City of Racine
Fuel Depot Replacement

Endpoint Solutions

Design Process

- Aboveground vs Underground
  - Setbacks
  - Maintenance
  - Environmental Protection
  - Ability to Relocate
  - Cost
- Regulatory/Code Compliance
- Storage Capacity and Usage Rates
- Redundancy and Dependability
- Location
  - Traffic Patterns
  - Piping Length
  - Access
  - Utility Conflicts
  - Constructability/Downtime

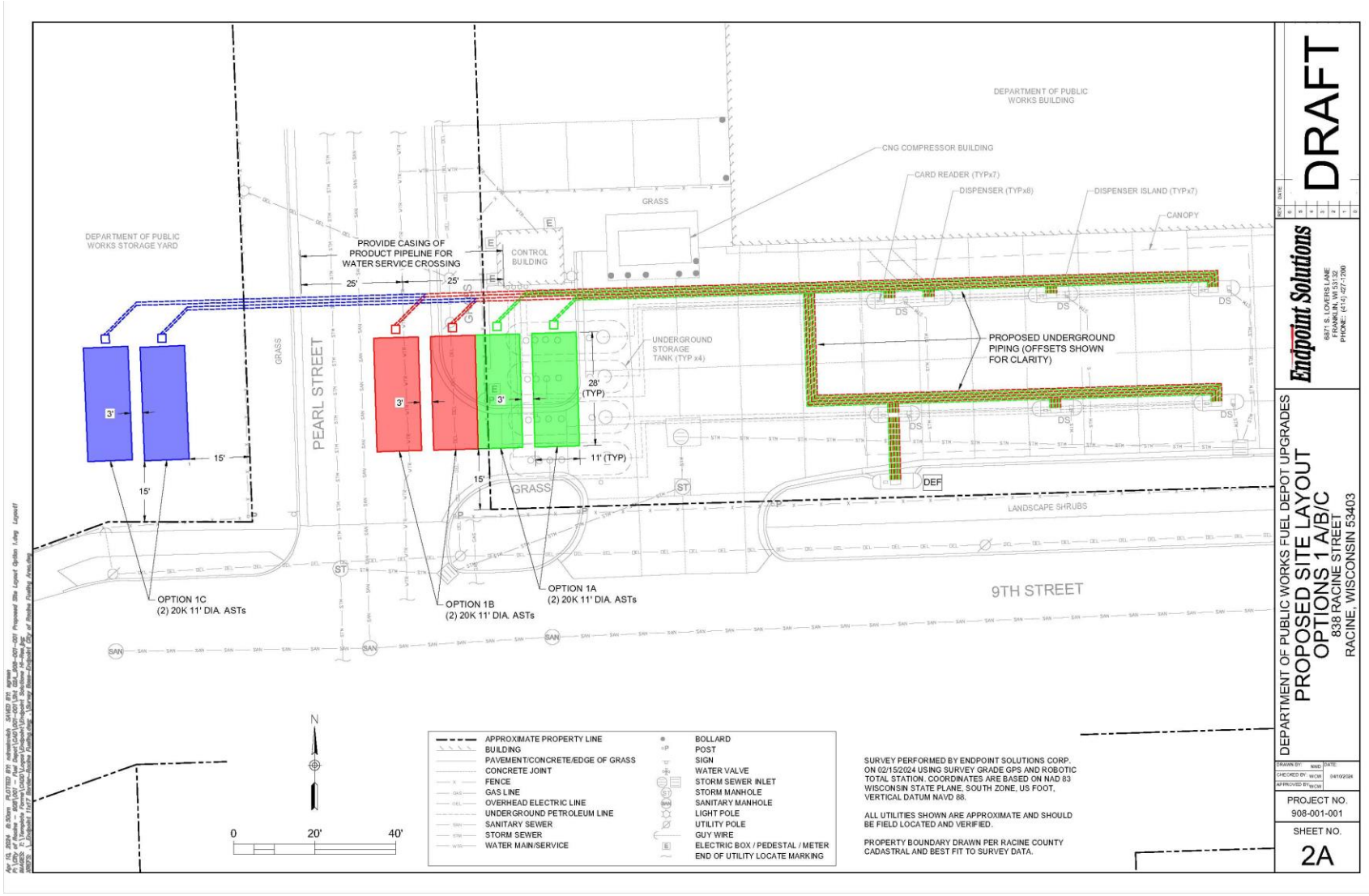
Fuel System Replacement Scope

- Option 1 – 20K Diesel UL2085 AST and 20K split (10/10 Gasoline) UL2085 AST
  - Provides same capacity as existing UST system and approximately 16.6 days lead time to get fuel delivery once capacity is available. Two submersible pumps per tank with VFD and smart controller provides same redundancy as existing UST system.
- Option 2 – 15K Diesel UL2085 AST and 15K split (10/5 Gasoline) UL2085 AST
  - Provides reduced capacity from existing UST system (75%) and approximately 8.7 days lead time to get fuel delivery once capacity is available. Two submersible pumps per tank with VFD and smart controller provides same redundancy as existing UST system.
- Option 3 – 12K Diesel UL2085 AST and 12K Gasoline UL2085AST
  - Provides reduced capacity from existing UST system (60%) and approximately 3.3 days lead time to get fuel delivery once capacity is available. Does not provide redundancy for either product.
- Alternate Items
  - Fuel Management System
  - Dispensers
  - Fuel Islands/Sumps
  - Fueling Area Pavements

Fuel System Replacement Locations

- Location A – ASTs over existing UST location
  - Has shortest piping run. Requires vacating Pearl Street ROW. May not require fence modifications. Requires UST removal prior to install and longer downtime. Park truck in Pearl Street ROW to unload fuel deliveries. Location would require relocation of overhead power lines and poles.
- Location B – ASTs in Pearl St ROW
  - Longer piping run. Requires vacating Pearl Street ROW and modification to the fencing to add a gate on Pearl Street. Can leave USTs in place until install is complete for less downtime. Route new piping around north end of existing USTs up to dispenser locations. South two USTs and south dispensers can stay in service until ASTs and north dispensers are fully installed. Park truck over existing USTs to unload fuel deliveries. Location would require relocation of overhead power lines and poles.
- Location C – ASTs west of Pearl St ROW
  - Longest piping run. Would not need to vacate Pearl Street ROW if 15' setback is met. Would need to add driveway and gate off Pearl Street. Can leave USTs in place until install is complete for less downtime. Route new piping around north end of existing USTs up to dispenser locations. South two USTs and south dispensers can stay in service until ASTs and north dispensers are fully installed. Piping would cross water line in Pearl Street so water line would need to be changed to a private water lateral and piping may need to be cased to 25' of each side of the water lateral. Park truck in new driveway to north of ASTs to unload fuel deliveries.

Fuel System Option Layouts - Option 1 A/B/C



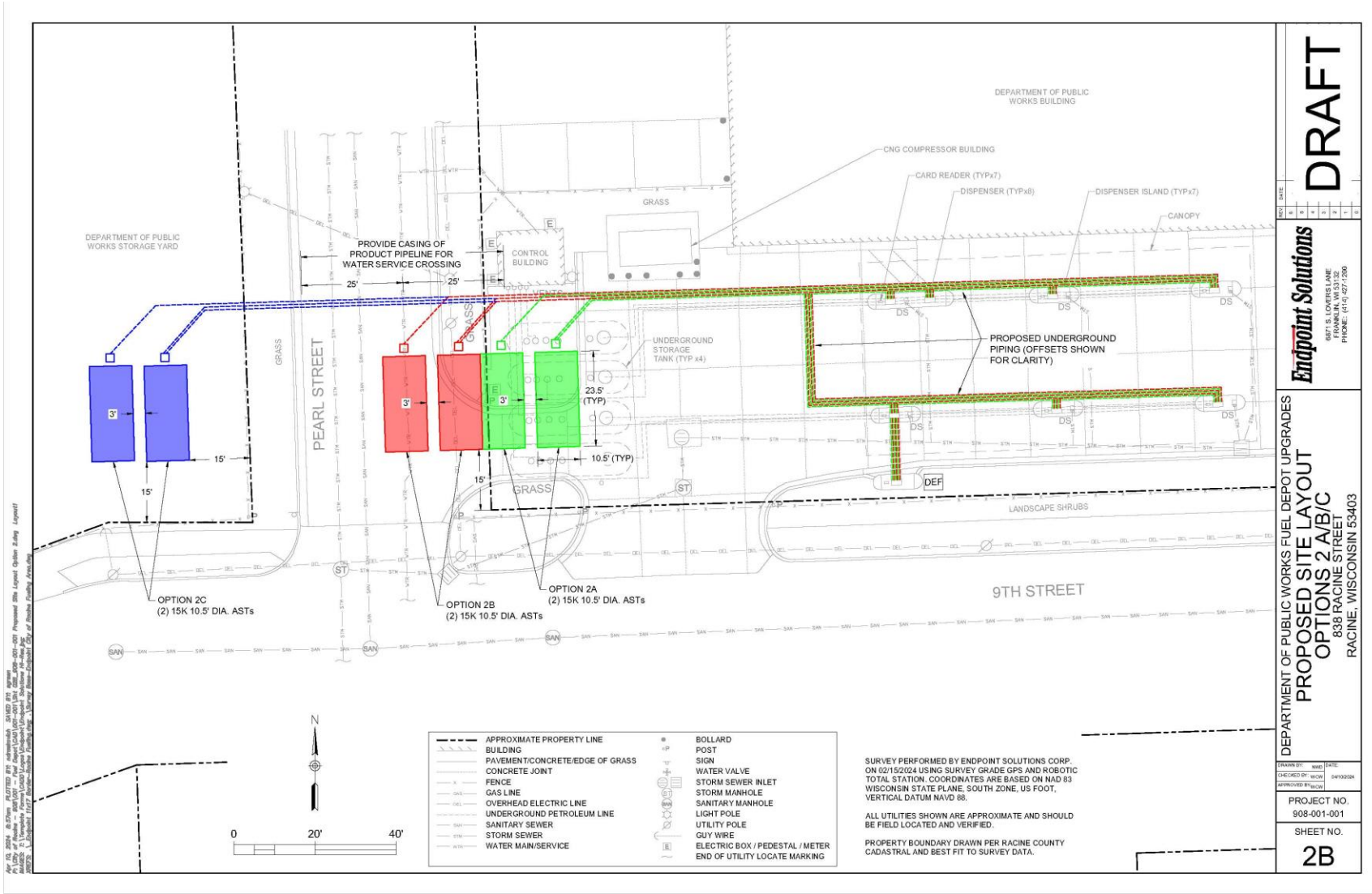
Option 1A - $822,875

Option 1B - $865,385

Option 1C - $864,465

Endpoint Solutions

Fuel System Option Layouts - Option 2 A/B/C



Option 2A - $783,625

Option 2B - $826,135

Option 2C - $825,215

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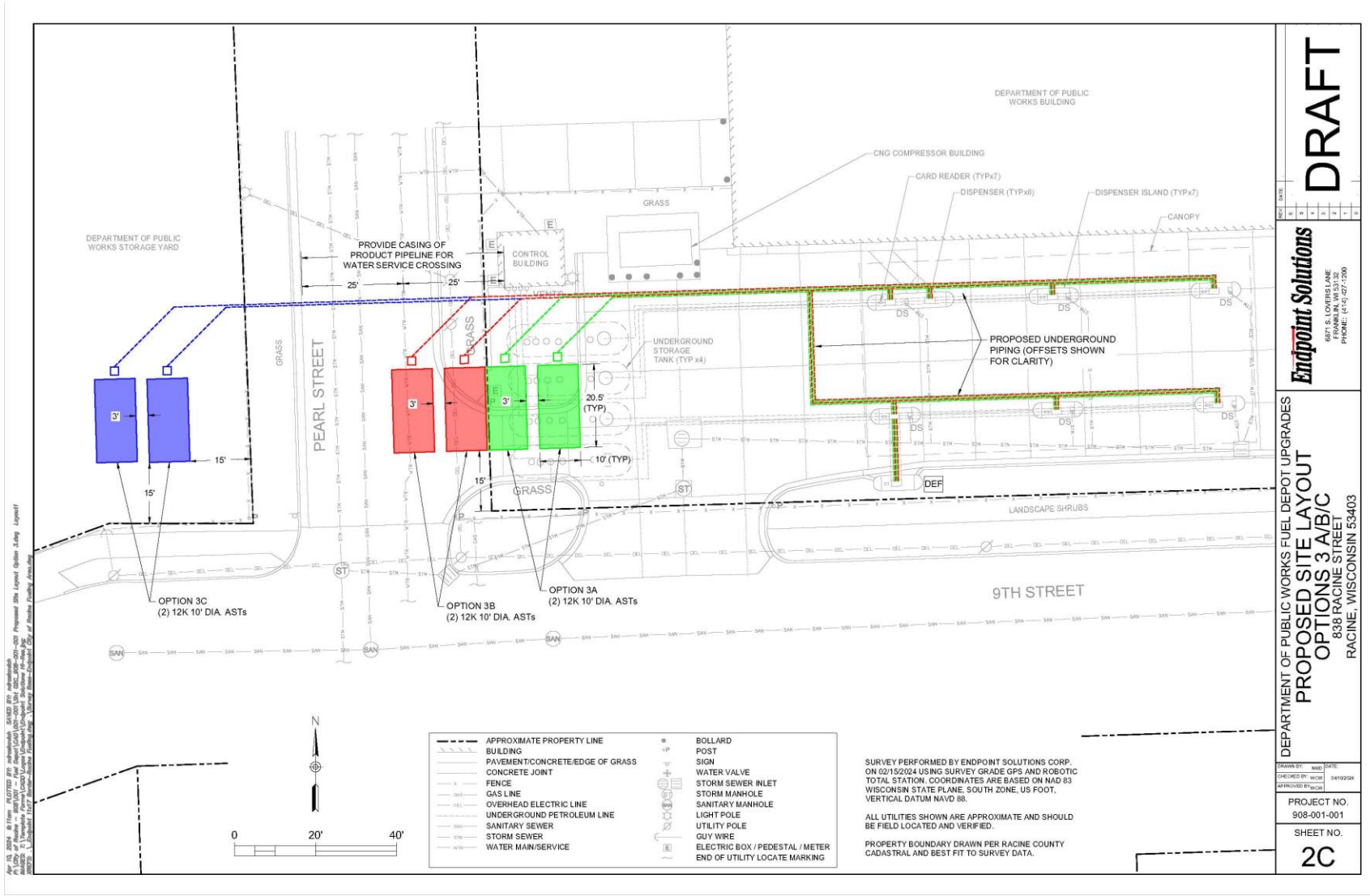
Fuel System Option Layouts - Option 3 A/B/C



Option 3A - $725,875

Option 3B - $768,385

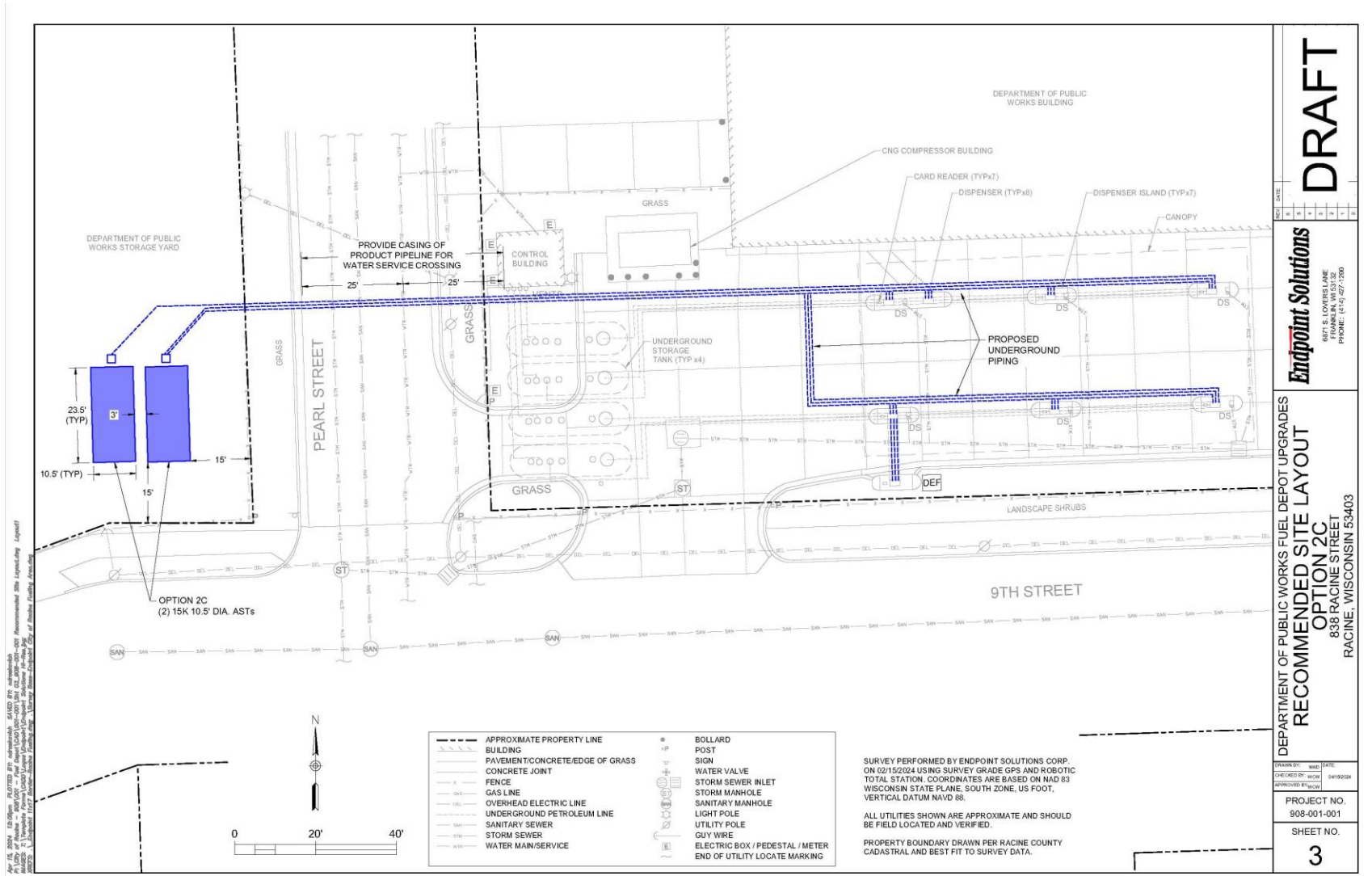
Option 3C - $767,465

Endpoint Solutions

Fuel System Option Estimates

- Bid Alternates:
  - Fuel Management System - $21,000
  - Two-Product Dispensers (7) - $98,600
  - Fuel Dispenser Islands & Sumps (7) - $24,600
  - Fueling Area Pavements - $163,000

FUEL SYSTEM RECOMMENDATION - OPTION 2C



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Fuel System Recommendation - Option 2C

- Option 2C - $825,215
- Fuel Management System - $21,000
- Two-Product Dispensers (7) - $98,600
- Fuel Dispenser Islands & Sumps (7) - $24,600
- **TOTAL Project $969,415**

Endpoint Solutions

Existing Conditions – DPW Fuel Depot

Depot serves large City fleet (~617 pieces of rolling & non-rolling equipment w/ replacement value ~$33M)

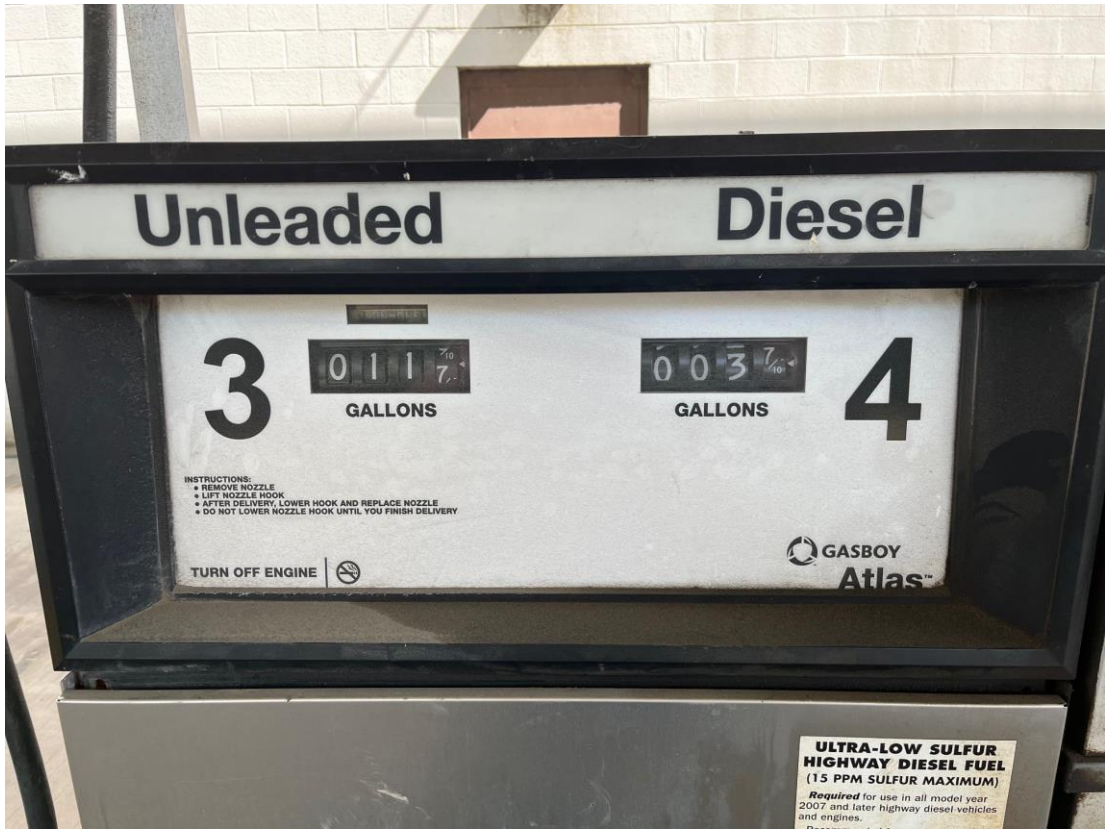
- Refuse Trucks (32)
- 5 Yard Dump/Plow Trucks (31)
- Wheel Loaders (14)
- Other Large Trucks (30)
- Construction Equipment (51)
- Light Duty Vehicles (131)
- Small Equipment (208)
- Police Department Vehicles (120)

Dispense ~373,000 gallons of fuel annually (3-year average)

- 54% gasoline/46% diesel
- ~$1M dispensed (84% City fleet, RWWU 8%, RUSD 7 %, Racine County 1%)

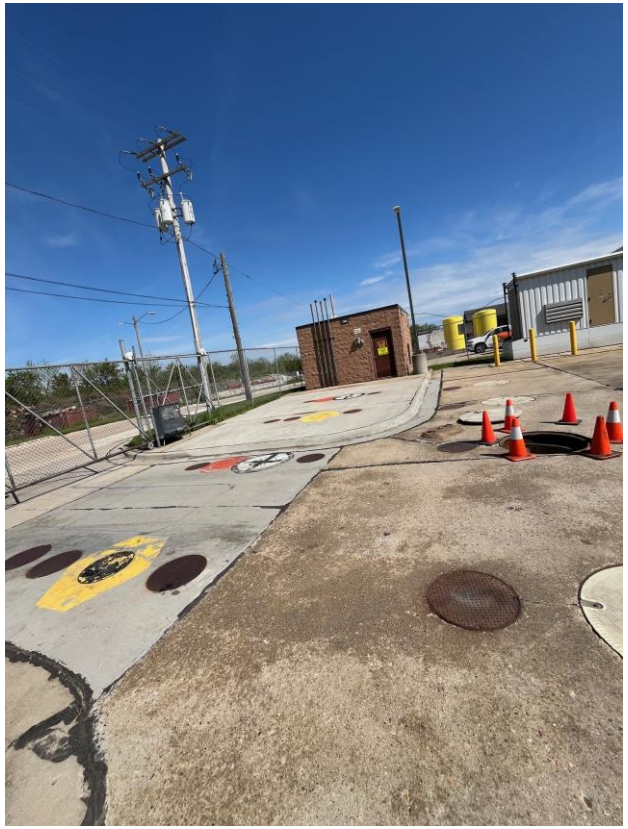
Existing Conditions – DPW Fuel Depot

- Half of the fuel dispensers were replaced in 2010 and the remainder were replaced in 2011.



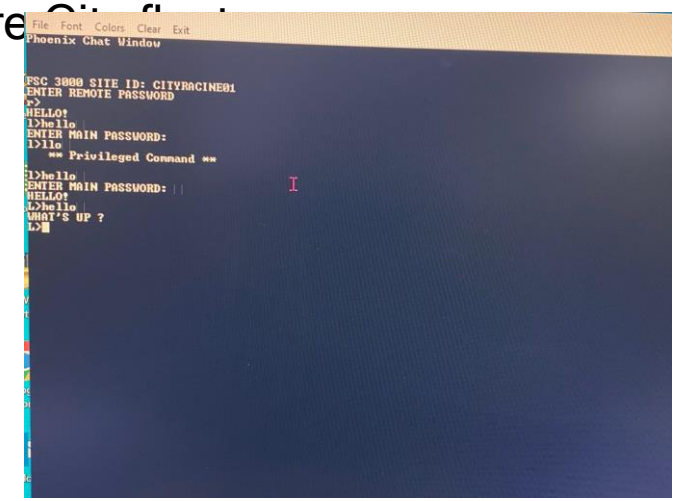
Existing Conditions – DPW Fuel Depot

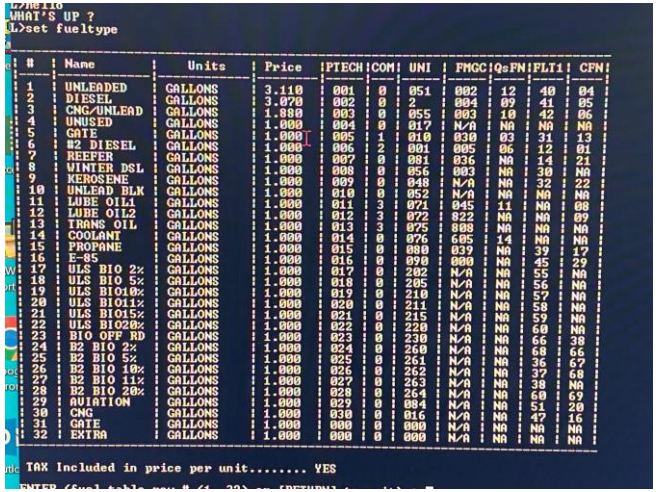
- All of the manholes and concrete above the existing UST's has been replaced.
- The manholes serve the purpose of receiving delivery of fuel, where the pumps are to dispense fuel, monitoring inventory and leak detection.
- In 2007 we had to replace the submersible containment manholes (by cones) because steel rings had severely deteriorated.
- In 2019 we had to replace the manholes on left for the spill containment buckets and monitoring.



Existing Conditions – DPW Fuel Depot

- The environmental management system or Automatic Tank Gauging (ATG) monitors for leakage and inventory is original and 30 years old.
- Stopped manufacturing our ATG in 2021 and will support them for an additional five years or until spare parts are no longer available, whichever comes first.
- DATCP requires the ATG must be in place and tested for functionality every 12 months.
- If test fails, the tank and associated appurtenances get red tagged and are shut down, and no more fuel may be delivered to that tank system unless deficiencies are corrected immediately.
- The fuel management software system is original to the fuel depot from 30 years ago. The software is in DOS (disk-based operating system) format that is no longer supported by the company nor by our own City MIS Department. It is so antiquated it had to be Y2K compliant. This software is the platform to track usage, invoice departments/agencies and schedule all preventative maintenance actions for the entire City fleet.





Existing Conditions – DPW Fuel Depot

What happens if fuel depot fails functionality tests and is shut down?

- Fueling of fleet at retail gas stations.
- Some larger equipment such as RFD or DPW/RWWU large heavy equipment may need to fuel out at a commercial location such STH 11 & CTH H that can accommodate these types of vehicles.
- No priority or 24/7 fueling.
- Gas cards would need to be procured and issued to every vehicle in fleet.
- Difficult tracking of fuel usage for preventative maintenance.
- Gas card abuse.
- Becomes an operational liability for the City of Racine to provide reliable emergency & routine services to citizenry.