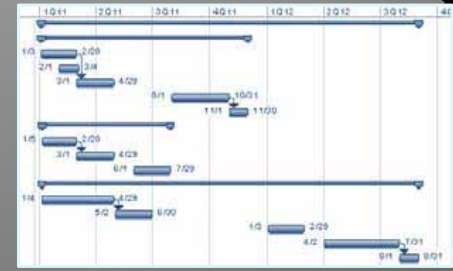


Landfill Gas Project

Overview of Landfill Gas (LFG) Collection System
LFG Power Generation & Turboexpander Facility
(Feb 17, 2011)



Development Schedules



LFG Collection System:

- Landfill Cover - June/July
- LFG Collection System - Aug thru Dec
- Operational early 2012

LFG Power Generation:

- Currently in Detailed Design
- Operational summer 2012

Turboexpander Project (with SaskEnergy):

- Currently in Detailed Design
- Operational fall 2012



Project Area

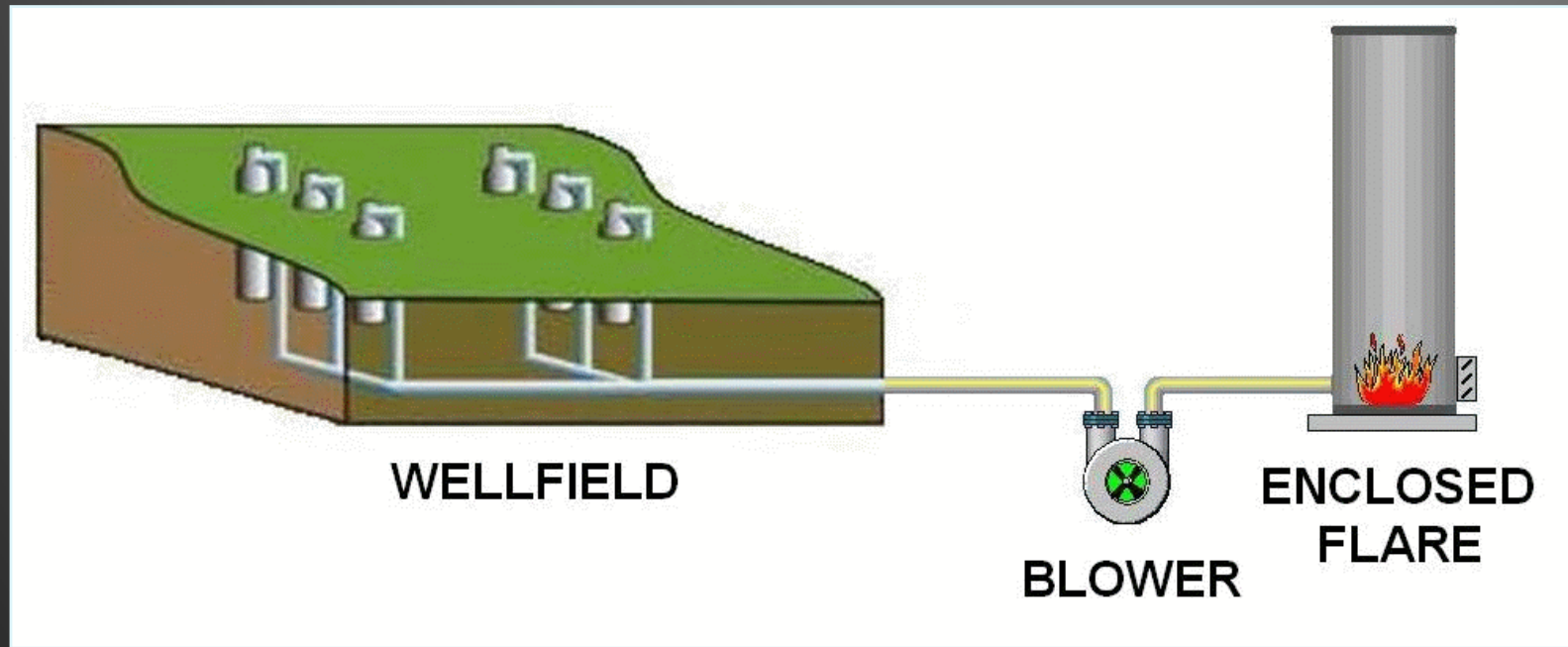
LFG Power Generation & Turboexpander Facilities
Saskatoon Landfill (LFG Collection System)



Legend

-  Meewasin Buffer Zone
-  Meewasin Conservation Zone
-  Exempt
-  Municipal, Environmental, or Provincial Reserve
-  Saskatoon Boundaries
-  Corman Park Boundaries

Landfill Gas Collection



Typical LFG Composition:

Methane	50%
Carbon Dioxide	40-50%
Nitrogen	0-10%
Oxygen	0-1%
Energy Value	~ 18 MJ/m ³ (500 Btu/ft ³)

Saskatoon's Green Energy Park

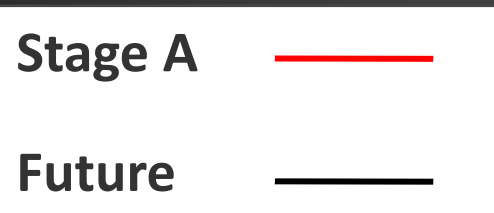


Saskatoon's Green Energy Park - Looking Southwest
(Landfill Gas Blower/Flare Station in foreground)



Landfill Gas Collection System

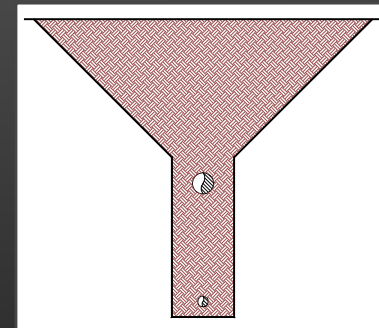
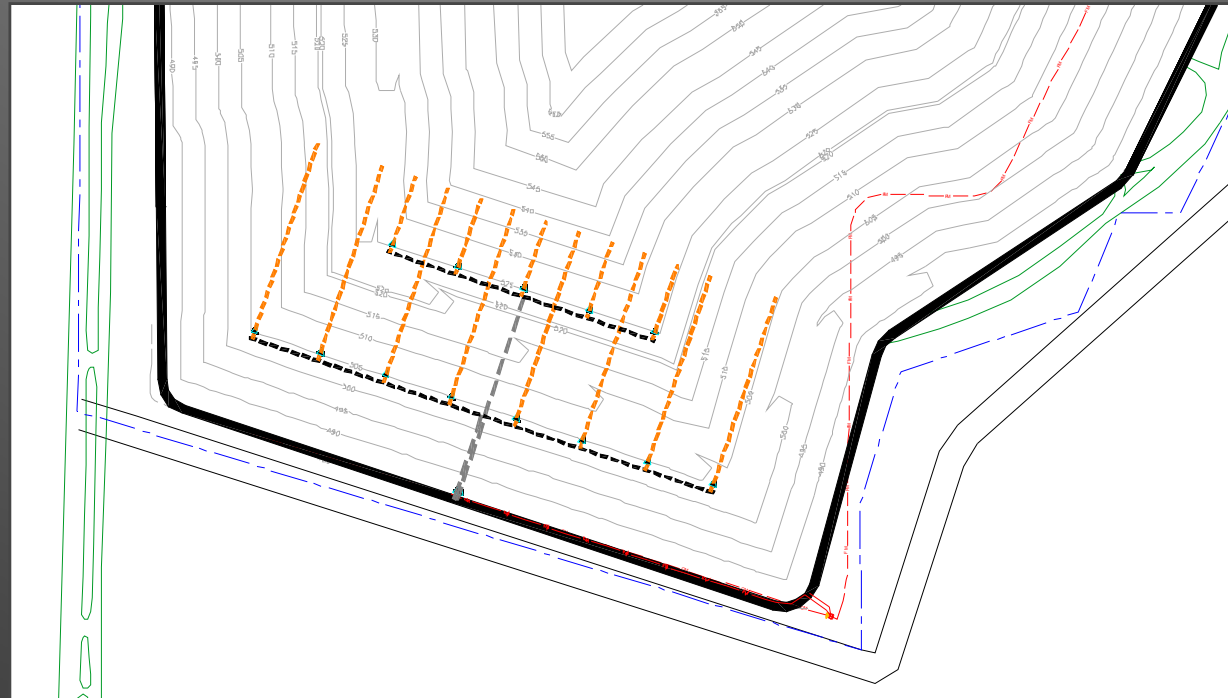
- Vertical LFG Extraction Wells
- 12" \varnothing Header Pipe
- 6"-10" \varnothing Lateral Pipe



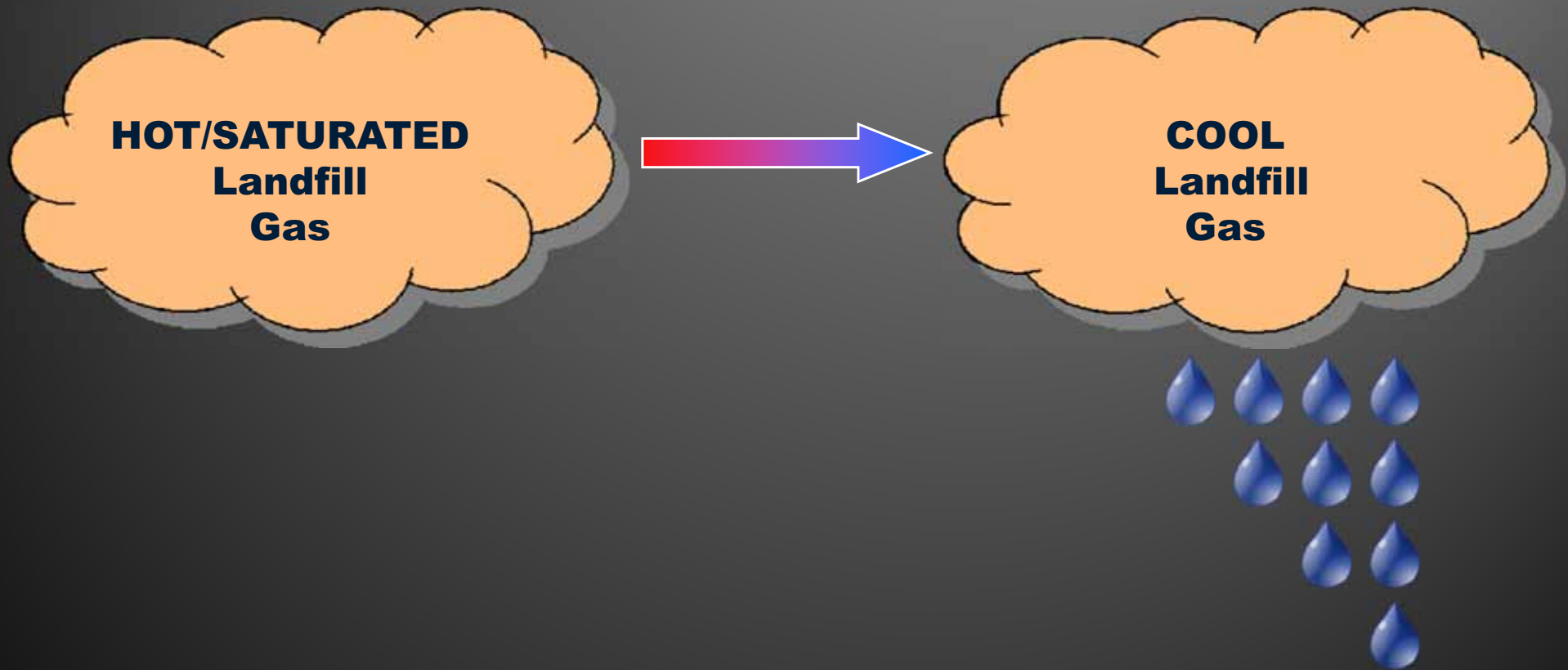
Leachate Recirculation System

Increases LFG production (by 200 – 300%) and accelerates decomposition by adding moisture to the waste:

- Horizontal LFG Collectors and Leachate Recirculation Pipe
- Proposed for lined area of landfill only

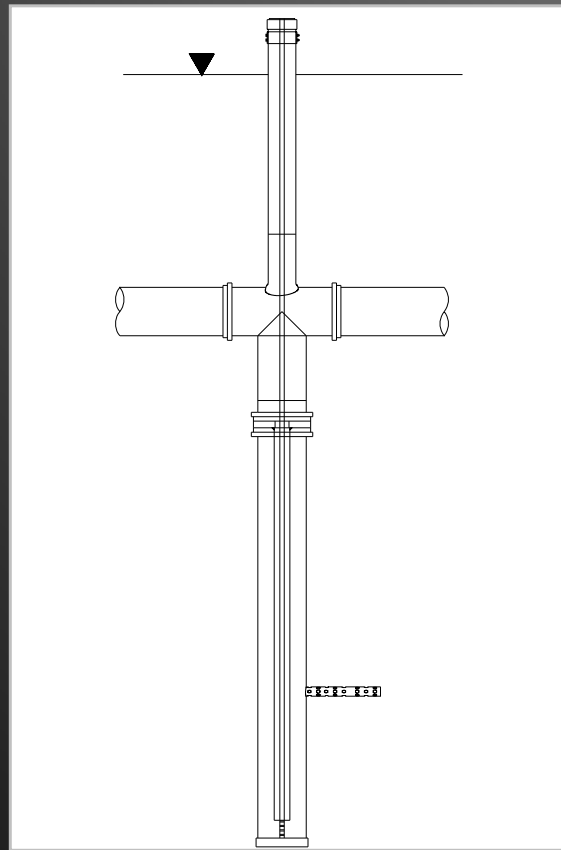


Condensate Formation

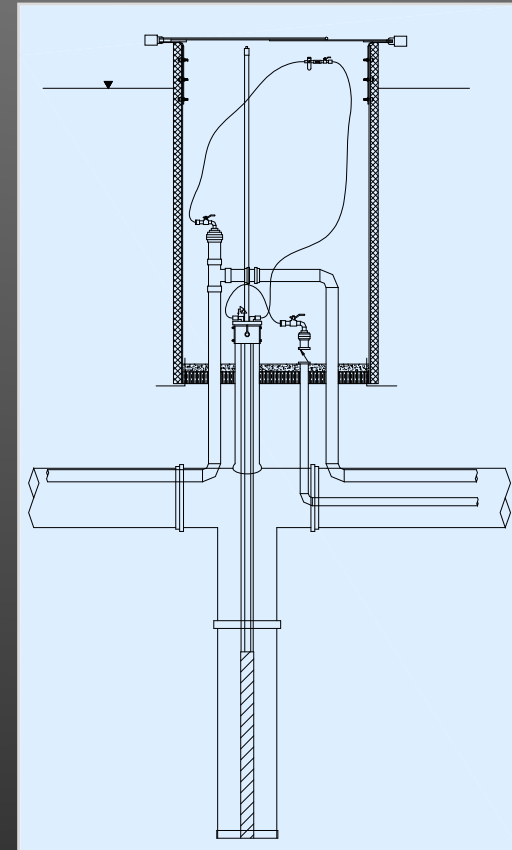


Condensate Management

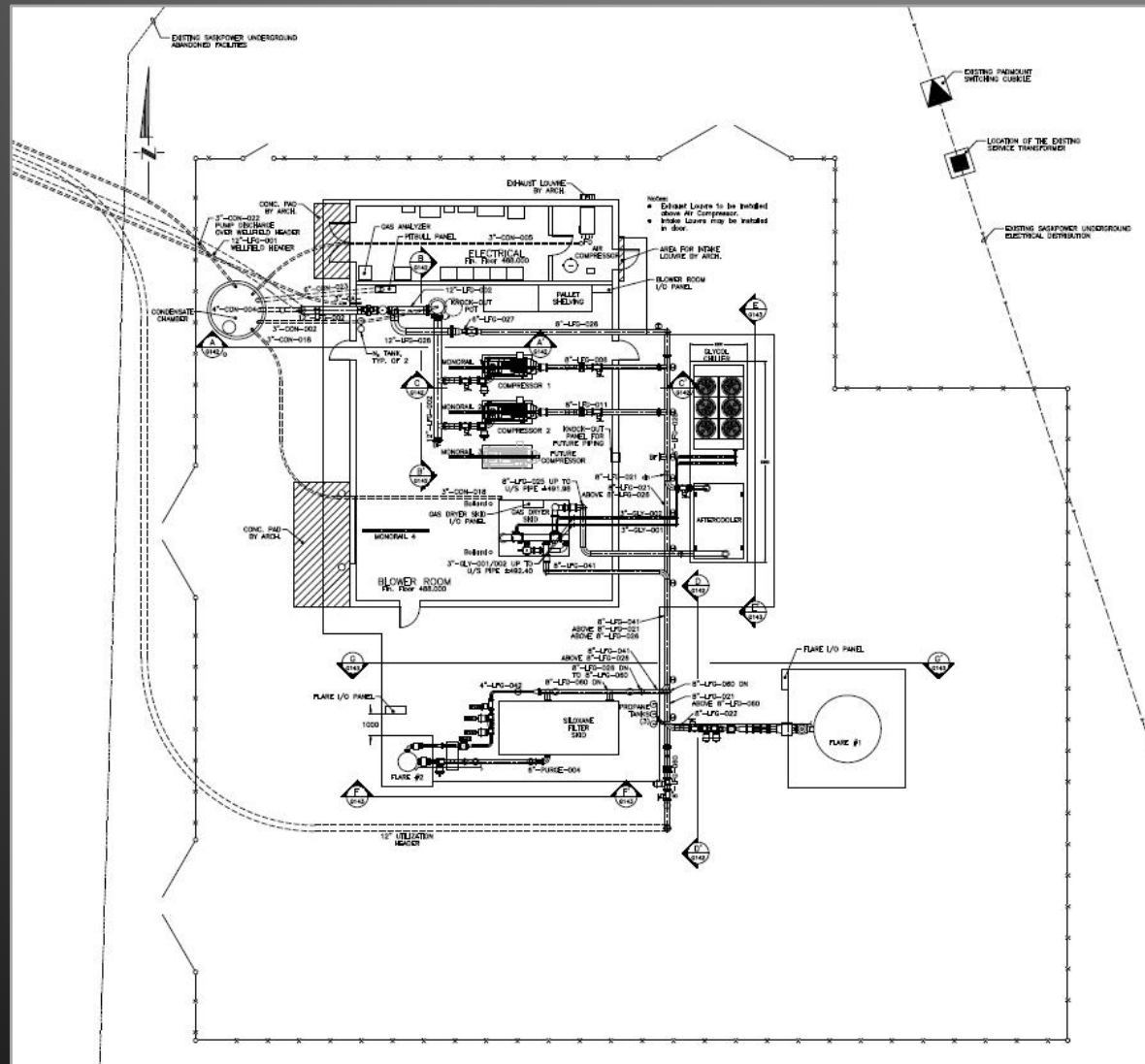
Gravity Trap with perforated drain



Pump Trap



LFG Blower/Flare Station



Landfill Gas Project

Questions?

