

JESSIE HAN, EIT

Education

MS – Civil and Environmental Engineering, University of Southern California, 2014

BS – Environmental Science (Minor in Mathematics), State University of New York, 2012

Specialty Certifications

Engineer-In-Training, California

40-Hour HAZWOPER, Health and Safety Certified, OSHA 29 CFR 1910.120

Landtec Landfill Gas System Engineering Design Seminar, Ontario, CA

Professional Experience

Ms. Han is a Project Professional with over 5 years of experience on solid waste projects and field work at landfills. She has participated in the preparation of engineering designs, drawings, specifications, technical reports, and provided construction oversight. Her academic background encompasses a wide range of topics, including geotechnical engineering, water quality control, water chemistry and analysis, environmental geochemistry, air quality, regulatory compliance, hydrogeology and fluid mechanics, wastewater treatment design, and energy efficiency. She is proficient in the use of AutoCAD Civil 3D, MicroStation, KYPipe ArcGIS, MODFLOW, and MS Office programs.

Her recent project experience is outlined below.

Landfill Gas

Republic Services, Inc., GCCS Analysis and Design, Sunshine Canyon Landfill, Sylmar, CA.

Responsible for analyzing LFG flow in the existing header network using KYPipe modeling. The modeling includes calculated gas velocity, flow rate, and static pressure throughout the system. The existing gas collection and control system (GCCS) includes over 900 landfill gas (LFG) extraction wells.

Republic Services, Inc., GCCS Design for Closure Turf, Sunshine Canyon Landfill, Sylmar, CA.

Responsible for design of LFG system, pressure relief valve, and condensate piping for a 5-acre closure area consisting of structured geomembrane liner and engineered turf liner.

Republic Services, Inc., GCCS Analysis and Design, Apex Regional Landfill, Clark County, NV.

Responsible for design and preparation of GCCS plans and analyses, including new vertical gas wells, laterals, and LFG dewatering system.

Republic Services, Inc., Sycamore Landfill, Santee, CA. Project Engineer responsible for design and preparation of 5-year GCCS plans and analyses, including placement of new vertical gas wells, laterals, and development of construction quantities.

Republic Services, Inc., Flare Replacement, Apache Junction Landfill, Apache Junction, AZ.

Project Engineer responsible for designing a replacement flare, including preparing blower/flare station layout and detail design, and assisting preparation of construction cost estimates.

Republic Services, Inc., LFG Dewatering System, Otay Landfill, Chula Vista, CA. Project Engineer responsible for landfill liquids infrastructure improvements project. Responsibilities included

designing existing liquids collection and conveyance system expansion and improvements, preparing design drawings and construction details, and sizing automated shutoff valves.

OC Waste & Recycling, Frank R. Bowerman Landfill, Irvine, CA. Staff Engineer responsible for updating master GCCS design plan, analyzing LFG well performance, and preparing probe mitigation plans.

OC Waste & Recycling, Olinda Alpha Landfill, Brea, CA. Staff Engineer responsible for development of final closure GCCS plans and details in accordance with grading plans.

City of San Diego, Miramar Landfill, San Diego, CA. Staff Engineer responsible for designing blower-flare facilities and preparing plans.

Waste Connections, Inc., GCCS O&M, Chiquita Canyon Landfill, Castaic, CA. Staff Engineer responsible for analyzing LFG well performance and SSM log monitoring.

Waste Connections, Inc., GCCS Expansion, Chiquita Canyon Landfill, Castaic, CA. Staff Engineer responsible for design of horizontal and vertical extraction wells and associated header and lateral piping.

Waste Connections, Inc., Permanent H₂S Treatment, Chiquita Canyon Landfill, Castaic, CA. Project Engineer responsible for design and installation of a 10,000-standard-cubic-foot-per-minute (scfm) hydrogen sulfide (H₂S) treatment system designed to achieve H₂S below 40 parts per million.

Waste Management, Inc., GCCS Expansion, El Sobrante Landfill, Corona, CA. Project Engineer responsible for preparing GCCS design plans, well schedule, as-built drawings, and project completion report.

Waste Management, Inc., Condensate Tank Farm and Header Relocation Design/Build, Simi Valley Landfill, Simi Valley, CA. Project Engineer responsible for preparing GCCS plans and details and condensate tank farm modifications to accommodate the scale house and entrance road improvements, including plans and profiles of the new LFG header, design of condensate sumps, tank farm layout, and structural details.

Waste Management, Inc., LFG Well Installations. As Project Engineer, responsible for oversight of over 100 LFG well installation projects at Simi Valley, El Sobrante, Azusa, and Antelope Valley Landfills.

Waste Management, Inc., GCCS Expansion, Hillsboro landfill, Hillsboro, OR. Preparing GCCS expansion design plans and updating fill sequencing plans.

Waste Management, Inc., GCCS Expansion, Azusa Land Reclamation, Azusa, CA. Preparing GCCS design plans, well schedules, agency notification letters, as-built drawings, and a completion report.

Gardena Valley Landfill No. 6, Carson, CA. Preparing grading plans, GCCS design plans, well schedules, and LFG monitoring probes schedules.

Waste Management, Inc., GCCS Design, Northwest Regional landfill, Surprise, AZ. Staff Engineer responsible for preparing layout and design of the new vertical wells, laterals, well schedule, as-built drawings, and completion report.

Waste Management, Inc., GCCS Design, Rio Rancho landfill, Rio Rancho, NM. Staff Engineer responsible for preparing layout of the GCCS upgrades, including new vertical wells, realignment of existing header, and condensate trap design.

Waste Management, Inc., Enclosed Flare Installation, Lancaster Landfill, Lancaster, CA. Staff Engineer responsible for design and preparation of flare replacement plans, including site plan, equipment layout, and construction details.

City of Redlands, Soil Vapor Extraction (SVE) Well Installation, California Street Landfill, Redlands, CA. Staff Engineer responsible for preparing SVE well installation plans, including probe study, and preparing cross section of geologic materials and LFG migration pathway assessment.

Waste Management, Inc., GCCS Design, Bradley Landfill and Recycling Center, Sun Valley, CA. Staff Engineer responsible for preparing GCCS design plans, well schedules, agency notification letters, as-built drawings and a completion report. Prepared cross section between SVE wells and probes, including depths and screen sections of all probes located within the sections.

Design-Build Granular Activated Carbon Vapor Extraction System, Crown Enterprises, Inc., Cogen Landfill, Monterey Park, CA. Staff Engineer responsible for design and installation of a 100-scfm vapor extraction system at a site with no previous gas collection system.

Upland Landfill, GCCS Design, City of Upland, CA. Staff Engineer responsible for design and preparation of design options for upgrades of the existing GCCS and flare station.

Rio Rico Sanitary Landfill, Santa Cruz County, AZ. Staff Engineer responsible for calculating waste disposal capacity, remaining life and performing sludge calculation.

Construction Quality Assurance

Waste Management, Inc., El Sobrante Landfill, Corona, CA. Performed site construction quality assurance (CQA) for installation of LFG wells and GCCS construction.

Waste Management, Inc., Simi Valley Landfill, Simi Valley, CA. Performed site CQA for installation of LFG wells and GCCS construction.

Waste Management, Inc., Antelope Valley Landfill, Palmdale, CA. Performed site CQA for installation of LFG wells and GCCS construction.

Waste Management, Inc., Azusa Land Reclamation Landfill, Azusa, CA Performed site CQA for installation of LFG wells and GCCS construction. Performed CQA for installation of LFG wells that contained asbestos.

Republic Services Inc., Sunshine Canyon Landfill, Sylmar, CA. Performed site CQA for installation of LFG wells and GCCS construction.

Valley Land Development Landfill, City of Industry, CA. Performed site CQA for GCCS construction and monitoring probes abandonment.

G&I VIII Vapor Mitigation System, Northridge, CA. Performed site CQA for vapor mitigation system installation.

Environmental Services Design

Rancho San Joaquin Golf Course, Irvine, CA. Team member in designing storm water collection and control system, and preparing plans and specifications.

BKK Landfill, West Covina, CA. Engineer responsible for post-closure inspection and stormwater BMP inspection.

G&I VIII Vapor Mitigation System, Northridge, CA. Team member in producing design plans and technical specifications for a vapor mitigation system, including passive venting system under the floor slabs of the buildings, horizontal membrane barrier, protection layer, and conduit seals.

MarkDev-DV Alhambra Vapor Mitigation System, Alhambra, CA. Team member in producing design plans and technical specifications for a vapor mitigation system, including passive venting system under the floor slabs of the buildings, horizontal membrane barrier, protection layer, and conduit seals.

MarkDev-DV Inglewood Vapor Mitigation System, Inglewood, CA. Team member in producing design plans and technical specifications for a vapor mitigation system, including passive venting system under the floor slabs of the buildings, horizontal membrane barrier, protection layer, and conduit seals.

Duckett Anaheim Site, Anaheim, CA. Team member in designing SVE wells and vapor collection system with granular activated carbon treatment vessels.

Landfill

Los Angeles County Sanitation Districts, Whittier, CA. As an engineering intern, Ms. Han provided the following services:

- Puente Hills Landfill final cover placement:
 - Prepared fill and grading plans. Set up grids and used laser to perform grading for final cover placement.
 - Checked fill thickness with survey crew and grading laser; assisted soil technician in collecting soil samples.
- Storm water Best Management Practices (BMP) design and installation:
 - Designed BMP application (included hydroseeding and silt fence; checked dams, fiber rolls, rip-rap, etc.) to prevent erosion. Used open channel calculation to design Turf Reinforcement Mat (TRM) and erosion blanket.
- Drainage design:
 - Used hydrogeology/hydraulic analysis to size drainage pipes and retention basins. Designed drainage pipe angle for specific drainage location.
- Gas collection system monitoring:
 - Mapped gas wells and condensate plan. Used instrument to collect gas concentration.
- Facilities removal/relocation (equipment yard relocation and composite liner system removal):
 - Designed equipment yard relocation plan. Drew detailed layout for new storage compound. Managed removal of containers with site maintenance crew. Designed trench cut to remove portions of exposed liner system.
- Project specification calculations:
 - Volume calculation using topographic maps and planimeter; earthwork calculation using field surveying data; hydrology calculation and rainfall analysis.

EPA Los Angeles Regional Water Quality Control Board, Los Angeles, CA. During her work as a student assistant, Ms. Han:

- Wrote the notice of violation and permit related to waste discharge requirements.
- Assisted in the analysis of groundwater monitoring data.