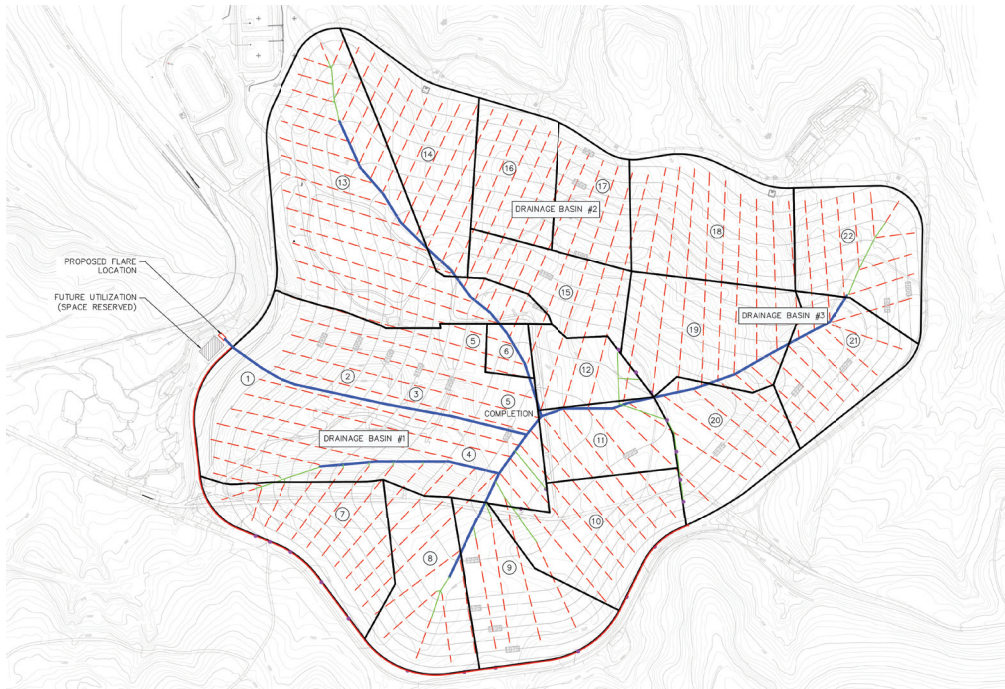


CASE STUDY – COWLITZ COUNTY LANDFILL GAS COLLECTION AND FLARE SYSTEM DESIGN

Since 2013, ESI has provided ongoing Landfill Gas Collection and Control System (GCCS) design services for the Cowlitz County Headquarters Landfill. ESI's services have included complete design for the wellfield, header systems, and condensate management systems. Other services provided include: flare station design, air permitting, GHG consulting, leachate pump station design assistance, and LFG utilization feasibility consulting.



UNIQUE CHALLENGE

The most unique thing about the Headquarters Landfill is that it was originally a privately owned site intended for industrial waste from the paper/pulp industry. Since the County's acquisition of the site, ESI has been there to assist the County in the design, installation, and expansion of the GCCS and flare systems necessary for the County's conversion of the site to a Municipal Solid Waste (MSW) landfill. ESI has been able to successfully guide the County through multiple wellfield expansions, flare installation/expansions, air permit applications/modifications, public bid RFP processes, and other potential pitfalls associated with the ongoing operation of the site as an MSW landfill. Because of the site's unique waste composition, the gas has a high hydrogen sulfide (H₂S) composition that must be managed while making for more complicated air permitting. Because of our successful track record at the site, Cowlitz County continues to trust ESI with all their landfill gas technical consulting needs.

PROJECT OVERVIEW

LOCATION:

Headquarters Landfill
Castle Rock, WA

OWNER:

Cowlitz County

COMPLETION:

Services since 2013

SERVICES PROVIDED:

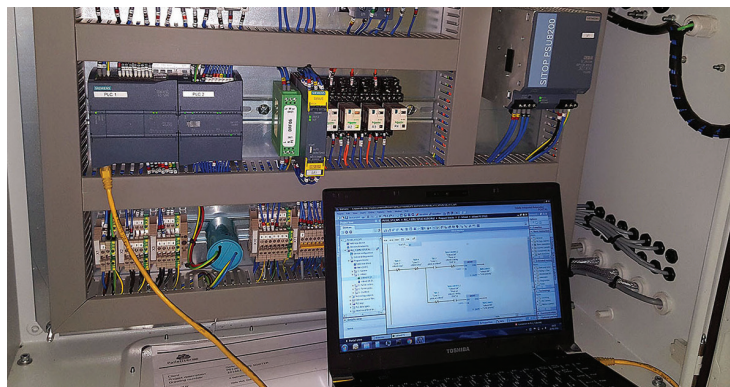
- GCCS Design
- 2014 Flare Station Design
- 2017 Flare Station Expansion
- Condensate Collection Design
- Leachate Pump Station Design
- Air Permitting
- GHG Reporting
- Public Bid/RFP Management
- PLC Controls Programming
- Flare SCADA System Design
- Construction Oversight (GCCS, Flare)
- Flare Startup coordination
- LFG Utilization Feasibility Study

LANDFILL GAS SPECIALISTS

ESI's experience in landfill gas technical consulting for over 30 GCCS and flare systems has played a vital role in supporting Cowlitz County since 2013. As a public agency, the County depends on skilled consultants familiar with public processes to guide and direct them. Because of our wide range of experience, ESI has been able to serve the County as a single source provider for all things landfill gas related. This has helped the County reduce costs on projects by limiting outside consultants and consolidating landfill gas related services under a single entity that can provide all the necessary services including: wellfield design, air permitting, GHG reporting, PLC controls programming, flare station design, construction management, and more.



Technical experts in air permitting for some of the most difficult projects and jurisdictions in the country



Experts in PLC Programming for landfill gas flare stations, leachate pump stations, and LFG utilization facilities



15+ successful flare station installations and expansions



Experts in collection system design, master planning, and continuous expansion.



Multiple Successful Public Bid Processes Managed



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ENERGYneering provides customers the peace of mind that comes from experienced professionals skilled at in LFG Collection and Control Systems.
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