



State of Illinois
Office of the State Fire Marshal

Checklist for Documenting UST Compatibility

SUBMIT THIS FORM WITH SUPPORTING DOCUMENTATION ATTACHED.

ALL COMPONENTS MUST BE LISTED IN DETAIL, & COMPATIBILITY DOCUMENTATION MUST CLEARLY IDENTIFY THE COMPONENTS.

Facility where equipment is located:

Facility Number: NEW FACILITY
 Facility Owner: LOVES TRAVEL STOPS
 Facility Name: LOVES TRAVEL STOP #248
 Street Address: 23815 W. BLUFFERD
 City: CHANDLER
 County: WILL

UST Information:

Tank ID Number: T-6
 Tank Material: Steel _____
 FRP ✓
 Single Wall _____ Double Wall ✓
 Tank Volume: 20,000
 Tank Product: B-99

Complete the checklist below, listing compatibility determination, method used and description. **All answers must be "YES" and supported with a sufficient description or supporting documentation** in order for your UST system to demonstrate compatibility with the blended fuel/biofuel product.

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
	NO	YES		
TANK	NO	<u>YES</u>	<u>A/B</u>	<u>XERXES TANKS UL 1316</u>
PIPING (incl. shear valves, flex connectors)	NO	<u>YES</u>		<u>AMERON LCX PIPE FRANKLIN IMPACT + FLEXES</u>
CONTAINMENT SUMPS	NO	<u>YES</u>		<u>BRAVO BR B835X-3934T28BPPSL</u>
PUMPS (STPs/Suction; Dispensers, hoses, nozzles)	NO	<u>YES</u>		<u>FRANKLIN SUB PUMP #1STAPKMU54-VL2.24</u>

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
RELEASE DETECTION EQUIPMENT	NO	YES	B	INCON PRBFE TSP-LL2-125-1 SUMP SENSORS TSP-ULS INTERSTITIAL SENSOR FMP-EIS LINE LEAK DET. TS-ELLO
SPILL PREVENTION EQUIPMENT	NO	YES	A/B	FRANKLIN DEFENDER SPILL # 705 545011C1GKT
OVERFILL PREVENTION EQUIPMENT	NO	YES	A/B	FRANKLIN DEFENDER OVERFILL # 708-592-922
GASKETS & SEALS (Installs after 10/13/18)	NO	YES	B	FRANKLIN STD
JOINT DOPES & ADHESIVES (Installs after 10/13/18)	NO	YES	B	FEDERAL PROCESS E-SEAL


Methods:

- A. Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- B. Equipment or manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility, specify the range of biofuel blends the component is compatible with, and be from the equipment or component manufacturer

Note: Owners and operators may find American Petroleum Institute's Recommended Practice 1626, *Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations*, useful in complying with the compatibility requirements.

In order to be in compliance with the 2015 federal UST regulation compatibility requirements for storing biofuels, you must keep documentation of compatibility of the UST system components listed on this page as long as you store the fuel.

For your records, you should update this checklist each time you repair or replace components of your UST system to ensure you have all the required compatibility documentation while storing biofuels.

Checklist Completed By: print name: CHRIS EPKWS date completed: 4/19/20
signature:  position/title: PROT MGR

April 21, 2020

Chris Epkins
Operations Assistant
Illinois Oil Marketing Equipment

RE: Fuel Compatibility

This letter is in reference to the following site:

Love's Travel Stop #768
23815 W. Bluff Rd.
Channahon, IL 60410

Parts and equipment listed are to have been manufactured within calendar year of this letter.

This letter affirms that the list of referenced equipment below is compatible with the following fuels:

Bio Diesel up to 5% B5
Bio Diesel up to 20% B20
Bio Diesel at 97%-100% B99/B100
All ASTM Biofuel blends

Compatible equipment/models:

Defender Series Spill Containment both single and double wall models, specifically part numbers ranges of 705545XXX and 705555XXX.

Sincerely



Loren Swalheim
Director, Global Technical Services
Franklin Fueling System

April 21, 2020

Chris Ekins
Operations Assistant
Illinois Oil Marketing Equipment

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Bio Diesel up to 20% B20
Bio Diesel at 97%-100% B99/B100
All ASTM Biofuel blends

Compatible equipment/models:

AGB Models of Defender Series Overfill Prevention valve
708591921,708591922, 708592921,708592922, 708594901.

Sincerely



Loren Swalheim
Director, Global Technical Services
Franklin Fueling System

April 21, 2020

Chris Epkins
Operations Assistant
Illinois Oil Marketing Equipment

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Bio Diesel up to 20% B20
Bio Diesel at 97%-100% B99/B100
All ASTM Biofuel blends

Compatible equipment/models:

TSP-LL2-XXX-I (using TSP-SSP Float Only)
FMP-LL3-XXX-I (using TSP-SSP Float Only)
TSP-ULS-C
TSP- DIS, FMP-DIS, FMP-DIS-U (dry interstitial applications only)
TSP-EIS, FMP-EIS, FMP-EIS-U (dry interstitial applications only)

Sincerely



Loren Swalheim



Director, Global Technical Services
Franklin Fueling System



**FEDERAL PROCESS
CORPORATION**



Waylon Barnes
HFA
1705 S. Walton Street Blvd., Suite 3
Bentonville
AR 72712

May 31 2018

Gasolia® E-Seal

We wish to confirm that Gasolia® E-Seal should be compatible with Bio-diesel 100 or
Biodiesel 99.9.

Graham Reed
Federal Process Corporation
4520 Richmond Road
Cleveland, Ohio 44128
Email: greed@federalprocess.com
Phone Direct: 216 364 0569
Phone: 216 464 6440 Ext. 2242

LIMITED WARRANTY

Underground Petroleum Storage Tanks

Xerxes Corporation ("Xerxes") warrants to owner ("Owner") that our underground petroleum storage tanks, if installed, used, and maintained in the United States or Canada in accordance with Xerxes' published specifications, installation instructions and operating guidelines, applicable supplemental materials, all applicable laws and regulations, and limited to storage of the products listed below at ambient temperatures or fuel oils, used in oil burning equipment, at temperatures not to exceed 150°F (65° C):

- 1) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to natural external corrosion.
- 2) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to internal corrosion, provided the tank is used solely, with or without tank water bottoms, to store the following products:
 - a. gasoline, jet fuel, aviation fuels, motor oils, motor vehicle waste oils, kerosene, diesel fuel, or fuel oils
 - gasoline with up to 20%, by volume, of methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), or tertiary amyl ethyl ether (TAEF)
 - b. gasoline and ethanol blended motor fuels (per applicable ASTM fuel standards)
 - E10 (90% gasoline and 10% ethanol)
 - E15 (85% gasoline and 15% ethanol)
 - E85 (85% ethanol and 15% gasoline)
 - other ethanol blends up to and including 100% ethanol
 - c. gasoline and methanol blended motor fuels (per applicable ASTM fuel standards)
 - M85 (85% methanol and 15% gasoline)
 - other methanol blends up to and including 100% methanol
 - Oxinol-50 waiver (90.5% gasoline and 9.5% Oxinol-50 comprised of a 4.75% methanol and 4.75% gasoline-grade tertiary butyl alcohol (GTBA) mixture)
 - Dupont EPA waiver (gasoline with 5% methanol and a minimum of 2.5% cosolvent – the blend may contain a maximum concentration of up to 3.7%, by weight, oxygen in the final fuel)
 - d. biodiesel fuel blends up to 100% biodiesel (per applicable ASTM fuel standards)
- 3) Will not fail for a period of thirty (30) years from date of original delivery by Xerxes due to structural failure (defined as spontaneous breaking or collapse caused by material defects in materials or workmanship).
- 4) Will meet Xerxes' published specifications and will be free of material defects in materials and workmanship for a period of one (1) year following the date of original delivery by Xerxes.

Xerxes warrants to Owner that all Xerxes-manufactured tank accessories, if installed, used and maintained in Canada or the United States in accordance with Xerxes' published specifications, installation instructions and operating guidelines, applicable supplemental materials, and all applicable laws and regulations, will be free of material defects in materials and workmanship for a period of one (1) year following the date of original delivery by Xerxes.

If any tank or accessory is to be removed from an installation, moved and reinstalled at Owner's new location and is intended for active service at the new location, the tank and accessories must be recertified by Xerxes to continue the balance of the limited warranty as originally extended.

The foregoing limited warranty does not extend to tanks or accessories ("individually and collectively Goods") damaged due to acts of God, war, terrorism, or failure of Goods caused, in whole or in part, by misuse, unlawful use, improper installation, storage, servicing or maintenance, or operation in excess of their rated capacity or contrary to their recommended use, whether intentional or otherwise, or any other cause or damage of any kind not the fault of Xerxes. Xerxes only warrants repairs or alterations performed by Xerxes or its authorized contractors performing work authorized in advance, in writing, by Xerxes. Xerxes does not warrant any product, components or parts manufactured by others. All consumable components including but not limited to o-rings and gaskets are excluded from this limited warranty.

Owner's sole and exclusive remedy for breach of warranty is limited at Xerxes' option to: (a) repair of the defective tank or accessory, (b) delivery of a replacement tank or accessory to the point of original delivery, or (c) refund of the original purchase price. No warranty claim will be considered without removing the tank and any accessory from the ground if Xerxes deems it necessary to evaluate a warranty claim. In the event of a breach of warranty claim, a claimant must give Xerxes the opportunity to observe and inspect the installation prior to the removal of any backfill below the tank top, and the removal of the tank and any accessory from the ground, or the claim will be forever barred. All claims must be made in writing within one (1) year after tank or accessory failure or be forever barred. ALL RIGHTS, OBLIGATIONS AND CLAIMS UNDER THIS LIMITED WARRANTY SHALL BE EXCLUSIVELY MADE AND DETERMINED IN THE COURTS OF, AND GOVERNED BY THE LAWS OF, THE STATE OF MINNESOTA, U.S.A., EXCLUDING ITS CONFLICT OF LAW PRINCIPLES.

THE FOREGOING WARRANTY CONSTITUTES XERXES' EXCLUSIVE OBLIGATION AND XERXES MAKES NO OTHER WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE GOODS, OR ANY SERVICE, ADVICE, OR CONSULTATION, IF ANY, FURNISHED TO OWNER BY XERXES OR ITS REPRESENTATIVES, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. THE SELLER (XERXES) UNDERTAKES NO RESPONSIBILITY FOR THE QUALITY OF THE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THIS CONTRACT. THE SELLER (XERXES) ASSUMES NO RESPONSIBILITY THAT THE GOODS WILL BE FIT FOR ANY PARTICULAR PURPOSE FOR WHICH YOU (OWNER) MAY BE BUYING THESE GOODS, EXCEPT AS OTHERWISE PROVIDED IN THE CONTRACT. THE REMEDIES SET FORTH IN THE ABOVE WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON OR ENTITY FOR BREACH OF WARRANTY OR FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION ON THE PART OF XERXES. XERXES SHALL HAVE NO LIABILITY OR OBLIGATION TO ANY PERSON OR ENTITY FOR BREACH OF ANY OTHER COVENANT, DUTY, OR OBLIGATION UNDER THIS WARRANTY EXCEPT AS EXPRESSLY SET FORTH HEREIN. IT IS EXPRESSLY AGREED THAT THIS WARRANTY DOES NOT FAIL OF ITS ESSENTIAL PURPOSE. XERXES SHALL HAVE NO LIABILITY FOR COSTS OF INSTALLATION OR REMOVAL OF GOODS, ENVIRONMENTAL CONTAMINATION, FIRES, EXPLOSIONS, OR ANY OTHER CONSEQUENCES ALLEGEDLY ATTRIBUTABLE TO A BREACH OF WARRANTY, OR INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR OTHER DAMAGES OF ANY DESCRIPTION, WHETHER ANY SUCH CLAIM OR DAMAGES BE BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE. IN NO EVENT SHALL XERXES' TOTAL LIABILITY HEREUNDER EXCEED THE ORIGINAL PURCHASE PRICE OF THE GOODS WHICH GAVE RISE TO SUCH LIABILITY.

Consumer Notice: This warranty gives you (Owner) specific legal rights. You (Owner) may also have other rights which vary from state to state.

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Xerxes® is a trademark of Xerxes Corporation
ASTM® and ASTM INTERNATIONAL® are trademarks of the American Society for Testing and Materials.

Effective: May 1, 2019

XERXES
CORPORATION

Dualoy® 3000/LCX Product Data

Applications

Rigid fiberglass coaxial fuel handling systems requiring Underwriters Laboratories Listing for integral primary and containment piping conveying the following fuels:

- Motor Vehicle (MV)
- Aviation and Marine A&M)
- High Blend (HB)
- Bio-Diesel
- Concentrated (CT)
- Diesel Exhaust Fluid

Description

Dualoy 3000/LCX rigid fiberglass coaxial piping is a cost-effective solution for contained piping systems. LCX is used for product delivery lines in underground fuel handling systems to convey fuel from the tank to the dispensers. Dualoy 3000/LCX pipe is UL Listed for use with motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels. Based on currently known tests, NOV Fiber Glass Systems found this product to be suitable for conveying all blends of biodiesel and ethanol type fuels and the conveyance of DEF.

The LCX pipe is manufactured as an integral unit. The primary is made of chemically inert, non-permeable, fiberglass reinforced epoxy resin which is inherently resistant to deterioration due to water and microbial attack. This layer is covered with a porous layer to provide the small volume interstitial space, which facilitates rapid leak detection. Then, the containment layer, comprised of the same material as the primary, is wound over the primary and porous layers.

The containment system is installed with custom designed clamshell containment fittings. Both the primary and containment systems are bonded for long-term, reliable performance.

- Dualoy 3000/LCX containment fittings are typically bolted in place while the adhesive cures.
- Dualoy 3000/LCX reduces installation and inspection time dramatically, retaining system integrity.
- Dualoy 3000/LCX double wall design significantly improves impact resistance over single wall pipe.
- Dualoy 3000/LCX systems provide true double wall design which permits rapid communication through the interstice.

Listings and Approvals

The rigid fiberglass piping used in Dualoy 3000/LCX is Listed in the United States with Underwriters Laboratories for nonmetallic underground piping for MV, HB, CT and A&M fuels under File No. MH9162. Dualoy 3000/LCX pipe and fittings are also Listed with Underwriters Laboratories of Canada for Petroleum Products and Oxygenated Fuels (File CMH715). Underwriters Laboratories has also approved Dualoy 3000/L and Dualoy 3000/LCX for use with MTBE fluids.

Performance

Primary operating pressures to 200 psig (13.8 bar)

Continuous operating temperature to 150°F (66°C)

Containment system pressures to 50 psig (3.45 bar)

Individual system components may not have the same ratings as the pipe. Refer to the detailed product information for the specific components to determine the pressure rating for the system as a whole.

Composition

Primary pipe: Filament-wound fiberglass reinforced epoxy pipe with integral epoxy liner. When classified in accordance with ASTM D2310 and ASTM D2996, the pipe meets the following cell limits: RTRP 11CF1-5420.

Pipe containment: Filament-wound fiberglass reinforced epoxy pipe.

Interstitial space: Dry, graded glass beads secured in place with adhesive backed tape.

Fittings: Compression molded or filament-wound fiberglass reinforced epoxy primary fittings. Containment fittings are molded.

Adhesive: PSX™ •20 or PSX™ •34 ambient-cure, two-part epoxy for all services (including alcohols and MTBE).

Joining System Primary:

Bell and spigot taper/taper adhesive-bonded joint

Containment:

Adhesive-bonded clamshell fittings. Parts are compression molded for exact fit and match. Material is identical to primary fittings and is UL Listed for all services, including use in MTBE fluids.

Pipe Lengths

Standard 20 ft. (6.1 m) random lengths 17 to 21 ft. (5.2 to 6.4 m) and 30 ft. (9.1 m) random lengths 27 to 32 ft. (8.2 to 9.7 m)

Other lengths up to 42 ft. (12.8 m) available upon request.

Fittings

Primary	Adapters: bell x NPT male ⁽¹⁾ Adapters: bell x NPT female ⁽²⁾ Adapters: spigot x NPT female ⁽²⁾ Adapters: spigot x NPT male ⁽²⁾ 45° elbows ⁽¹⁾ 90° elbows ⁽¹⁾ End caps ⁽¹⁾ Flange rings ⁽¹⁾	Flange stub ends ⁽¹⁾ Isolation bushings ⁽¹⁾ Nipples ⁽²⁾ Reducer bushings ⁽¹⁾ Repair couplings ⁽¹⁾ Sleeve couplings ⁽²⁾ Tees ⁽¹⁾ Dispenser pan penetration fittings ⁽¹⁾
Containment	45° elbows ⁽¹⁾ 90° elbows ⁽¹⁾ Termination sleeves ^{(1), (3)}	Couplings ⁽¹⁾ Tees ⁽¹⁾

⁽¹⁾ Molded fitting

⁽²⁾ Filament-wound fitting

⁽³⁾ 2" (50 mm) available with or without test valve. 3" and 4" (80 and 100 mm) available only with test valve

Typical Pipe Dimensions and Weights

Pipe Size		Primary Pipe ID		Primary Pipe OD ⁽¹⁾		Primary Wall Thickness		Containment OD		Capacity		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	gal/ft	l/m	lb/ft	kg/m
2	50	2.21	56	2.37	60	0.080	2.03	2.59	66	0.20	0.76	0.90	1.34
3	80	3.32	84	3.50	89	0.085	2.16	3.70	94	0.45	1.70	1.30	1.93
4	100	4.33	110	4.50	114	0.087	2.21	4.70	119	0.77	2.92	1.74	2.59

⁽¹⁾ Typical outside diameters of 2"-4" (50 -100 mm) pipe are within API, ASTM and ANSI fiberglass and steel pipe dimensions.

Typical Primary Pipe Performance

Pipe Size		Pressure Rating ⁽¹⁾		Ultimate Internal Pressure ⁽¹⁾		Ultimate Collapse Pressure ⁽²⁾	
in	mm	psig	MPa	psig	MPa	psig	MPa
2	50	200	2.07	1500	10.3	153	1.05
3	80	200	1.38	1000	6.9	90	0.62
4	100	175	1.21	750	5.2	39	0.27

⁽¹⁾ At 80°F (27°C)

⁽²⁾ At 80°F (27°C) For continuous service do not exceed 75% of these values.

Fittings Pressure Performance

Pipe Size		Primary All Fittings		Containment Clamshell Fittings	
in	mm	psig	MPa	psig	kPa
2	50	200	1.38	50 ⁽¹⁾	345
3	80	125	0.86	50 ⁽¹⁾	345
4	100	100	0.69	20	138

⁽¹⁾ With reinforcing rings

For dimensions of primary fittings, consult Dualoy 3000/L Fittings Dimensions document. Pressure ratings of fittings without UL Listing are available on request.

Dualoy 3000/LCX piping systems are designed to function at temperatures ranging from -40 to 150°F (-40 to 66°C) at service pressures between -1 and 13.8 bar. Dualoy 3000/LCX pipe conforms to ASTM D2310, D2517 and D2996.

Typical Physical Properties of Primary Pipe			
Pipe Property	Units	Value	ASTM
Thermal conductivity	Btu-in/(h•ft ² •°F)	1.7	C177
	W/m•°C	7.6	
Linear thermal expansion	10 ⁻⁶ in/in/°F	8.5	D696
	10 ⁻⁶ cm/cm/°C	15.3	
Friction factor	Hazen-Williams	150.0	—
Absolute roughness	10 ⁻⁶ ft	15.0	—
	10 ⁻⁶ m	4.6	
Specific gravity	—	1.81	D792
Barcol Hardness	Impressor 934-1	65.0	D2583

Typical Mechanical Properties of Primary Pipe			
Pipe Property ⁽¹⁾	Units	Value ⁽¹⁾	ASTM
Tensile strength Longitudinal	10 ³ psi MPa	35.0	D2105
		241.0	
Circumferential	10 ³ psi MPa	70.0	D1599
		483.0	
Tensile modulus Longitudinal	10 ⁶ psi GPa	2.5	D2105
		17.2	
Circumferential	10 ⁶ psi GPa	3.8	FGSTM
		26.2	
Compressive strength Longitudinal	10 ³ psi MPa	24.5	FGSTM
		168.9	
Compressive modulus Longitudinal	10 ⁶ psi GPa	2.6	FGSTM
		17.8	
Cyclic	10 ³ psi MPa	8.0	D2992(A)
		55.0	
Poisson's Ratio ⁽²⁾	—	0.16	FGSTM
		0.17	FGSTM

⁽¹⁾ Based on structural wall thickness.

⁽²⁾ The first subscript denotes the direction of applied stress and the second that of measured contraction
 x denotes longitudinal direction.
 y denotes circumferential direction.

Bending Radius						
Pipe Size		Minimum Bending Radius ⁽¹⁾		Maximum Deflection per 20 ft Joint	Minimum Length Required for 10° Change	
in	mm	ft	m	deg	ft	m
2	50	75	23	15	13	4
3	80	100	38	9	22	7
4	100	150	46	7.5	27	8

⁽¹⁾ At rated pressure. Sharper bends may create excessive stress concentrations. Do not bend pipe until adhesive has cured.

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Dubai, UAE
Phone: 971 4881 3566

Afton OTR 8843G & OTR 8332G

Manufacturer's Affirmative Statement of Compatibility
 (As required by California Code of Regulations section 2631(k))

Manufacturer(s) (including prior marketed names)	Model	Component Type (i.e. pipe, tank, etc.)	Current UL Standard Listing	Years of Manufacture	Sizes	Unique Identifiers for Field Evaluation (i.e. color, material)	Blend Concentration	Supporting Test Data & Documents Attached
Bravo	F-Series	Entry fitting	MH29867	2006-Present	All	olive-grey	1-100	Yes
Bravo	F-Series Retrofit-S	Retrofit entry fitting	MH29867	2010-Present	All	olive-grey	1-100	Yes
Bravo	F-Series Retrofit D-BLR-S	Retrofit entry fitting	3rd Party	2009-Present	All	olive-grey	1-100	Yes
Bravo	F-Series Retrofit D-INR-S	Retrofit entry fitting	3rd Party	2012-Present	All	olive-grey	1-100	Yes
Bravo	FR-Series Reducers	Test reducer	MH29867	2010-Present	All	olive-grey	1-100	Yes
Bravo	B-500 Series	Cont. sump	MH29867	2003-Present	All	olive-grey	1-100	Yes

(Insert a company logo below if available)

Manufacturer: Bravo (S. Bravo Systems, Inc.)
 Corporate
 Headquarters 2929 Vail Ave, Commerce, CA
 Address:
 Phone: 323-888-4133
 Email: compatibility@sbravo.com



I declare, to the best of my knowledge and belief, that this affirmative statement of compatibility and the information contained herein is true, correct, and complete.

Jonathan E. Smith
 Print Name
 Director
 Title
 Signature
 Manufacturer's Authorized Signature
 10-21-14
 Date



Tuesday - August 30 - 2011

R2 1.18.12

RE: Bravo Fiberglass Fittings and Alternative fuels

This letter is to certify the compatibility of S. Bravo Systems, Inc. Single and Double Wall Fiberglass Sump Entry Fittings with Alternative Fuels such as Biodiesel and Ethanol blended fuels. It also addresses compatibility with DEF Diesel Exhaust Fluid.

Bravo Systems Fiberglass Fittings are engineered with the same UL Listed materials used in the manufacture and certification of Fiberglass Tanks, matching the UL Standard 1316. Since our Fiberglass Fittings are Built like a Tank, they can withstand continuous fuel exposure to, or submersion in Biodiesel, Ethanol and Alcohol blends without failure.

All Fiberglass Fittings designed for DoubleWall Sumps are engineered to be fully compliant with the California State Water Resource Control Board Assembly Bill AB-2481 for DoubleWall Sumps and Continuous Monitoring Systems.

The following Single and Double Wall Fiberglass Fittings manufactured by Bravo Systems in Commerce, California are compatible with Biodiesel and Ethanol fuel blends up to B100 and E100, respectively.

- > **F-Series** "Full Body" Fiberglass Fittings.
- > **FF-Series** "Flange" Fiberglass Fittings.
- > **FPE-Series** Fiberglass Fittings for Polyethylene pipe.
- > **FR-Series** Fiberglass Split Test Reducers.
- > **F-Series Retrofit-S** Fiberglass Split Retrofit Fittings.
- > **FPE-Retrofit-Si** Fiberglass Split Retrofit Fittings for Polyethylene pipe.
- > **F-Series BLR** "Full Body" Fiberglass Retrofit Fittings.
- > **F-Series D-BLR-S** Fiberglass Split Retrofit Fittings.
- > **TBF-Series** Fiberglass Tank Bung Fittings.

Bravo Systems also certifies that these fittings are compatible with and approved for use in secondarily containing DEF Diesel Exhaust Fluid.

This letter also addresses any fittings above sold under an OEM agreement.

Each respective Series may be UL Listed in addition to being manufactured of UL recognized materials approved for use in the manufacture of Fiberglass UST tanks. Please visit www.sbravo.com/thirdparty to find associated information.

Please feel free to contact us with any questions you may have at:

S. Bravo Systems, Inc.
2929 Vail Avenue
Commerce, CA 90040
323-888-4133
compatibility@sbravo.com

Additionally, you may find further information at www.sbravo.com.

Sincerely,

Jonathan E. Smith
Director of Brand Management
S. Bravo Systems, Inc.

S. Bravo Systems, Inc.

2929 Vail Avenue
Commerce,
CA 90040

1-800-AT-BRAVO

FAX: 323-888-4123

Email:
info@sbravo.com

Website:
www.sbravo.com



Wednesday - August 25 - 2010

R2 5.16.12

RE: Bravo Fiberglass Sumps and Alternative fuels

This letter is to certify the compatibility of S. Bravo Systems, Inc. Single and Double Wall Fiberglass Containment Sumps with Alternative Fuels such as Biodiesel and Ethanol blended fuels. It also addresses compatibility with DEF Diesel Exhaust Fluid.

Bravo Systems Fiberglass products are engineered with the same UL Listed materials used in the manufacture and certification of Fiberglass Tanks, matching the UL Standard 1316. Since our Fiberglass containment sumps are Built like a Tank, they can withstand continuous fuel exposure to Biodiesel, Ethanol and Alcohol blends without failure.

All DoubleWall Containment Sumps are engineered to be fully compliant with the California State Water Resource Control Board Assembly Bill AB-2481 for DoubleWall Sumps and Continuous Monitoring Systems.

The following Single and Double Wall Containment Sumps manufactured by Bravo Systems in Commerce, California are compatible with Biodiesel and Ethanol fuel blends up to B100 and E100, respectively.

- > B3XX Series Spill Buckets
- > B4XX Series Tank Sumps & Covers
- > B5XX Series Planter Transition Sumps
- > B6XX Series Walkover Transition Sumps
- > B7XX Series H-20 Rated Transition Sumps
- > B8XX Series Transition Sumps
- > B7XXX Series Under Dispenser Containment Sumps
- > B8XXX Series Under Dispenser Containment Sumps
- > B9XXX Series Under Dispenser Containment Sumps

Bravo Systems also certifies that these fittings are compatible with and approved for use in secondarily containing DEF Diesel Exhaust Fluid.

Each respective Series may be UL Listed in addition to being manufactured of UL recognized materials approved for use in the manufacture of Fiberglass UST tanks. Please visit www.sbravo.com/thirdparty to find associated information.

Please feel free to contact us with any questions you may have at:

S. Bravo Systems, Inc.
2929 Vail Avenue
Commerce, CA 90040
323-888-4133
compatibility@sbravo.com

Additionally, you may find further information at www.sbravo.com.

Sincerely,

Jonathan E. Smith
Director of Brand Management
S. Bravo Systems, Inc.

S. Bravo Systems, Inc.

2929 Vail Avenue
Commerce,
CA 90040

1-800-AT-BRAVO

FAX: 323-888-4123

Email:
info@sbravo.com

Website:
www.sbravo.com

Certificate of Compliance

Certificate Number **20101221 – MH29867E**
Report Reference **MH29867, 2009 February 03**
Issue Date **2010 December 21**

Page 1 of 1



**Underwriters
Laboratories Inc.®**

Issued to: **S BRAVO SYSTEMS INC**

**2929 VAIL AVE
COMMERCE, CA 90040 USA**

*This is to certify that
representative samples of*

Flammable and Combustible Liquid Tank Accessories

Model Descriptions: Models F-10-RR, F-10-SS, F-17-RR, F-17-SS, F-20-LL, F-22-LS, F-22-LS-T, F-30-LL, F-30-SS, F-32-TS, F-32-TS-T, F-33-LS, F-33-LS-T, F-40-SS, F-43-TS and F-43-TS-T fiberglass reinforced plastic sump penetration fittings.

*Have been investigated by Underwriters Laboratories Inc.® in accordance
with the Standard(s) indicated on this Certificate.*


Standard(s) for Safety:

**The basic standard used to investigate products in this category is
UL Subject 2258, "Outline of Investigation for Nonmetallic Tanks for Oil Burner
Fuel."**

Additional Information:

See UL On-line Certification Directory at www.ul.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney

Director, North American Certification Programs

Underwriters Laboratories Inc.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>

Certificate of Compliance

Certificate Number 20101221 - MH29867E
Report Reference MH29867, 2009 February 03
Issue Date 2010 December 21

Page 1 of 1



Issued to: **S BRAVO SYSTEMS INC**
2929 VAIL AVE
COMMERCE, CA 90040 USA

This is to certify that representative samples of

Flammable and Combustible Liquid Tank Accessories


Model Descriptions: Models F-10-RR, F-10-SS, F-17-RR, F-17-SS, F-20-LL, F-22-LS, F-22-LS-T, F-30-LL, F-30-SS, F-32-TS, F-32-TS-T, F-33-LS, F-33-LS-T, F-40-SS, F-43-TS and F-43-TS-T fiberglass reinforced plastic sump penetration fittings.

Have been investigated by Underwriters Laboratories of Canada in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: **The basic standard used to investigate products in this category is ULC-S631-1984, "Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems."**

Additional Information: **See UL On-line Certification Directory at www.ul.com for additional information.**

Only those products bearing the ULC Listing Mark should be considered as being covered by ULC's Listing and Follow-Up Service.

The ULC Listing Mark generally includes the following elements: the symbol ULC in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by ULC; and the product category name (product identifier) as indicated in the appropriate ULC Directory.

To confirm the current status, validate the above information via the on-line directory.

Look for the ULC Listing Mark on the product

Issued by:

James Larin, Customer Service Professional
Underwriters Laboratories of Canada

Reviewed by:

William R. Carney, Director, North American
Underwriters Laboratories of Canada

Certificate of Compliance

Certificate Number 20101221 – MH29867C
Report Reference MH29867, 2005 March 17
Issue Date 2010 December 21

Page 1 of 1



Issued to: **S BRAVO SYSTEMS INC**

**2929 VAIL AVE
COMMERCE, CA 90040 USA**

*This is to certify that
representative samples of*

Flammable and Combustible Liquid Tank Accessories

Model Descriptions: Models B-4000, B-5000, B8000, B8000-B and B-9000 single wall fiberglass reinforced plastic dispenser sumps with emergency valve mounting systems.

Models B-4000-D-AB, B-5000-D-AB, B-8000-BD-AB and B-9000-D-AB double wall, monitorable fiberglass reinforced plastic dispenser sumps with emergency valve mounting systems.

Model B-500-JP and B-600-JP single wall fiberglass reinforced plastic transition sump.

Models B-500-D-AB JP and B-600-D-AB double wall, monitorable fiberglass reinforced plastic transition sumps.

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety:

The basic standard used to investigate products in this category is UL Subject 2258, "Outline of Investigation for Nonmetallic Tanks for Oil Burner Fuel."

Additional Information:

See UL On-line Certification Directory at www.ul.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney

Director, North American Certification Programs

Underwriters Laboratories Inc.

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For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>

Certificate of Compliance

Certificate Number **20101221 – MH29867D**
Report Reference **MH29867, 2008 November 19**
Issue Date **2010 December 21**

Page 1 of 1



Issued to: **S BRAVO SYSTEMS INC**

**2929 VAIL AVE
COMMERCE, CA 90040 USA**

*This is to certify that
representative samples of*

Flammable and Combustible Liquid Tank Accessories

Model Descriptions: Models B-7000, B-7000-EO, B8000 and B-9000 single wall fiberglass reinforced plastic dispenser sumps with mounting frames.

Model B-500-JP and B-600-JP single wall fiberglass reinforced plastic transition sump.

Standard(s) for Safety:


Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.

The basic standard used to investigate products in this category is UL Subject 2258, "Outline of Investigation for Nonmetallic Tanks for Oil Burner Fuel."

Additional Information:

See UL On-line Certification Directory at www.ul.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney

Director, North American Certification Programs

Underwriters Laboratories Inc.

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Certificate of Compliance

Certificate Number 20101221 - MH29867D
Report Reference MH29867, 2008 November 19
Issue Date 2010 December 21

Page 1 of 1



Issued to: S BRAVO SYSTEMS INC
2929 VAIL AVE
COMMERCE, CA 90040 USA

This is to certify that representative samples of


Flammable and Combustible Liquid Tank Accessories
Model Descriptions: Models B-7000, B-7000-EO, B8000 and B-9000 single wall fiberglass reinforced plastic dispenser sumps with mounting frames.
Model B-500-JP and B-600-JP single wall fiberglass reinforced plastic transition sump.

Have been investigated by Underwriters Laboratories of Canada in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: The basic standard used to investigate products in this category is ULC-S631-1984, "Isolating Bushings for Steel Underground Tanks Protected with External Corrosion Protection Systems."

Additional Information: See UL On-line Certification Directory at www.ul.com for additional information.

Only those products bearing the ULC Listing Mark should be considered as being covered by ULC's Listing and Follow-Up Service.

The ULC Listing Mark generally includes the following elements: the symbol ULC in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by ULC; and the product category name (product identifier) as indicated in the appropriate ULC Directory.

To confirm the current status, validate the above information via the on-line directory.

Look for the ULC Listing Mark on the product

Issued by:

James Larin, Customer Service Professional
Underwriters Laboratories of Canada

Reviewed by:

William R. Carney, Director, North American
Underwriters Laboratories of Canada

June 13, 2019

To Whom It May Concern

Ref: Submersible Turbine Pump Compatibility

FE Petro branded Submersible Turbine Pump manufactured by Franklin Fueling Systems include product options of Alcohol-Grade (AG) and Advanced Protection (AP) that are currently UL listed for use with diesel fuels containing up to 20% biodiesel content (up to and including B20), and for use with 100% biodiesel (B100) as defined by the applicable standards (UL79A & UL79B). The AG and AP product options are designated by FE Petro model numbers STPAG, STPAP, IST or ISTAP and these product options are currently only available within our 4" Submersible Turbine Pumps models.

Beyond the above specifications, Franklin Fueling Systems has determined that the specified Submersible Turbine Pumps will work satisfactorily with the following motor fuels:

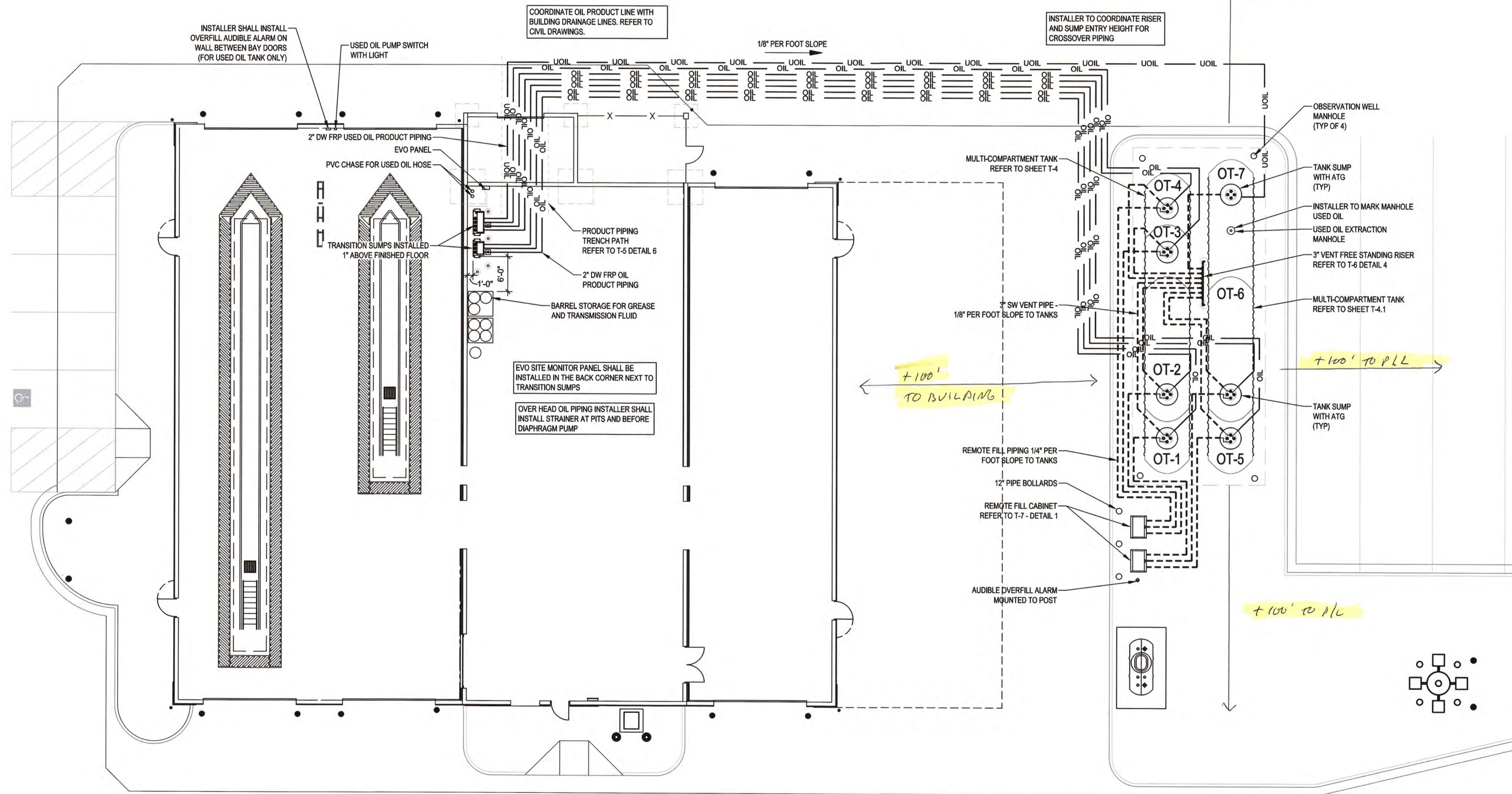
- Current construction of Alcohol-Grade (AG) and Advanced Protection (AP) FE Petro 4" Submersible Turbine Pumps are compatible for use with all Biodiesels such as B5, B20 and all ASTM Biodiesel blends up to and including (B99).

When utilizing FE Petro Submersible Turbine Pumps beyond the UL listing associated with the product, working satisfactorily may include some issues due to long term exposure to these higher biofuel concentrations, such as increased maintenance of internal service-related items like check valves, etc.



Leon Schuster
Franklin Fueling Systems
Sr. Product Manager, Pumping Systems

Jan29, 2020, 1:21pm - User: waylon.barnes
N:\0707-20-8602 Loves - Chanahan, L. Fueling Design\FuelOil Dwg\108 - UNDERGROUND OIL STORAGE PLAN.dwg



1 TIRE SHOP OIL STORAGE PLAN FOR UNDERGROUND STORAGE TANKS
Scale: 3/32" = 1'-0"

LEGEND

— UOIL —	— UOIL —	— UOIL —	USED OIL
— OIL —	— OIL —	— OIL —	OIL
- - - - -	- - - - -	- - - - -	REMOTE FILL LINES
- - - - -	- - - - -	- - - - -	VENT LINES

- GENERAL NOTES:**
- OIL STORAGE TANK FIELDS IN DRIVE AREAS SHALL HAVE METAL MANWAY LIDS.
 - REFER TO "SPECIFICATIONS, MATERIAL & EQUIPMENT" FOR CONDITIONS, INSTALLATION PROCEDURES, MATERIALS, EQUIPMENT AND GENERAL REQUIREMENTS.
 - REFER TO THIS PLAN FOR THE INSTALLATION OF TANKS, PIPING, DISPENSERS, SLABS AND ELECTRICAL DEVICES.
 - THE LOCATION OF TANK BOXES AND OTHER APPURTENANCES AS WELL AS THE DEVICES INSIDE THE BUILDING MAY VARY FROM THE PROJECT REQUIREMENTS. REFER TO SPECIFIC PLANS.
 - THE CONTRACTOR TO INSTALL CONCRETE CHAIRS IN ALL REINFORCED CONCRETE SLAB CONDITIONS.
 - ALL THREAD SEALANT SHALL BE GASOLINA E-SEAL THREAD SEALANT.
 - FUEL CONTRACTOR SHALL COAT ALL PIPE RISERS ABOVE GRADE WITH BLACK PAINT.

- EXCAVATION AND TANK BURIAL:**
- THE EXCAVATION SHALL COMPLY WITH CURRENT OSHA REGULATIONS. IF THE TANK HOLE CANNOT BE EXTENDED DUE TO LIMITATIONS BY PROPERTY LINES OR STRUCTURES, THE CONTRACTOR SHALL PREPARE AND OBTAIN APPROVAL FOR A SHORING PLAN SHOWING SPECIFIC INSTALLATION.
 - THE TANKS SHALL BE SET LEVEL ON A 12" BED OF PEA GRAVEL UNLESS SPECIFIED OTHERWISE SPECIFIED BY THE PERMITTING AGENCY.
 - EXCAVATION INFORMATION AND GUIDANCE** - THE TANKS SHALL BE BURIED TO SUFFICIENT DEPTH TO ALLOW DRAINAGE OF ALL LINES DOWN TO THE TANK AREA. THE TANK BURIAL DEPTH CHART SHALL BE VERIFIED BY THE INSTALLING CONTRACTOR AND IMMEDIATELY REPORT ANY DISCREPANCY FOR CORRECTION.
 - THE CONTRACTOR SHALL NOT INSTALL TANKS DEEPER THAN 7 FEET. TANK BURIAL OVER 5 FEET NEEDS APPROVAL FROM LOVES CONSTRUCTION MANAGER.
 - THE CONTRACTOR SHALL NOT INSTALL TANKS LESS THAN 52" FROM LOWEST SLAB ELEVATION FOR DIESEL TANKS AS INDICATED ON DIESEL TANK SECTIONS.
 - TANK EXCAVATION SIDES AND BOTTOM TO BE LINED WITH FILTER FABRIC - MIRAFI #160N GEOTEXTILE 6oz. OR EQUIVALENT

- PIPING:**
- ALL UNDERGROUND PRODUCT PIPING SHALL BE AMERON LCX FIBERGLASS REINFORCED PLASTIC (FRP) UNLESS OTHERWISE NOTED.
 - ALL OIL STORAGE VENT LINES SHALL BE FRP 3" DIA. SINGLE WALL.
 - ALL TANK RISERS SHALL BE 4" DIA. STAINLESS STEEL PIPING. ALL BURIED METALLIC PIPING AND FITTINGS SHALL BE WRAPPED WITH FIBERGLASS AND RESIN TO ELIMINATE CONTACT WITH SOIL AND GROUND WATER.
 - ALL UNDERGROUND PRODUCT PIPING AND VENT LINES SHALL SLOPE A MINIMUM OF 1/8" PER FOOT DOWN TOWARDS THE TANKS. SLOPE MUST BE FIELD VERIFIED BEFORE INSTALL TO CONFIRM LIST DEPTH. REFER TO NOTE 4 UNDER EXCAVATION AND TANK BURIAL.
 - PIPING TRENCH SIDES AND BOTTOM TO BE LINED WITH FILTER FABRIC - MIRAFI #160N GEOTEXTILE 6oz. OR EQUIVALENT.
 - ALL FRP PIPING RUNS SHALL HAVE DETECTABLE TAPE BURIED BELOW GRADE.
 - ALL ELECTRICAL CONDUIT RUNS SHALL HAVE DETECTABLE TAPE INSTALLED.
 - FUEL CONTRACTOR SHALL USE PSX-20 ON PRIMARY PRODUCT PIPING AND PSX-34 ON SECONDARY FITTINGS AND PIPING.

TAPERING PIPE:
WHEN GLASS-FIBER PIPE IS CUT TO LENGTH ON THE JOB SITE, THE CUT END MUST BE RE-TAPERED. THE PATENTED FIELD TAPERING TOOL IS USED FOR THIS PURPOSE. ADAPTABLE TO TWO, THREE, AND FOUR INCH PIPE, THE TOOL QUICKLY REAPPLIES THE PROPER TAPER BY A SHAVING OPERATION - SIMILAR TO A PENCIL SHARPENER. A STRAP WRENCH CAN BE USED WITH THE TOOL FOR HOLDING THE PIPE WHILE TAPERING. A VISE MAY ALSO BE USED FOR HOLDING. THE PIPE SHOULD BE FIRST WRAPPED WITH A PROTECTIVE MATERIAL TO AVOID GOUGING. FOR PROPER TAPERING, CAREFULLY FOLLOW THE OPERATING INSTRUCTIONS INCLUDED IN THE KIT.

- POWER PIPE-THREADING MACHINES** MAY BE USED IN THE TAPERING OPERATION FOR GLASS-FIBER PIPE. FOLLOWING IS A GENERAL PROCEDURE FOR DOING THIS:
- WRAP A PROTECTIVE MATERIAL, SUCH AS EMERY CLOTH, RUBBER OR HEAVY CLOTH (CANVAS, ETC.) AROUND THE PIPE WHERE THE STEEL VISE JAWS WILL ENGAGE.
 - POSITION THE PIPE SO THAT 14-INCHES OF PIPE EXTEND FROM THE VISE JAWS, THEN TIGHTEN THE JAWS UNTIL SNUG.
 - WHEN TAPERING THE PIPE, OPERATE THE POWERED PIPE THREADING MACHINE IN THE "REVERSE" DIRECTION ONLY.
 - AT THE START, TAKE A LIGHT CUT AND THEN GRADUALLY INCREASE THE FEED RATE.
 - A TAPER LENGTH OF 1 1/2" MINIMUM IS NECESSARY.

NOTE: LOCATION & ARRANGEMENT OF TANKS

- DELIVERY TRUCKS UNLOAD FROM THE PASSENGER SIDE
- CONTRACTOR SHALL VERIFY BRAND(S) OF OIL TO BE PROVIDED AND STORED.

TANK IDENTIFICATION

BRAND (1)	OT-1 = OIL BANK 1 - GRADE 10/30	3,000 GALLON
	OT-2 = OIL BANK 2 - GRADE 15/40	8,000 GALLON
BRAND (2)	OT-3 = OIL BANK 3 - GRADE 10/30	3,000 GALLON
	OT-4 = OIL BANK 4 - GRADE 15/40	3,000 GALLON
BRAND (3)	OT-5 = OIL BANK 5 - GRADE 10/30	3,000 GALLON
	OT-6 = OIL BANK 6 - GRADE 15/40	8,000 GALLON
	OT-7 = USED OIL	7,000 GALLON

TANK BURIAL NOTE:
TANK BURIAL SHALL BE SET AT A MAXIMUM OF 5'-0" BELOW FINISHED GRADE. OIL TANK INSTALLERS SHALL VERIFY IF CURRENT AND FUTURE SITE CONDITIONS HAVE CHANGED. REFER CIVIL DRAWINGS FOR GRADE INFORMATION.

FRP TO METAL CONNECTION SHALL BE MADE WITH BELL X MALE OR SPIGOT X MALE

UNDERGROUND OIL STORAGE FRP PRODUCT RUNS

TANK COMPARTMENT BANK	LENGTH IN FEET
OIL BANK 1	210'
OIL BANK 2	200'
OIL BANK 3	182'
OIL BANK 4	171'
OIL BANK 5	222'
OIL BANK 6	214'
USED OIL BANK	189'
3" VENT LINE	216'
3" REMOTE FILL	304'

HFA ARCHITECTS ENGINEERS INTERIORS
HARRISON FRENCH & ASSOCIATES, LTD.
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
t 479.273.7780
f 888.520.9685
www.hfa-ac.com

STIPULATION FOR REUSE
THIS DRAWING HAS BEEN REUSED AS A SPECIFIC PART OF CHANAHAN, IL STORE #768. IT IS NOT INTENDED TO BE REUSED IN ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF HFA ARCHITECTS ENGINEERS INTERIORS. ANY REUSE OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF HFA ARCHITECTS ENGINEERS INTERIORS IS STRICTLY PROHIBITED AND WILL BE CONSIDERED A VIOLATION OF THE PROFESSIONAL ETHICS OF THE ENGINEER.

CHANAHAN, IL STORE #768
OIL LUBE
PROJECT NUMBER: 07-20-8602

Love's Travel Stop & Country Stores

PROFESSIONAL ENGINEER
RYAN RAY
062-095130
OF ILLINOIS
2020.01.29 15:13:28-0500'
LICENSE EXPIRES: 11/30/21
DESIGN FIRM #184-004400

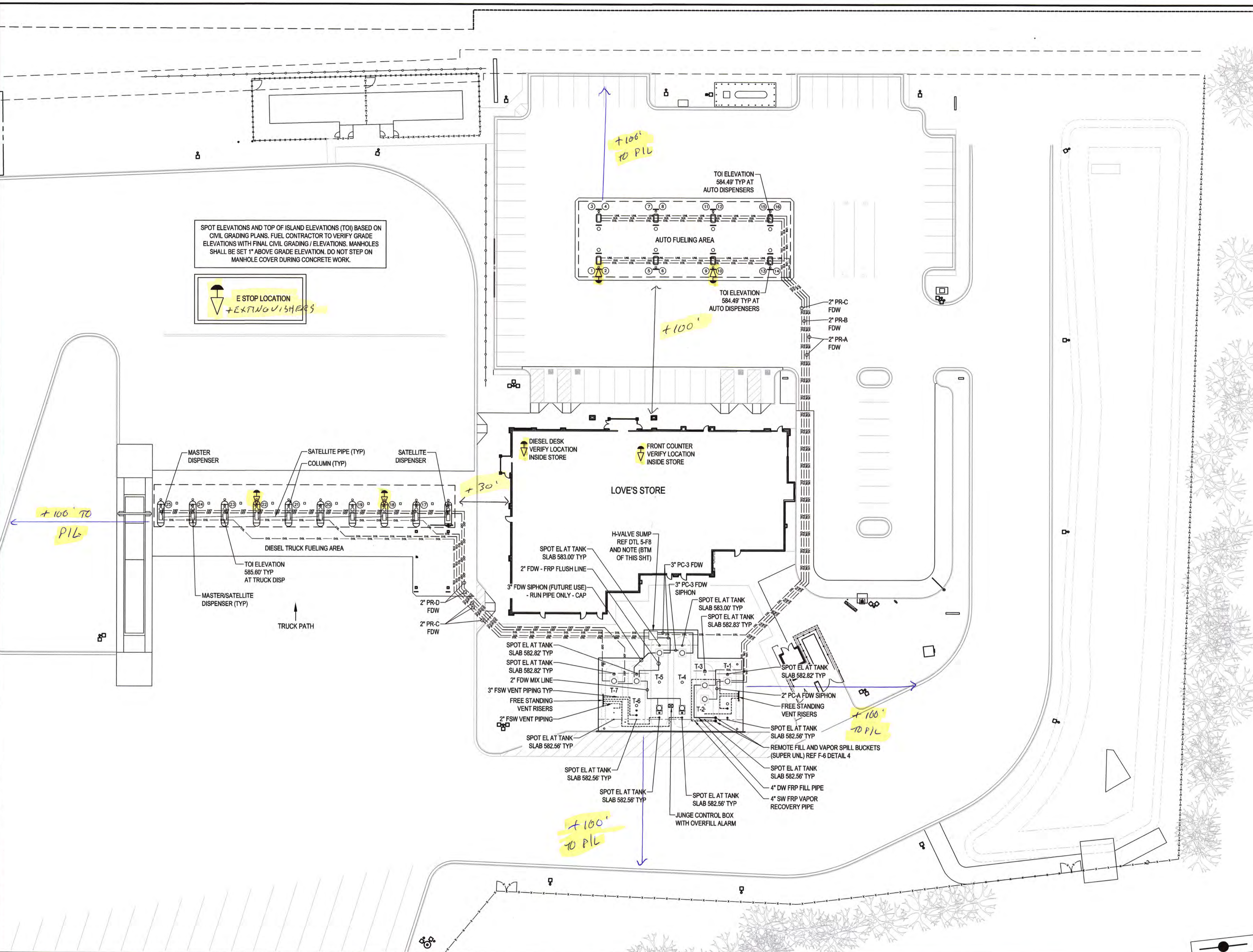
ISSUE BLOCK

STORE NO.	768
DOCUMENT DATE:	01.30.20
CHECKED BY:	BKH
DRAWN BY:	WWB
PROTO CYCLE:	01.01.19

UNDERGROUND PIPING PLAN FOR OIL STORAGE

SHEET: **T-8**

Jan20, 2020, 1:20pm - User: waylon.barnes
N:\0707-20-89002-Loves - Channahon, IL - Fueling Design\Fuel\Wet Fuel Dwg\01 - UNDERGROUND PIPING PLAN.dwg



SPOT ELEVATIONS AND TOP OF ISLAND ELEVATIONS (TOI) BASED ON CIVIL GRADING PLANS. FUEL CONTRACTOR TO VERIFY GRADE ELEVATIONS WITH FINAL CIVIL GRADING / ELEVATIONS. MANHOLES SHALL BE SET 1" ABOVE GRADE ELEVATION. DO NOT STEP ON MANHOLE COVER DURING CONCRETE WORK.

E STOP LOCATION
+EXTINGUISHERS

FUEL PIPING SCHEMATIC PLAN

Scale: 1" = 30'



ABBREVIATIONS

PR-A = PIPING-PRODUCT A	VR = PIPING-VAPOR RECOVERY PHASE 2
PR-B = PIPING-PRODUCT B	FSW = FIBERGLASS SINGLE WALL
PR-C = PIPING-PRODUCT C	FDW = FIBERGLASS DOUBLE WALL
PR-D = PIPING-PRODUCT D	

FRP TO METAL CONNECTION SHALL BE MADE WITH BELL X MALE OR SPIGOT X MALE

H-VALVE NOTE
H-VALVE SUMP BURIALS OVER 5 FEET NEEDS APPROVAL FROM LOVE'S CONSTRUCTION MANAGER.

TANK BURIAL NOTE:
TANK BURIAL CHART BASED ON GRADES FROM CIVIL DRAWINGS DURING PLANNING. FUEL GC TO VERIFY IF CURRENT AND FUTURE SITE CONDITIONS HAVE CHANGED. FUEL GC TO VERIFY IF TANK BURIAL IS NOT MORE THAN 7 FEET AND NOT LESS THAN 4'-4".

TANK BURIAL CHART		COMPONENT			
A.	FINISH GRADE ELEV. AT BEGINNING OF RUN (FT): TOP OF ISLAND	DIESEL SIDE	RUL RUN	AUTO DIESEL	SUPER UNL
B.	PIPE BURY (FT): TOI TO TOP OF PIPE AT DISP.	585.6	584.49	584.49	584.49
C.	ELEVATION OF PIPE AT BEGINNING OF RUN (A-B)	2	2	2	2
D.	PIPE LENGTH (LONGEST RUN) (FT): FARTHEST DISP.	583.6	582.49	582.49	582.49
E.	PIPE RUN FALL (FT) (D"1/8" PER FT):	325	313	367	325
F.	PIPE RUN FALL (FT) (D"1/8" PER FT):	3.39	3.26	3.82	3.39
G.	TOTAL CROSSOVERS:	0	1	1	1
H.	CROSSOVER DEPTH (FT): ADD FACTOR	0	0.58333	0.58333	0.58333
I.	ELEVATION AT END OF PIPE (FT) (C-E-G):	580.21	578.65	578.08	578.52
J.	TOP OF PIPE TO TOP OF TANK AT SUMP: FLAT SURFACE AREA AT SUMP	1.25	1.25	1.25	1.25
K.	HIGHEST FINISH GRADE ELEVATION AT TANK SLAB (FT):	578.96	577.40	576.83	577.27
L.	MAX BURY DEPTH (K-J)(FT):	583	582.82	583	582.83
M.	LOWEST FINISH GRADE ELEVATION AT TANKS (FT): LOW SIDE	4.04	5.42	6.17	5.56
N.	MIN BURY DEPTH (M-J) (FT):	582.56	582.56	582.56	582.56
		3.60	5.16	5.73	5.29

TANK DEPTH IS GOVERNED BY AUTO DIESEL PIPING RUN
THE TOP OF TANKS SHALL BE SET AT 576.83' BURIAL OF 6.17'

TRUCK SIDE PRODUCT LINE RUNS	CAR SIDE PRODUCT LINE RUNS	TANK FIELD PIPING
DIESEL LINE 17, 18, & 19	UNLEADED LINE	DEF LINE
392'	829'	715'
DIESEL LINE 20, & 21	SUPER UNLEADED LINE	2" DEF VENT LINE
335'	536'	16'
DIESEL LINE 22, 23, & 24	AUTO DIESEL LINE	3" VENT LINES
278'	534'	232'
STP SUMP/ H VALVE 3" LINES	DW REMOTE FILL	3" PIPING SUMP TO SUMP
58'	36'	40'
	SW REMOTE VAPOR	BIO DIESEL MIX/FLUSH LINE
	46'	66'

TRUCK SIDE PRODUCT LINE RUNS	CAR SIDE PRODUCT LINE RUNS	TANK FIELD PIPING
DIESEL LINE 17, 18, & 19	UNLEADED LINE	DEF LINE
392'	829'	715'
DIESEL LINE 20, & 21	SUPER UNLEADED LINE	2" DEF VENT LINE
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DIESEL LINE 22, 23, & 24	AUTO DIESEL LINE	3" VENT LINES
278'	534'	232'
STP SUMP/ H VALVE 3" LINES	DW REMOTE FILL	3" PIPING SUMP TO SUMP
58'	36'	40'
	SW REMOTE VAPOR	BIO DIESEL MIX/FLUSH LINE
	46'	66'

- GENERAL NOTES:**
- TANK FARMS IN DRIVE AREAS SHALL HAVE METAL MANWAY LIDS.
 - REFER TO "SPECIFICATIONS, MATERIAL & EQUIPMENT" FOR CONDITIONS, INSTALLATION PROCEDURES, MATERIALS, EQUIPMENT AND GENERAL REQUIREMENTS.
 - REFER TO THIS PLAN FOR THE INSTALLATION OF TANKS, PIPING, DISPENSERS, SLABS AND ELECTRICAL DEVICES.
 - THE LOCATION OF TANK BOXES AND OTHER APPURTENANCES AS WELL AS THE DEVICES INSIDE THE BUILDING MAY VARY FROM THE PROJECT REQUIREMENTS. REFER TO SPECIFIC PLANS.
 - THE CONTRACTOR TO INSTALL WEATHER PROOF 110 ELECTRICAL OUTLET AT TANK SLAB FOR DIESEL TANK AREA ONLY. SPLIT FIELDS WILL REQUIRE OUTLET AT TRUCK SIDE ONLY.
 - THE CONTRACTOR TO INSTALL CONCRETE CHAIRS IN ALL REINFORCED CONCRETE SLAB CONDITIONS.
 - ALL DIESEL THREAD SEALANT SHALL BE GASOLIA E-SEAL THREAD SEALANT.
 - ALL DIESEL EXHAUST FLUID THREAD SEALANT SHALL BE GASOLIA E-SEAL THREAD SEALANT.
 - FUEL CONTRACTOR SHALL COAT ALL PIPE RISERS ABOVE GRADE WITH BLACK PAINT.

- EXCAVATION AND TANK BURIAL:**
- THE EXCAVATION SHALL COMPLY WITH CURRENT OSHA REGULATIONS. IF THE TANK HOLE CANNOT BE EXTENDED DUE TO LIMITATIONS BY PROPERTY LINES OR STRUCTURES, THE CONTRACTOR SHALL PREPARE AND OBTAIN APPROVAL FOR A SHORING PLAN SHOWING SPECIFIC INSTALLATION.
 - THE TANKS SHALL BE SET LEVEL ON A 12" BED OF PEA GRAVEL UNLESS SPECIFIED OTHERWISE SPECIFIED BY THE PERMITTING AGENCY.
 - EXCAVATION INFORMATION AND GUIDANCE - THE TANKS SHALL BE BURIED TO SUFFICIENT DEPTH TO ALLOW DRAINAGE OF ALL LINES DOWN TO THE TANK AREA. THE TANK BURIAL DEPTH CHART SHALL BE VERIFIED BY THE INSTALLING CONTRACTOR AND IMMEDIATELY REPORT ANY DISCREPANCY FOR CORRECTION.
 - THE CONTRACTOR SHALL NOT INSTALL TANKS DEEPER THAN 7 FEET. TANK BURIAL OVER 5 FEET NEEDS APPROVAL FROM LOVE'S CONSTRUCTION MANAGER.
 - THE CONTRACTOR SHALL NOT INSTALL TANKS LESS THAN 52" FROM LOWEST SLAB ELEVATION FOR DIESEL TANKS AS INDICATED ON DIESEL TANK SECTIONS.
 - TANK EXCAVATION SIDES AND BOTTOM TO BE LINED WITH FILTER FABRIC - MIRAFI #160N GEOTEXTILE 6oz. OR EQUIVALENT

- PIPING:**
- ALL PRODUCT PIPING SHALL BE AMERON LCX FIBERGLASS REINFORCED PLASTIC (FRP) UNLESS OTHERWISE NOTED.
 - THE VAPOR RECOVERY PHASE 1 (TRUCK CONNECTION), PHASE 2 (IF REQUIRED) HEADER AND VENT LINES SHALL BE FRP 3" DIA. SINGLE WALL.
 - THE VAPOR RECOVERY PHASE 2 CONNECTION FROM GASOLINE DISPENSERS TO THE GASOLINE TANKS SHALL BE FRP 3" DIA. SINGLE WALL PIPING (IF REQUIRED).
 - ALL TANK RISERS SHALL BE 4" DIA. BLACK IRON PIPING (4" STAINLESS STEEL FOR D.E.F.). ALL BURIED METALLIC PIPING AND FITTINGS SHALL BE WRAPPED WITH FIBERGLASS AND RESIN TO ELIMINATE CONTACT WITH SOIL AND GROUND WATER.
 - ALL PRODUCT PIPING, VAPOR RECOVERY AND VENT LINES SHALL SLOPE A MINIMUM OF 1/8" PER FOOT DOWN TOWARDS THE TANKS. SLOPE MUST BE FIELD VERIFIED BEFORE INSTALL TO CONFIRM UST DEPTH. REFER TO NOTE 4 UNDER EXCAVATION AND TANK BURIAL.
 - IF UNDERGROUND LINES MUST CROSS, THE VAPOR RECOVERY AND VENT LINES SHALL TAKE PRECEDENCE FOR SLOPING. ADJUST THE TANK BURIAL AS NECESSARY TO INSURE THE DRAINAGE OF THE PRODUCT AND VENT LINES WITHOUT TRAPS.
 - PIPING TRENCH SIDES AND BOTTOM TO BE LINED WITH FILTER FABRIC - MIAFI #160N GEOTEXTILE 6oz. OR EQUIVALENT.
 - ALL FRP PIPING RUNS SHALL HAVE DETECTABLE TAPE BURIED BELOW GRADE.
 - ALL ELECTRICAL CONDUIT RUNS SHALL HAVE DETECTABLE TAPE INSTALLED.
 - FUEL CONTRACTOR SHALL SUPPLY AND INSTALL HEAT-TAPE ON DIESEL EXHAUST FLUID PRODUCT LINES IN COLDER CLIMATE AREAS ONLY AT THE SLEEVED RISER THROUGH ISLAND FORMS.
 - FUEL CONTRACTOR SHALL USE PSX-20 ON PRIMARY PRODUCT PIPING AND PSX-34 ON SECONDARY FITTINGS AND PIPING.

- TAPERING PIPE:**
WHEN GLASS-FIBER PIPE IS CUT TO LENGTH ON THE JOB SITE, THE CUT END MUST BE RE-TAPERED. THE PATENTED FIELD TAPERING TOOL IS USED FOR THIS PURPOSE. ADAPTABLE TO TWO, THREE, AND FOUR INCH PIPE, THE TOOL QUICKLY REAPPLIES THE PROPER TAPER BY A SHAVING OPERATION - SIMILAR TO A PENCIL SHARPENER. A STRAP WRENCH CAN BE USED WITH THE TOOL FOR HOLDING THE PIPE WHILE TAPERING. A VISE MAY ALSO BE USED FOR HOLDING. THE PIPE SHOULD BE FIRST WRAPPED WITH A PROTECTIVE MATERIAL TO AVOID GOUGING. FOR PROPER TAPERING, CAREFULLY FOLLOW THE OPERATING INSTRUCTIONS INCLUDED IN THE KIT.
- POWER PIPE-THREADING MACHINES MAY BE USED IN THE TAPERING OPERATION FOR GLASS-FIBER PIPE. FOLLOWING IS A GENERAL PROCEDURE FOR DOING THIS:
- WRAP A PROTECTIVE MATERIAL, SUCH AS EMERY CLOTH, RUBBER OR HEAVY CLOTH (CANVAS, ETC.) AROUND THE PIPE WHERE THE STEEL VISE JAWS WILL ENGAGE.
 - POSITION THE PIPE SO THAT 14-INCHES OF PIPE EXTEND FROM THE VISE JAWS, THEN TIGHTEN THE JAWS UNTIL SNUG.
 - WHEN TAPERING THE PIPE, OPERATE THE POWERED PIPE THREADING MACHINE IN THE "REVERSE" DIRECTION ONLY.
 - AT THE START, TAKE A LIGHT CUT AND THEN GRADUALLY INCREASE THE FEED RATE.
 - A TAPER LENGTH OF 1 1/2" MINIMUM IS NECESSARY.

- NOTE: LOCATION & ARRANGEMENT OF TANKS**
- DELIVERY TRUCKS UNLOAD FROM THE PASSENGER SIDE.
 - GENERAL CONTRACTOR TO VERIFY THE TRUCK ACCESS PATTERN TO DETERMINE THE POSITION OF THE TRUCK FOR UNLOADING PRIOR TO LOCATING AND ARRANGING THE TANKS.

TANK IDENTIFICATION

T-1 = UNLEADED REG. "87"	20,000 GALLON
T-2 = UNLEADED REG. "87"	12,000 GALLON
T-3 = SUPER UNLEADED	8,000 GALLON
T-4 = DIESEL	30,000 GALLON
T-5 = DIESEL	30,000 GALLON
T-6 = BIO-DIESEL	20,000 GALLON
T-7 = DIESEL EXHAUST FLUID	20,000 GALLON

LEGEND

UNL	UNL	UNL	A - ASSIGNED TO UNLEADED 87 OCTANE
SUL	SUL	SUL	B - ASSIGNED TO SUPER UNLEADED 92 OCTANE
DSL	DSL	DSL	C - ASSIGNED TO DIESEL
DEF	DEF	DEF	D - ASSIGNED TO DIESEL EXHAUST FLUID (UREA)
		VR(x)	- ASSIGNED TO VENT LINES

HFA ARCHITECTS ENGINEERS INTERIORS

HARRISON FRENCH & ASSOCIATES, L.T.D.

1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
t 479.273.7780
f 888.520.9685
www.hfa-ac.com

STIPULATION FOR REUSE
THIS DRAWING WAS PREPARED FOR THE USE OF THE PROJECT AND IS NOT TO BE REUSED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN CONSENT OF HFA ARCHITECTS ENGINEERS INTERIORS. ANY REUSE OF THIS DRAWING OR A PORTION THEREOF WITHOUT THE WRITTEN CONSENT OF HFA ARCHITECTS ENGINEERS INTERIORS IS STRICTLY PROHIBITED. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR THE PROJECT. HFA ARCHITECTS ENGINEERS INTERIORS SHALL NOT BE RESPONSIBLE FOR ANY PROJECT THAT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

CHANNAHON, IL STORE #768

TIER 1-4898T-SGL/98320-0 FUELING

PROJECT NUMBER: 07-20-98002

Love's Travel Stop & Country Stores

RYAN RAY
08-058130
REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

2020.01.29 15:00:35-06'00"

LICENSE EXPIRES: 11/30/21
DESIGN FIRM #184-004400

ISSUE BLOCK

NO.	DESCRIPTION	DATE

STORE NO.	768
DOCUMENT DATE:	01.30.20
CHECKED BY:	BKH
DRAWN BY:	WWB
PROTO CYCLE:	06.01.19

UNDERGROUND PIPING PLAN FOR GASOLINE, DIESEL, AND DIESEL EXHAUST FLUID (D.E.F.)

SHEET: **F-10**



OFFICE OF THE ILLINOIS STATE FIRE MARSHAL

Install Permit Application - Illinois Oil Marketing Equipment, Inc. - State ID: IL1293

Permit Application Summary

Permit Application Status: **Approved**

Last Submit Date: 4/24/2020

Owner - U0030965

Owner Name	Love's Travel Stops & Country Stores, Inc.
Address	P.O. Box 26210 10601 N. Penn Oklahoma City, OK 73120
Contact Person	Jerrold Marsh
Phone Number	(405) 463-8931

Facility - 2047042

Facility Name	Love's Travel Stop #768
Address	23815 W. Bluff Rd. Channahon, IL 60410
County	Will
Contact Person	Kyle Collins
Phone Number	(405) 834-0311

Owner Information is different

Facility Information is different

Tanks on the Permit

Tank #	Capacity	Product	Tank Status	Regulated Status
1	20,000	Gasoline - Regular	Not Installed	Federal
2	12,000	Gasoline - Regular	Not Installed	Federal
3	8,000	Gasoline - Premium	Not Installed	Federal
4	30,000	Diesel Fuel	Not Installed	Federal
5	30,000	Diesel Fuel	Not Installed	Federal
6	20,000	B-99	Not Installed	Federal
7	20,000	Diesel Exhaust Fluid (Non-Regulated)	Not Installed	Federal
8	3,000	Motor Oil	Not Installed	Federal
9	8,000	Motor Oil	Not Installed	Federal
10	3,000	Motor Oil	Not Installed	Federal
11	3,000	Motor Oil	Not Installed	Federal
12	3,000	Motor Oil	Not Installed	Federal
13	8,000	Motor Oil	Not Installed	Federal
14	7,000	Used Oil	Not Installed	Federal

Equipment Summary

Tank 1

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 2

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 3

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 4

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 5

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 6

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Electronic Pressurized Line Leak Detection
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket
Overfill Prev Device	Overfill Alarm
Overfill Prev Device	Overfill Drop Tube Valve
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Piping	Shear Valves

Tank 7

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Piping	Other Submersible Pump
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet

Tank 8

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 9

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 10

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 11

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 12

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 13

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Piping Sump Sensors Not Regulated
Leak Detect - Piping	European with No Test Req Suction
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump

Tank 14

Equipment Type	Equipment
Leak Detect - Tank	Non-Discriminating Sensors Interstitial Monitoring
Leak Detect - Piping	Non-Discriminating Sump Sensor with positive shutdown
Spill Contain Device	Single Wall Spill Bucket Horizontal Cabinet
Overfill Prev Device	Overfill Alarm
Corrosion Prot - Tank	Fiberglass Non-Corrosive
Corrosion Prot - Piping	Fiberglass Non-Corrosive
Tank	Fiberglass Double Wall XERXES
Piping	Fiberglass Double Wall Ameron Dualoy 3000/LCX
Piping	Single Wall STP/Tanktop Sump
Overfill Prev Device	Less than 25 gallon fills
Spill Contain Device	Single Wall Spill Bucket

Summary of Work

Document Type	Document name	Last Uploaded
Summary of Work	OSFMSUMLovesChannahonfuel2020.pdf	4/24/2020 8:26:28 AM

Islands/Canopy/Dispensers

Islands:	<input type="radio"/> Existing to remain	<input checked="" type="radio"/> Installing new	<input type="radio"/> Reconstructing (explain below)	<input type="radio"/> None
Canopy:	<input type="radio"/> Existing to remain	<input checked="" type="radio"/> Installing new	<input type="radio"/> Reconstructing (explain below)	<input type="radio"/> None
Dispensers:	<input type="radio"/> Existing to remain	<input checked="" type="radio"/> Installing new	<input type="radio"/> Reconstructing (explain below)	<input type="radio"/> None

Islands/Canopy/Dispensers Work Explanation

Installing (8) auto fueling islands and (10) truck fueling islands. (2) canopies installed by others.

Minimum Setbacks

Clearance distances must be given on the site plans in dimensions from the UST system to all buildings, structures and objects with a setback requirement. The minimum setback requirements for all tanks and all piping are at least:

Yes	No	
<input checked="" type="radio"/>	<input type="radio"/>	20 feet to property lines or right of way lines
<input type="radio"/>	<input checked="" type="radio"/>	20 feet to storm sewer lines, sanitary sewer lines or similar underground drainage systems
<input checked="" type="radio"/>	<input type="radio"/>	20 feet to basements or similar underground structures both on and off property
<input checked="" type="radio"/>	<input type="radio"/>	300 feet to any mine shaft, air or escape shaft to a mine
<input checked="" type="radio"/>	<input type="radio"/>	85 feet to any school, institution, public assembly or theater occupancy
<input checked="" type="radio"/>	<input type="radio"/>	400 feet to any potable wells on or near the facility. If no, contact IEPA Groundwater section at (217) 78514787

Is facility operated as a Motor Fuel Dispensing Facility?

Yes No

Facility will be operated as:

An Attended Self-Service Motor Fuel Dispensing Facility

Site Plans

Document Type	Document name	Last Uploaded
Site Plans	Love's-#768-Channahon fuel drawing.pdf	4/27/2020 2:17:03 PM

Supplemental Documents Uploaded for the Application

Document Type	Document name	Last Uploaded
Miscellaneous	OSFMSUMLovesChannahonoil2020.pdf	4/24/2020 8:27:00 AM
Miscellaneous	FBIO1.pdf	4/24/2020 8:30:17 AM
Miscellaneous	FBIO2.pdf	4/24/2020 8:30:28 AM
Miscellaneous	F06 GASOLINE TANK SUMP.pdf	4/24/2020 8:31:54 AM
Miscellaneous	#768-Channahon-Compatibility checklist-Xerxes.pdf	4/24/2020 8:32:37 AM
Miscellaneous	Loves-768-Defender Spill-B99 4-21-20.pdf	4/24/2020 8:33:12 AM
Miscellaneous	Loves-768-IL-Defender OPV-B99-4-21-20.pdf	4/24/2020 8:33:58 AM
Miscellaneous	Loves-768-LL3-LL2-ULS-DIS-B99 4-21-20.pdf	4/24/2020 8:34:18 AM
Miscellaneous	E seal pipe dope compatibility.pdf	4/24/2020 8:35:18 AM
Miscellaneous	UGPetroleumStorageTankWarr.5.1.2019 xerxes.pdf	4/24/2020 8:35:38 AM
Miscellaneous	Dualoy 3000 LCX Data Sheet.pdf	4/24/2020 8:35:59 AM
Miscellaneous	bravo_afton.pdf	4/24/2020 8:36:47 AM
Miscellaneous	BIO-STP-LOVES.pdf	4/24/2020 8:37:02 AM
Miscellaneous	Love's-#768-Channahon oil drawing-drawing 2 of 2.pdf	4/28/2020 5:08:27 AM
Miscellaneous	Love's-#768-Channahon fuel drawing-Drawing 1 of 2.pdf	4/28/2020 5:09:45 AM

Terms and Conditions

Name of the Authorized Representative: Chris Epkins

Title or Position: Operations Assistant

I agree to the Terms and Conditions

Payment

Permit Application Status: Approved

Bill To Name	Payment Received	Applied Amount	Received	Authorization Code	Transaction ID
Chris Epkins	\$200.00	(\$200.00)	4/24/2020	20014471	11122_0_p

Notice of Completed Work

Customer: <u>Love's Country Stores</u>	Date: <u>June 30, 2020</u>
<u>PO Box 26210 Attn: Construction</u>	Contact: <u>Robin Howard</u>
<u>Oklahoma City, OK 73126</u>	Location: <u>Love's #768</u>
*Date of Work: <u>June 27, 2020</u>	<u>23809 West Bluff Road</u>
Work Order No.: <u>F22605</u>	<u>Channahon, IL 60410</u>

Tank Size	X	UL/ULC#	Serial#	Work Performed
Tank #1: DW-m4c, 8ft, 3kX8kX3kX3k		D-97145310		Tank Inspection & Recertification
Tank #2: DW-m3c, 8ft, 7k X 8k X 3k		D-97145305		Tank Inspection & Recertification
Tank #3:				
Tank #4:				

Recertification	
New Location: <u>Love's #768</u> <u>23809 West Bluff Road</u> <u>Channahon, IL 60410</u>	Contractor: <u>Love's Country Stores</u> <u>PO Box 26210 Attn: Construction</u> <u>Oklahoma City, OK 73126</u>
Contact: <u>Robin Howard</u>	Phone: <u>(405) 302-6787</u> Fax: _____
<input checked="" type="checkbox"/> *On the above noted Date of Work, we dispatched an authorized repair crew to inspect and recertify the underground storage tank(s) listed above.	

Inspect, Retrofit or Repair	
<input type="checkbox"/> *On the above noted Date of Work, we dispatched an authorized repair crew to inspect, repair and/or retrofit the underground storage tank(s) listed above in accordance with our field service procedures.	
<input type="checkbox"/> *Underwriters Laboratories (UL) (or ULC) listed tanks were repaired and/or retrofitted using materials and manufacturing procedures listed in our UL/ULC files.	
Test(s) Performed:	
<input type="checkbox"/> 5 psig pneumatic test of the tank worked on.	<input type="checkbox"/> 20" Hg vacuum test of the interstitial.
<input type="checkbox"/> 1 to 5 psig pneumatic test of the interstitial.	<input type="checkbox"/> An approved method of hydrostatically testing the tank or tank accessory.
<input type="checkbox"/> 4-hour Truchek test.	<input type="checkbox"/> 10-hour Truchek Test.
<input type="checkbox"/> *On the above noted Date of Work, we dispatched an authorized repair crew to confirm the testing of the interstitial and converted the tank(s) from a dry interstitial to a wet interstitial.	

NOTE: Our limited warranty on these tanks will not start anew; however, it will continue for the duration as stated in the original warranty based upon the date of the original delivery. In addition, there will be a one year warranty on materials and workmanship for any repairs noted herein. This warranty will be in effect as long as the tank(s) are (or were) installed in accordance with our Installation Manual and Operating Guidelines (IMOG). It is the tank owner's responsibility to consult all applicable laws and regulations when installing underground storage tanks.

Signed: AKandathil
Print: for Stefan Thorsteinson

Date: June 30, 2020