

# Salina Landfill – Concept to Construction

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# Overview

- Background and History of Site
- Master Planning
- 2014 Construction Project

# Background and History of Site

## Site Birdseye View



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# Background and History of Site

## Original Permit Layout

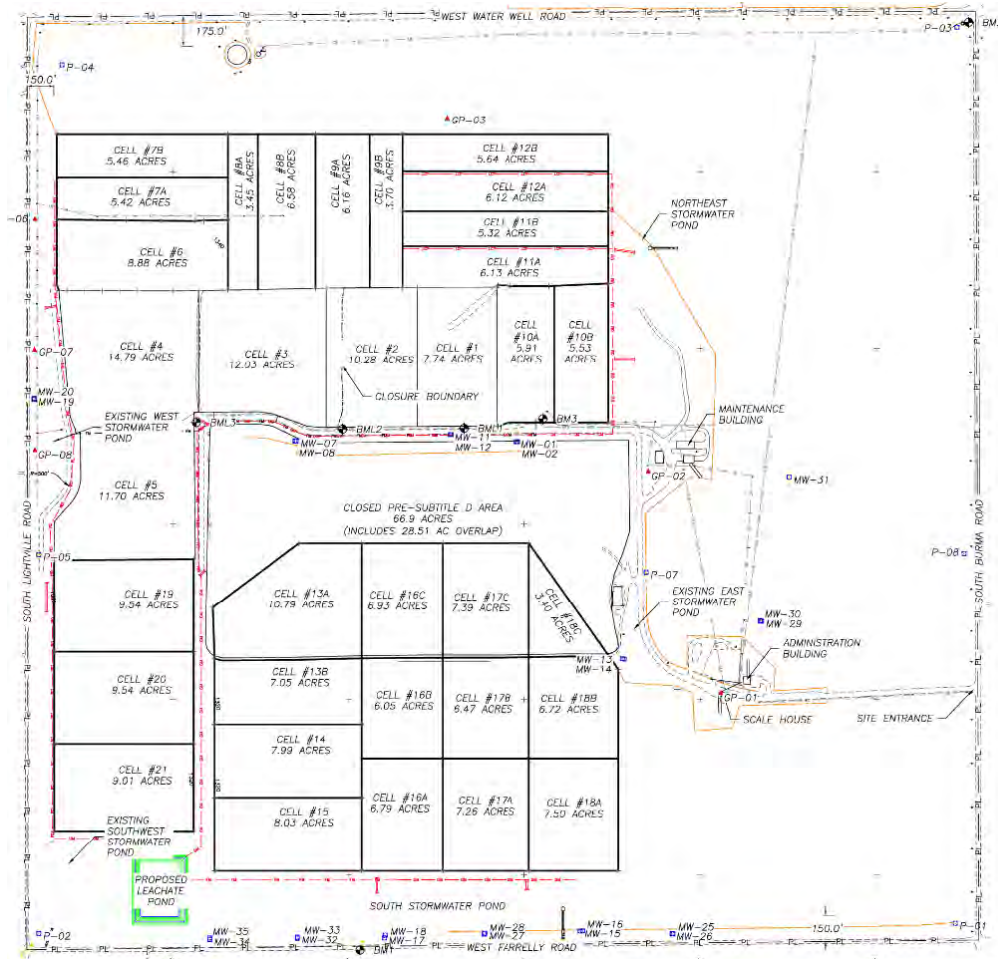


## Master Planning

# Key Components

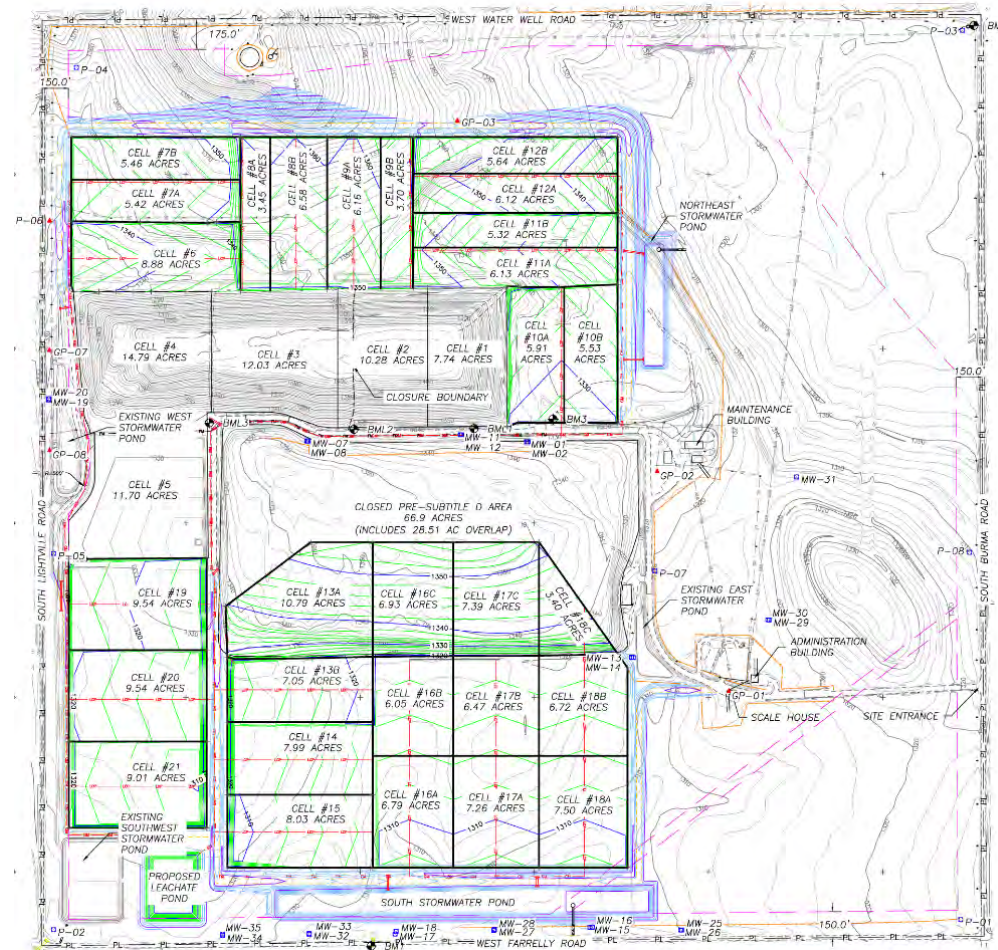
- Cell Grades
- Leachate Pond
- Leachate Collection and Removal System
- Access Roads
- Final Cover
- Stormwater Control Structures

# Master Planning New Site Layout

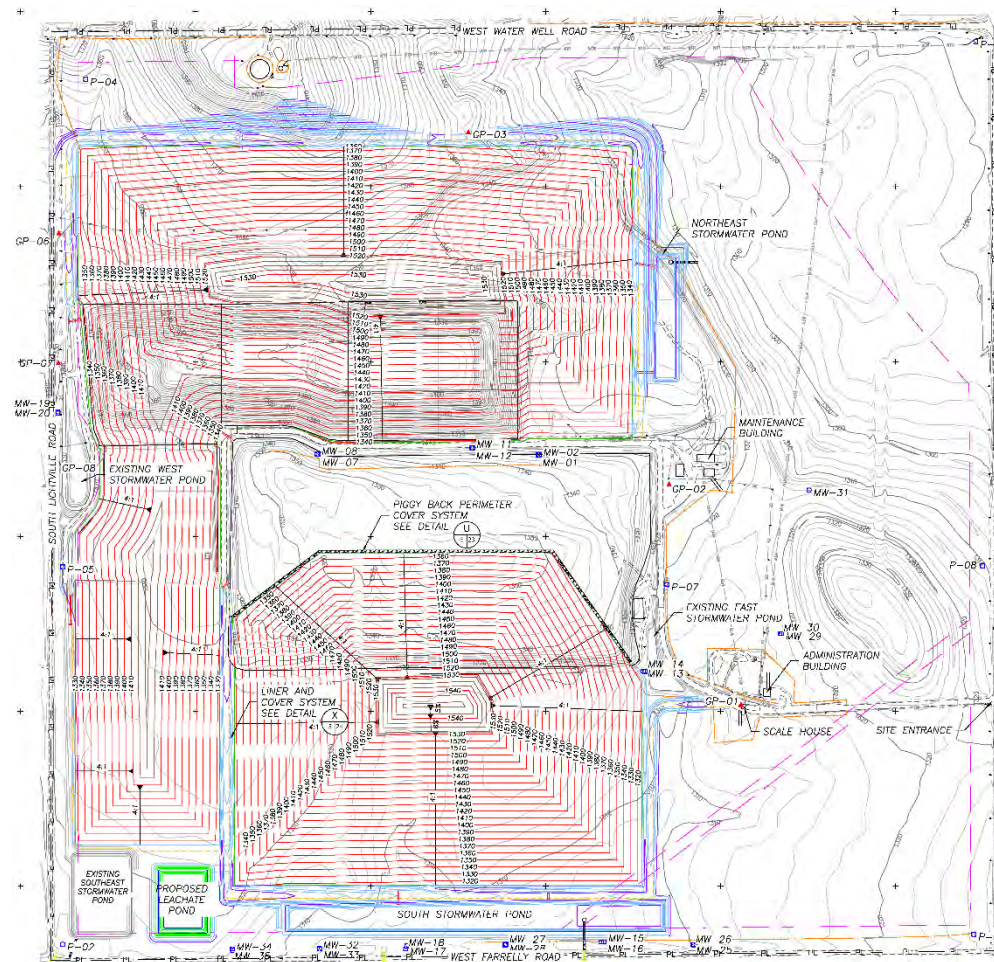




# Master Planning Liner Grades



# Master Planning Final Cover





## Master Planning

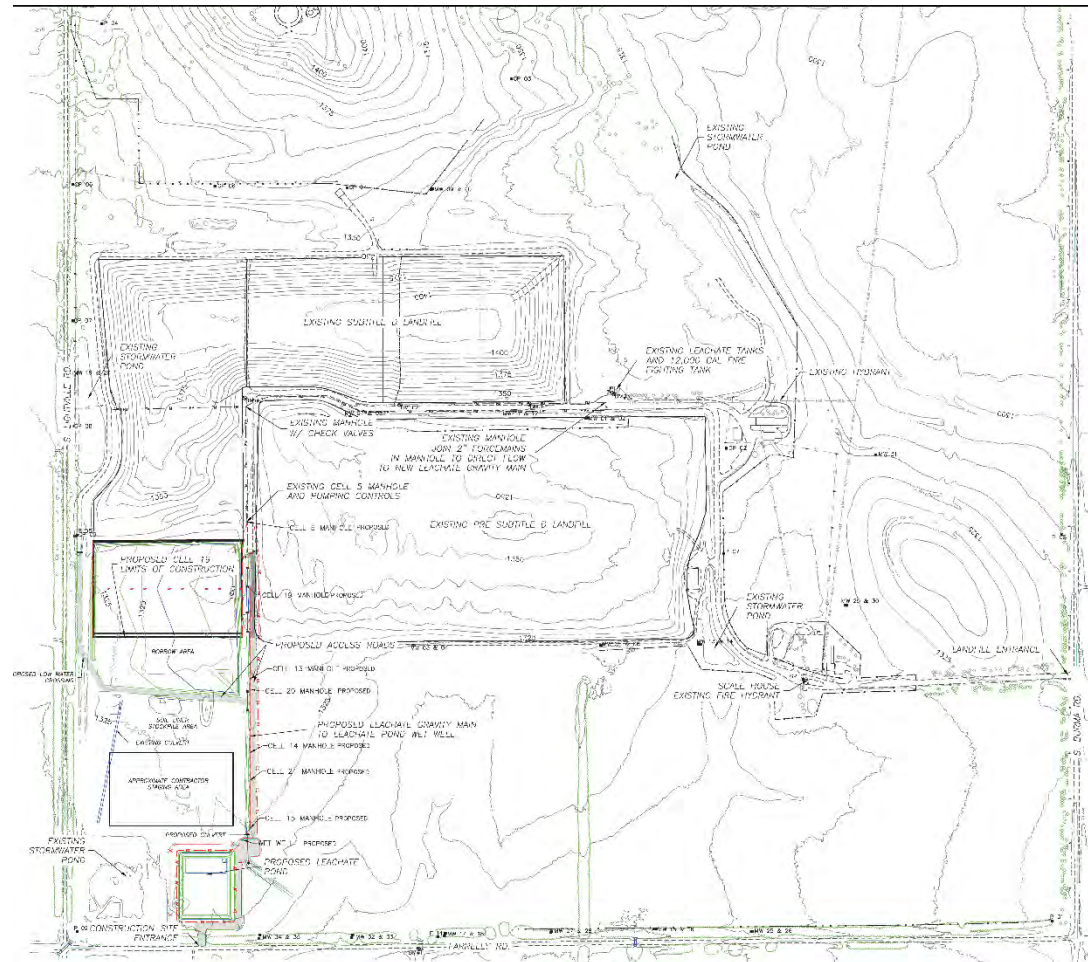
# Key Highlights

- Original Waste Volume Estimate ~21.5MM CY
- New Waste Volume ~ 30MM CY
- Net Gain of 8.5MM CY While Only Adding 8 Acres of Footprint
- Leachate Gravity System
  - No pumps or sumps in future cells; replacement and maintenance
  - Central wet well at the leachate pond
- No Leachate Tanks, Hauling to POTW

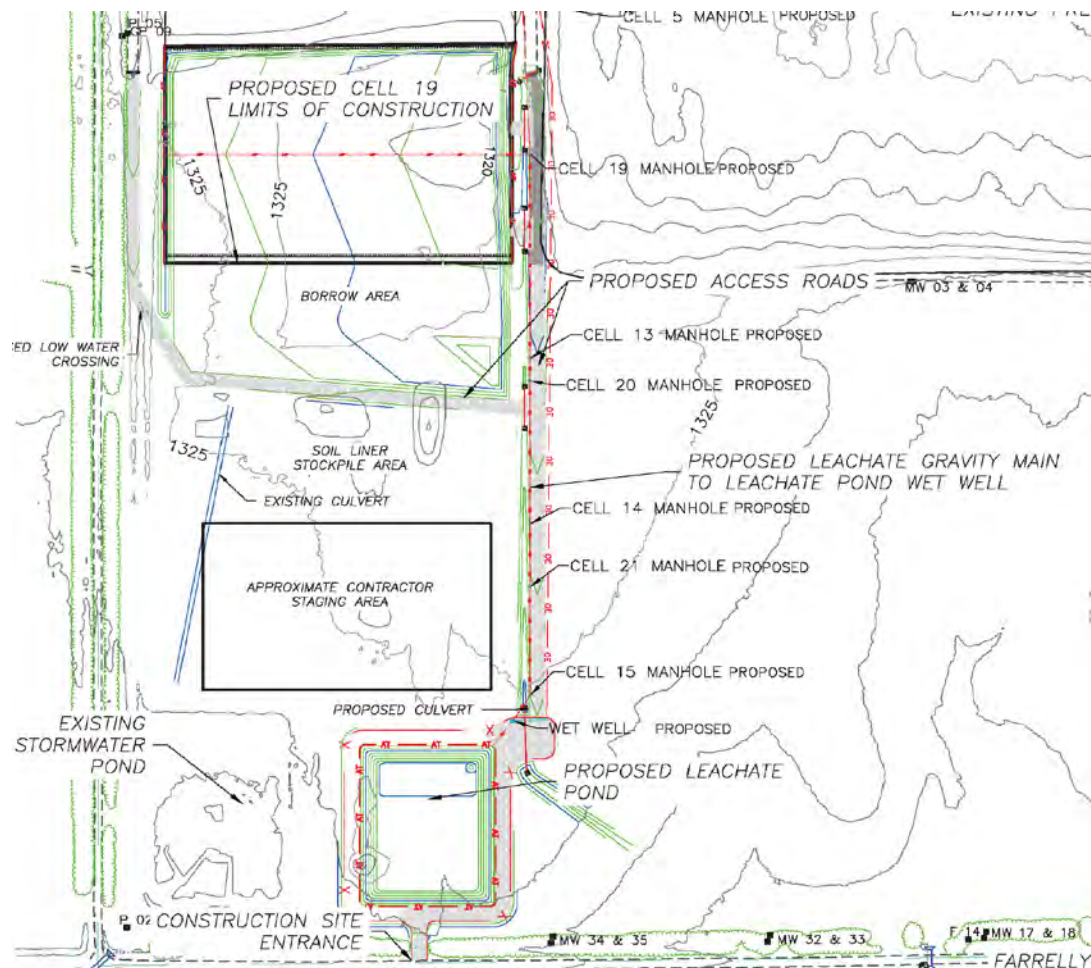
# 2014 Construction Project Overview

- Construction Project Consisted of:
  - 10 Acre Cell 19
  - 1800 feet of Gravity Main, Wet Well, and Pumping System (Leachate Collection and Removal System)
  - 3 Acre Leachate Pond

# 2014 Construction Project Overview



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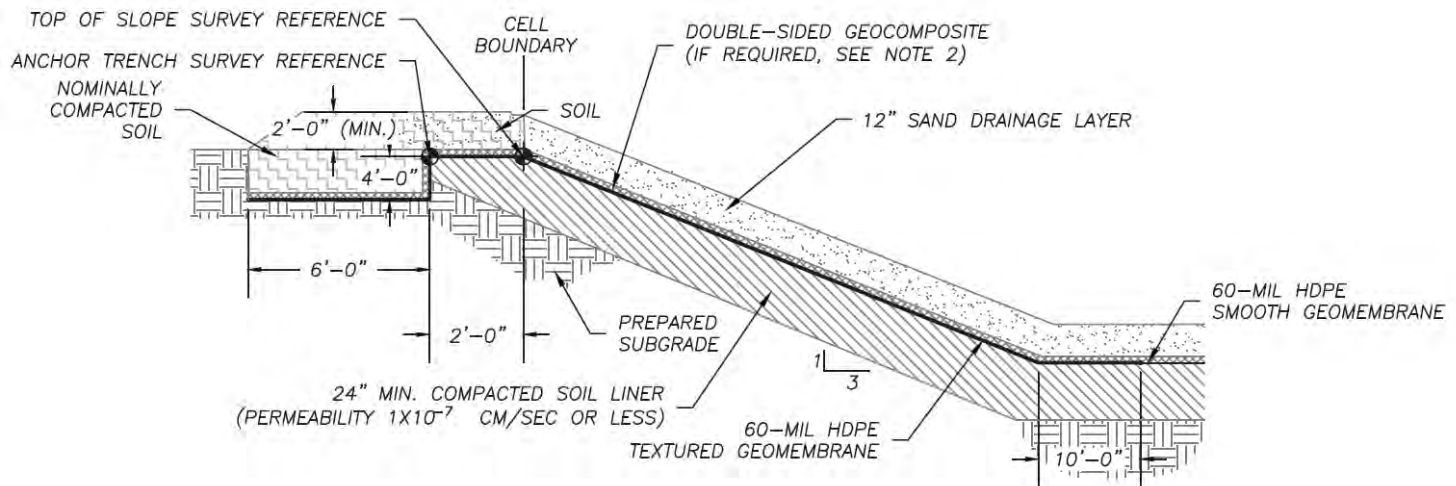




# 2014 Construction Project

## Cell 19 Construction

- 2 feet of compacted clay liner
- 60 mil HDPE
- 1 foot of sand drainage/protective layer



# 2014 Construction Project

## Cell 19 Construction

- Other Key Components
  - Leachate Collection Trench
  - Emergency Sump
  - Liner Termination Berm
  - Leachate Collection Line - Liner Penetration

# 2014 Construction Project

## Cell 19 Construction





# 2014 Construction Project

## Cell 19 Construction





# 2014 Construction Project

## Cell 19 Construction



## 2014 Construction Project

# Leachate Collection and Removal System

- After the liner penetration the leachate collection line discharges into a concrete manhole that was lined with polypropylene outside of Cell 19 limits
- Travels to the south by gravity to a wet well
- Pumped into the leachate pond
- Installed future lined manholes along pipeline. 7 in total

# 2014 Construction Project Leachate Collection and Removal System





2014 Construction Project

# Leachate Collection and Removal System





# 2014 Construction Project Leachate Collection and Removal System



# 2014 Construction Project Leachate Collection and Removal System





# 2014 Construction Project Leachate Collection and Removal System



# 2014 Construction Project Leachate Collection and Removal System





# 2014 Construction Project Leachate Collection and Removal System



2014 Construction Project

# Leachate Collection and Removal System

- Wet well equipped with 2-ABS sanitary sewer pumps.
  - Stainless steel or epoxy coated parts
- Pumps alternate operation to decrease operational wear
- High leachate level alarm with light and sound
- Lights when the pumps are on and when a pump fails

2014 Construction Project

# Leachate Collection and Removal System

- Digital display showing depth of leachate from bottom of wet well
- Flow totalizer with a manual reset switch
- Digital flow meter display in GPM
- Control panel controls pumps at the following switch levels
  - Pump on
  - Lag Pump Start on
  - High alarm
  - Pump off

# 2014 Construction Project Leachate Collection and Removal System





# 2014 Construction Project Leachate Collection and Removal System



# 2014 Construction Project Leachate Collection and Removal System



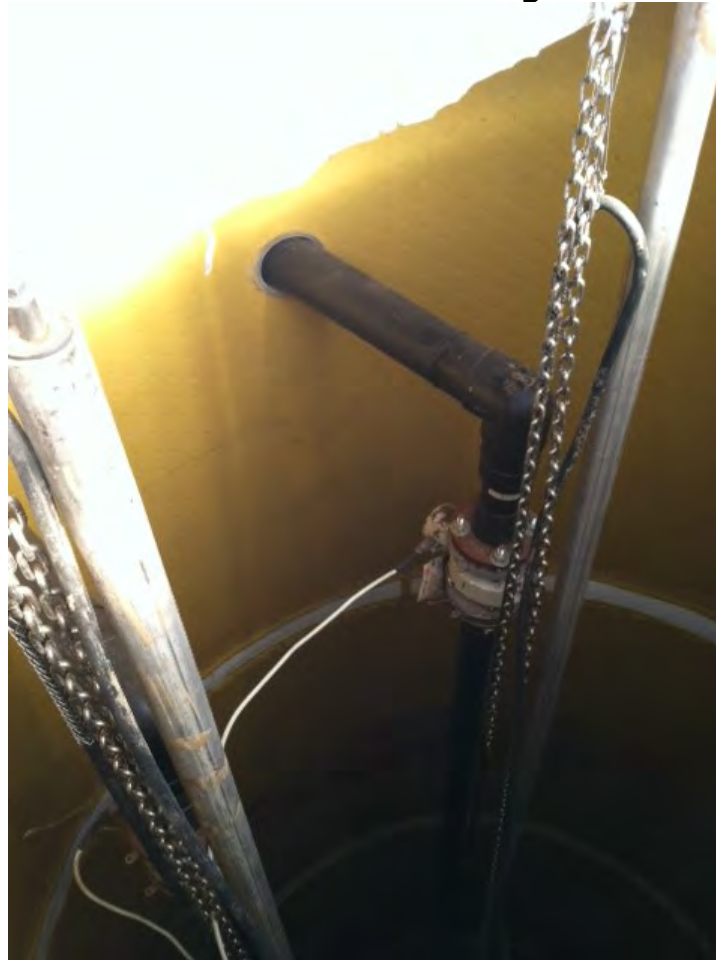
2014 Construction Project

# Leachate Collection and Removal System



2014 Construction Project

# Leachate Collection and Removal System

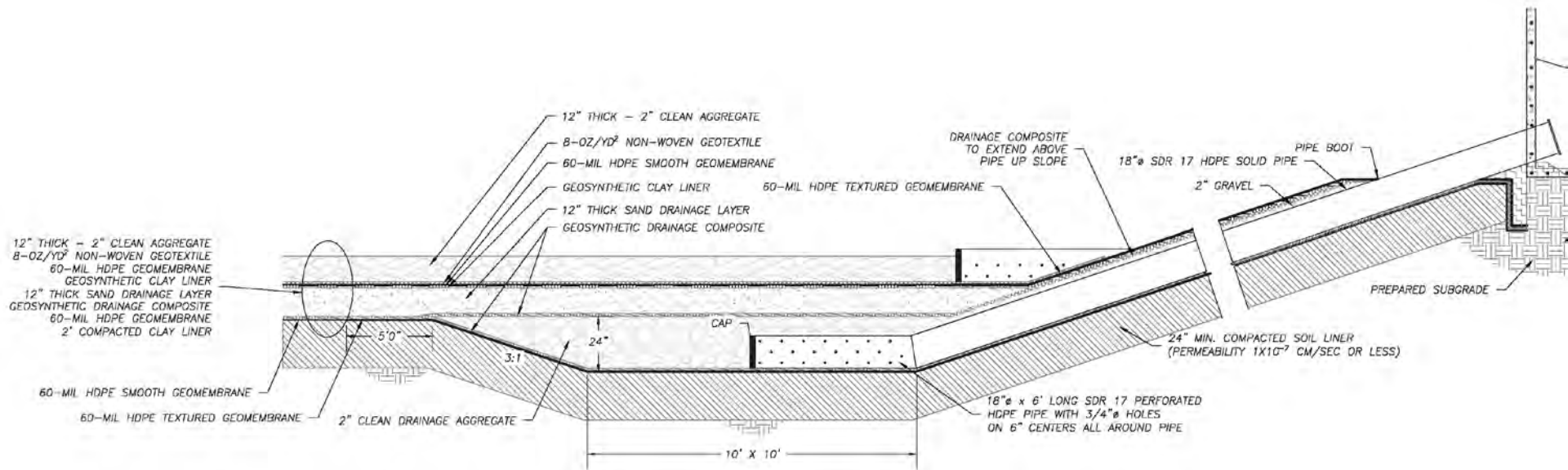




# 2014 Construction Project

## Leachate Pond

- Double lined with a 2-foot thick low permeability soil liner, geosynthetic components, and aggregate protective layers



# 2014 Construction Project Leachate Pond



# 2014 Construction Project Leachate Pond





# 2014 Construction Project Leachate Pond

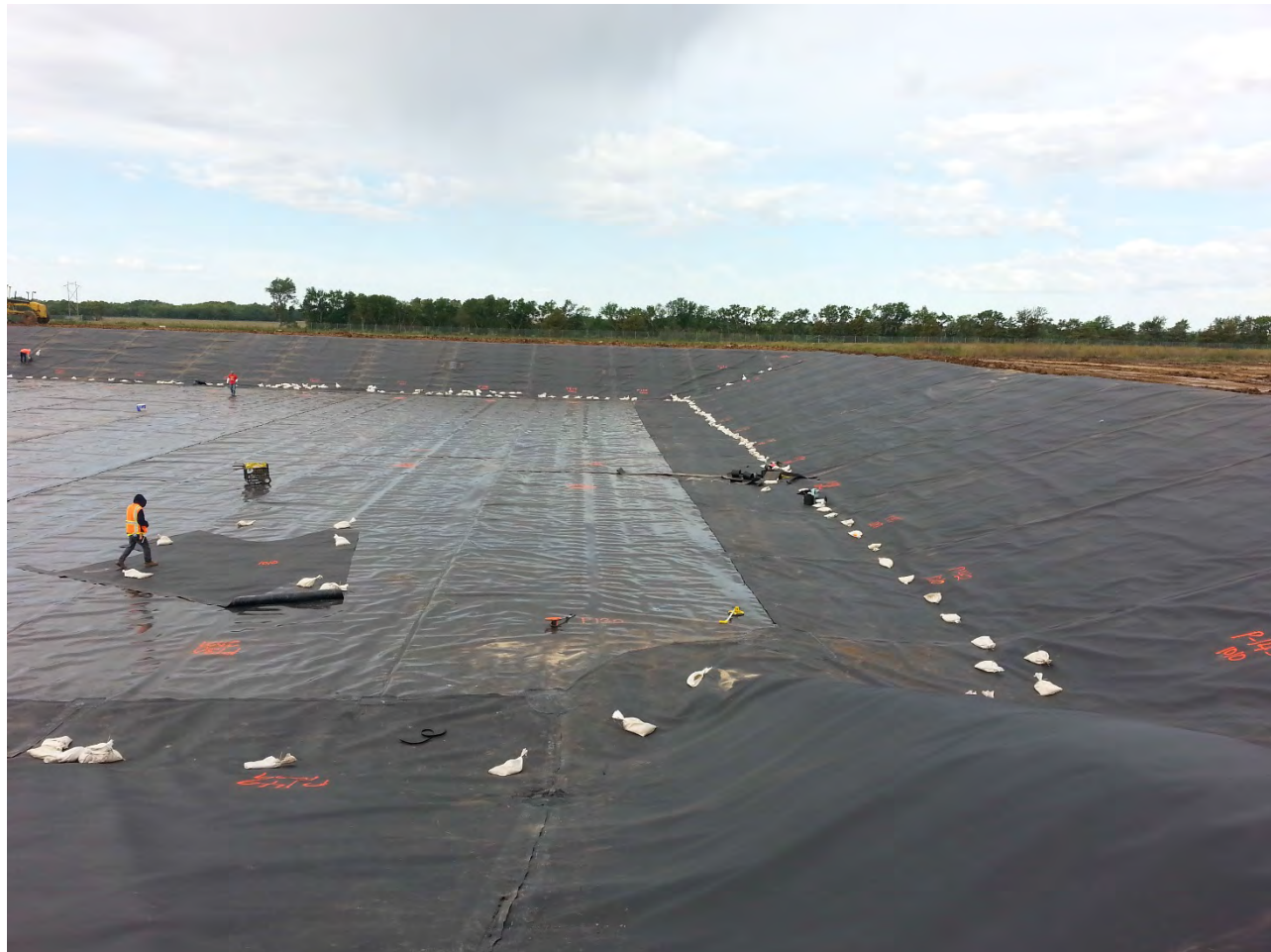




# 2014 Construction Project Leachate Pond



# 2014 Construction Project Leachate Pond



# 2014 Construction Project Leachate Pond





# 2014 Construction Project Leachate Pond





# Thank You For Your Time

## Questions?

