Contract Drawings for the Construction of

Knott Landfill

Cell 8 Construction Project

Project Directory

Owner
Deschutes County
Department of Solid Waste
61050 SE 27th Street
Bend, Oregon 97702
Phone: 541-317-3163
Director: Timm Schinke
Operations Manager: Chad Cottola
Todd Swenson

Project Engineer
Gerry Friesen PE
G. Friesen Associates, Inc.
4088 Orchard Drive
Lake Oswego, Oregon 97035
Phone: 503-335-1233

Geotechnical Engineer
Andy Simmons PE
Simmons & Associates
13134 River Woods Drive
Bend, Oregon 97702
Phone: 541-385-6550

Mechanical Engineer
Benny Benson PE
Cassidy Fisher
ENERGYsourcing Solutions, Inc.
13920 Barlow Drive
Sisters, Oregon 97759
Phone: 541-549-8766

Surveying
John Thompson PLS
John Thompson & Associates, Inc.
PO Box 583
Bend, Oregon 97701
Phone: 541-312-0421

Geosynthetic CQA
John Stein
Peak Geosolutions
5060 SW Philomath Blvd. #303
Corvallis, Oregon 97330
Phone: 541-231-0779

County Commissioners
Philip Henderson
Patti Adsit
Anthony DeBone

Director of Solid Waste
Timm Schinke

October, 2019
SITE MAP

Drawing Index

Cover Sheet
A1 Site Map and Drawing Index

Cell 8
D1 Existing Site Plan
D2 Subgrade Plan
D3 Subgrade Plan - Cut and Fill Depths
D4 Liner Sections and Details
D5 Liner Sections and Details
D6 Liner Sections and Details
D7 Trench and Pipe Details
D8 Sump Sections

Landfill Gas System
G1 GCCS Work Phase I
G2 GCCS Work Phase II
G3 Perimeter LFG Pipe Profile I
G4 Perimeter LFG Pipe Profile II
G5 New Flare Site Plan
G6 LFG System Details I
G7 LFG System Details II
G8 LFG System Details III
G9 LFG System Details IV
G10 Flare Station Details I
G11 Flare Station Fence Details
G12 Compressed Air System Details

Cell 8 Pump Station
M1 Pump Station Layout
M2 Pump Station Details I
M3 Pump Station Details II
M4 Leachate Riser Details

Electrical System Modifications
E1 Electrical Legend/Notes
E2 Electrical Flare Site
E3 Flare Skid Electrical Single Line
E4 Electrical Details I
E5 Electrical Details II
E6 Electrical Single Line Drawing I
E7 Electrical Single Line Drawing II

South Perimeter Road Rehabilitation
R1 Existing Topography
R2 Final Grading Plan
R3 Cut and Fill Depths
R4 Road and Wall Sections

Soil Stockpile Area
S1 Existing Site Plan
S2 Final Grading Plan
S3 Soil Fill Depths

Expiry: 12/31/2021
**Legend:**
- **PROPOSED SURFACE**
- **PROPOSED HEATER**
- **EXISTING HEATER**

**NOTE:**
1. All elevations are approximate; contractor to verify at time of construction.
CELL 8 CONSTRUCTION
KNOTT LANDFILL
DESCHUTES COUNTY, OREGON
Fax: (866) 533-5543
Tel: (503) 635-1233
Lake Oswego, Oregon 97035
4088 Orchard Drive
G. Friesen Associates, Inc.
15820 BARCLAY DRIVE SISTERS, OR 97759
PHONE: (541) 549-8766
FAX: (541) 549-1901

NOTE:
1. CONTRACTOR TO FIELD FIT NOZZLE TO THE COMPRESSED AIR PIPING ABOVE THE BUILDING TRANSITION FLANGE. ALL FITTINGS TO BE INSTALLED ON THE NOZZLE IN THE INTERIOR OF THE BUILDING. SUPPORT ALL PIPING WITH UNIVERSAL AND CLAMP STYLE SUPPORT.
2. 2" WSF SS VALVE AND 2" UNIVERSAL FITTING, PRESSURE GAUGE CO-200 PSI RANGE.

SHOP BUILDING COMPRESSED AIR DETAIL

CONDENSATE PIPING CLEANOUT
CONDUIT TRENCH DETAIL

FIN GRADE LEVEL OR UNDERSIDE FLOOR SLAB

COORDINATE CONDUIT START-UP LOCATION AND ELEVATIONS WITH EQUIPMENT MANUFACTURER'S INFORMATION

36" MIN.

CONDUIT TRANSITION

CONDUIT SEALING DEVICE

GROUNDING BUSHING

MINIMUM 2" AFF

1/4" CHROMIUM STEEL

EXCAVATION PIPE

CONCRETE FORM SET U.P. TO EQUIPMENT

CONDUIT TOPPLING

SAND BEDDING

EXISTING GRADE

COMPLIANCE WITH ELECTRICAL CODE

CONDUCTORS INSIDE PVC CONDUIT

5/8" CONCRETE GRAVEL BASE

36" MIN.

30" MIN.

CENTRAL PIPE

CONDUIT migration DETAIL

5" DEEP GRAVEL BAGGINS TRENCH (TOP)

CONTRACTOR ADOPTED FROM POWER COMPANY

COMPACTED 5" GRAVEL BAGGINS TRENCH (TOP)
**Exothermic Weld Connection Detail**

- Bare soft drawn copper conductor

**Exothermic to Steel Connection**

- Bare soft drawn copper conductor

**Ground Rod Detail**

- As per R8280.46.10
- Grounding Location
- Ground rod copper coated steel, 5/8 in. dia. driven to a depth of at least 8 ft.

**Skid Frame Grounding Detail**

- Grouted aggregate surface

**Electrical Details II**

1. Grounding electrode is a bare and bare copper conductor with 3/0 bare copper conductor for grounding the conductor on all sides.
2. Grounding electrode is to be bonded as shown in the details.
3. Use exothermic weld connections as per the details shown above. All U.L. Listed compression connectors are permitted. Use compression nuts, fittings, gaskets, and hardware. Connectors with approved compression tool.
AC PAVEMENT TO BE REMOVED AND REPLACED BETWEEN POINT 610 AND 620 AFTER GRADING ALL AREAS TO DRAIN

LEGEND

- LANEFILL GAS CONDENSATE SUMP
- LANEFILL GAS CONDENSATE SUMP CONTROL PANEL
- WATER MAIN
- STORM DRAIN
- STORM DRAINAGE STRUCTURE
- EXISTING TEMPORARY TRASH FENCE
- EXISTING LANEFILL GAS LINE (SEE NOTE 5)
- EXISTING STORM LINE (18 IN. DEPTH)
- NEW EXISTING CHAINLINK FENCE 4 FT HIGH

NOTES

1. THE COORDINATES ShOWN ARE BASED ON THE CENTRAL OREGON COORDINATE SYSTEM (CCS) DATUMS ARE PLUGGED IN THE VERTICAL DATUM NAD83 AND WERE DUGGED FROM PUBLISHED CENTRAL OREGON COORDINATE SYSTEM DATA.

2. LINEAR UNITS: INTERNATIONAL FEET

3. HORIZONTAL DATUM: NORTHAMERICAN 1983

4. NEW EXISTING SURFACE MODEL CREATED 10-25-2018

5. LANEFILL GAS Piping STRUCTURES ARE CONTROLled USING GPS DATUMS MAINTAINED BY LEGEND ENGINEER. THE GPS REFERENCE POINTS ARE NOT BASED ON THE DATA ON THIS DRAWING DRAWING LOCATIONS. VERIFY LOCATIONS PRIOR TO CONSTRUCTION.
AC PAVEMENT TO BE REMOVED AND REPLACED BETWEEN POINT 610 AND 620 AFTER GRADING ALL AREAS TO DRAIN

LEGEND

LANDFILL GAS CONSOLIDATION VENT, SUMP NO. 1, LD ELEVATION=3907.16 FT.
LANDFILL GAS CONSOLIDATION VENT, SUMP NO. 2, LD ELEVATION=3907.58 FT.
UTILITY BOX, TYPE UNKNOWN
LANDFILL GAS CONSOLIDATION VENT, SUMP NO. 3, LD ELEVATION=3907.59 FT.
LANDFILL GAS CONSOLIDATION VENT, SUMP NO. 4, LD ELEVATION=3907.46 FT.
LANDFILL GAS CONSOLIDATION VENT, SUMP NO. 5, LD ELEVATION=3907.21 FT.

NOTES:
1. THE COORDINATES SHOWN ARE BASED ON THE CENTRAL OREGON COORDINATE SYSTEM (CCS) EDDINGS ARE BASED ON THE TERMINAL DATUM AND WERE OBTAINED FROM PUBLISHED CENTRAL OREGON COORDINATE SYSTEM COORDINATES.
2. LINEAR UNITS: INTERNATIONAL FEET (IF) VERTICAL DATUM: NGVD29
3. NO UNDERSURVEYED POINT LOCATION CERTAIN FOR THIS SURVEY.
4. CONTAMINATION INTERVALS PER CONTRACT.
5. LANDFILL GAS TANKS, STRUCTURES AND CONSTRUCTION LOCATIONS ARE MARKED WITH MARKER HOLES SUPERIMPOSED ON DRAWINGS, MARKER HOLES MARKED WITH MARKER HOLES IDENTIFIED WITH MARKER HOLES.

Legend:
- Utility Box, type unknown
- Landfill gas consolidation vent, sump No. 1, LD elevation=3907.16 ft.
- Landfill gas consolidation vent, sump No. 2, LD elevation=3907.58 ft.
- Landfill gas consolidation vent, sump No. 3, LD elevation=3907.59 ft.
- Landfill gas consolidation vent, sump No. 4, LD elevation=3907.46 ft.
- Landfill gas consolidation vent, sump No. 5, LD elevation=3907.21 ft.
NOTES:

1. CUT AND FILL DEPTHS SHOWN ARE TO THE LINES AND GRADES SHOWN ON DRAWING R2.

2. CUT AND FILL DEPTHS SHOWN HERE CURRENT AS OF OCTOBER 25, 2018. SETTLEMENT HAS OCCURRED AFTER THIS DATE. A TOPOGRAPHIC SURVEY WILL BE PERFORMED JUST PRIOR TO THE START OF CONSTRUCTION.

3. EXISTING ASPHALT CONCRETE PAVEMENT TO BE REMOVED BETWEEN POINT 610 AND 620 AND SHALL BE PAID FOR AS EXCAVATION. THE QUANTITY OF EXCAVATION THAT WILL BE REQUIRED IS APPROXIMATELY 150 CY.

4. AREA A FINAL COVER IS APPROXIMATELY 1,700 CY.

5. 3/4-INCH MINUS CRUSHED BASE COURSE VOLUME IS APPROXIMATELY 250 CY.

6. LOW PERMEABILITY HOT MIXED ASPHALT CONCRETE PAVEMENT VOLUME IS APPROXIMATELY 150 CY.

7. ACTUAL QUANTITIES COULD BE PLUS OR MINUS 20 PERCENT OF THOSE LISTED ABOVE AND WILL BE COMPUTED BASED ON FIELD SURVEYS PERFORMED IN ACCORDANCE WITH SECTION 07500 OF THE SPECIAL PROVISIONS.
CONSTRUCTION NOTES:

1. **EXISTING 2.5-INCH LOW PERMEABILITY MIXED ASPHALT CONCRETE陣首不应用파로 빠르지 않으면 EXPENDED AND PAID FOR IN ACCORDANCE WITH SECTION CONDITIONS OF THE SPECIAL PROVISIONS.**

2. **5/8-INCH MINUS CRUSHED BASE COURSE TO HAVE A MINIMUM THICKNESS OF 8-INCHES AND BE PAVEMENT, INSTALLED, COMPACTED AND GRADED TO ENABLE ALL AREAS TO DRAIN TOWARDS THE EXISTING CATCH BASIN.**

3. **FINAL COVER MATERIAL TO BE IN ACCORDANCE WITH SECTION 02510 OF THE SPECIAL PROVISIONS AND SHALL BE INSTALLED AND GRADED TO ENABLE ALL AREAS TO DRAIN TOWARDS THE PERIMETER ROAD AT A MINIMUM SLOPE OF 0.5 PERCENT.**

4. **EXISTING MCGREAVY & GEOREINFORCEMENT CONSTRUCTION ACTIVITIES.**

5. **EXISTING CHAIN LINK FENCE TO BE REPAIRED ANY CHAIN LINK FENCE THAT IS DAMAGED BY CONSTRUCTION ACTIVITIES.**
<table>
<thead>
<tr>
<th>Point</th>
<th>Northing</th>
<th>Existing Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
<tr>
<td>503</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
<tr>
<td>504</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
<tr>
<td>505</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
<tr>
<td>506</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
<tr>
<td>507</td>
<td>371716.87</td>
<td>3885.20</td>
</tr>
</tbody>
</table>

NOTES:

1. Topography that is shown was current as of June 20, 2019. Excavation and fillings have occurred after this date.

Scale: 1" = 200' 

DESCHUTES COUNTY, OREGON

KNOTT LANDFILL
CELL 8 CONSTRUCTION PROJECT

SOIL STOCKPILE AREA
SOIL FILL DEPTHS

G. Frisem Associates, Inc.
55290 SW Tea Leaf Lane
Lake Oswego, OR 97035
Phone: 503-694-8280
Fax: 503-694-8290

DESIGNED OF:
DRAWN OF:
APPROVED BY:
DATE:
10/23/19

JOB NO:
00180

SCALE AS SHOWN:
1"=200'

DRAWN BY:

REMARKS:

40 of 40

EXPIRES: 12/31/2021