED ON THE 1930 AERIAL PHOTOGRAPHY AND THE 1930 AERIAL PHOTOGRAPHY.
3. THE PROPOSED ROAD IS BASED ON THE 1930 AERIAL PHOTOGRAPHY AND THE 1930 AERIAL PHOTOGRAPHY.
4. THE PROPOSED ROAD IS BASED ON THE 1930 AERIAL PHOTOGRAPHY AND THE 1930 AERIAL PHOTOGRAPHY.

Gartley & Dorsky
ENGINEERING
SURVEYING
100 SOKOKIS TRAIL
WATERBORO, ME 04095

FABIAN OIL

SITE SKETCH PLAN

ADVANCE COPY

SK1

**PROGRESS PRINT
NOT FOR CONSTRUCTION**

GRAPHIC SCALE
1" = 100' (1" = 30.48 M)
1" = 100' (1" = 30.48 M)

Form 4.1

Initial Data on the LP-Gas Facility

A	B	C
Item #	Information Item	Data
1	Name of the LP-Gas Facility Owner or Operator	Fabian Oil, Inc.
2	Contact Name	Hillel Weisel
3	Contact Telephone & Fax Numbers	Tel: (207) 465-2000 Fax: (207) 465-9667
4	Contact Email Address	hillel.weisel@fabianoil.com
5	Mailing Address	Street 1: 20 Oak Street
		Street 2:
		City, State, Zip: Oakland, ME 04963

Form 4.2

Facility Storage Capacity ^{1,2,3}

A	B	C	D
Item #	Individual Container Water Capacity (w.c.) (gallons)	Number of containers	Total Water Capacity (w.c.) of each container size (gallons)
1	500	0	
	1,000	0	
	2,000	0	
	4,000	0	
	10,000	0	
	18,000	0	
	30,000	1	30,000
	60,000	0	
	Other:	0	
	Other:	0	
	Other:	0	
	Other:	0	
2	Aggregate Water Capacity ⁴		30,000

- Notes:**
- (1) Column D = Column B x Column C.
 - (2) Parked bobtails, transports and tank cars should not be considered for aggregate capacity calculations.
 - (3) Do not consider containers that are not connected for use.
 - (4) For the purpose of this manual, "Aggregate Water Capacity" means any group of single ASME storage containers separated from each other by distances less than those stated in the aboveground containers column of Table 6.4.1.1.
 - (5) **This form contains formulas that will automatically calculate results based on the values entered in the related cells. To activate the calculations, click in another number field, such as one in Column C.**

If the aggregate water capacity (w.c.) of the LP-Gas facility is less than or equal to 4,000 gallons, no further assessment is required.

YOU CAN STOP HERE.

Form 5.1
Compliance with Code Requirements for Appurtenances on Containers of
4,000 Gallons Water Capacity or Less

NOT APPLICABLE

A	B	C	D	E
Container #	Service Configuration Subfigure (in Figure 5-1)	Number of Product Control Appurtenances		NFPA 58 Section Reference (2020 edition)
		Required by NFPA 58 (applicable edition)	Installed on the Container	
1				5.9.4.1, Table 5.9.4.1 (B) and 5.9.4.4
2				
3				
4				
5				
6				
7				

If, in Form 5.1, any one of the numbers in column D is less than the number in Column C of the corresponding row, then these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

Form 5.3
Requirements for Transfer Lines of 1½-inch Diameter or Larger,
Liquid-into-Containers
NOT APPLICABLE

A	B	C	D	E	F
Item #	Appurtenance (Either No. 1 or No. 2)**	Appurtenance Provided with the Feature	Installed in the facility?		NFPA 58 Section Reference (2020 edition)
			Yes	No	
1	Emergency shutoff valve (ESV) (Ref § 6.14)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.2
		Automatic shutoff through thermal (fire) actuation element with maximum melting point of 250 °F.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Temperature-sensitive element (fusible link) installed within 5 ft. from the nearest end of the hose or swivel-type piping connected to liquid transfer line.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Manually operated remote shutoff feature provided for ESV.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.1
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV in the path of egress.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.2
		An ESV is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5 and 6.21.2.6 (1)
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
2	Backflow check valve (BCK)**	Installed downstream of the hose or swivel-type connection.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.3
		BCK is designed for this specific application.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.4
		A BCK is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel type connection on one side and to a header of 1½ inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
3	Debris protection ++	Liquid inlet piping is designed or equipped to prevent debris and foreign material from entering the system.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.21.2.5
4	Emergency discharge control	Flow-through facility hose used to transfer LP-Gas from non-metered cargo tank vehicle into containers will stop within 20 seconds of a complete hose separation without human intervention.	<input type="checkbox"/>	<input type="checkbox"/>	6.21.2.6 (3)

** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.14.3, 6.14.4).

++ Retrofit required for existing facilities by July 1, 2011.

Form 5.5
Requirements for Vapor Transfer Lines 1¼-inch Diameter or Larger
NOT APPLICABLE

A	B	C	D	E	F
Item #	Appurtenance	Appurtenance Provided with the Feature	Installed in the facility?		NFPA 58 Section Reference (2020 edition)
			Yes	No	
1	Emergency shutoff valve (ESV) (Ref § 6.14)	Installed within 20 ft. of lineal pipe from the nearest end of the hose or swivel-type connections.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.2
		Automatic shutoff through thermal (fire) actuation element with maximum melting point of 250 °F.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Temperature-sensitive element installed within 5 ft. from the nearest end of the hose or swivel-type piping connected to liquid transfer line.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.6
		Manually operated remote shutoff feature provided for ESV.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.1
		Manual shutoff device provided at a remote location, not less than 25 ft., and not more than 100 ft. from the ESV in the path of egress.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.12.2
		An ESV is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5 and 6.21.2.6 (1)
2	Backflow check valve (BCK)**	Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8
		Installed downstream of the hose or swivel-type connection.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.3
		BCK is designed for this specific application.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.4
		A BCK is installed on each leg of a multi-leg piping each of which is connected to a hose or a swivel-type connection on one side and to a header of 1-1/4 inch in diameter or larger on the other side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.5
		Breakaway protection is provided such that in any pull-away break will occur on the hose or swivel-type connection side while retaining intact the valves and piping on the plant side.	<input type="checkbox"/>	<input type="checkbox"/>	6.14.8

****** In lieu of an emergency shutoff valve, the backflow check valve (BCK) is only permitted when flow is only into the container and it shall have a metal-to-metal seat or a primary resilient seat with metal backup, not hinged with a combustible material (6.14.3, 6.14.4).

If a check mark is made in the "No" column of any one of Form 5.3, Form 5.4 or Form 5.5, then these items must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

If the LP-Gas facility is designed using ALTERNATE PROVISIONS for the installation of ASME CONTAINERS, then continue the analysis below. Otherwise skip Section 5.3 and go to Chapter 6.

If the LP-Gas facility is provided with LOW EMISSION TRANSFER EQUIPMENT, then continue the analysis below. Otherwise skip section 5.3.2 and go to Chapter 6.

Form 5.7
Evaluation of Low Emission Transfer Equipment
NOT APPLICABLE

A	B	C		D			E	F
Item #	Description	Features		Installed in the facility?			NFPA 58 Section Reference (2014 Edition)	
				Yes	No	NA		
1	Transfer into permanently mounted ASME containers on vehicles	Delivery nozzle and filler valve - Max. liquid release after transfer of 4 cm ³ (0.24 in ³)	Fixed maximum liquid level gauge not used during transfer operations	<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.3 (A) and (B)	
2	Transfer into stationary ASME containers delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	Does not exceed 4 cm ³ (0.24 in ³) from a hose of nominal size 1 inch or smaller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (A)	
			Does not exceed 15 cm ³ (0.91 in ³) from a hose of nominal size larger than 1 inch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (B)	
3	Transfer into stationary ASME containers maximum filling limit	Do containers of less than 2,001 gal (w.c.) have an overfilling prevention device or another approved device?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (F)	
		Do containers 2,001 gal (w.c.) or greater have a float gauge or other non-venting device?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (E)	
4	Transfer into stationary ASME containers fixed maximum liquid level gauge	Not used during routine transfer operations but used to calibrate other non-venting liquid level gauges in the container		<input type="checkbox"/>	<input type="checkbox"/>		6.305.4 (C) and (D)	

Note: 1) If the facility does not have a particular feature described in items 2 or 3, check "NA" corresponding to its row.

If separation distance reductions are intended, check marks made in the "No" column of either Form 5.6 or Form 5.7 must be addressed and brought into compliance with the specific edition of NFPA 58 that the facility was constructed to.

Form 6.2

Assessment of Sources of Ignition and Adjacent Combustible Materials

A	B	C		D	E
#	Sources of Ignition and Requirements Pertaining to Adjacent Combustible Materials	Is the Facility compliant?			NFPA 58 Section Reference (2020 Edition)
		Yes	No	NA	
1	Are combustible materials not closer than 10 ft. from each container?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.5.3.3
2	Is a distance at least 20 ft. provided between containers and tanks containing flammable liquids with flash point less than 200 °F (e.g., gasoline, diesel)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.5.3.6
3	Are electrical equipment and wiring installed per Code requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.25.2
4	Is open flame equipment located and used according to Code?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.25.3.1
5	Are ignition control procedures and requirements during liquid transfer operations complied with?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2.3.2
6	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided in the facility?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.29.4.2
7	Is an approved, portable, dry chemical fire extinguisher of minimum capacity 18 lbs. and having a B:C rating provided on each truck or trailer used to transport portable containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.3.5 and 9.4.7
8	Is the prohibition on smoking within the facility premises strictly enforced?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2.3.2 (B) and 9.4.10

Note: Check "NA" in the row of any items that are not applicable.

Form 6.4

Separation Distances between Points of Transfer and other Exposures

A	B		C	D	E	F	G
#	Type of Exposure within or outside the facility boundary		Check if exposure is present	Minimum Distance (ft)	Is the Facility compliant?		NFPA 58 Section Reference (2020 Edition)
					Yes	No	
1	Buildings, mobile homes, recreational vehicles, and modular homes with at least 1-hour fire-rated walls		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>	6.7.2 and Table 6.7.2.1
2	Buildings with other than at least 1-hour fire-rated walls		<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	Building wall openings or pits at or below the level of the point of transfer		N/A	25	<input type="checkbox"/>	<input type="checkbox"/>	
4	Line of adjoining property that can be built upon		<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5	Outdoor places of public assembly, including school yards, athletic fields, and playgrounds		<input checked="" type="checkbox"/>	50	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6	Public ways, including public streets, highways, thoroughfares, and sidewalks	From points of transfer in LP-Gas dispensing stations and at vehicle fuel dispensers	N/A	10	<input type="checkbox"/>	<input type="checkbox"/>	
		From other points of transfer	<input checked="" type="checkbox"/>	25	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7	Driveways		<input checked="" type="checkbox"/>	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8	Mainline railroad track centerlines		N/A	25	<input type="checkbox"/>	<input type="checkbox"/>	
9	Containers other than those being filled		<input checked="" type="checkbox"/>	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10	Flammable and Class II combustible liquid dispensers and the fill connections of containers		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>	
11	Flammable and Class II combustible liquid aboveground containers and filling connections of underground containers		N/A	20	<input type="checkbox"/>	<input type="checkbox"/>	
12	LP-Gas dispensing device located close to a Class I liquid dispensing device		N/A	10	<input type="checkbox"/>	<input type="checkbox"/>	6.27.4.3

NOTE: Place a check mark in column C against an exposure that is present in or around the facility. Fill columns E or F for only those rows for which there is a check mark in column C.

If the facility contains low emission transfer equipment (i.e., all equipment identified in Form 5.7 are installed and are in working order), then the minimum separation distances in column D of Form 6.4 can be reduced to one half of the indicated values.

If the containers in the LP-Gas facility are provided with SPECIAL PROTECTION MEASURES, then continue the analysis below. Otherwise skip Forms 6.5 and 6.6 and go to Form 6.7. Also see Chapter 9.

Form 6.7

Protection Against Vehicular Impact

Note: Validity of this FSA depends upon TRC confirming the information provided below prior to the tank installation.

#	System Protected	Is physical protection provided?		Type of physical protection installed	NFPA 58 Section Reference (2020 Edition)
		Yes	No		
1	Storage containers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Crash Barriers*	6.8.1.2, 6.8.6.1(B), 6.8.6.1(C), 6.11.3.11 and 6.27.3.14
2	Transfer stations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Crash Barriers*	
3	Entryway into plant	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

* 36-inch-high crash-protection barriers (e.g., bollards, guardrails, or jersey barriers).

Form 7.1

Types of Occupancies⁽¹⁾ Near or Surrounding the LP-Gas Facility

Type of Occupancies	Model # from Table 7.1	Hazard Distance ⁽²⁾ (feet)	Is Occupancy located within the hazard distance from the Facility?	
			Yes	No
Assembly Occupancies (Places of worship, Libraries, Theaters and Auditoriums, Food or Drink Bars, Sports Stadiums, Amusement Parks, Transportation Centers, etc., with 50 or more people).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Institutional Occupancies (Elderly Persons Homes or Nursing Homes, Hospitals, Alcohol & Drug Rehabilitation Centers, Prisons).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Educational Occupancies (Elementary Schools, Day Care facilities, etc.).	6a	195	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTES: (1) Different types of occupancies are defined in NFPA 5000.

- (2) Table 7.1 provides a number of scenarios that can result in propane release, and the resulting area exposed, for different ignition mechanisms. Determine the scenarios that are applicable to the facility, for the quantities that can be released, and enter the greatest value from Table 7.1. Use the hose diameters and length that will be used at the facility if they differ from the ones in Table 7.1 and recalculate the hazard distances using a spreadsheet method that is available at npga.org. Some scenarios may not be applicable to an installation because of other mitigation measures implemented, such as a hose management procedure to minimize the possibility of hose failure.

Form 8.1
Data on the Responding Fire Department

A	B	C
Item #	Data Item	Data Entry
1	Name of the Fire Department (FD).	Waterboro Fire Department
2A	Name of the person in the FD assisting with the data acquisition.	Matt Bors
2B	Position of the person in the FD assisting with the data acquisition.	Fire Chief
3A	Date on which FD data was collected.	December 16, 2021
3B	Name of the person collecting the data.	Matt Bors
4	Number of firefighters on duty at any time.	Generally 4 Staff- Min 3
5	Average number of firefighters available for response.	Varies, average = 3.3
6A	Number of firefighters qualified to:	"Firefighter I" level.
6B		"Firefighter II" level.
7A	Number of firefighters who would:	Respond on the first alarm to the facility.
7B		Respond on the first alarm and who are qualified to the operations level requirements of NFPA 472 or <u>similar</u> local requirements.
7C		Respond on the first alarm with specific knowledge and training on the properties of LP-Gas and LP-Gas fires.
8A	Number of fire apparatus that have the capability to deploy a 125 gpm hose line supplied by onboard water for at least 4 minutes, and, which:	Are in service in the department.
8B		Would respond on a first alarm.

Notes:

1. Waterboro FD Chief Bors stated they had firefighters who were qualified for Basic Life Support and Firefighter Level I and II, but did not provide the number of personnel with these qualifications.
2. Waterboro FD has three (3) Engines with a maximum flow rate of 1250 gpm and 1000-gallon water tanks; one (1) Tanker with with a maximum flow rate of 1000 gpm and a 2500-gallon tank; and one (1) Quint.
3. Waterboro FD's response plan assigns two (2) Engines and one (1) Tanker for water supply to respond to fires such as an incident at the Fabian facility.

Form 8.3
Water Flow Rate and Total Water Volume
Required to Cool Containers Exposed to a Fire

A	B	C	D	E	F	G	H
Item #	ASME Container Size (gallons)	Total Surface Area of each Container ¹ (ft ²)	Surface Area of each container to be Cooled (ft2)	Water flow rate required per container (gpm)	Number of containers of the size indicated [‡]	Total Water flow rate required (gpm)	Total volume of water required for 10 min (gal)
1	500	86	43	10.8	0	0.0	
	1,000	172	86	21.5	0	0.0	
	2,000	290	145	36.3	0	0.0	
	4,000	374	187	46.8	0	0.0	
	6,500	570	285	71.3	0	0.0	
	9,200	790	395	98.8	0	0.0	
	12,000	990	495	123.8	0	0.0	
	18,000	1,160	580	145	0	0.0	
	30,000	1,610	805	201.3	1	201.3	
	45,000	2,366	1,183	295.8	0	0.0	
	60,000	3,090	1,545	386.3	0	0.0	
	90,000	4,600	2,300	575	0	0.0	
	Other Size		0	0.0	0	0.0	
2a	Calculated water flow rate for container protection					201.3	
2b	Water flow rate rounded up to nearest multiple of 125					250	
3	Water for firefighter protection, if required <input type="checkbox"/>					0	
4	Total water flow rate and volume					250.0	

Note: Column D = $(1/2) \times$ Column C Column E = $0.25 \text{ (gpm/ft}^2\text{)} \times$ Column D;
Column G = Column F \times Column E Column H = $10 \times$ Column G
Line 2a, Column G and Column H are the sum of numbers in each row above line 2 of each column.
Line 4, Column G and Column H are the sum of numbers in rows 2b and 3.

[‡] Consider only three containers for water supply evaluations even if the number of containers in a group is more than three. See Section 8.2.

¹ ASME container approximate dimensions.

The total water requirement for the facility is indicated in item 4, column G (water flow rate) and column H (total water volume or quantity) of Form 8.3. If multiple groups of containers are present in the facility, repeat the calculations in Form 8.3 for each group of containers. The total water requirement for the facility is the largest value for any single group of containers.

Form 9.1

Analysis Summary on Product Control and Local Conditions of Hazard

A	B	C	D	E §
Item #	Chapter Title	Section & Title	Reference Form #	Number of "No" checked
1	Product Control Measures in Containers & Transfer Piping	5.1 Product Control in Containers	5.1 or 5.2	0
		5.2 Product Control in Transfer Piping	5.3	0
			5.4	0
			5.5	0
			5.6	0
			5.7	0
2	Analysis of Local Conditions of Hazard	6.1 Physical Protection Measures	6.1	0
		6.2 Ignition Source Control	6.2	0
		6.3.1 Separation distances; Container and outside exposures	6.3	0
		6.3.2 Separation distances; Transfer points and outside exposures	6.4	0
		6.4 Special Protection Measures	6.5	0
			6.6	0

§ The number of "No" for Forms from Chapter 5 is the difference between the required number of appurtenances according to NFPA 58-2020, and a lesser number found to be actually installed on the container or the transfer piping.

If, in any row of column E ("No") of Form 9.1, the entry number is greater than zero, the proposed LP-Gas facility is not in compliance with the requirements of NFPA 58-2020 for product control appurtenances or other safety measures. The design of the proposed facility must be modified to conform to the code requirements. In addition, the following items should be noted.

- **If there are any "No" checks in Form 6.3, then the separation distance requirements for containers are not satisfied. An option that may be considered is the reduction in separation distance to 10 feet for underground and mounded containers by providing "Redundant and Fail-Safe Product Control Measures." In this case, complete Form 9.4 below to ensure that each requirement of "Redundant and Fail-Safe Product Control Measures" is provided.**
- **If there are any "No" checks in Form 6.4, then the separation distance requirements for transfer points are not satisfied. In this case, relocate the transfer points so that the separation distances conform to the code requirements or provide the Low Emission Transfer Equipment. Complete Form 9.5 below and ensure that all requirements for Low Emission Transfer Equipment are fulfilled.**

Form 9.3

Analysis Summary on Fire Department Evaluations

A	B	C	D	E	F
Item #	Chapter Title	Section & Title	Reference Form #	Number "zeros" entered in Column C, Lines 6 through 8 of Form 8.1	Number of "Yes" checked in Column C of Form 8.4
1	Fire department capability, adequacy of water supply and Emergency Planning	8.1 Data on the Fire Department	8.1	0	
2		8.2 Fire response water needs and availability	8.4		1

If the entry number in row 1, Column E of Form 9.3 is greater than zero, consider one or more of the following design alternatives: **N/A**

1. Discuss with the local Fire Department the needs of the LP-Gas facility and the evaluation results on the capability and training inadequacies of the Department.
2. Consider developing a cadre of personnel within the LP-Gas facility to respond to emergencies.
3. Institute container special protection system based on active protection approaches or passive approaches. Complete Form 9.6 and Form 9.7 below.

If the entry number in row 2, Column F of Form 9.3 is equal to zero, consider one or more of the following design alternatives: **N/A**

1. Provide special protection (other than water spray or monitor systems) to containers, satisfying the requirements of section 6.29.5 of NFPA 58, 2020 edition. Complete Form 9.6 to ensure compliance.
2. Consider implementing the various options indicated in Table 9.1.

Form 9.5
Evaluation of Low Emission Transfer Equipment
NOT APPLICABLE

A	B	C		D		E	F
Item #	Description	Features		Proposed for the facility?			NFPA 58 Section Reference (2014 Edition)
				Yes	No	NA	
1	Transfer into permanently mounted ASME containers on vehicles	Delivery nozzle and filler valve - Max. liquid release after transfer of 4 cm ³ (0.24 in ³)	Fixed maximum liquid level gauge not used during transfer operations	<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.3 (A) and (B)
2	Transfer into stationary ASME containers delivery valve and nozzle combination	During product transfer or post transfer uncoupling of the hose, liquid product volume released to the atmosphere	Does not exceed 4 cm ³ (0.24 in ³) from a hose of nominal size 1 inch or smaller	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (A)
			Does not exceed 15 cm ³ (0.91 in ³) from a hose of nominal size larger than 1 inch	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (B)
3	Transfer into stationary ASME containers maximum filling limit	Do containers less than 2,001 gal (w.c.) have an overfilling prevention device or another approved device?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.30.5.4 (F)	
		Do containers greater than 2,000 gal (w.c.) have a float gauge or other non-venting device?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.30.5.4 (E)	
4	Transfer into stationary ASME containers fixed maximum liquid level gauge	Not used during routine transfer operations but may be used in calibrating other non-venting liquid level gauges in the container		<input type="checkbox"/>	<input type="checkbox"/>		6.30.5.4 (C) and (D)

Note: If the facility does not have a particular feature described in items 2 or 3, check "NA" in column corresponding to its row.

Equivalent Protection to a Water Supply for Industrial and Bulk Facilities

In the case where water supply is not available in or near the LP-Gas facility, or is inadequate, or it is prohibitively expensive to connect to a public or private water supply hydrant, alternative methods for providing protection should be considered. In lieu of providing a water supply, several alternatives are indicated in Table 9.1, which can offer an equivalency to a water supply system.

The intent of the controls identified in Table 9.1 is to maintain the entire system as a gas-tight entity. These methods include reducing the service life of equipment, increasing the design pressure rating of the system beyond the requirements of NFPA 58, or providing early detection and isolation of the system to ensure product control. This list is not exhaustive and is not ranked in an order of priority.

Table 9.1
Suggested Alternative Methods for Industrial and Bulk Plants
That Do Not Pose a Hazard But Lack a Water Supply

Item #	Possible options to implement when adequate water supply is not available
1	Reduce the service life of hoses.
2	Increase frequency of equipment inspection.
3	Establish a service life program for the maintenance of the container pressure relief devices. This could include the installation of a listed multiple port valve and certifying that the relief devices are properly set and maintained every 5 to 10 years.
4	Increase the design strength of the piping and fitting systems.
5	Install emergency shutoff valves in conjunction with container internal valves.
6	Install emergency shutoff valves downstream of transfer pump outlets and upstream of the vapor and liquid valves at the bulkhead.
7	Install pneumatic tubing along the facility boundary to serve as a perimeter fire detection system. This would provide protection of the facility against exposure fires.
8	Provide optical flame detection or linear heat detection, or a gas detection system connected to an isolation valve installed downstream of every liquid and vapor nozzle on the container. This system could also be monitored to send a signal to an alarm company that notifies the fire department of an event.
9	Increase the separation distances of internal facility exposures to the container. These exposures would include a site dumpster, idle or waste pallets and combustibles, and increasing the parking distances between the bobtails and transports in relation to the container.
10	Relocate overhead power lines away from all container and cylinder storage areas to protect against ignition in the event of a line dropping due to wind or power pole impact.
11	Eliminate all combustible vegetation within 30 feet of the LP-Gas container. This can be accomplished using gravel, or paving the site yard.
12	Install tanks using the mounding or burial method.

Note: Fabian will implement the highlighted alternative methods to reduce fire hazards, although this Fire Safety Analysis does not indicate that additional hazard reduction measures are required or necessary.



Town of Waterboro
Department of Public Works
24 Townhouse Road
E. Waterboro, ME 04030
Jason Champion,
Interim Director of Public Works



February 3, 2022

To: Waterboro Planning Board

From: Jason Champion, Interim Director of Public Works

Re: E23LLC – Fabion Oil Bulk Propane

Upon review of the proposed Bulk Storage Plans and the changes requested by Peter Smith, previous Director of Public Works, I have no further requests for changes beyond what has been presented on the current plans before you for review.

Respectfully Submitted,

Jason Champion
Interim Director of Public Works



Town of Waterboro

Code Enforcement Office

24 Townhouse Road

East Waterboro, Maine 04030

(207) 247-6166 x120

ceo@waterboro-me.gov

February 7, 2022

To: Waterboro Planning Board

From: Michael Gilpatrick, Code Enforcement Officer

Re: E23 LLC – Fabian Oil Bulk Propane Storage & Propane Filling Station

With the most recent amendment to the Zoning Ordinance this is now a Conditional Use allowed in the AR Zone requiring Planning Board approval.

Upon review a thorough application has been submitted. Photographs from some of their other locations have been provided for comparison to what their proposed project will look like. Included in their submission are photographs and measurements to nearest abutter structures. As noted in the submission, there are no abutter structures closer than 225 ft. to the proposed propane storage tank. You will also see on the submission photographs the tank is screened with natural vegetation that will remain intact and the existing storage buildings on site.

I believe the demand for propane products is increasing in this area and this will be an asset to Waterboro citizens.

Thank you,

Mike Gilpatrick, CEO, LPI

Angela Chute

From: Mike Gilpatrick <ceo@waterboro-me.gov>
Sent: Thursday, February 24, 2022 1:45 PM
To: Dwayne.Prescott@legislature.maine.gov
Cc: Lee Jay Feldman; ceosec@waterboro-me.gov
Subject: Fabian 30,000 gallon bulk tank

Good Afternoon,

I spoke with Bruce Bristol of the Maine State Fuel Board who inspects and regulates these types of facilities. You had a concern regarding setbacks from buildings, your concern as I understand it from your visit yesterday was regarding an undeveloped parcel abutting the proposed development. In my conversation with Mr. Bristol I learned that there is a 50' mandatory setback from any structure. The proposed development at the nearest point to the property line in question is 114' which is more than double the required set-back not to mention the required 35' side set back required in the AR zone. So this project will not restrict development anywhere on the adjacent lot. There are many false stigma's regarding the safety of these bulk storage tanks, these installations are heavily regulated by NFPA and inspected many times by the fuel board prior to use and or charging with propane.

If you have any further questions or concerns please feel free to contact me.
Respectfully

Mike Gilpatrick, CEO, BI, LPI
ceo@waterboro-me.gov
Waterboro Code Enforcement Officer
24 Townhouse Road
East Waterboro, ME 04030
OFC: 207-247-6166 x120
FAX: 207-247-3443



WATERBORO FIRE DEPARTMENT

02-03-2022

Waterboro Planning Board
RE: Fabian Oil 1120 Sokokis Trail

We have met with Fabian Oil regarding their proposed bulk propane storage facility at 1120 Sokokis Trail. They have already made a couple small adjustments to access as requested. We support this project with the following conditions which have already been verbally agreed upon.

1. Site specific emergency response training is provided to staff of Waterboro Fire Department upon completion of the project, but before occupancy is granted.
2. As built site plans are provided to the fire department indicating the location of all emergency valve and/or control locations.

Regards,
Captain Michael Fraser
Fire Marshal
Waterboro Fire Department



To: Waterboro Planning Board
From: Lee Jay Feldman, Contract Planner
Date: 2/3/2022
Re: Conditional Use/Site Plan Review-Fabian Fuel AKA E23,LLC

I. Proposal

Fabian is seeking approval to locate a 30,000 gallon bulk propane storage and filling station facility known as Deep Pond Fuels, Sokokis Trail Route 5 North Waterboro.

In order to site this facility, the applicant will also be constructing an extension of the drive access to a cul-da-sac on the rear of the parcel behind the existing structures. The plan also calls for a small tank Bottle filling station on the Northwest portion of the property.

The accessway will be reclaim asphalt while the remaining portion of the service area (which currently exists) will remain compacted gravel. The radius of the cul-da-sac will be large enough to service the current fire department vehicles. This has been reviewed by the fire department and is satisfied with the roadway design. The Staff review on this project also occurred as required and the plan you are reviewing meets all of the changes that have been requested as part of that review.

The applicant has provided photos of other like facilities from around the state and a photo of this facility as it is proposed to be developed. The submittal packet also includes a plan that shows distances of bulk tank to neighboring properties.

II. Completeness

The applicant has not requested any waivers for this submission. I would suggest that this application can be found complete if the Planning Board agrees. In finding the application complete, you can set a date for any site walk and public hearing.

III. Recommendation

Once you have had the Public Hearing you can approve the application depending on the outcome of that meeting with the following conditions:

1. Compliance with all oral and written materials submitted to the board during the review of the project.
2. Site specific emergency response training is provided to staff of Waterboro Fire Department upon completion of the project, but before occupancy is granted.
3. As built site plans are provided to the fire department indicating the location of all emergency valve and/or control locations.



To: Waterboro Planning Board
From: Lee Jay Feldman, Contract Planner
Date: 2/3/2022
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1. Compliance with all oral and written materials submitted to the board during the review of the project.
2. Site specific emergency response training is provided to staff of Waterboro Fire Department upon completion of the project, but before occupancy is granted.
3. As built site plans are provided to the fire department indicating the location of all emergency valve and/or control locations.

Town of Waterboro Public Notice

The Waterboro Planning Board will hold a Public Hearing on an application from E23 LLC / Fabian Oil for proposed bulk storage tank and filling station for small propane tanks. The applicant requests approval for the storage facility located at 1120 Sokokis Trail, N. Waterboro.

To participate in the Public Hearing, the following options are available:

- Send in a letter to the Town of Waterboro Planning Board – 24 Townhouse Rd, E. Waterboro, 04030
- E-mail ceosec@waterboro-me.gov with a letter or to receive information on how to participate via phone or video via Zoom.
- Attend in person at 24 Townhouse Road, E. Waterboro
- Call Town of Waterboro during the Public Hearing at 207-247-6166 ext. 106

Please contact the Department with any questions at ceosec@waterboro-me.gov or 207-247-6166 ext. 121.

Date: Wednesday, March 16, 2022

Time: Public Hearing 6:30PM

Location: 24 Townhouse Road, E. Waterboro

Town of Waterboro Public Notice

The Waterboro Planning Board will hold a Public Hearing on an application from E23 LLC / Fabian Oil for proposed bulk storage tank and filling station for small propane tanks. The applicant requests approval for the storage facility located at 1120 Sokokis Trail, N. Waterboro.

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- Call Town of Waterboro during the Public Hearing at 207-247-6166 ext. 106

Please contact the Department with any questions at ceosec@waterboro-me.gov or 207-247-6166 ext. 121.

Date: Wednesday, March 2, 2022

Time: Public Hearing 6:30PM

Location: 24 Townhouse Road, E. Waterboro



To: Waterboro Planning Board

From: Lee Jay Feldman, Contract Planner

Date: March 22, 2022

Re: Fabian Bulk Propane Facility-Potential Conditions of Approval

1. Any lighting proposed on the site be Full cut-off LED lights All lighting shall be initiated by motion detection
2. All truck activity associated with the bulk storage facility shall occur between the hours of 6 AM and 5 PM unless emergency delivery to clients is required.
3. No more than 4 bobtail trucks and associated delivery tanks shall be stored on an overnight basis at the site at any one time.
4. Trucks filling or unloading at the Bulk tank facility shall operate in a Clockwise manner to minimize light emission on to abutting properties
5. Fabian Oil engage a Civil Engineer to assess the Stormwater runoff in the Hansel Drive area of the property and provide a report to the Planning/Code Office with a plan to address, if necessary, within 3 months of this approval.
6. All appropriate emergency plans be submitted to the Department prior to the tank becoming functional
7. Fabian schedule and provide training to the Fire department on the full system associated with the Propane operation.



WATERBORO FIRE DEPARTMENT

02-03-2022

Waterboro Planning Board
RE: Fabian Oil 1120 Sokokis Trail

We have met with Fabian Oil regarding their proposed bulk propane storage facility at 1120 Sokokis Trail. They have already made a couple small adjustments to access as requested. We support this project with the following conditions which have already been verbally agreed upon.

1. Site specific emergency response training is provided to staff of Waterboro Fire Department upon completion of the project, but before occupancy is granted.
2. As built site plans are provided to the fire department indicating the location of all emergency valve and/or control locations.

Regards,
Captain Michael Fraser
Fire Marshal
Waterboro Fire Department

TOWN OF WATERBORO
PLANNING BOARD

AGENDA
February 16, 2022
6:30p.m.

I. ROLL CALL

II. MINUTES OF PREVIOUS MEETINGS

- January 19, 2022
- February 2, 2022

III. PUBLIC HEARING

IV. OLD BUSINESS

V. NEW BUSINESS

- **Hillel Weisel, Fabian Oil – 1120 Sokokis Trail, N. Waterboro**
 - **Bulk Propane Storage and Filling Station**

VI. COMMUNICATION

VII. MISCELLANEOUS

VIII. ADJOURNMENT

Upcoming Meetings		
March 2, 2022	Planning Board Meeting	6:30pm @Townhall Annex Selectmen's Meeting Room
March 16, 2022	Planning Board Meeting	6:30pm @ Townhall Annex Selectmen's Meeting Room



Town of Waterboro

Code Enforcement Office

24 Townhouse Road

East Waterboro, Maine 04030

(207) 247-6166 x120

ceo@waterboro-me.gov

February 7, 2022

To: Waterboro Planning Board

From: Michael Gilpatrick, Code Enforcement Officer

Re: E23 LLC – Fabian Oil Bulk Propane Storage & Propane Filling Station

With the most recent amendment to the Zoning Ordinance this is now a Conditional Use allowed in the AR Zone requiring Planning Board approval.

Upon review a thorough application has been submitted. Photographs from some of their other locations have been provided for comparison to what their proposed project will look like. Included in their submission are photographs and measurements to nearest abutter structures. As noted in the submission, there are no abutter structures closer than 225 ft. to the proposed propane storage tank. You will also see on the submission photographs the tank is screened with natural vegetation that will remain intact and the existing storage buildings on site.

I believe the demand for propane products is increasing in this area and this will be an asset to Waterboro citizens.

Thank you,

Mike Gilpatrick, CEO, LPI



Town of Waterboro
Department of Public Works
24 Townhouse Road
E. Waterboro, ME 04030
Jason Champion,
Interim Director of Public Works



February 3, 2022

To: Waterboro Planning Board

From: Jason Champion, Interim Director of Public Works

Re: E23LLC – Fabion Oil Bulk Propane

Upon review of the proposed Bulk Storage Plans and the changes requested by Peter Smith, previous Director of Public Works, I have no further requests for changes beyond what has been presented on the current plans before you for review.

Respectfully Submitted,

Jason Champion
Interim Director of Public Works

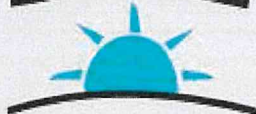


United States
Environmental Protection
Agency

Transportation and Air Quality
Transportation and Regional
Programs Division

EPA420-F-00-039
March 2002
www.epa.gov

SUCCESS STORY



With 4,400 propane-powered vehicles in its on-road fleet, the Texas Department of Transportation (TxDOT) is a leader in the use of alternative fuel vehicles.

Driven in part by a Texas law mandating that all state agencies purchase alternative fuel vehicles, the department has been using propane-powered vehicles since 1992. Today, these vehicles, along with 1,000 vehicles powered by natural gas, comprise more than half of the department's total on-road fleet. Propane vehicles are also popular in Texas because propane is less expensive than gasoline and is manufactured in the state.

For more information, contact Don Lewis of Texas TxDOT at (512) 416-2085.

Clean Alternative Fuels: Propane

One in a series of fact sheets



More than 60 million Americans use propane gas for everything from heating and cooling their homes and businesses to powering their barbecue grills. Propane is also used to fuel more than 350,000 vehicles on our roads today, from taxicabs and school buses to police cars. In fact, with more than 5,000 fueling stations nationwide, propane is the most widely used alternative fuel to date.

Propane (otherwise known as Liquefied Petroleum Gas or LPG) is a byproduct of natural gas processing and petroleum refining. In its natural state, propane is a colorless, nontoxic gas—at least 90 percent propane, 2.5 percent butane and higher hydrocarbons, and the balance ethane and propylene. An odorant is added to the gas so it can be detected for safety reasons. Under moderate pressure, propane gas turns into a liquid mixture, making it easier to transport and store in vehicle fuel tanks. Compared with gasoline, propane can lower carbon dioxide, carbon monoxide, and other toxic emissions.

AVAILABILITY

Propane has been used as a transportation fuel since the 1940s. Today, auto manufacturers offer a variety of light- and medium-duty propane-powered vehicles, primarily used by vehicle fleets. Many of these vehicles have two separate fuel systems, allowing the vehicles to run on either propane or gasoline. Other automobiles can be converted from gasoline to

dual fuel (i.e., propane and gasoline) for between \$1,000 and \$2,000. Conversion typically includes adding a special fuel tank to the vehicle's trunk, which can take

EMISSIONS CHARACTERISTICS*



Actual emissions will vary with engine design; these numbers reflect the potential reductions offered by propane, relative to conventional gasoline.

- Potentially lower toxic, carbon dioxide (CO₂), carbon monoxide (CO), and nonmethane hydrocarbon (NMHC) emissions.
- Rich calibration shows high NMHC and CO emissions, but lower nitrogen oxide (NO_x) emissions.
- Lean calibration shows slightly higher NO_x emissions, but lower CO and NMHC emissions.

* Estimates based on propane's inherently "cleaner" chemical properties with an engine that takes full advantage of these fuel properties.

Propane Fuel Basics

Also known as liquefied petroleum gas (LPG) or propane autogas, propane is a clean-burning alternative fuel that's been used for decades to power light-, medium-, and heavy-duty [propane vehicles](/vehicles/propane.html) (</vehicles/propane.html>).

Propane is a three-carbon alkane gas (C₃H₈). It is stored under pressure inside a tank as a colorless, odorless liquid. As pressure is released, the liquid propane vaporizes and turns into gas that is used in combustion. An odorant, ethyl mercaptan, is added for leak detection. (See [fuel properties](/fuel_properties.php) ([fuel_properties.php](/fuel_properties.php)).)

Propane has a high octane rating, making it an excellent choice for spark-ignited internal combustion engines. **If spilled or released from a vehicle, it presents no threat to soil, surface water, or groundwater.** Propane is [produced](/propane_production.html) ([propane_production.html](/propane_production.html)) as a by-product of natural gas processing and crude oil refining. It accounts for about 2% of the energy used in the United States. Of that, less than 3% is used for transportation. Its main uses include home and water heating, cooking and refrigerating food, clothes drying, and powering farm and industrial equipment. The chemical industry also uses propane as a raw material for making plastics and other compounds.



Propane as an Alternative Fuel

Interest in propane as an alternative transportation fuel stems from its domestic availability, high-energy density, clean-burning qualities, and relatively low cost. It is the world's third most common transportation fuel, behind gasoline and diesel, and is considered an alternative fuel under the [Energy Policy Act of 1992](/laws/key_legislation#epact92) (/laws/key_legislation#epact92).

Propane used in vehicles is specified as HD-5 propane and is a mixture of propane with smaller amounts of other gases. According to the Gas Processors Association's HD-5 specification for propane, it must consist of at least 90% propane, no more than 5% propylene, and 5% other gases, primarily butane and butylene. (See [fuel properties](/fuel_properties.php) ([fuel_properties.php](/fuel_properties.php)).)

For vehicle fueling, the quick-release "Type K15" dispenser connector is required to be installed on all new vehicles beginning January 1, 2020, per National Fire Protection Association Code 58. This connector allows for one-handed fueling and does not require the use of personal protective equipment such as gloves and face shield (which are required for the older style connector).

Propane is stored onboard a vehicle in a tank pressurized to about 150 pounds per square inch—about twice the pressure of an inflated truck tire. Under this pressure, propane becomes a liquid with an energy density 270 times greater than its gaseous form. Propane has a higher octane rating than gasoline, so it can be used with higher engine compression ratios and is more resistant to engine knocking. However, it has a lower British thermal unit rating than gasoline, so it takes more fuel by volume to drive the same distance.

To find the fuel, see [propane fueling station locations](/propane_fueling_station_locations.html) ([propane_locations.html](/propane_fueling_station_locations.html)). For retail fuel prices, see the [Alternative Fuel Price Report](/price_report.html) (/price_report.html).



(<mailto:technicalresponse@icf.com>) **Need project assistance?**

Email the [Technical Response Service](mailto:technicalresponse@icf.com) (<mailto:technicalresponse@icf.com>), or call [800-254-6735](tel:800-254-6735) (<tel:800-254-6735>).

The AFDC is a resource of the U.S. Department of Energy's [Vehicle Technologies Office](https://energy.gov/eere/vehicles/technology-integration) (<https://energy.gov/eere/vehicles/technology-integration>).

[Contacts](/contacts.html) (</contacts.html>) | [Web Site Policies](https://energy.gov/about-us/web-policies) (<https://energy.gov/about-us/web-policies>) | U.S. Department of Energy (<https://energy.gov>) | USA.gov (<https://www.usa.gov>)

Angela Chute

From: Mike Gilpatrick <ceo@waterboro-me.gov>
Sent: Thursday, February 24, 2022 1:45 PM
To: Dwayne.Prescott@legislature.maine.gov
Cc: Lee Jay Feldman; ceosec@waterboro-me.gov
Subject: Fabian 30,000 gallon bulk tank

Good Afternoon,

I spoke with Bruce Bristol of the Maine State Fuel Board who inspects and regulates these types of facilities. You had a concern regarding setbacks from buildings, your concern as I understand it from your visit yesterday was regarding an undeveloped parcel abutting the proposed development. In my conversation with Mr. Bristol I learned that there is a 50' mandatory setback from any structure. The proposed development at the nearest point to the property line in question is 114' which is more than double the required set-back not to mention the required 35' side set back required in the AR zone. So this project will not restrict development anywhere on the adjacent lot. There are many false stigma's regarding the safety of these bulk storage tanks, these installations are heavily regulated by NFPA and inspected many times by the fuel board prior to use and or charging with propane.

If you have any further questions or concerns please feel free to contact me.

Respectfully

Mike Gilpatrick, CEO, BI, LPI

ceo@waterboro-me.gov

Waterboro Code Enforcement Officer

24 Townhouse Road

East Waterboro, ME 04030

OFC: 207-247-6166 x120

FAX: 207-247-3443

TOWN OF WATERBORO
PLANNING BOARD

AGENDA
March 2, 2022
6:30p.m.

I. ROLL CALL

II. MINUTES OF PREVIOUS MEETINGS

III. PUBLIC HEARING

- E23 LLC – Hillel Weisel, Fabian Oil
Bulk Propane Storage

IV. OLD BUSINESS

- E23 LLC – Hillel Weisel, Fabian Oil
Bulk Propane Storage

V. NEW BUSINESS

- Waterboro Safe Storage – Dana Libby
Site Plan Review

VI. COMMUNICATION

VII. MISCELLANEOUS

VIII. ADJOURNMENT

Upcoming Meetings		
March 16, 2022	Planning Board Meeting	6:30pm @ Townhall Annex Selectmen's Meeting Room
April 6, 2022	Planning Board Meeting	6:30pm @ Townhall Annex Selectmen's Meeting Room