
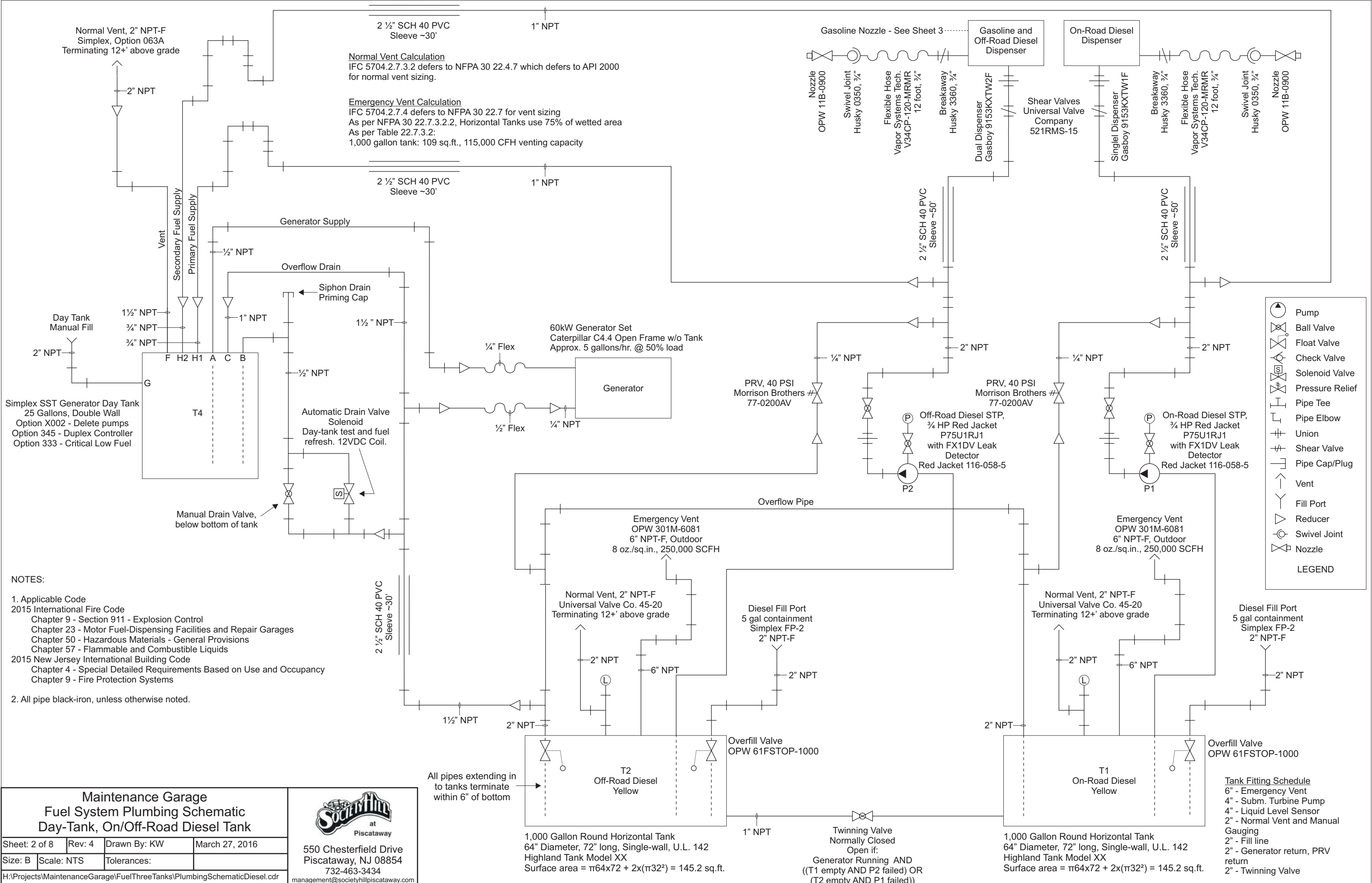
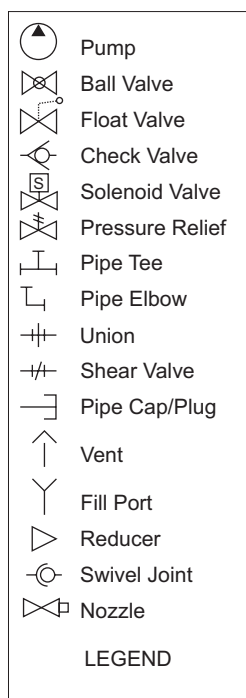
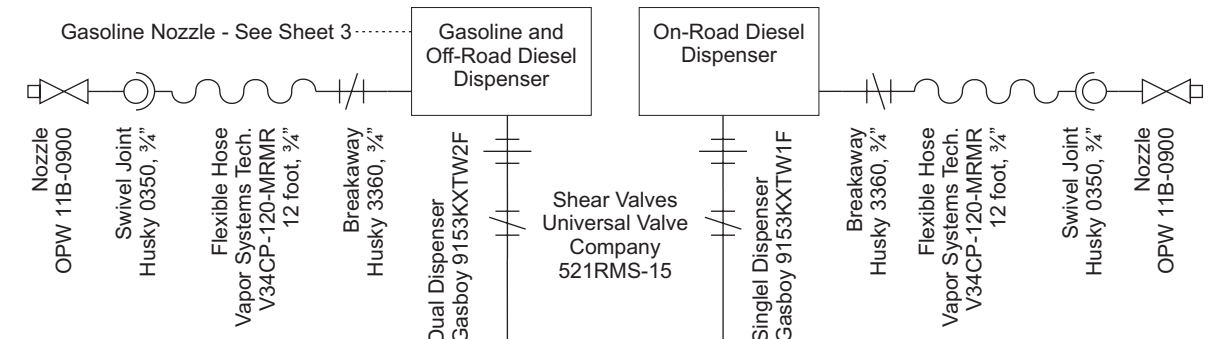


Maintenance Garage Site Plan View				 Society Hill at Piscataway 550 Chesterfield Drive Piscataway, NJ 08854 732-463-3434 management@societyhillpiscataway.com
Sheet: 1 of 8	Rev: 1	Drawn By: KW	March 25, 2016	
Size: B	Scale: NTS	Tolerances:		
H:\Projects\MaintenanceGarage\FuelThreeTanks\FuelSitePlan.cdr				



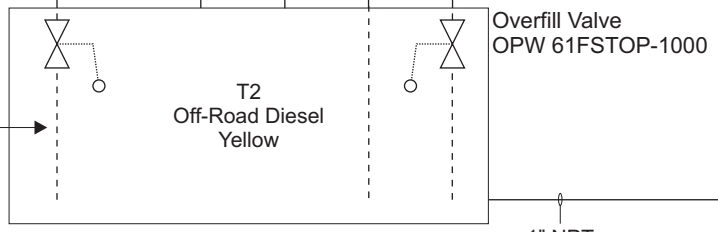
Normal Vent Calculation
 IFC 5704.2.7.3.2 defers to NFPA 30 22.4.7 which defers to API 2000 for normal vent sizing.

Emergency Vent Calculation
 IFC 5704.2.7.4 defers to NFPA 30 22.7 for vent sizing
 As per NFPA 30 22.7.3.2.2, Horizontal Tanks use 75% of wetted area
 As per Table 22.7.3.2:
 1,000 gallon tank: 109 sq.ft., 115,000 CFH venting capacity

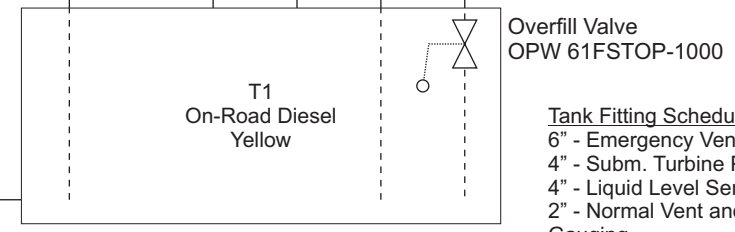


NOTES:

- Applicable Code
 2015 International Fire Code
 Chapter 9 - Section 911 - Explosion Control
 Chapter 23 - Motor Fuel-Dispensing Facilities and Repair Garages
 Chapter 50 - Hazardous Materials - General Provisions
 Chapter 57 - Flammable and Combustible Liquids
 2015 New Jersey International Building Code
 Chapter 4 - Special Detailed Requirements Based on Use and Occupancy
 Chapter 9 - Fire Protection Systems
- All pipe black-iron, unless otherwise noted.



1,000 Gallon Round Horizontal Tank
 64" Diameter, 72" long, Single-wall, U.L. 142
 Highland Tank Model XX
 Surface area = $\pi 64 \times 72 + 2 \times (\pi 32^2) = 145.2$ sq.ft.



1,000 Gallon Round Horizontal Tank
 64" Diameter, 72" long, Single-wall, U.L. 142
 Highland Tank Model XX
 Surface area = $\pi 64 \times 72 + 2 \times (\pi 32^2) = 145.2$ sq.ft.

Tank Fitting Schedule
 6" - Emergency Vent
 4" - Subm. Turbine Pump
 4" - Liquid Level Sensor
 2" - Normal Vent and Manual Gauging
 2" - Fill line
 2" - Generator return, PRV return
 2" - Twinning Valve

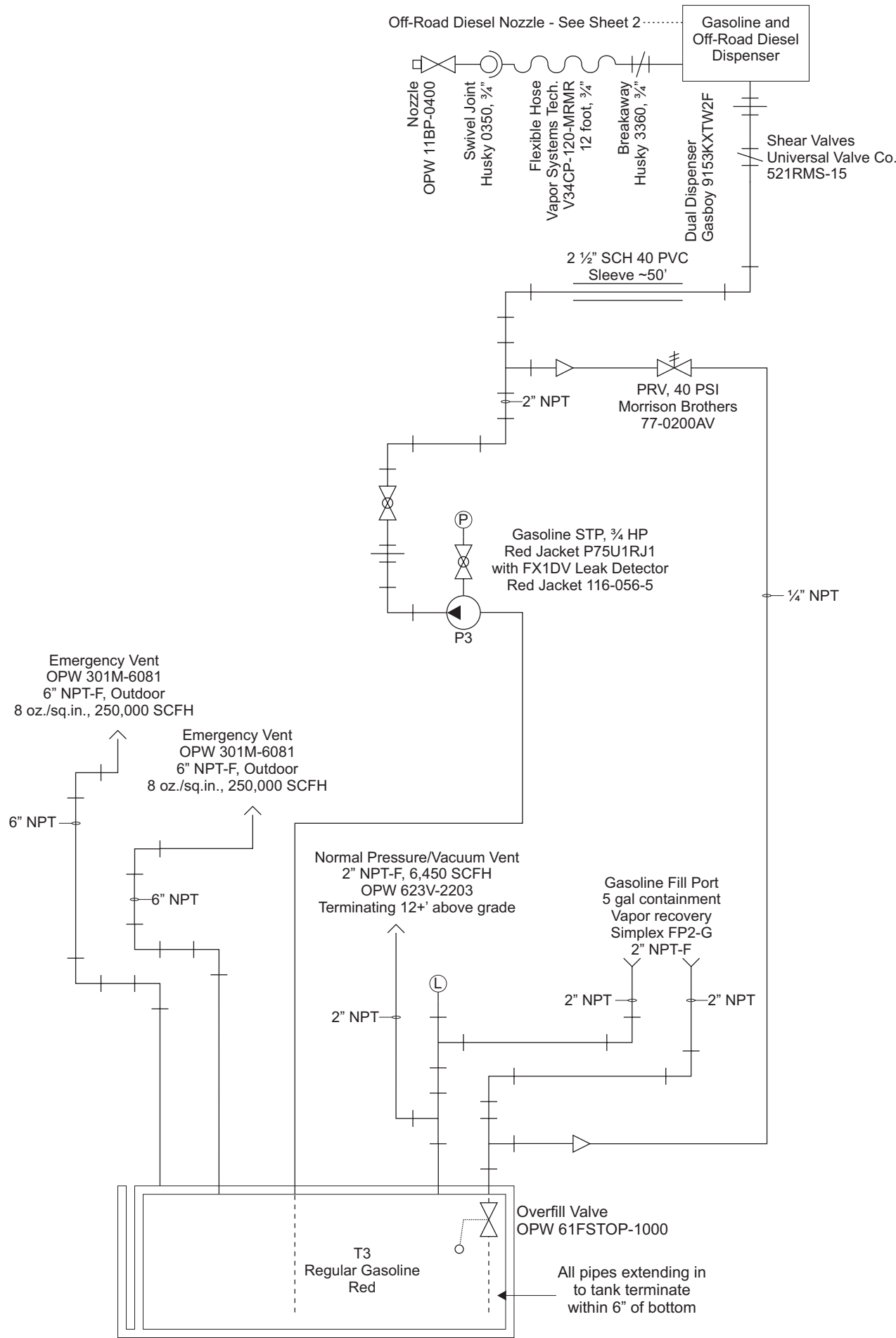
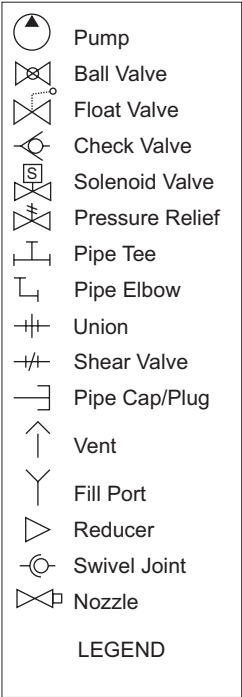
Maintenance Garage Fuel System Plumbing Schematic
Day-Tank, On/Off-Road Diesel Tank

Sheet: 2 of 8	Rev: 4	Drawn By: KW	March 27, 2016
Size: B	Scale: NTS	Tolerances:	

H:\Projects\MaintenanceGarage\FuelThreeTanks\PlumbingSchematicDiesel.cdr

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Twinning Valve
 Normally Closed
 Open if:
 Generator Running AND
 ((T1 empty AND P2 failed) OR
 (T2 empty AND P1 failed))



Tank Fitting Schedule
 6" - Emergency Vent
 6" - Interstitial Vent
 4" - Subm. Turbine Pump
 4" - Liquid Level Sensor
 2" - Normal Vent, vapor recovery line, and manual gauging
 2" - Fill line and PRV return
 All fittings in top of tank


1,000 Gallon Round Horizontal Tank
 64" Diameter, 72" long, Double-wall, U.L. 142
 Highland Tank Model XX
 Surface area = $\pi 64 \times 72 + 2 \times (\pi 32^2) = 145.2$ sq.ft.

Normal Vent Calculation
 IFC 5704.2.7.3.2 defers to NFPA 30 22.4.7 which defers to API 2000 for normal vent sizing.

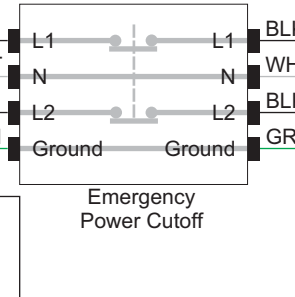
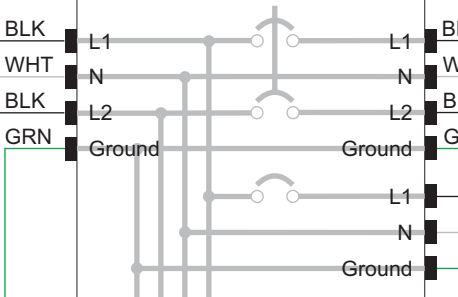
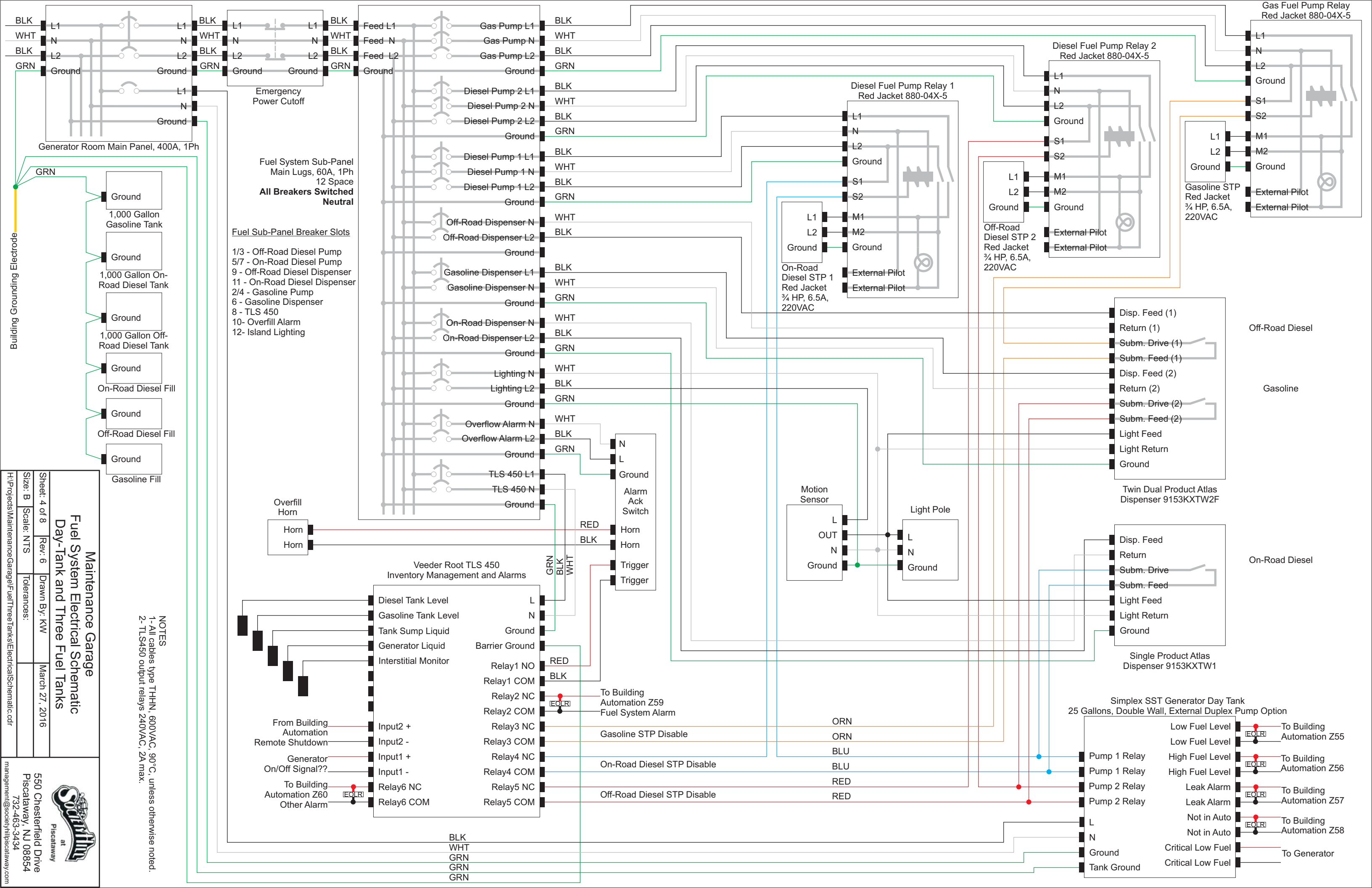
Emergency Vent Calculation
 IFC 5704.2.7.4 defers to NFPA 30 22.7 for vent sizing
 As per NFPA 30 22.7.3.2.2, Horizontal Tanks use 75% of wetted area
 As per Table 22.7.3.2:
 1,000 gallon tank: 109 sq.ft., 115,000 CFH venting capacity

- NOTES:**
- Applicable Code
 2015 International Fire Code
 Chapter 9 - Section 911 - Explosion Control
 Chapter 23 - Motor Fuel-Dispensing Facilities and Repair Garages
 Chapter 50 - Hazardous Materials - General Provisions
 Chapter 57 - Flammable and Combustible Liquids
 2015 New Jersey International Building Code
 Chapter 4 - Special Detailed Requirements Based on Use and Occupancy
 Chapter 9 - Fire Protection Systems
 - All pipe black-iron, unless otherwise noted.

Maintenance Garage Fuel System Plumbing Schematic Gasoline Tank and Dispenser			
Sheet: 3 of 8	Rev: 4	Drawn By: KW	March 27, 2016
Size: B	Scale: NTS	Tolerances:	
H:\Projects\MaintenanceGarage\FuelThreeTanks\PlumbingSchematicGas.cdr			

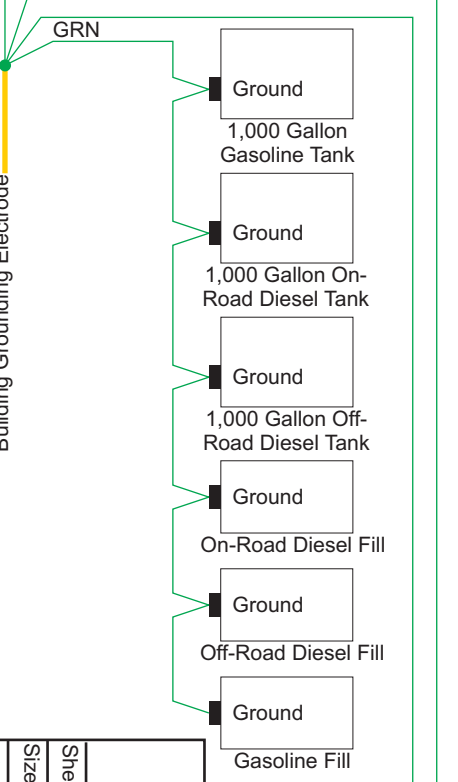


Society Hill
 at
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Fuel System Sub-Panel
Main Lugs, 60A, 1Ph
12 Space
All Breakers Switched Neutral

- Fuel Sub-Panel Breaker Slots**
- 1/3 - Off-Road Diesel Pump
 - 5/7 - On-Road Diesel Pump
 - 9 - Off-Road Diesel Dispenser
 - 11 - On-Road Diesel Dispenser
 - 2/4 - Gasoline Pump
 - 6 - Gasoline Dispenser
 - 8 - TLS 450
 - 10- Overfill Alarm
 - 12- Island Lighting



Maintenance Garage Fuel System Electrical Schematic Day-Tank and Three Fuel Tanks

Sheet: 4 of 8 Rev: 6 Drawn By: KW March 27, 2016

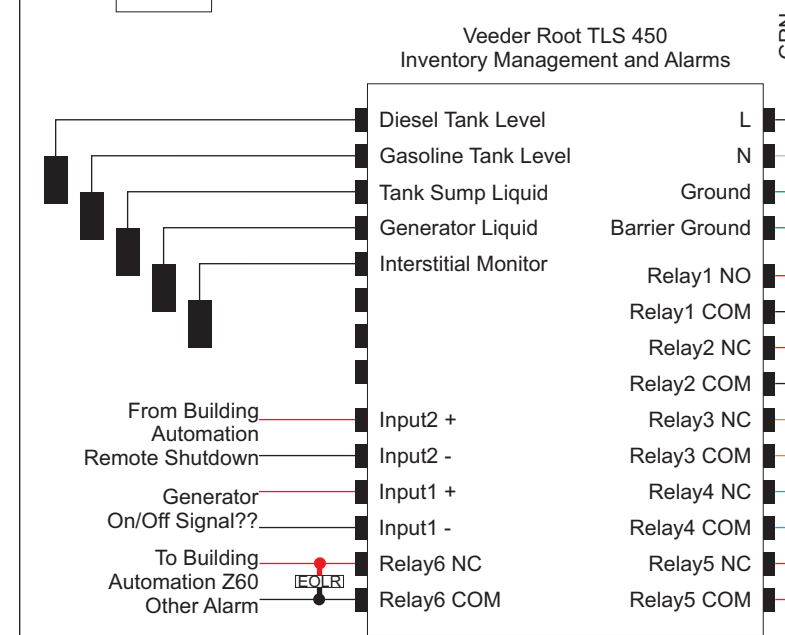
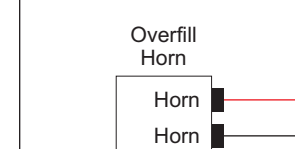
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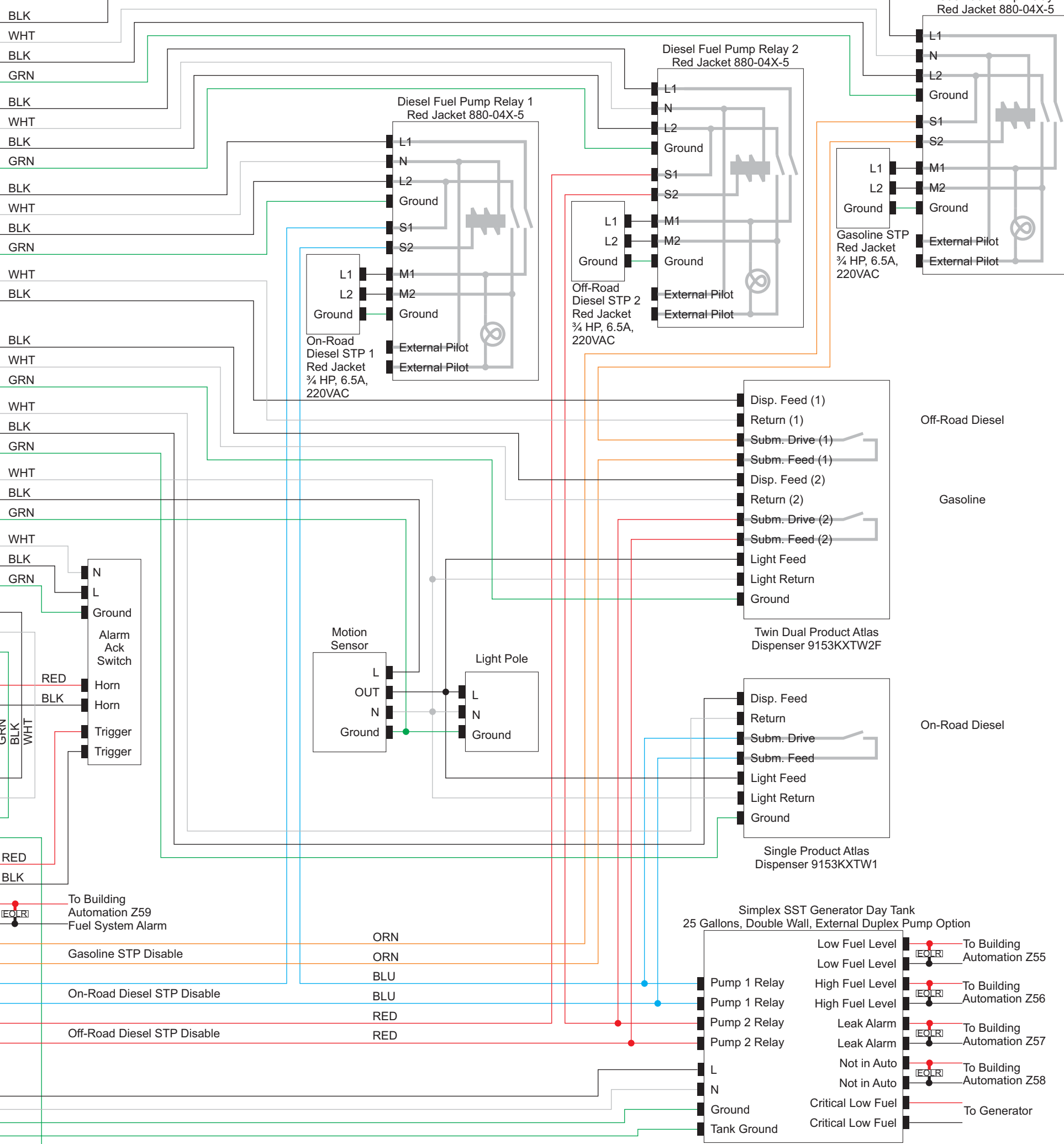
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732-463-3434
management@scottlin.com

NOTES

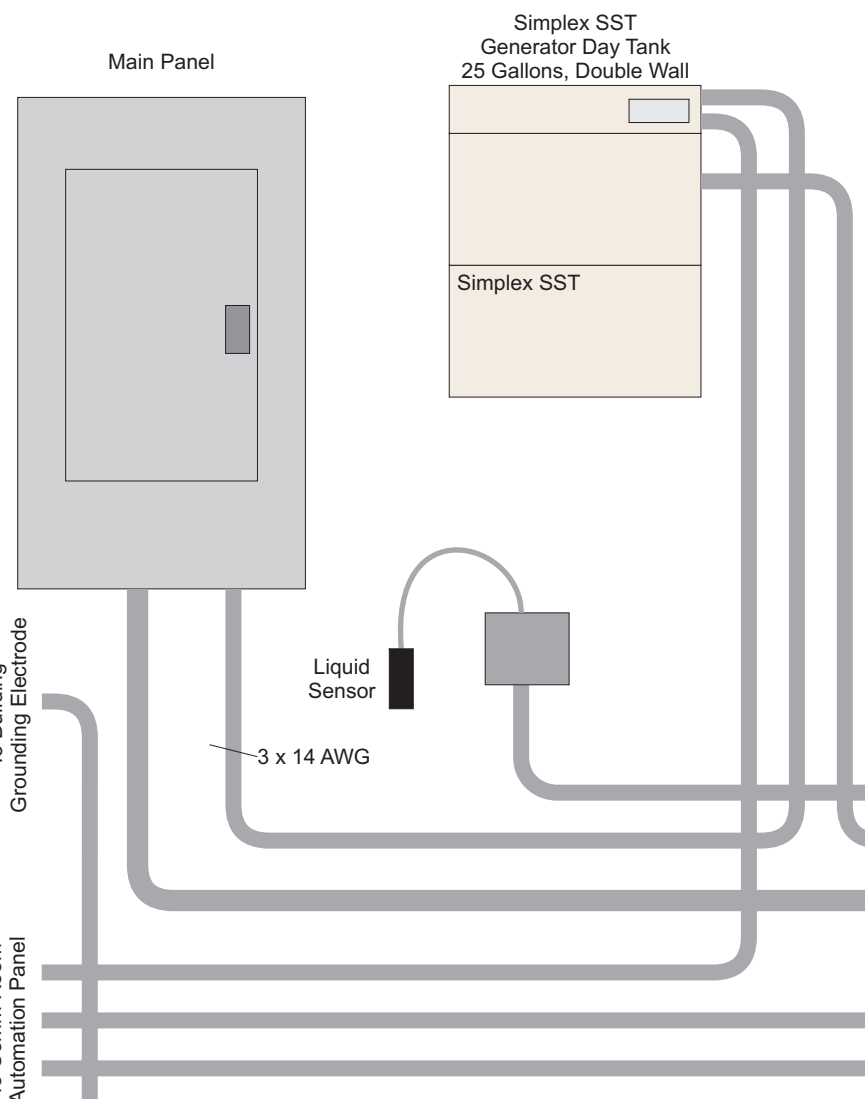
- 1- All cables type THHN, 600VAC, 90°C, unless otherwise noted.
- 2- TLS450 output relays 240VAC, 2A max.



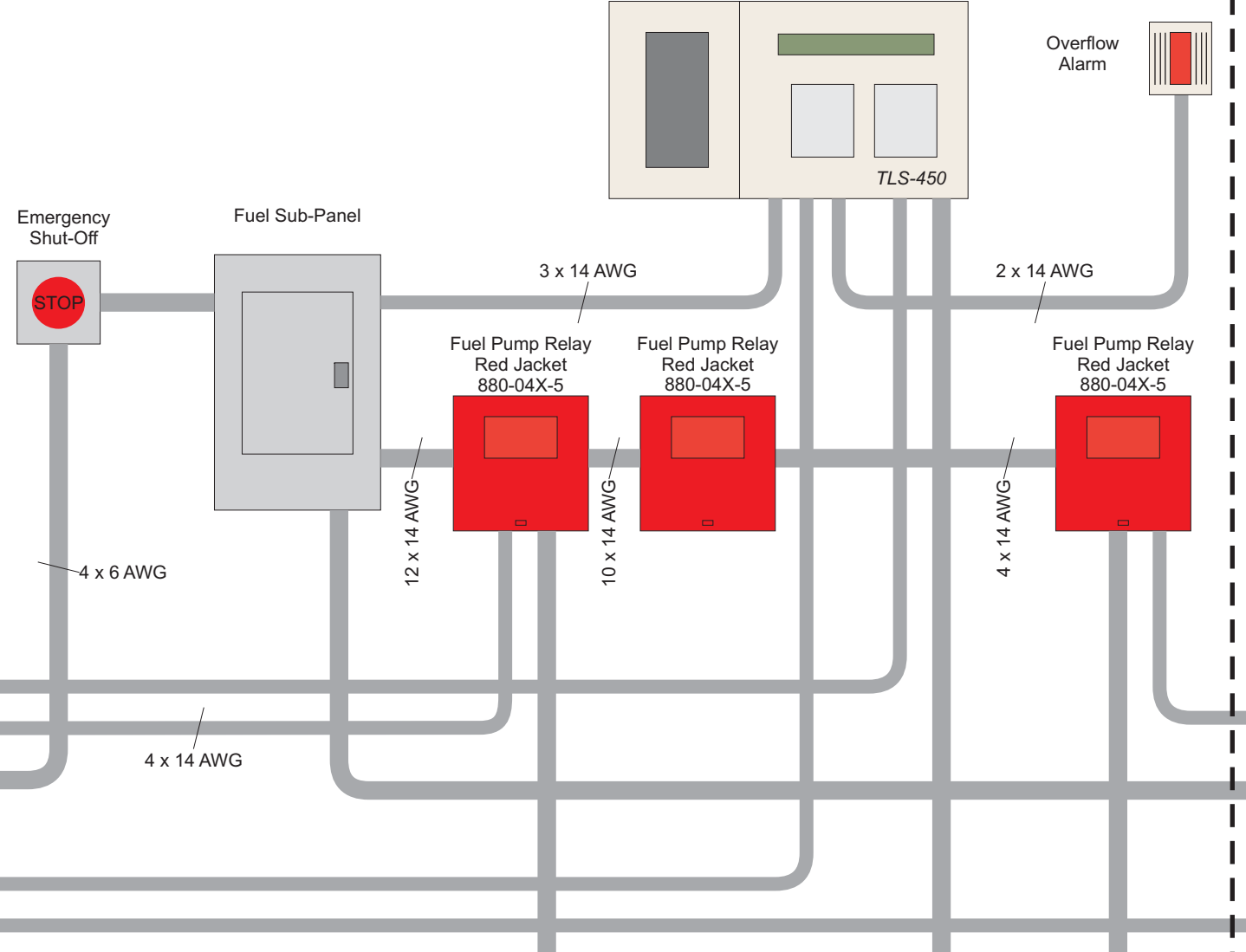
BLK
WHT
GRN
GRN
GRN



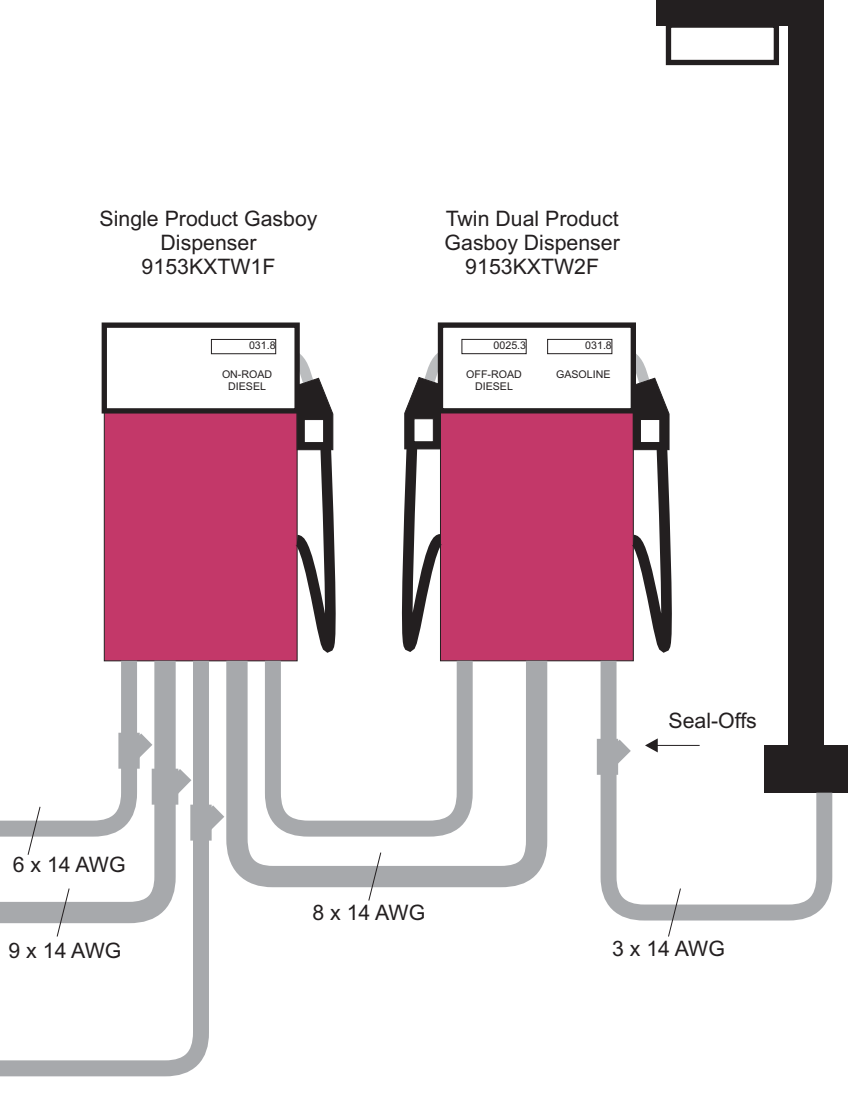
Generator Room



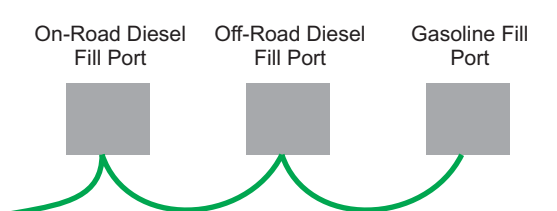
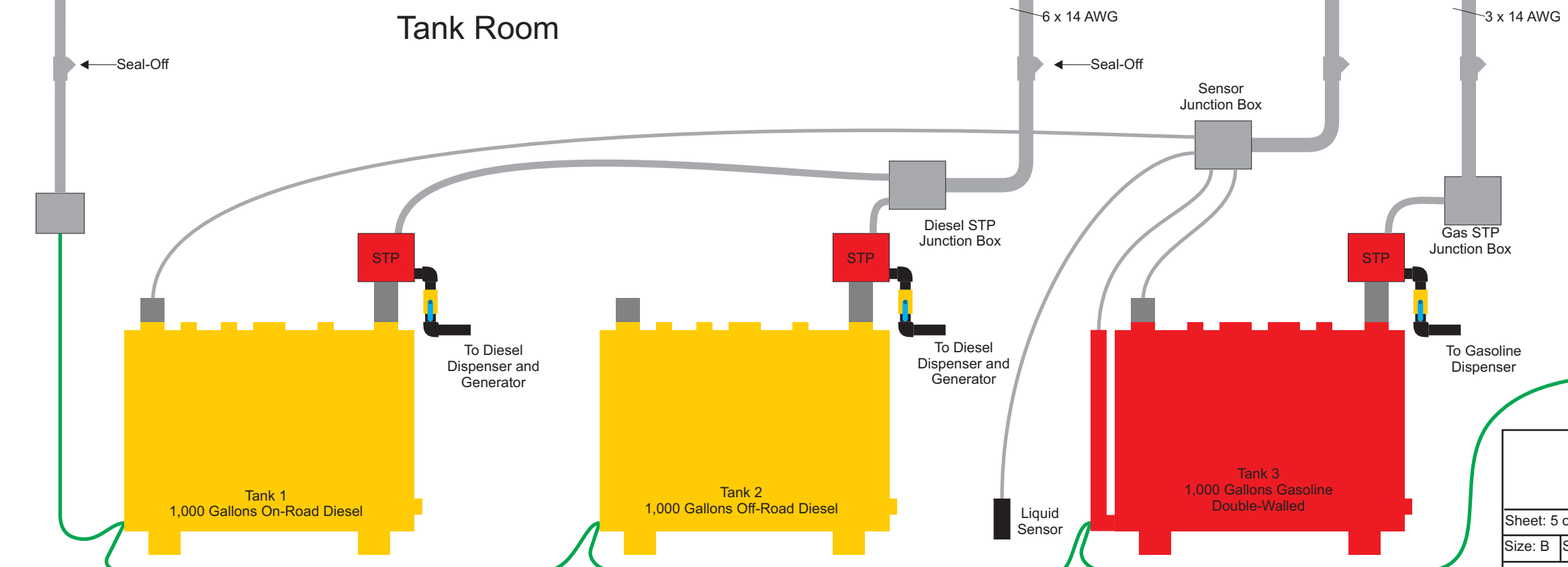
Main Garage Area




Dispenser Area



Tank Room



Maintenance Garage Fuel System Electrical Conduits Three Fuel Tanks			
Sheet: 5 of 8	Rev: 2	Drawn By: KW	March 25, 2016
Size: B	Scale: NTS	Tolerances:	
H:\Projects\MaintenanceGarage\FuelThreeTanks\ElectricalConduits.cdr			

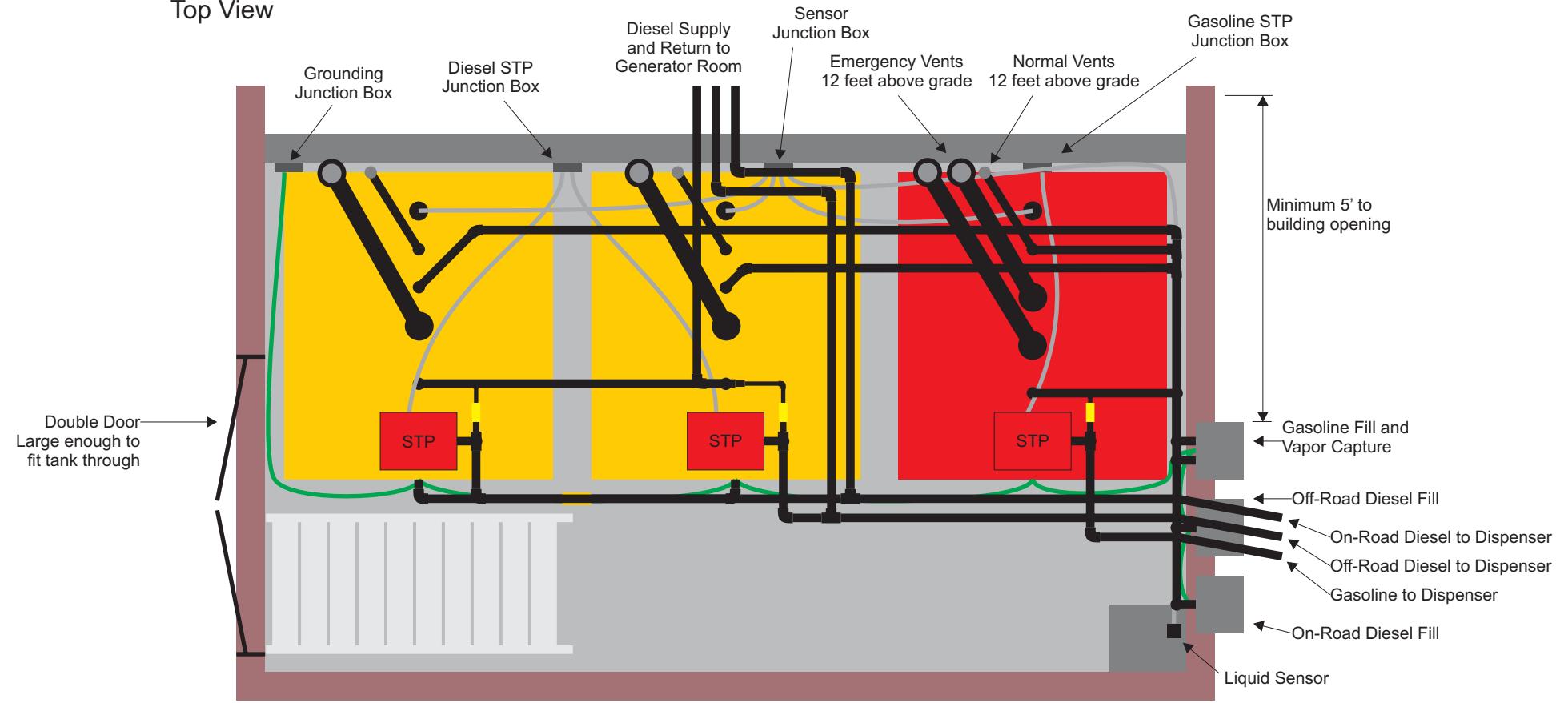


Society Hill
at
Piscataway

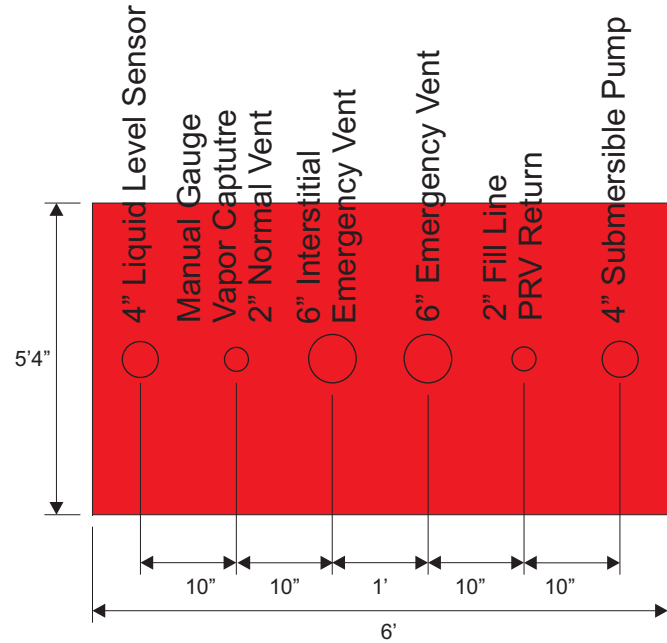
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management@societyhillpiscataway.com

Fuel Tank Room

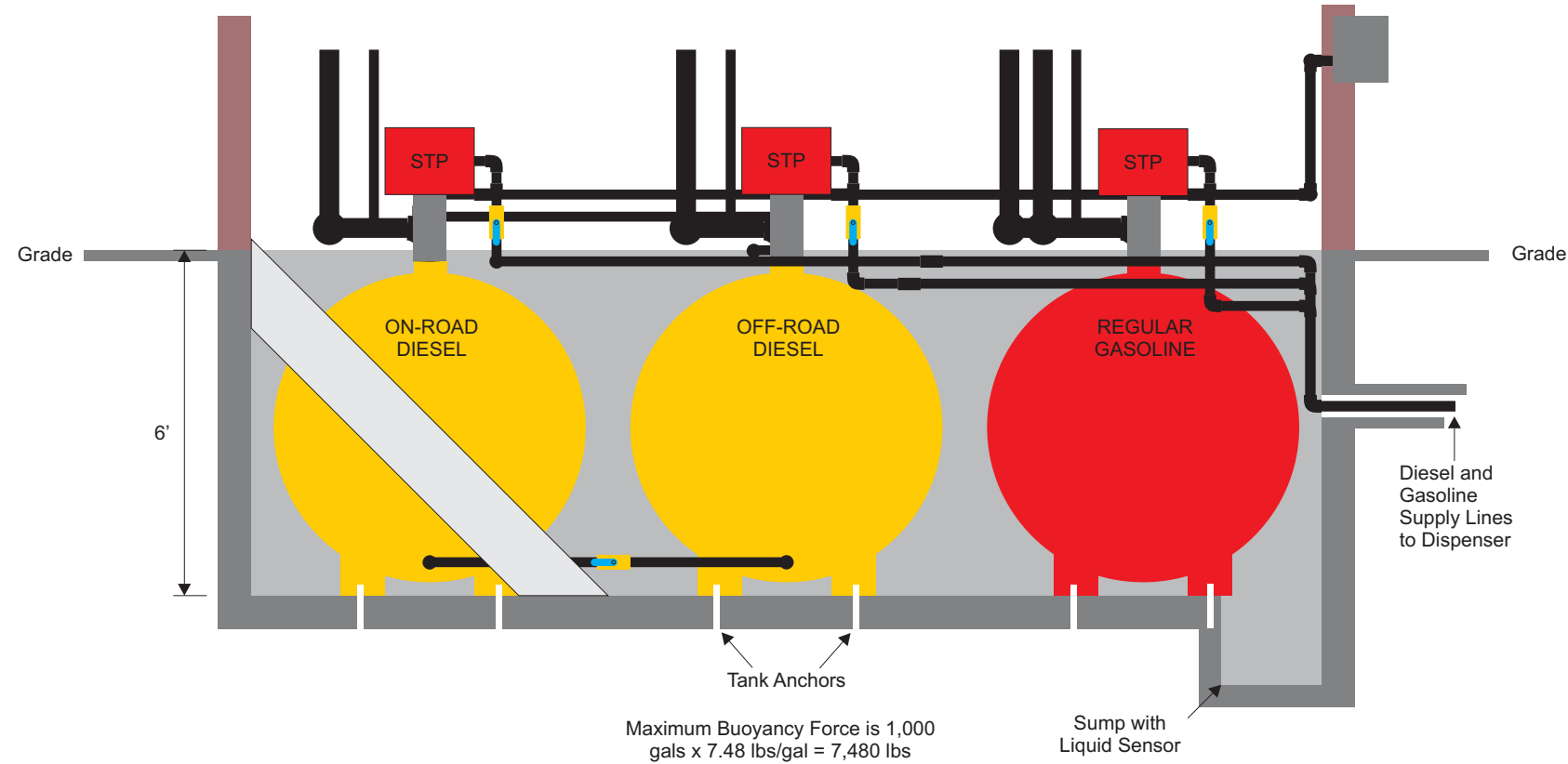
Top View



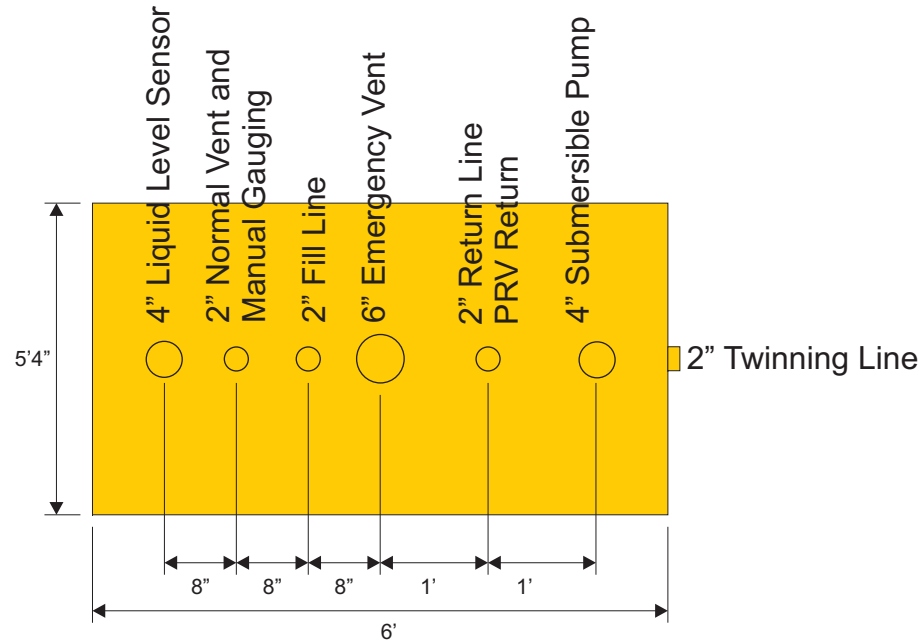
Gasoline Tank Fittings



Side View



Diesel Tanks Fittings



Containment Volume

Volume of containment area
 $120'' \times 224'' \times 72'' = 1,120 \text{ cu ft}$
 7.48 gallons of diesel in a cu ft
 $1,120 \times 7.48 = 8,377 \text{ gallons}$

Volume of 1,000 gallon round tank
 $(\pi 32^2) \times 72'' = 134 \text{ cu ft}$

Three tanks, fully submerged
 $134 \times 3 = 402 \text{ cu ft}$
 $402 \times 7.48 = 3,007 \text{ gallons}$

Total containment volume
 $8,377 - 3,007 = 5,370 \text{ gallons}$

Excess containment for fire suppression liquid
 $5,370 - 3,007 = 2,368 \text{ gallons}$

Maintenance Garage Fuel System Tank Room Three Tanks

Sheet: 6 of 8	Rev: 1	Drawn By: KW	March 25, 2016
Size: B	Scale: NTS	Tolerances:	
H:\Projects\MaintenanceGarage\FuelThreeTanks\TankRoom.cdr			



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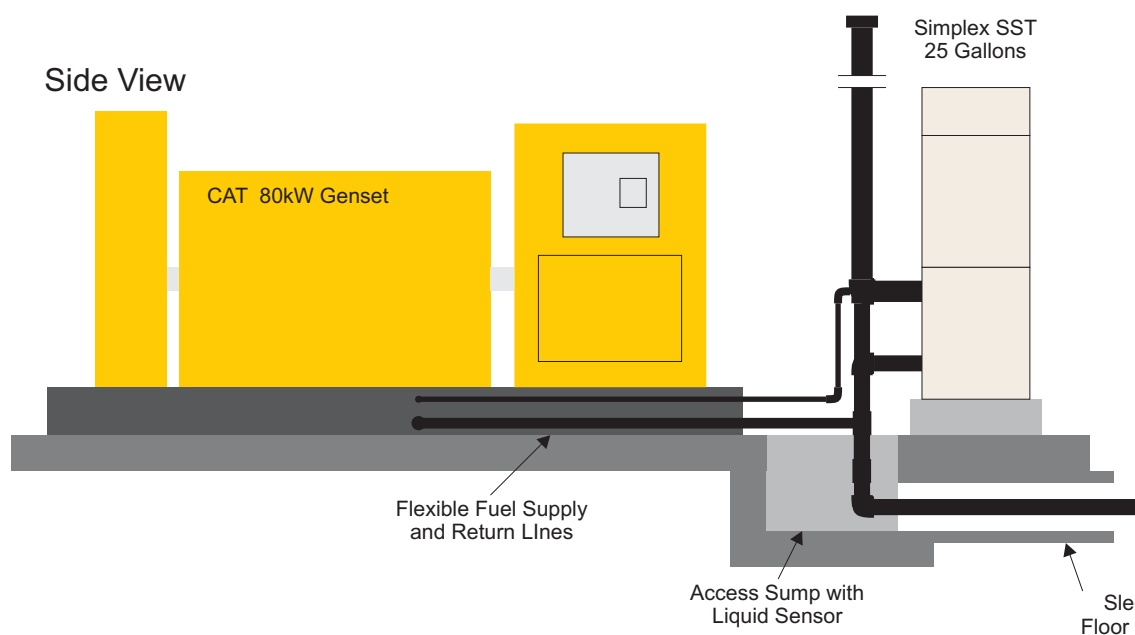
management@societyhillpiscataway.com

Generator and Day Tank

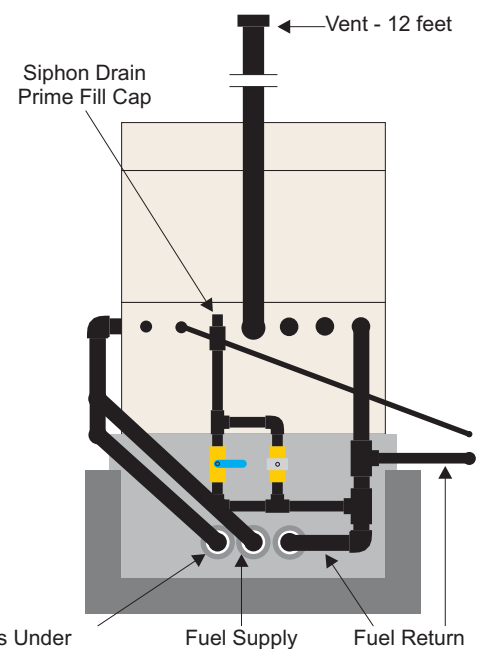
Top View



Side View



Rear Tank View



Maintenance Garage Generator Room

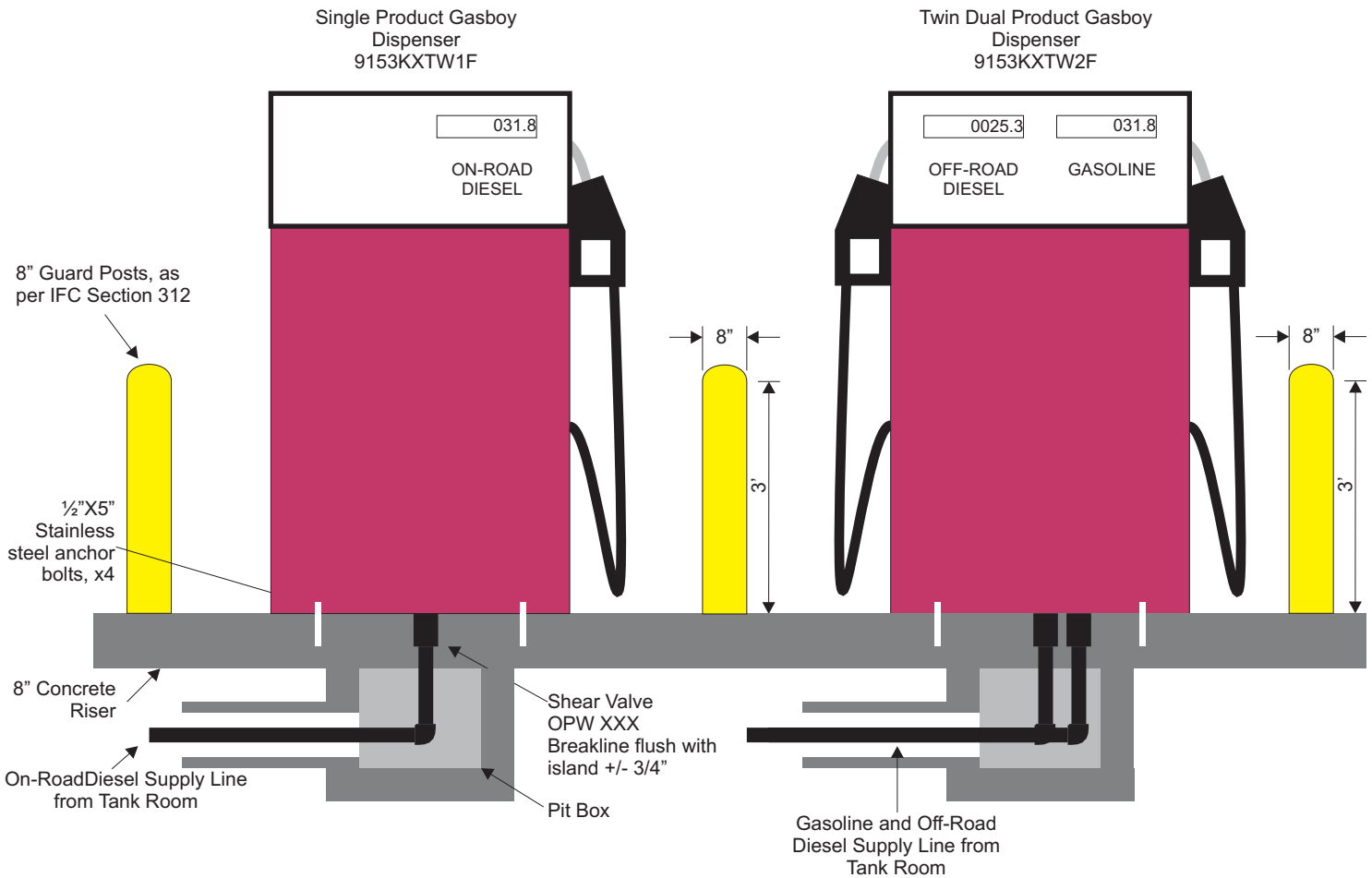
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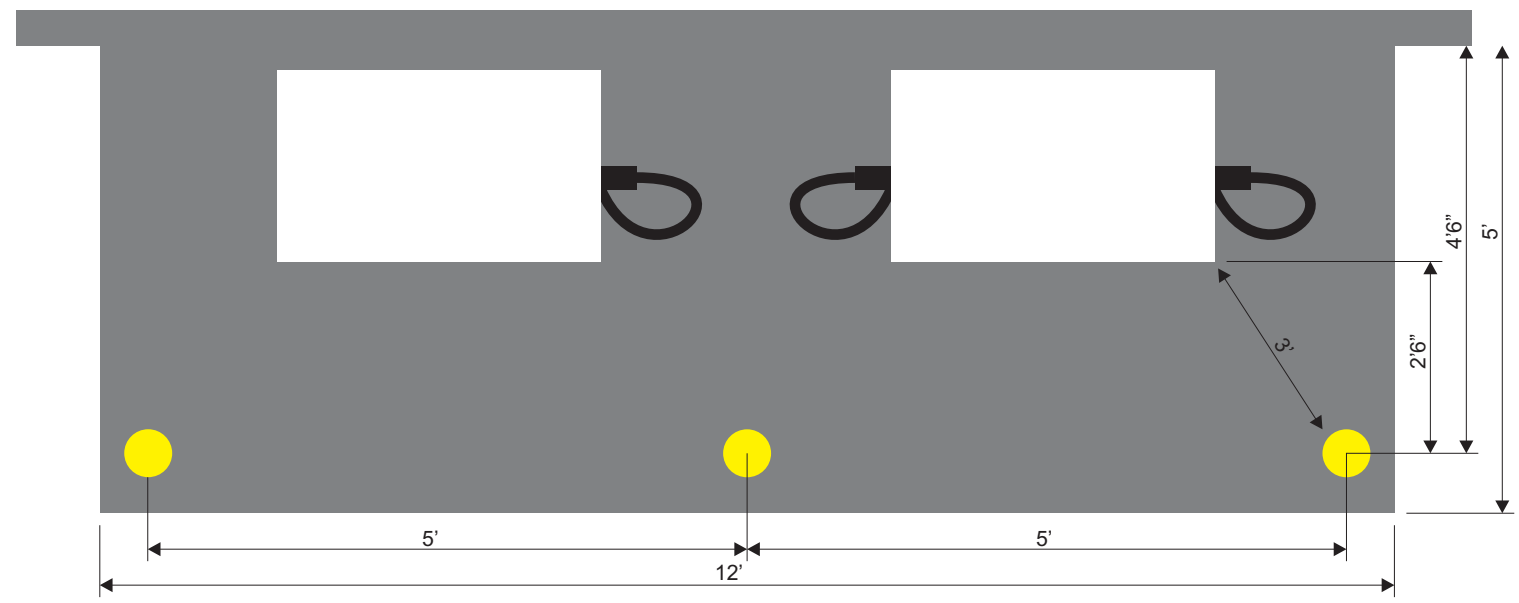
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On-Road Diesel Dispenser

Off-Road Diesel and Gasoline Dispenser



Top View



Maintenance Garage Fuel System Dispenser Island				 Society Hill at Piscataway 550 Chesterfield Drive Piscataway, NJ 08854 732-463-3434 management@societyhillpiscataway.com
Sheet: 8 of 8	Rev: 1	Drawn By: KW	March 25, 2016	
Size: B	Scale: NTS	Tolerances:		
H:\Projects\MaintenanceGarage\FuelThreeTanks\Dispenser.cdr				