



LAKE HAVASU CITY

Community Investment Department

July 20, 2018

Addendum 1 to Lake Havasu City RFP#18-CID-2908 Solid Waste Facilities Operation (Landfill)

The following questions were received by Lake Havasu City (LHC) regarding the RFP for Solid Waste Facilities Operation (Landfill). Each question is presented below (in *italics*) with LHC's response below in **bold**.

Question from Republic Services

From: Kross, Matthew [<mailto:MKross@republicservices.com>]

Sent: Tuesday, July 10, 2018 9:21 AM

To: Purchasing <Purchasing@lhcaz.gov>

Cc: Crabbs, Marek <MCrabbs@republicservices.com>

Subject: Question Regarding the LHC Landfill RFP

City,

Please see the attachment for my one question regarding the Lake Havasu City Landfill RFP (RFP# 18-CID-2908). Could you please reply back to this e-mail once received.

Thanks,

*Matt Kross
General Manager
Republic Services*

July 10th, 2018

Lake Havasu Landfill RFP Question from Republic Services

- 1. Are the City volumes (approx. 15,000 tons annually) still expected to be disposed at no charge?*

LHC has not made a decision about future disposal fees. This decision will be subject to contract negotiations.



LAKE HAVASU CITY

Community Investment Department

Questions from Waste Management

From: Debrates, Damon [<mailto:DDebrates@wm.com>]

Sent: Tuesday, July 10, 2018 3:00 PM

To: Purchasing <Purchasing@lhcaz.gov>

Cc: Reyes, Julie <jreyes21@wm.com>

Subject: RFP# 18-CID-2908

Waste Management of Arizona (WM) is potentially interested in responding to RFP# 18-CID-2908, Solid Waste Facilities Operation (Landfill) Agreement. To prepare a thorough response at a competitive price, WM respectfully requests the following information and/or clarifications.

General

1. *Currently, the landfill is operated by Republic Services. Does Republic set the rates and does the City approve all rates? If so, will the process be the same for this contract?*

LHC will negotiate with the future operator and approve rates.

2. *Please provide a copy of the current contract with Republic Services and any proposed contract for this solicitation.*

LHC does not have a proposed contract for this solicitation. The negotiated contract with the future operator may likely be different than the current contract. Publically available information pertaining to the current contract is provided in Attachment 1.

3. *Please provide a copy or description of the current/desired Recycling, Household Hazardous Waste, Electronic Waste and Waste Tire programs. Please provide the volumes collected by each program for the past five years or since they were implemented, whichever is shorter.*

Information that LHC has for these programs is provided in Attachment 2.

4. *Does the current collection franchise for the City contain flow control language requiring the franchisee to utilize this landfill?*

No



5. The 10-year average volume into the landfill is approximately 82,929 tons annually. Absent flow control language in the current collection franchise, is the City willing to financially guarantee a minimum annual tonnage so that bidders have a reasonable basis from which to recover their capital and operating cost?

This topic will be subject to negotiations with the chosen operator.

Site Infrastructure

1. Will the office and maintenance structures observed at the site be available to the contractor or will the contractor need to provide their own?

Yes, the office and maintenance structures observed at the site will be available to the contractor.

2. Please describe what internet connectivity is available at the site or any known limitations.

Internet connectivity is available at the site. LHC is not aware of limitations.

3. Are there existing fuel tanks at the site that will be available to the contractor? If so, please describe the size and age of the tank(s).

Yes, this information is provided below:

**Table 1
Tank Inventory Table – AST**

AST	AST Capacity (gal)	Is AST in use? (Yes/No)	AST Contents	AST Construction Type/Material	Secondary Containment Type (Steel, Dirt, Lined Dirt, None)	Secondary Containment Capacity (gal)	Type of High Level Indicator (Depth, Volume, Sight Glass, None)? Operational?	Is AST protected from moving vehicles?	Is AST anchored? (Y/N)	Is AST electrically grounded? (Y/N)	Is there adequate lighting near the tank or dispenser? (Y/N)
A-1	1,000	Yes	Diesel	Shop/Steel	Steel	1795	Dip Port	Yes	Yes	Yes	Yes
A-2	250	Yes	Motor Oil	Shop/Steel	Steel	400	Dip Port	Yes	Yes	Yes	Yes
A-3	250	Yes	Used Oil	Shop/Steel	Steel	400	Dip Port	Yes	Yes	Yes	Yes
A-4	55	Yes	Transmission Fluid	Shop/Steel	None	None	None	No	No	No	Yes

The Permit states that the overall site is 225 acres with a 97-acre permitted footprint.



LAKE HAVASU CITY

Community Investment Department

1. *Remaining Airspace Detail (Figure 2) accounts for only 96 acres. Is one remaining to be developed or is this a rounding issue?*

This is believed to be a rounding issue.

2. *What portion, if any, of the entire 97 acres lined?*

The landfill is unlined.

3. *What type of liner exists or is required for the landfill? If liner cross sections vary, please provide description of different lined areas and associated acreage.*

Not applicable.

4. *What portion, if any, of the entire 97 acres has final cover installed?*

No portion of the landfill has final cover installed.

5. *If final cover is installed, describe the capping events (year installed, acres installed that year)*

Not applicable.

Please provide the following development plans in AutoCAD (.dwg) and Adobe (.pdf):

1. *Plat showing the 4 parcels (BLM - 1; LHC – 3) encompassing the 225 acres.*
2. *Base Grading Plan (Including delineation of cells and whether lined or not)*
3. *Final Grading Plan*
4. *Current topographic map and date survey conducted*
5. *Storm-water Improvements Plan*
6. *Landfill Gas Control/Monitoring Plan (probes, wellfield and flare improvements concept)*
7. *New Source Performance Standards (NSPS) Design Plan*
8. *Closure/Post-closure Construction and Maintenance Plan*

Available plan information is provided in Attachment 3.



Community Investment Department

As-Built Documents – Please provide anything that documents the current constructed status for the Storm-water management improvements.

Available storm water management improvements are provided in Attachment 3.

Please provide copies of other landfill permits including:

1. *Non-Title V Permit*
2. *APP Permit for Surface Impoundments, if any*
3. *Other*

Other landfill permit information is provided in Attachment 4.

Title V Design Capacity Calculations

The RFP states that calculations were performed showing the capacity of the currently permitted landfill will not exceed 2.5 million Megagrams. Please provide a copy of those calculations.

These calculations are provided in Attachment 5.

If available, please provide the most recent Tier II Report for CNMOC value.

No Tier II reporting has been completed.

Typical Waste Mix – If possible, please provide a typical percentage for the following waste types that has been accepted and can be expected in future years

1. *Municipal solid waste: __%*
2. *Construction and demolition debris waste: __%*
3. *Sludges: __%*



LAKE HAVASU CITY

Community Investment Department

4. *Special Waste: __%*
5. *Other: __%*

LHC's waste mix is mostly municipal solid waste and construction and demolition debris waste. Typical percentages for these waste types are not available.

Leachate Production and Management

1. *How many leachate collection sumps service the lined area?*

There are no leachate sumps

2. *Are the sumps equipped with dedicated leachate pumps and leachate level monitoring equipment (e.g., transducers)?*

Not applicable

3. *Is there electricity to the sumps or is a generator required to operate the pumps?*

Not applicable

4. *Is the operator allowed to dispose of collected leachate by spraying on the landfill surface? If so, is this right restricted to lined area only?*

5. *Is there a leachate evaporation pond on the site?*

6. *Historical Leachate Generation (Gallons per year from sumps):*

a. *2017:*

b. *2016:*

c. *2015:*

d. *2014:*

e. *2013:*



LAKE HAVASU CITY

Community Investment Department

Items 1 through 6 above are not applicable, as leachate collection is not conducted for the unlined landfill.

Water

1. *What is the source of water for the site? Public Source or Well?*

The source of water for the site is a well.

2. *If well, please provide the following:*

a. *Year well was drilled and developed:*

2002

b. *Production capacity in gallons per minute:*

Approximately 25 gallons per minute

c. *Location of well on one of the above requested plans.*

Figure 1 in Attachment 3 (located near buildings).

3. *Are there storage assets like lined ponds available at the site?*

No

4. *Is there a cost to the contractor for obtaining and using water needed for operations?*

No

Soil for daily, intermediate, and final covers:

1. *Since it appears the entire 97 acres is developed, it is assumed required soil is excavated outside the 97-acre landfill boundary. Is that correct?*

Yes



LAKE HAVASU CITY

Community Investment Department

2. *What is the source for daily and intermediate cover soils?*

A soil borrow area is adjacent to the footprint to the north of the landfill (Figure 1).

3. *Are suitable materials for final cover available within the 225-acre property or does it need to be imported?*

Suitable materials are available.

4. *If soils for operations or closure are located on the land leased from BLM, do you have rights to that soil?*

Yes

5. *Final cover design in the MFPA calls for 36-inch barrier layer of 1×10^{-5} cm/sec soil overlaying a 6-inch daily/intermediate cover layer. There is no description of the approach to erosion control in the MFPA. What is proposed to control erosion of the final cover barrier layer?*

Some minor maintenance of the final cover on an as-needed basis is anticipated during the post-closure period to repair erosion effects.

Environmental Monitoring

1. *Site has 7 LFG monitoring probes (GP-1 to GP-7) spaced at 1,000-foot intervals around landfill. Does this provide complete coverage? Are any more required to be installed in accordance with the permit? Are there any indication of landfill gas in the existing probes? Please provide the last three years of gas probe data.*

The landfill gas monitoring probes are providing adequate coverage for compliance with regulatory monitoring requirements. Gas migration issues have not been a concern at this landfill.

2. *Although a groundwater monitoring suspension was granted on 10/7/1998, does the site have groundwater monitoring wells installed around the landfill?*

No

3. *Are any more wells required to be installed in accordance with the permit?*

No



LAKE HAVASU CITY

Community Investment Department

Environmental Remediation Programs

Are there any ongoing assessment or remediation programs active or pending at the site? If so, please describe.

Not applicable.

Asbestos Disposal

Is permitted asbestos co-disposed with the MSW or is there a separate asbestos disposal area? If separate, please explain that this means...dedicated area atop the MSW, separate mono-cell, etc.

Non-friable asbestos is co-disposed with municipal solid waste.

Misc. Construction

Does the operator have any obligations to any agency (BLM, Lake Havasu City) for any non-traditional landfill construction or maintenance requirements such as:

1. *Fencing?*
2. *Public Convenience Centers?*
3. *Utility Upgrades (electricity, water, etc.)*
4. *Road improvements or maintenance to provide access to the site?*
5. *Landscaping?*
6. *Protected habitat or wetland preservation/mitigation/replacement?*
7. *Other*

No, for items 1 through 7 above.



LAKE HAVASU CITY

Community Investment Department

Closure/Post-Closure Fund

1. *Does the City maintain the closure and post-closure monitoring financial instruments? Please describe what instruments are used, the balance of each, who provides the funds. Please provide copies.*

Yes. Financial assurance information is provided in Attachment 6.

2. *Please provide a third-party engineering estimate of the closure and post closure cost.*

A third-party engineering estimate of closure and post-closure costs is provided in Attachment 6.

Thank you for your consideration.

*Damon De Frates
Director, Post Collection Operations
ddefrates@wm.com*

*Waste Management - Four Corners Market Area
222 South Mill Avenue, Suite 333
Tempe, AZ 85281
Tel 480 457 4835
Cell 951 505 4302*

Attachment 1 - Current Contract Information
Attachment 2 - Recycling, Household Hazardous Waste, Electronic Waste and Waste Tire Program Information
Attachment 3 - Landfill Plan Drawings
Attachment 4 - Other Landfill Permit Information
Attachment 5 - Design Capacity Calculations
Attachment 6 - Financial Assurance Information



LAKE HAVASU CITY

Community Investment Department

ATTACHMENT 1

CURRENT CONTRACT INFORMATION

SOLID WASTE FACILITIES OPERATION AGREEMENT

THIS SOLID WASTE FACILITIES OPERATION AGREEMENT, made and entered into this 26th day of June, 2012, by and between Lake Havasu City, Arizona, a municipal corporation (the "City"), and Allied Waste Transportation, Inc., a Delaware corporation, d/b/a Allied Waste Services of Lake Havasu City ("Contractor").

WHEREAS, the City, after investigation, believes that the public need, convenience and necessity can best be served by Contractor to act as the authorized agent for the City for the operation of the Landfill.

WHEREAS, the City entered into the Solid Waste Facilities Operation Agreement, dated May 15, 1997, between the City and Laidlaw Waste Systems, Inc., as amended by that certain Amendment No. 1 to Solid Waste Facilities Operation Agreement, dated May 22, 2007, between the City and Contractor, as amended by that certain Amendment No. 2 to Solid Waste Facilities Operation Agreement, dated July 15, 2009 (collectively, the "Original Agreement").

WHEREAS, Contractor is the successor in interest to Laidlaw Waste Systems, Inc.

WHEREAS, the City and Contractor desire to enter into this Agreement to supersede in its entirety the Original Agreement and to grant Contractor the exclusive right to operate the Landfill for a term of five years.

NOW, THEREFORE, for and in consideration of the mutual agreements and subject to the terms and conditions hereinafter contained and stated it is hereby understood and agreed by the parties as follows:

1. **Definitions**

Wherever used herein, the hereinafter listed terms shall have the following meanings:

- A. ADEQ: Arizona Department of Environmental Quality, or successor agency thereto.
- B. Applicable Laws: All applicable federal, state, and local laws including but not limited to applicable state and federal environmental laws, rules, and regulations which apply to the operation of the Landfill.
- C. Closure Plan: The plan approved by ADEQ for closure and post-closure maintenance and monitoring of the Landfill.
- D. Contractor Indemnified Parties: Contractor, and each and all of its shareholders, directors, officers, employees, agents, attorneys, and independent contractors.
- E. Environmental Laws: All present and future laws and any amendments (whether common law, statute, rule, order, regulation or otherwise), permits, and other

requirements of governmental authorities applicable to the Facilities and relating to the environment, property damage, health or safety, environmental conditions or to any Solid, Toxic, Radioactive or Hazardous Waste. Environmental Laws include, but are not limited to, the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C 9601 et seq. ("CERCLA"); the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act, 42 U.S.C 6901 et seq. ("RCRA"); the Hazardous Materials Transportation Act, 49 U.S.C 1801 et seq.; the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 136 to 136y; the Federal Water Pollution Control Act, as amended by the Clean Water Act, 33 U.S.C. 1251 et seq.; the Clean Air Act, 42 U.S.C 7401 et seq.; the Toxic Substances Control Act, 15 U.S.C 2601-2671; the Safe Drinking Water Act, 42 U.S.C 300f-300j-26; the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. 101 et seq.; Title 49 of the Arizona Revised Statutes; and any regulations promulgated pursuant to such listed federal and state statutes, including but not limited to, 40 C.F.R. Parts 258, 259, 262-264, and 300; the Occupational Safety and Health Administration Bloodborne Pathogen Rule, 29 C.F.R. 1910; and Title 18 of the Arizona Administrative Code.

F. Landfill: The entire Lake Havasu City landfill and all property contained therein, located on Chenoweth Drive, consisting of approximately One Hundred Eighty (180) acres leased from the Bureau of Land Management and forty five (45) acres owned by Lake Havasu City.

G. Hazardous Waste: All waste defined or characterized as hazardous waste pursuant to any Environmental Law, including but not limited to, RCRA and any amendments thereto, or by regulations promulgated thereunder, including but not limited to 40 C.F.R. Part 261, and any amendments thereto, and all waste defined or characterized as hazardous waste pursuant to the Arizona Hazardous Waste Management Act, A.R.S. 49-921 *et seq.* ("AHWMA"), and any amendments thereto, or pursuant to AHWMA, including but not limited to Arizona Administrative Code R18-8-260 *et seq.* and all waste defined or characterized as hazardous waste by the ADEQ or other agency of the State of Arizona having jurisdiction over hazardous waste.

H. Infectious Waste: "Medical Waste", as that term is defined in 42 U.S.C 6903(40), and waste material which may be considered infectious or biohazardous, under Arizona law or regulation, originating from hospitals, public or private medical clinics, departments or research laboratories, commercial diagnostic laboratories, medical laboratories, pharmaceutical industries, blood banks, forensic medical departments, mortuaries, veterinary facilities and other similar facilities and includes equipment, instruments, utensils, fomites, laboratory waste (including pathological specimens and fomites attendant thereto), surgical facilities, equipment bedding and utensils (including pathological specimens and disposal fomites attendant thereto), sharps (hypodermic needles, syringes, etc), dialysis unit waste, animal carcasses, offal and body parts, biological materials, (vaccines, medicines, etc.) and other similar materials. Notwithstanding the foregoing, "Infectious Waste" shall not include small amounts of such waste materials authorized by applicable Environmental Law to be disposed of in a sanitary landfill, or any such waste material which is determined to have been rendered non-infectious and non-biohazardous through incineration or steam sterilization (autoclaving), in accordance

with Environmental Laws and Landfill Plan, and such non-infectious and non-biohazardous waste shall be deemed Solid waste thereunder.

I. Landfill Operations Plan: That certain operations plan for the Landfill, prepared by EMCON in September of 1997.

J. Permitting Costs: All costs associated with obtaining permits including out of pocket expenses; provided that City staff, employees, and related expenses shall not be included.

K. RCRA: The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C 6901 et seq.) and all future amendments thereto.

L. RCRA Subtitle D: The federal and state municipal solid waste regulations pertaining to municipal solid waste landfills as more specifically described in Title 40 Code of Federal regulations, Part 258 and Arizona Revised Statutes, 49-761, and including all future amendments or modifications thereto.

M. Recyclable Materials: Those commodities of materials that can be sold without processing in a spot or future market.

N. Solid Waste: All waste defined as solid waste by RCRA or regulations promulgated thereunder; all substances lawfully allowed to be disposed at the Landfill in accordance with applicable Environmental Laws; all waste defined as solid waste by A.R.S. 49-701 or by ADEQ, and or all waste defined as special waste pursuant to A.R.S. 49-851, except that the term Solid Waste additionally is intended to mean and include only those substances which are normally expected to be disposed of by employing generally accepted sanitary landfill disposal methods, and shall exclude Unacceptable Waste.

O. Special Waste: A solid waste as defined by A.R.S 49-701.01, other than a Hazardous Waste, that requires special handling and management to protect public health or the environment and that is listed in 49-852 or in rules adopted pursuant to 49-855. Special waste does not include return flows from irrigated agriculture, medical waste, used oil or by-products of a regulated agricultural activity, as defined in 49-201, that are subject to best management practices under 49-247, by-products of livestock, range livestock and poultry as defined in 3-1201, pesticide containers regulated pursuant to title 3, chapter 2, article 6 or waste that contains radioactive materials that are subject to a permit or regulation under the Atomic Energy Act of 1954 (42 United States Code 2011, 68 Stat. 919), as amended or title 30, chapter 4.

P. Unacceptable Waste: Hazardous Waste; Infectious Waste; highly flammable substances; liquid wastes; special wastes; pathological and biological wastes (unless specifically approved by Company in writing); explosives; toxic materials; radioactive materials; materials that the Landfill cannot legally, or is otherwise not authorized to, receive and/or dispose of; and other materials deemed by state, federal or local law, or in the reasonable discretion of Contractor, to be dangerous or threatening to health or the environment.

2. Operation of Landfill

The Contractor shall have the exclusive right and responsibility for the operation of the Landfill in accordance with generally accepted standards for operation of a sanitary landfill under supervision of experienced sanitary landfill personnel. This Agreement replaces the Original Agreement in its entirety and the Original Agreement is hereby terminated.

Contractor's responsibilities shall include, but not be limited to, the following specific actions.

A. New Source Performance Standards (NSPS) – In the Original Agreement, Contractor was not responsible for compliance items relating to NSPS for landfills based on EMCON's design capacity analysis contained in the landfill's Solid Waste Facility Plan (SWFP) dated September 12, 1997 and approved by ADEQ on July 7, 1999. EMCON concluded that because the Landfill was not subject to any NSPS or other applicable requirements and all of the sources of air emissions were fugitive in nature, no air quality permits, including Title V, were required by ADEQ.

Contractor, at its own expense, shall revise the SWFP and submit to ADEQ a new waste footprint that includes a more accurate account of waste that was discovered outside of the original footprint, revise the pre-1997 waste and volume calculations to more accurately reflect the historic waste, and revise the final grades to keep the landfill below the NSPS threshold.

If an Air Quality Permit is required during the term of this Agreement, Contractor shall apply for such permit on the City's behalf, pay the required fees, and comply with the provisions contained in the permit. Any failure to acquire any Air Quality Permit required by Environmental Laws or to comply with any provision of Environmental Laws in regards to any Air Quality Permit shall be the sole responsibility of Contractor.

B. Gas Probes – The Contractor shall be responsible for methane gas monitoring at the Landfill. If remediation is required, due to the presence of methane gas, the Contractor will be fully responsible for any and all remediation actions, except for the installation of a gas collection and control system. If it is determined that a gas collection system is necessary, Contractor shall immediately notify the City, with supporting documentation of the required actions, and the parties shall in good faith negotiate the appropriate compensation to Contractor for such services.

C. Operate Scale House – Contractor shall provide a scale for weighing entering loads, and an office to house the necessary computer equipment and required documents and permits, employee(s), etc. and shall be responsible for providing water and power for same. Contractor shall provide a properly trained employee to operate the scale and monitor weights and fees during all hours the Landfill is open for business including hours when open to Contractor's vehicles. Contractor must have normal maintenance and calibration of the scales to be performed in accordance with the manufacturer's recommendation. The City shall have the right during normal working hours to enter the scale location to inspect and test the accuracy of the scale. In the event the scale is not operable at any time, a vehicle or container will be

charged, based upon the average tonnage pre-established load capacity of past weight loads. All commercial vehicles should have tare weights so that refuse vehicles do not need to be weighed twice.

D. Operate Water Well – Contractor shall operate a water well on the premises of the Landfill to provide a water source to maintain the roads onsite.

E. All Solid Wastes accepted by the Contractor at the Landfill shall be compacted by Contractor using equipment of sufficient width and capacity to carry out operations in accordance with the Landfill Operations Plan and applicable permits. Contractor agrees to have on site at all times at least one operable landfill compactor or equivalent. Sufficient auxiliary equipment shall be maintained by Contractor at the Landfill, or kept readily available, in order to permit continuous operation of the Landfill in the event of equipment breakdown or increased volumes of material to be handled.

F. Contractor shall regularly monitor the Landfill and the accessible adjacent area, and shall continuously operate the landfill in a manner to minimize fire, smoke, odor, rodents, flies, other public health menaces and pests and the blowing of papers and trash at all times during the term of this Agreement. Contractor shall erect such temporary or permanent fences, or take such other measures as may be reasonably necessary, to control the blowing of paper and other materials from the Landfill.

G. Contractor shall cover Solid Waste disposed at the Landfill in accordance with applicable permits and Environmental Laws. Contractor shall have the right to use cover material from the Landfill and from any property acquired by the City specifically for supply of cover material, at no additional charge. Contractor may request that the City seek to acquire additional real property adjacent to or near the Landfill for cover. Title to any such real property interest acquired for such purposes shall be in the name of the City and City shall provide access to such property for Contractor to obtain cover material. Contractor may use alternate daily cover upon approval of same by ADEQ.

H. Contractor shall further maintain all records with respect to the operation of the Landfill as required by applicable Environmental Laws. At any time upon reasonable notice, the City may conduct an audit of such records and may place an employee at the site or elsewhere to observe and verify the accuracy of Contractor's records.

I. Contractor may refuse solid waste from persons and entities based on non-payment of fees for landfill or collection services, or non compliance with applicable laws, permits, or reasonable operating procedures. Contractor may refuse any waste that includes Unacceptable Waste.

J. Only Solid Waste shall be disposed of and processed at the Landfill and Contractor shall exercise due care in accordance with generally accepted standards, including the continuous supervision of state agencies having jurisdiction thereof, to prevent the disposal and/or processing at the Landfill of Unacceptable Waste. Should Contractor become aware that any such prohibited waste materials are being or have been delivered to the Landfill, Contractor

shall, in accordance with the Landfill Operations Plan, promptly inform the City, and if required federal and state regulatory agencies, and arrange for proper removal, or handle and dispose of such prohibited waste materials in accordance with applicable permits and applicable Environmental Laws. Contractor shall be entitled to charge the person or entity putting such prohibited waste materials into the Landfill for the costs of removal, handling, and disposition. Title to and liability for all Hazardous Waste and Excluded Waste shall at no time pass to Contractor, however, as between the Contractor and the City, any liability for the disposal of Unacceptable Waste at the Landfill shall be the responsibility of the Contractor.

K. If leachate is discovered at the landfill the Contractor shall recirculate, treat, and/or dispose of leachate collected at the Landfill, in accordance with Environmental Laws. The City agrees to allow disposal, storage, and transportation of landfill leachate to the City's wastewater treatment plant at no charge to the Contractor, so long as the Contractor provides to the City suitable test results that indicate the chemical makeup of the leachate and the City approves the disposal of the leachate at the City's wastewater treatment plant. If for any reason the leachate cannot be recirculated or disposed of at City's wastewater treatment plant, the Contractor shall be responsible for the disposal of the leachate in accordance with the Environmental Laws at Contractor's sole cost.

L. Contractor shall keep the Landfill open to the public for the receipt of Solid Waste in accordance with the Landfill Plan. At minimum, the Landfill shall be open to the public from 7:00 a.m. to 3:00 p.m. Monday thru Friday, and 8:00 a.m. to 12:00 noon on Saturday. Any changes to the hours when the Landfill will be open to the public shall be approved by the City. In addition, Contractor may at its option, operate the Landfill during such other hours as may be necessary, in Contractor's reasonable judgment, to operate in an efficient manner to receive Solid Waste or complete construction activities. The Landfill will be closed to the public on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

M. The Contractor may construct at the Landfill, at the Contractor's sole expense, such structures as the Contractor may desire for the storage and servicing of equipment used by the Contractor in the performance of this Agreement. Such structures shall become the property of the City at the end of the Agreement.

N. Contractor agrees to cooperate with City to assure proper traffic control of vehicles entering and exiting the Landfill. An employee of Contractor shall be available on-site when the Landfill is open to the public to direct traffic if necessary and require compliance with safety regulations.

O. Contractor shall not be responsible for the financial assurance requirements under RCRC Subtitle D, or the accrual of funds for, or to conduct closure and post-closure operations and maintenance (including monitoring, as defined in the Closure Plan) of the Landfill in accordance with applicable Environmental Laws.

P. Contractor, at its option, may seek vertical or lateral expansions of the Landfill, in accordance with applicable Environmental Laws. There shall be no additional charge to City for such expansions.

Q. Contractor shall be responsible for all ground water monitoring, if any, required by the Landfill Operations Plan or Environmental Laws. At the time of the execution of this Agreement, no groundwater monitoring is expected to be necessary. Contractor shall prepare and submit all documentation necessary to regulatory agencies and use its best efforts in acquiring an exemption from groundwater monitoring requirements for the Landfill. Should monitoring be required, Contractor will be responsible for any and all monitoring actions.

R. Contractor shall be responsible for proper equipping and training of its employees in accordance with applicable Environmental Laws, OSHA, and other applicable laws and regulations.

S. Contractor may accept Solid Waste for disposal at the Landfill from Lake Havasu City, Desert Hills, Horizon Six, Havasu Heights and the Parker Area. Contractor has the responsibility to distinguish between "In City" and "Outside City" waste and to establish the origin and contents of all waste, however characterized. The Contractor shall remit to the City 50% (less the \$3.00 per ton revised SWFP fee) of the revenue received from all Solid Waste excluding waste generated by Contractor pursuant to that certain License Agreement between the City and Contractor dated July 9, 2007. At no time may rates charged for disposal of "Outside City" waste be less than that charged for "In City" waste. Because of the Landfill's proximity to the state borders it is expected that Solid Waste may be accepted from California and Nevada in addition to Arizona.

T. Contractor shall request the City's approval prior to executing any waste disposal contract for "Outside City" waste. Any such request shall be submitted with a report including a waste stream analysis effect on life span of Landfill and revenues to be generated. No "Outside City" waste may be disposed of pursuant to this section without City's written approval in advance of such disposal.

U. Obtaining all local, state and federal licenses and permits applicable to operating and maintaining the Landfill shall be the sole responsibility of the Contractor and Contractor shall provide copies of such permits to the City upon request.

3. Term

The term of this Agreement shall be for period of five (5) years beginning July 1, 2012 and terminating June 30, 2017, subject to the limitations, terms, and conditions hereinafter specified and contained in this Agreement. The parties may agree to extend the term for an additional 10-year period on mutual agreement.

4. Compliance With Laws, Permits, Etc.

Contractor agrees that, in performance of the work herein, it will comply with all Applicable Laws, including but not limited to Environmental Laws now in force applicable to the operations at the Landfill, except as specifically set forth in this Agreement.

5. Inspection

A. The City shall be entitled to inspect the Landfill at any time.

B. The City and Contractor agree to permit reasonable inspection of the Landfill by appropriate federal, state, and local authorities, as required by Applicable Law.

6. Insurance and Indemnity

A. Indemnification

To the fullest extent permitted by law, Contractor shall indemnify, defend, and save harmless the City, any jurisdiction or agency issuing permits for any work associated with this Agreement, and their respective directors, officers, officials, agents and employees (hereinafter referred to as the "Indemnitee(s)") from any and all claims, demands, suits, actions, proceedings, loss, cost, and damages of every kind and description, including any attorney's fees and/or litigation expenses, which may be brought or made against or incurred by the City on account of loss of or damage to any property or for injuries to or death of any person, caused by, arising out of, or contributed to, in whole or in part, by reasons of any intentional or negligent act, omission, professional error, fault, or mistake of Contractor, its legal predecessors in interest, its employees, agents, representatives, or subcontractors, their employees, agents or representatives in connection with or incident to Contractor's performance of this Agreement, or arising out of Worker's Compensation claims of employees of Contractor and/or its subcontractors or claims under similar such laws or obligations. Contractor's obligation under this section shall not extend to any liability caused by the negligence of the City or its employees.

Contractor assumes all risk of loss or injury to property or persons arising directly from any of its intentional or negligent acts or omissions or breach of this Agreement in performing at the Landfill, and agrees to indemnify and hold harmless the City from all losses arising directly from such intentional or negligent acts or omissions or breach by the Contractor. This indemnification provision shall not extend to operations at the Landfill prior to operations by Contractor or its legal predecessors and further shall not extend to liability arising from operations by a new contractor subsequent to this Agreement.

Contractor shall not be responsible for conducting post-closure activities at the Landfill or liability arising from same.

B. Insurance

I. The insurance requirements herein are minimum requirements for this Agreement and in no way limit the indemnity covenants contained in this Agreement. City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of this Agreement, and Contractor is free to purchase additional insurance.

II. Minimum Scope and Limits of Insurance: Contractor shall provide coverage with limits of liability not less than those stated below.

(i) Commercial General Liability – Occurrence Form

Policy should include bodily injury, property damage, personal injury and broad form contractual liability:

Each Occurrence	\$5,000,000
General Aggregate	\$5,000,000

(a) The policy shall be endorsed to include the following additional insured language: “Lake Havasu City, Arizona, its departments, agencies, boards, commissions, officers, officials, agents, and employees shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor.”

(b) Policy shall contain a waiver of subrogation against the City, its departments, agencies, boards, commissions, officers, officials, agents, and employees for losses arising from the service provided by or on behalf of the Contractor.

(ii) Business Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Agreement

Combined Single Limit (CSL)	\$1,000,000
NOTE Limit if hazardous materials are transported	\$5,000,000

(a) The policy shall be endorsed to include the following additional insured language: “Lake Havasu City, Arizona, its departments, agencies, boards, commissions, officers, officials, agents, and employees shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor.”

(b) Policy shall contain a waiver of subrogation against the City, its departments, agencies, boards, commissions, officers,

officials, agents, and employees for losses arising from the service provided by or on behalf of the Contractor.

- (c) If hazardous materials are transported, Contractor shall obtain and maintain appropriate endorsements, including but not limited to, the MCS-90 or CA 99 48 endorsements.

(iii) Workers' Compensation insurance covering all employees engaged in any operations covered by this Agreement as required by the State of Arizona and Employer's Liability insurance with limits not less than \$1,000,000 each accident; disease – each employee/policy limit.

(iv) Environmental Impairment Insurance \$5,000,000

- (a) The policy shall be endorsed to include the following additional insured language: "Lake Havasu City, Arizona, its departments, agencies, boards, commissions, officers, officials, agents, and employees shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor."

(b) Policy shall contain a waiver of subrogation against the City, its departments, agencies, boards, commissions, officers, officials, agents, and employees for losses arising from the service provided by or on behalf of the Contractor.

(c) Coverage must be *identified as specific to the operations* described in the scope of services in this Agreement.

(d) The policy shall include coverage for bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death.

(e) The policy shall include coverage for property damage including physical damage to or destruction of tangible property and the resulting loss of use thereof, clean up costs, and the loss of use of tangible property that has not been physically damaged or destroyed.

(f) For losses that arise from the facility, coverage shall apply to sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, which results in bodily injury or property damage.

(g) The policy shall include coverage for defense, including

costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages.

- II. Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Agreement.
- III. Each insurance policy required by the insurance provisions of this Agreement shall not be suspended, voided, cancelled, reduced in coverage or in limits without thirty (30) days written notice from the insurer to the City. Such notice shall be mailed directly to City [Lake Havasu City, Attention Administrative Services/Contracts, 2330 McCulloch Blvd. North, Lake Havasu City, AZ 86403] and shall be sent by certified mail, return receipt requested.
- IV. Insurance coverage must be provided by an insurance company admitted to do business in Arizona and rated A-VIII or better by AM Best's Insurance Rating.
- V. Contractor shall furnish to City certificates of insurance and copies of all endorsements as required by this Agreement. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Certificates shall be mailed directly to City [Lake Havasu City, Attention Administrative Services/Contracts, 2330 McCulloch Blvd. North, Lake Havasu City, 86403]. If requested, complete copies of insurance policies shall be provided to City. All certificates and endorsements are to be received and approved by the City within ten (10) business days of the effective date of this Agreement. Each insurance policy required by this Agreement must be in effect at or prior to the commencement of the Agreement and must remain in effect for the duration of the Agreement. Failure to maintain the insurance policies as required by this Agreement or to provide timely evidence of renewal will be considered a material breach of the Agreement.

7. **Charges and Payments**

A. CPI Increase – All rates payable to the Contractor in paragraphs B and C below will be automatically increased by a factor equal to the percentage change in the Consumer Price Index as published by the U.S. Bureau of Labor Statistics. Any such increase resulting from a CPI change during the period of January through December will become effective each March 1, beginning on March 1, 2013. For the purpose of the CPI Calculation, the West-C Classification shall be used for All Urban Consumers.

B. Tipping Fee – City and Contractor agree that the initial gate fee to be charged by the Contractor for all Solid Waste received at the Landfill shall be \$29.80 per ton.

Included in the tipping fee is \$3.00 per ton due to Contractor for responsibilities contained in Section 2A. The Contractor shall collect from the customer all gate fees or other related fees payable at the Landfill. During the term of this Agreement, as may be extended, all City owned equipment and equipment used for City purposes/projects using the Landfill for disposition of waste materials shall be exempted from any gate fee charged at the Landfill. Records shall be kept and provided to the City upon request of all loads received at the Landfill designating whether the load was generated within or outside of Lake Havasu City. The Contractor shall adjust this tipping fee in accordance with the changes required by Paragraphs G and H of this section.

C. Uncovered Load Fee – The Contractor may charge an extra \$5.00 per load fee for all uncovered loads entering the Landfill.

D. City reserves the right to fully evaluate and approve any changes in Fees or Surcharges specified under Paragraphs H, I and J of this section. The City's approval shall not be unreasonably withheld. The Contractor is obligated to provide the City with reasonable justification for any requested increase.

E. Notwithstanding any other provision of this Agreement, if for any reason any permit, authorization, approval, purchase, lease, or other act dependent in whole or in part on a person, entity, or governmental authority other than Contractor is not issued, given, granted, or consummated after reasonable good-faith efforts by Contractor to obtain such permit, authorization, approval, purchase, lease, or other act, and such event is not due to the negligent or intentional misconduct of Contractor, and such event permanently prevents the further performance by Contractor of this Agreement or the continued operation of the Landfill, then this Agreement shall terminate and Contractor shall be reimbursed by City its reasonable actual out-of-pocket costs incurred by Contractor in performing its obligations leading up to such event in accordance with this Agreement. The City shall not in any event be liable for "debt" incurred by the Contractor pursuant to this Agreement and Contractor has not authority to incur debt on the City's behalf.

F. Notwithstanding any other provision of this Agreement, if for any reason due to acts beyond control of the City it is required to close the Landfill prior to the end of this Agreement, the City's only obligation to Contractor shall be to pay Contractor's reasonable actual out-of-pocket costs through date of termination as offset by revenues. The City shall not in any event be liable for "debt" incurred by the Contractor pursuant to this Agreement and Contractor has no authority to incur debt on the City's behalf.

G. Notwithstanding any other provision of this Agreement, new fees and surcharges imposed by governmental entities after the effective date of this Agreement shall be added to the monthly fee and/or tipping fee as appropriate.

H. Notwithstanding any other provision of this Agreement, any change in law imposed by Lake Havasu City which increases the cost of the Landfill operations shall be added to the monthly fee and/or tipping fee as appropriate.

I. The Bureau of Land Management (the "BLM") owns the 180 acres that the landfill resides. The City holds a recreation and public purposes lease AZA5433 with the BLM for sanitary landfill purposes. The lease was originally issued for a period of 25 years and expired August 22, 1996, and lease renewals are granted annually in November of each year. The current lease renewal expires on December 31, 2012. The BLM pricing guidelines historically lease landfill sites for \$2.00 per acre, in this case \$360.00. Contractor agrees to pay this amount, and any future increases in this amount, to the BLM upon notification by the City of the lease payment being due.

8. Revocation and Termination

A. In the event of breach by Contractor of any of the terms, covenants, or conditions herein contained, City shall notify Contractor of such breach and if same is not cured or Contractor has not taken substantive steps to cure the default within (30) days from such notice, City may, upon a determination that a breach has occurred, cancel and revoke this Agreement; upon such revocation no further sums shall be due to Contractor. This agreement may, at the option of the City, be terminated in the event of bankruptcy, receivership, or assignment for the benefit of creditors by the Contractor and no further sums shall be due to Contractor.

9. Investigations and Public Hearing

The City Council shall have full power to examine or cause to be examined at any time, and at all times, the books, papers, and records of Contractor with relation to the operation of the Landfill.

10. Force Majeure

"Force Majeure" means a delay or impediment encountered by Contractor in the performance of its obligations under this Agreement which is caused by an event beyond the reasonable control of Contractor. Without limiting the generality of the foregoing, "Force Majeure" shall include but not be restricted to the following types of events: act of God or public enemy; acts of government or regulatory authorities which prevent operation of the landfill, fires, floods, epidemics or serious accidents; unusually severe weather conditions; strikes, lockouts or other labor disputes.

In the event of a Force Majeure, Contractor shall not be deemed to have violated its obligations under this Agreement, and the time for performance of any obligations by Contractor shall be extended by a period of time necessary to overcome the effects of the Force Majeure. Contractor shall be reimbursed its costs incurred for the performance of any extra work necessary to overcome the Force Majeure.

If any event constituting a Force Majeure occurs, Contractor shall notify the City thereof, and disclose to the City the estimated length of delay, the cause of the delay, and the anticipated costs of any extra work to overcome the Force Majeure.

11. Miscellaneous

- A. Contractor agrees to maintain a local office for the purpose of handling inquires regarding any service provided by Contractor. Contractor agrees to secure an annual listing in the local telephone directory under the name by which it conducts business in the community. Contractor agrees to keep said office open for business from 8:00 a.m. to 5:00 p.m. every day except Saturday, Sunday, and the following holidays: New Years Day, Memorial Day, Independence Day, Labor day, Thanksgiving Day, and Christmas Day. The said office shall be staffed with sufficient competent personnel to handle calls and inquires during office hours. Contractor agrees to provide to City upon request a copy of all complaints received regarding the landfill.
- B. This Agreement and any and all rights and obligations of Contractor hereunder may be assigned by Contractor to any parent company, affiliate, or subsidiary of Contractor without the consent of the City but with notice of same as long as the financial statement of the affiliate or subsidiary is as strong as the Contractor's; this Agreement may be assigned to any other third party, or any of the duties herein delegated to any other third party, only with the prior written consent of the Lake Havasu City Council.
- C. Contractor and City agree that the City Manager will be the authority for the approval of charges "for any special service (excluding rate changes) not contemplated by this Agreement." The City Manager may designate a City employee to act as an enforcement officer hereunder and to act as a liaison between City and Contractor.
- D. If any provision or portion of this Agreement is by any reason unenforceable, inapplicable, or invalidated, then such provision or portion shall be reformed in accordance with applicable laws. The invalidity, inapplicability or unenforceability of any provision or portion of this Agreement shall not affect the validity, applicability, or enforceability of the other provisions or portions of this Agreement except to the extent related to the provisions reformed.
- E. This Agreement may be executed in any number of counterparts, each of which will for all purposes be deemed to be an original, and all of which are identical.

- F. In furtherance of the parties' respective mutual interest, benefits, and objectives hereunder, to the extent permitted by law, City and Contractor agree to regularly communicate regarding activities and operations under this Agreement and to cooperate in every reasonable way to disseminate necessary information to regulatory and public officials, the media, and the public and to avoid and resolve any real or perceived problems, conflicts, or concerns that may arise in connection with this Agreement, including the prospect of changes in law or regulation which might materially affect operations contemplated under this Agreement.
- G. This Agreement may be amended from time to time only by mutual agreement of both parties hereto which is evidenced by an instrument in writing signed by the parties to this Agreement at the time of such amendment.
- H. This Agreement supersedes any and all other agreements, either oral or written, between the parties hereto, and all proposals by Contractor to City, with respect to the subject matter hereof and contains all of the covenants and agreements between the parties with respect thereto.
- I. Any notices and other communications to be given under this Agreement by any party to the other shall be deemed to have been duly given if given in writing and personally delivered, sent by nationally recognized overnight courier, sent by telegram or telecopy, or sent by mail, registered or certified, postage prepaid with return receipt requested, at the address specified beside each party's signature at the end of this Agreement. Notice delivered personally or by courier, telegram, or telecopy shall be deemed communicated as of actual receipt; mailed notices shall be deemed communicated as of 10:00 a.m. on the third business day after mailing. Any party may change its address for notice hereunder by giving notice of such change in the manner provided in this paragraph.
- J. No waiver of any term or condition of this Agreement shall be enforceable unless it shall be in writing signed by the party against which it is sought to be charged. The waiver by any party of a breach of any provision of this Agreement by the other shall not operate or be construed as a waiver of any subsequent breach by such other party.
- K. Relationship of Parties: It is clearly understood that each party will act in its individual capacity and not as an agent, employee, partner, joint venturer, or associate of the other. Any employee or agent of one party shall not be deemed or construed to be the employee or agent of one party for any purpose whatsoever. The Contractor is advised that taxes

or Social Security payments will not be withheld from a City payment issued hereunder and that Contractor should make arrangements to directly pay such expenses, if any.

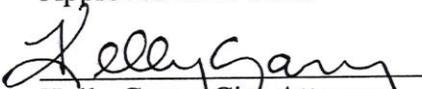
- L. Subcontractors: No subcontract shall be entered into by the Contractor with any other party to furnish any of the material, service or construction specified herein without written notice to the City. All subcontracts shall comply with Federal, State and City laws and regulations which are applicable to the services covered by the subcontract and shall include all terms and conditions set forth herein which shall apply with equal force to the subcontract, as if the subcontractor were the Contractor referred to herein. The Contractor is responsible for performance under this Agreement whether or not subcontractors are used.
- M. Overcharges by Antitrust Violations: the City maintains that, in actual practice, overcharges resulting from antitrust violations are borne by the purchaser. Therefore, to the extent permitted by law, the Contractor hereby assigns to the City any and all claims for such overcharges as to the goods or services used to fulfill this Agreement.
- N. Right to Assurance: Whenever the party to this Agreement in good faith has reason to question the other party's intent to perform, he may demand that the other party give a written assurance of this intent to perform. In the event that a demand is made and no written assurance is given within ten (10) days, the demanding party may treat this failure as an anticipatory repudiation of this Agreement.

IN WITNESS HEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

Lake Havasu City, Arizona


Mark S. Nexsen, Mayor

Approved as to form:


Kelly Garry, City Attorney

Attest:

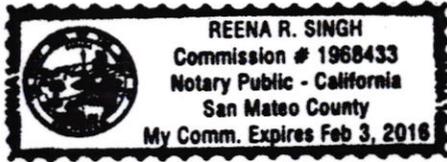

Kelly Williams, Acting City Clerk

Allied Waste Transportation, Inc.

By: 
Its: Vice President

STATE OF California)
)ss.
COUNTY OF Alameda)

SUBSCRIBED AND SWORN to before me this 2nd day of July, 2012, by Jeff D. Andrews of Allied Waste Transportation, Inc., on behalf of the corporation.




Notary Public



LAKE HAVASU CITY

Community Investment Department

ATTACHMENT 2

**RECYCLING, HOUSEHOLD HAZARDOUS WASTE, ELECTRONIC WASTE AND
WASTE TIRE PROGRAM INFORMATION**

Mark Clark

Landfill/Collection Info
Copy sent to Paul P

From: Brian Conway [Brian.Conway@awin.com]
Sent: Friday, February 09, 2007 9:53 AM
To: Mark Clark
Cc: Jennifer Slettebo
Subject: Fwd: Westech Recylers, Inc. - Electronics Recycling at AlliedWaste's Lake Havasu Landfill

Attachments: List of Acceptable Items for Westech Recyclers1.doc; westech trifold brochure1.pdf



List of Acceptable
Items for W...



westech trifold
brochure1.pdf

Is this what you had in mind? I can spot a roll-off at the cleanup for electronics recycling next month, I'll bring it up at the KHB meeting this month, I have a call into Jenny to make sure its in the advertising.

>>> "Tom H" <tomh@westechrecyclers.com> 02/09/07 9:25 AM >>>
Brian,

Thank you for taking the time earlier today to discuss Allied Waste's electronic (computers, laptops, servers, networking equipment (modems, routers, switches, hubs), mainframes, monitors, printers, power supplies, test equipment, lab equipment, circuit boards, telecom equipment, cell phones, telephones, fax machines, copiers, surplus wire, cable and metals, etc.) recycling needs. Westech Recyclers, Inc. (Westech) is a full service electronic recycling, asset management and disposal company.

I have attached a List of Acceptable Items and a Brochure that outlines Westech's services for your review. The electronic equipment will be collected in a 40 yard dumpster and Westech will pick up the electronic material at the Landfill in Lake Havasu at no cost to Allied Waste. The electronic material will be picked up a minimum of once per year.

Westech recycles all of the electronic material in accordance with state and federal recycling regulations.

If you have any questions or need additional information, please contact me at 602-432-4046 or my e-mail address is tomh@westechrecyclers.com.

Best Regards,

Tom Holland

Business Development Manager

FEB 1

Westech Recyclers, Inc.

1008 W. Madison St., Phoenix, AZ 85007

602-256-7626 (office) 602-432-4046 (cell)

tomh@westechrecyclers.com

--

No virus found in this outgoing message.

Checked by AVG Free Edition.

Version: 7.1.411 / Virus Database: 268.17.32/677 - Release Date: 2/8/2007

List of Acceptable Items for Westech Recyclers, Inc.

Computer Equipment – PC's, Laptops, CRT Monitors, Flat Panel Monitors, Modems, Switches, Hubs and Routers, Storage Devices, Main Frames, Servers, Power Supplies, Tape Libraries, Circuit Boards, Power Cords, Printers, Wire and Cabling, Surplus Metals, Mice, Keyboards, Hard Drives, Floppy, DVD and CD Drives, etc.

Point of Sale Equipment – Credit Card Machines, Printers, Scanners, etc.

Telecom Equipment – Telephones, Cell Phones, Switches, CSU/DSU Multiplexing Equipment, Phone Systems, etc.

Test and Lab Equipment – Microscopes, Oscilloscopes and Probes, Volt Meters, Test Meters, Current and Power Meters, Signal Generators, Lab Power Supplies, etc.

Medical Equipment – Ultra Sounds, MRI's, PET's, CT Scanners, Fluoroscopy Equipment, X-Ray Machines, Radiology Equipment, Transformers, etc.

Audio/Visual Equipment – Stereos, Radios, Amplifiers, Projectors, etc.

Printers, Copiers and Fax Machines

****Westech Recyclers, Inc. does not accept Televisions or Bio-Medical Waste (Syringes, etc.).**

Fast, environmentally compliant disposal with Westech Recyclers

Westech provides a professional, safe and legal means of disposing of old and obsolete computer, medical, manufacturing and other electronic equipment. We are fully equipped to provide your company with environmentally sound solutions for all electronic disposal needs.

We recycle most types of electronic waste including but not limited to:

- ◇ MONITORS
- ◇ MEDICAL EQUIPMENT
- ◇ WIRE & CABLING
- ◇ AVIONICS
- ◇ NETWORKING EQUIPMENT
- ◇ CIRCUIT BOARDS
- ◇ LAPTOPS & PRINTERS
- ◇ SURPLUS & SCRAP METALS
- ◇ TEST EQUIPMENT
- ◇ COMPUTER PERIPHERALS
- ◇ POS EQUIPMENT
- ◇ TELEPHONE EQUIPMENT
- ◇ DRIVES & MAINFRAMES
- ◇ PRECIOUS METALS
- ◇ MODEMS, MICE & KEYBOARDS

Guiding Principles

The 3 R's of Westech Recyclers

Respect

All of our programs are environmentally secure. We cannot respect ourselves without first respecting our planet.

Respond

We respond to our clients' needs, timelines and budgets.

Recycle

Because the best way to deal with waste is...to not have any.

Our Mission Statement

Our Mission is to manage the environmentally safe recycling of electronic waste while responding to our client's individual needs, timelines and financial concerns.



Westech Recyclers

Environmentally safe removal and recycling of computers and electronics.

www.westechrecyclers.com

602-256-7626 / 800-700-8845

Fax 602-252-6098

1008 W. Madison street

Phoenix, AZ 85007

Because the best way to deal with waste is...to not have any.

Company Profile

Founded in 1995, Westech Recyclers, Inc. is one of the oldest and largest electronic recycling firms in the West. Through our various recycling programs, we have assisted thousands of companies in safely and efficiently recycling their unwanted electronic, computer and medical equipment.

We believe that our success and growth are the result of our unwavering focus in providing exceptional customer service while conducting business in ways that produce both environmental and economic benefits for our clients.

Westech Recyclers' commitment to social responsibility extends beyond our dedication to protecting our planet from the hazards of electronic waste. We work with various charitable organizations to donate obsolete computers to underprivileged students and needy children.

Safe and secure recycling is our priority. All material is recycled or refurbished in accordance with state and federal recycling regulations. Additionally, we have developed special techniques and equipment to destroy data from hard drives. The extensive erasing capabilities we employ upon request exceed the specifications of the US Department of Defense.

Our Services

Westech Recyclers offers a complete solutions approach to electronic recycling.

Our local, regional and national electronic waste services can include:

- ◇ Asset Management
- ◇ Disassembly
- ◇ Component Recovery
- ◇ Liquidation
- ◇ Reuse & Resale
- ◇ Transport
- ◇ Data Destruction
- ◇ Metals Recovery
- ◇ Assessment
- ◇ Tracking & Documentation

Westech's recycling and recovery procedures are performed as the client requests.

Environmental Responsibility

At Westech Recyclers, we know that environmental responsibility is essential if we are to sustain the quality of life on our planet.

Electronic equipment plays a role in almost every aspect of day to day life. Rapid advancements in electronics technology have created an increasing supply of surplus and scrap equipment. The Lead and other heavy metals contained within the circuit boards, monitors and other electronic components represent a significant hazard to the environment.

Much of the equipment we receive is completely disassembled at our facility. The disassembled components are then sorted by material class and recycled back into the manufacturing stream.

This includes:

- ◇ Monitor Recycling
- ◇ Circuit Board Recovery
- ◇ Microprocessor Chip Recovery
- ◇ Precious Metals Recovery
- ◇ Scrap Metal

Because the best way to deal with waste is...to not have any.



**ALLIED WASTE
MEMO**

DATE: February 12, 2007
TO: Mark Clark
FROM: Brian Conway
RE: Requested Information

Transportation
Division

FEB 12 2007
Received

I have enclosed the following information in response to our meeting last Thursday:

- 2006 Gross receipts. A 3% license fee would generate \$180,443 per year to the City based on 2006 receipts.
- Bin exchange wording from the City of Needles agreement.
- Copy of our insurance certificate.
- Spreadsheet with the Lake Havasu Commercial and Roll-off rates.
- Spreadsheet with the Bullhead City Commercial and Roll-off rates.
- A 1982 article in the newspaper that explains the origination of the cost recovery fee in the residential rate.
- Two newspaper articles addressing the one time per week residential pickup from the early 1980's.

GRAND TOTAL

~~960306-01~~ Number of Receipts: ~~16005~~
 2,538,545.56 - Comm, RO, + Allied billed resi.
 3,476,226.38 - Received from C.79 billed resi.
6,014,771.94 x 3% = \$180,443.16

Needles Bin exchange wording

and provisions of this Agreement. CONTRACTOR shall perform all services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California.

5. TERM OF AGREEMENT

The initial term of this Agreement shall commence upon execution of this Agreement by the Parties as indicated by the date first appearing above and shall expire as of 11:59 p.m. on January 2, 2013. Nothing in this section shall be construed as limiting CITY's right to terminate this Agreement for cause pursuant to Section 14(b).

6. SCOPE OF SERVICES

a. General

CONTRACTOR shall provide Refuse and Recyclable Material collection, transportation, processing and disposal services within CITY in accordance with the terms of this Agreement. CONTRACTOR shall not be required to provide such collection, transportation, processing and disposal services for Special or Hazardous Waste under this Agreement. CONTRACTOR may provide such services for Special or Hazardous Waste if contracted to do so by Customers under separate written contracts negotiated between CONTRACTOR and the Customer generating such Special or Hazardous Waste, provided that CONTRACTOR obtains all necessary permits and performs in accordance with Applicable Law.

Unless otherwise approved by CONTRACTOR, only Containers, Bins, Front-Loading Bins, Roll-Off Bins, and Litter Containers are authorized to be used by Customers for the deposit of Solid Waste. In addition to the obligations described in Section 6.g. hereof, CONTRACTOR shall replace existing Bins, Front-Loading Bins, and Roll-Off Bins with clean and freshly painted replacements when requested by CITY, but in no event more often than twice per Contract Year at no cost to CITY or any Customer. This should not be construed to mean that all Bins would have to be exchanged twice each Contract Year should CITY so request. This applies only to containers that become unsightly due to the nature of the waste being placed therein. All cleaning of such Bins and Containers shall be completed in full compliance with all Applicable Laws, including any requirements of the National Pollution Discharge Elimination System.

CONTRACTOR's employees and agents while engaged in the collection or gathering of Solid Waste within the CITY shall be attired in suitable and acceptable uniforms as mandated by CONTRACTOR's Safety Department. All CONTRACTOR's employees shall make collections as reasonably quiet as possible and shall avoid any unnecessary shouting, whistling or other unnecessary disturbance in the course of providing the services under this Agreement. CONTRACTOR and its employees shall not trespass or loiter on Customers' property and shall use due care in entering and exiting such property, using paved walks or surfaces where

AMENDMENT TO INTEGRATED LICENSE AGREEMENT
BETWEEN CITY OF BULLHEAD CITY AND
TRI-STATE REFUSE, INC., FOR THE COLLECTION,
TRANSPORTATION AND DISPOSAL OF SOLID WASTE

THIS Amendment is entered into this 19 day of August, 2003, by and between Tri-State Refuse, Inc., hereinafter referred to as "Tri-State", and the City of Bullhead City, hereinafter referred to as "City".

WHEREAS, the parties hereto have previously entered into an Integrated License Agreement for the Collection, Transportation and Disposal of Solid Waste hereinafter the "Agreement", approved by the Bullhead City Council on November 16, 1999 to provide residential trash collection and disposal services within the corporate limits of the City; and

WHEREAS, Paragraph 28 of the Agreement provides that the Agreement between the parties could be amended or modified by a written instrument signed and approved by the respective parties to the original Agreement; and

NOW, THEREFORE, the parties agree to amend Paragraphs 7, 9 12 and 14 of the original Agreement to read as follows:

7. TERM OF AGREEMENT

The term of this Agreement shall commence January 1, 2000 and shall be in full force and effect until December 31, 2014.

9. COLLECTION REQUIREMENTS.

Existing subparagraph G, Special Waste and Bulky Item Collection, shall be deleted in its entirety and replaced with the following language:

G.. Special Waste and Bulky Item Collection.

Contractor shall offer each resident up to two (2) curbside special waste and bulky item pickups during the remainder of calendar year 2003, i.e. from October 1, 2003 through December 31, 2003. Commencing with calendar year beginning January 1, 2004 and continuing each year thereafter during the term of this Agreement,

Contractor shall offer each resident up to six (6) curbside pickups during the calendar year. All pickups during the remainder of 2003 and continuing throughout the term of this Agreement shall be on an "on-call" basis. Curbside pickups are limited to bulky items and special waste from that property, not commercial or waste from remodeling that may otherwise require a temporary bin or roll-off, and cannot include hazardous waste, infectious waste, tires or appliances with Freon, unless a prior agreement and fee payment is made with Contractor. The fee for Freon-certification is \$15.00 and the fee for tire disposal is \$3.00 per tire.

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE
12/15/2006

PRODUCER Willis North America, Inc. 26 Century Blvd. P. O. Box 305191 Nashville, TN 372305191		877-945-7378	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
INSURED Allied Waste North America, Inc. (Named Insd. Cont. Below) 18500 North Allied Way Phoenix, AZ 85054		INSURERS AFFORDING COVERAGE		NAIC#
		INSURER A: American Home Assurance Company		19380-004
		INSURER B: American Home Assurance Company		19380-005
		INSURER C: Illinois National Ins. Co.		23817-002
		INSURER D: Ins. Co. of the State of PA		19429-000
		INSURER E:		

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR ADD'L LTR. INSR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	GL5835900	1/1/2007	1/1/2008	EACH OCCURRENCE \$ 2,500,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 2,500,000 GENERAL AGGREGATE \$ 10,000,000 PRODUCTS - COMPI/OP AGG \$ 5,000,000
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS	CA5836660	1/1/2007	1/1/2008	COMBINED SINGLE LIMIT (Ea accident) \$ 5,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC AGG \$ EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
B		CA5836661	1/1/2007	1/1/2008	
C		CA5836662	1/1/2007	1/1/2008	
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC AGG \$ EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
	EXCESS LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE DEDUCTIBLE RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below	WC2920646	1/1/2007	1/1/2008	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER
A		WC2920647	1/1/2007	1/1/2008	E.L. EACH ACCIDENT \$ 1,000,000
C		WC2920648	1/1/2007	1/1/2008	E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
A		WC2920649	1/1/2007	1/1/2008	E.L. DISEASE - POLICY LIMIT \$ 1,000,000
D	OTHER Workers Compensation	WC2920650	1/1/2007	1/1/2008	\$1,000,000 Each Accident \$1,000,000 Disease Policy Limit \$1,000,000 Limit Each Employee
D		WC2920651	1/1/2007	1/1/2008	
A		WC2920652	1/1/2007	1/1/2008	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

CERTIFICATE HOLDER

CANCELLATION Statutory Notice For Non-Payment

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

John B. Jacobs

INSIDE
Lake Havasu City Rates Effective March 1, 2006

Commercial

		Bin Size					
		<u>2 yd</u>	<u>3 yd</u>	<u>3 yd /multi</u>	<u>4 yd</u>	<u>6 yd</u>	<u>8 yd</u>
#	1	44.36	60.38	54.25	81.34	98.66	112.90
of	2	60.46	85.15	82.73	112.32	147.00	168.08
days	3	81.49	109.93	102.58	145.38	197.79	252.13
per	4	96.38	138.40	129.80	184.13	282.96	336.16
week	5	114.92	163.18	150.30	216.35	347.25	420.21
	6	133.50	187.96	173.23	260.61	416.45	504.25
Extra dumps		20.00	20.00	20.00	20.00	25.00	25.00

Roll-Off

Size		
15 Yard Dirt/Concrete	\$ 160.00	After 6 tons, current LF rates apply
25 Yard	\$ 160.00	
30 Yard	\$ 185.00	
40 Yard	\$ 209.00	
Compactor	\$ 495.00	
Inactivity (After 7 days)	\$ 5.00	per day
Cancellation after delivery	\$ 30.00	
Relocate	\$ 30.00	
Dry Run Charge	\$ 50.00	

Perm R/O
INA Chrg
\$ 60.00
\$ 42.00
\$ 30.00
\$ -

Miscellaneous

Bulky Item Collection	\$ 40.00
Locking Bins	\$ 6.50
Additional Keys (EACH)	\$ 1.00
Wheel/Caster Fee	\$ 6.50
Push Charge	\$ 10.00
Freon Certification	\$ 20.00
Late Fees (1.5% or minimum)	\$ 5.00

Landfill Rates

Lake Havasu Landfill

Hours of operation:

7:00 AM - 3:00 PM Monday thru Friday

8:00 AM - 12:00 Noon Saturday

Closed Sunday

Regular Municipal	\$ 23.55	per ton
Minimum Charge	\$ 5.00	per load
Tarp Charge	\$ 5.00	per load
Landfill does NOT accept tires		
If tires in load	\$ 3.00	per tire
	\$ 6.00	per tire with rim

Bullhead City Rates Effective January 1, 2007

Inside Residential Service

	<u>Mthly</u>	<u>Qrtly</u>	
Residential Curbside service	\$ 13.30	\$ 39.90	
Second cart	\$ 5.00	\$ 15.00	(Second cart plus service is \$54.90)
Apartment roll-out/return per cart	\$ 5.50	\$ 16.50	
The Reserve	\$ 9.95		
Commercial Cart Service	\$ 17.70		

Residential Bin Service

	<u>Bin Size</u>					
	<u>1.5 yd</u>	<u>2 yd</u>	<u>3 yd</u>	<u>4 yd</u>	<u>6 yd</u>	
# of days per week	1 \$ 42.19	\$ 47.34	\$ 59.35	\$ 69.70	\$ 93.70	
	2 \$ 64.06	\$ 72.30	\$ 92.09	\$ 108.67	\$ 146.85	
	3 \$ 85.89	\$ 97.24	\$ 124.86	\$ 147.62	\$ 199.98	
	4 \$ 107.73	\$ 122.20	\$ 157.62	\$ 186.60	\$ 253.11	
	5 \$ 129.57	\$ 147.15	\$ 190.38	\$ 225.57	\$ 306.25	
Extras	\$ 10.92	\$ 12.47	\$ 16.39	\$ 19.48	\$ 26.56	

Multi-Family, Commercial, and Industrial

	<u>Bin Size</u>							
		<u>1.5 yd</u>	<u>2 yd</u>	<u>3 yd</u>	<u>4 yd</u>	<u>5 yd</u>	<u>6 yd</u>	<u>8 yd</u>
# of days per week	1	23.82	31.78	47.63	63.52	79.43	95.28	127.05
	2	52.08	63.52	95.28	127.20	158.79	190.62	254.15
	3	71.50	95.28	135.80	181.03	226.26	271.56	362.12
	4	95.28	131.71	171.55	233.74	285.84	343.04	457.61
	5	119.09	158.81	202.47	275.83	337.45	404.92	539.99
	6	142.90	190.59	228.68	304.98	381.16	457.40	609.83

Extra dumps \$ 18.41

Rent - a - bins

	<u>Bin Size</u>	
	<u>3 yd</u>	<u>6 yd</u>
Deliver/Rent Charge	\$ 21.00	\$ 35.00
Residential Dump Charge	\$ 26.00	\$ 52.00
Construction Dump Charge	\$ 37.37	\$ 74.75
Move IN/OUT of Yard per Trip	\$ 10.00	\$ 10.00
Residential Overfills per Yard	\$ 8.25	\$ 8.25
Construction Overfills per Yard	\$ 11.50	\$ 11.50

Storage Shelters

Delivery	\$ 75.00
Rent per month	\$ 95.00
Removal	\$ 75.00

Construction Bins

	<u>Bin Size</u>		
	<u>3 yd</u>	<u>6 yd</u>	
Routed 1x per week	\$ 159.00	\$ 318.00	per month
Delivery Charge	\$ 21.00	\$ 35.00	
Inactivity Charge/Rent	\$ 21.00	\$ 35.00	\$ 135.00
EXTRAS	\$ 37.37	\$ 74.75	

Roll-Off

Drop box	\$ 240.57	plus landfill fee	Relocation	\$ 75.00
Compactor	\$ 312.85	plus landfill fee	Dry Run	\$ 75.00
Turn around Compactor	\$ 454.58	plus landfill fee		
Demurrage (After 7 days)	\$ 5.00	per day		

Miscellaneous

Bulky Item Collection	\$ 28.50
Locking Bins	\$ 6.50
Wheel/Castor Fee	\$ 5.85
Graffiti Removal Fee	\$ 25.00
Delinquent Fee	\$ 5.00
Redelivery or Reinstatement Fee	\$ 30.00
Bin Change-outs (After 18 mths)	\$ 12.00
Refund Fee	\$ 1.50
Visitors Bag Service (35 gal)	\$ 1.50
Freon Certification	\$ 15.00
Same Day Charge	\$ 35.00
Replacement Lock	\$ 9.00

Landfill Rates

Regular Municipal	\$ 28.10	per ton
Outside-Needles	\$ 30.30	per ton
Animals	\$ 76.90	per ton
Tires (NonProgram)	\$ 28.50	per ton
Tires (Outside)	\$ 247.45	per ton
Septic	\$ 7.00	per ton
Septic (Outside)	\$ 37.20	per ton
Liq. Waste	\$ 39.20	per ton
Minimum Charge	\$ 9.70	per load

Background on the admin. Cost Recovery fee. It was a dollar, but in a later contract it got converted to a percentage.

10/21/82

More about

TRASH

(Continued from Page 1)

bids did not include commercial services.

Mrs. Stearns said the council's motion was correct in that commercial accounts are not included in the mandatory trash pickup ordinance and do not involve tax dollars.

Commercial accounts are not

billied through the city. Also, according to Mrs. Stearns, the existing contract does not grant the city power to prescribe commercial rates.

Turner bid the residential operation at \$5 per household per month; however, the council eventually accepted a staff recommendation for a \$6 fee.

According to Mrs. Stearns, the extra \$1, being collected ostensibly for administrative and billing costs, will generate approximately \$70,800 annually.

Actual administrative costs Mrs. Stearns said, should amount

to approximately \$15,000 a year. Waste Management Inc. offered to allow the city to retain one-fifth of the fee to cover administrative and billing costs.

This amount, Mrs. Stearns pointed out, "would adequately cover the city's expenses without charging users the added dollar each month."

One of the questions raised by this issue, according to the legislative committee report, is the need for the \$6 fee and the destination of funds it generates.

Also in question, according to

Mrs. Stearns, is the council's decision to reject bids at a regular council session "which only to rescind the decision five days later in a special session."

Council members gathered for a special session March 29 at which they reportedly were informed by Royall that rejection of the bids was unnecessary.

Mrs. Stearns noted the entire context of the March 29 meeting remains vague since the audiotape of the session is inaudible.

"in the face of unfounded accusations "if they are continually thrown up.

"Let's not ruin our image across the state—and believe me we have a fine one—with another recall," he said, he was still questioning the reason for the government too quickly was a stated reason, he quoted figures indicating that the city has grown in population by 22 percent since 1979, but the number of city employees has decreased from 176 to 172. The fire district tax

"is a storm warning flag" that if the warning is not heeded, the city will eventually grow 3 percent.

He said a vote for him should be made "with full knowledge that some of the things you are (for the city) you will not get."

Martin said a tradeoff must be made between clean air and industry "if it is necessary to providing jobs to the area."

"As a retired person myself," Martin said, "I would want the minimum [of industry], but that is not fair; some people in this town want jobs."



SUNCHASER SOLAR SYSTEMS

"We capture the Sun to fit your pocket"

Let us show you how to install your own solar system to save you money now

- * Home Heating
- * Water Heating
- * Pool Heating
- * Clothes Dryer Heating
- * Commercial & Residential

SAVE

CHECK THESE BARGAINS AT

THE BARGAIN BARN

1559 El Camino Way 855-5502

9600 B.T.U. Kerosene Heaters \$139.95

16 Speed Drill Press 179.99

Mens and Ladies Digital Watches 5.95

Trampolines 59.85

Beautiful Leather Briefcases 35.40

Shoe Roller Skates 19.98

Warm-Up Suits 19.50

Window Shades starting at 1.50

SAVE

Like a lot of people in Havasupai, I voted for incorporation in 1978. I knew that our taxes might go up. When my property tax statement came a few weeks ago, I went back and checked my 1978 tax statement to see just how much my property taxes had come up. I was glad with what I found in 1978 tax statement. I found that our taxes had gone up \$1.05 per hundred of my city (or fire district) tax rate.

Taxes he

Editor:

In The Herald, Wednesday, October 8, 1982, regarding letter from Max Miller. For three days we have pondered at the wrongdoing of our citizens opposing council as Mr. Miller professes. These people are just disgruntled, inept and finally angered. The inadequate, inept and totally irresponsible regime we now have to serve us. As for Rotarian Masonic Order and two whole

Qualificatic

Editor:

All of these services money. So if any city is just imposing a bed tax and sales tax, our city certainly that right. Every dollar collected from our visitors is one dollar that local residents will

visitors. In proportion to population, Lake Havasu probably provides more services to more outside guests than any other community in Arizona. We supply police, fire services, emergency, water, streets, waste disposal, sewerage treatment, libraries, London Bridge and a number of other services at no cost to visitors.

Your October 15 issue an excellent summary article "Tourist Tax Potential," which appears in current issue of "Arizona Business." As you report authors offer exhibits on which show how our tourists might pay for some services provided by our taxpayers.

Shal

Background on
resi frequency

City to seek trash pick up exemption

BY BERYL B. PEARCE
Special to TODAY

Local officials are confident that the city will be able to continue once-weekly trash pick up despite the fact that state health department regulations require twice-weekly collection.

Arizona Health Services Rules and Regulations indicate "A variance from the required frequency may be granted to allow for the collection of garbage once weekly." The granting of such a variance is dependent upon an acceptable plan to prevent public health hazards and fly breeding.

City Attorney Harold Harris reports that the city will apply directly for the required health department variance as soon as the mandatory trash collection ordinance is passed by the city council.

After months of controversy, the city council voted March 29 to award a trash pick up and landfill

operations contract to Joe Turner.

Although previous reports stated that the contract was with Turco Enterprises, Harris indicates that the contract signed was actually with Joe Turner as an individual regardless of the name under which Turner is doing business. The contract to provide overall rubbish collection and landfill operation to the city for the sum of \$653,088 becomes effective May 1, 1982.

Final details of the city-directed residential trash collection are being worked out now by city employees and are expected to be voted on at the regular city council meeting scheduled for April 14.

Joe Turner purchased A-1 Disposal and is now operating that business under the name Lake Havasu Disposal. He said that there are many fine points to be worked out in the contract with the city. During the month of April he will operate Lake Havasu Disposal in the same manner as his

Officials confident of getting state OK

predecessors.

Turner said, "We're here to give people service; that's what they're paying for." Persons wanting to contact the firm may call 855-9441 to reach a new rotating system involving several telephone lines which is expected to improve service.

A question raised by the sale of A-1 Disposal to Joe Turner is the status of a special variance granted to A-1 allowing once-weekly rubbish pick ups.

According to Laurie Raines, an assistant in the office of Mohave County Health Department Executive Director Lucy Tapia, the original variance to permit once-weekly garbage collection was granted in 1974 to A-1 Disposal to relieve soaring collection costs caused by the fuel crunch.

New regulations passed in 1976 require such

variances to come from the state rather than from the county. Apparently no state variance was ever issued to A-1 Disposal. Raines said that the state was aware of the local situation in Lake Havasu City but was not overly concerned since there appeared to be no public nuisance resulting from the less-frequent collection.

C. Robert Anderson, Mohave Co. Health Department sanitarian whose office is in Lake Havasu City, confirmed that there has been no increase in complaints about flies or odors since the advent of once-a-week trash collection in the city. He an-

ticipates no problems as a result of continued once-weekly service.

According to the County Health Department, however, the State Health Department has the ultimate authority in such matters.

Barry Abbott, manager of the Solid Waste Program for the Arizona State Health Department whose office handles variance requests, reached in his Phoenix office by telephone, expressed the hope that either Turner or the city of Lake Havasu City would apply for the necessary variance as soon as possible. Abbott's main concern was that proper fly control measures be adopted.

Abbott said that stipulations would probably

be added to the variance which would affect local citizens. The most likely stipulation would be similar to requirements in Prescott and Flagstaff, other Arizona cities with once-weekly trash collection, that all garbage be securely wrapped in paper or sealed in plastic bags before being placed in trash barrels.

In warm climates, according to Abbott, it is possible for flies to go from the egg stage to full-grown adult while awaiting the weekly trash pick up. Secure wrapping or bagging insures that flies cannot get into the garbage, or, once in, cannot get out.

If flies walk through disease sources such as sewage or sick-room waste they become the carriers of disease.

more background on resi.
frequency issue

Friday, October 7, 1983

THE LAKE HAVASU CITY *Herald*

Trash collection to remain weekly

By STEVE GRAY
Herald Staff Writer

The city and the Arizona Department of Health Services still hold contrary views about whether residential trash pickup meets state regulations, and the situation probably will remain stagnant indefinitely.

Lake Havasu City's weekly residential trash collection is based on a variance granted by the Mohave County Health Department to A-1 Disposal, according to Acting City Manager Vito Tedeschi.

A-1 Disposal later was formed into Lake Havasu Disposal, the provider of trash collection under a contract with the city.

However, according to Barry Abbott of the Arizona Department of Health Services (DHS) waste management division, the city is operating without a necessary variance issued at the state level.

Abbott claims the city has opened itself to corrective ac-

tions. Abbott said last week that although the county variance may be in effect, an application for a state variance has not been made, placing the city in violation of a statewide twice-a-week trash collection regulation.

"At this time, we are understaffed and have more pressing problems," Abbott said, indicating that action to rectify the situation will be delayed indefinitely.

Under standard procedure, Abbott said, DHS would issue a cease and desist order, instructing the city to comply with department regulations. Abbott said the city could either comply with the order or take its chances before a hearing officer.

Mohave County Health Department spokesman Laurie Raines said the variance was issued in 1974, approximately two years before DHS was empowered with variance controls

by the state legislature. Ms. Raines added that the conditions of the variance will be honored as long as Lake Havasu Disposal complies with its terms and does not pose a health hazard.

Tedeschi said the state regulation is not clearly defined in law and is more DHS' "administrative policy."

"You can operate on once-a-week (trash pickup), unless by doing it you create a health hazard," he said. "They must first establish that a health hazard exists."

"They (DHS) don't really have a leg to stand on."

Referring to an investigation into the controversial trash contract by Phoenix attorney Jack LaSota, Tedeschi said, "The city has spent a little over \$10,000 to get this thing resolved, and we think we have it resolved. We'd like everybody to forget about it."

Abbott said the initial on-

ce-a-week variance was granted to A-1 Disposal "in a time when there was a fuel crunch and it was an attempt to conserve fuel. But our feeling is that there is no grandfathering and no provision in the regulations for a variance."

Good
Morning

Index

Agenda	3
Bulletin Board	10
Classified	11-14
Comments	4
Happenings	7
Religion	6
Sports	9



LAKE HAVASU CITY

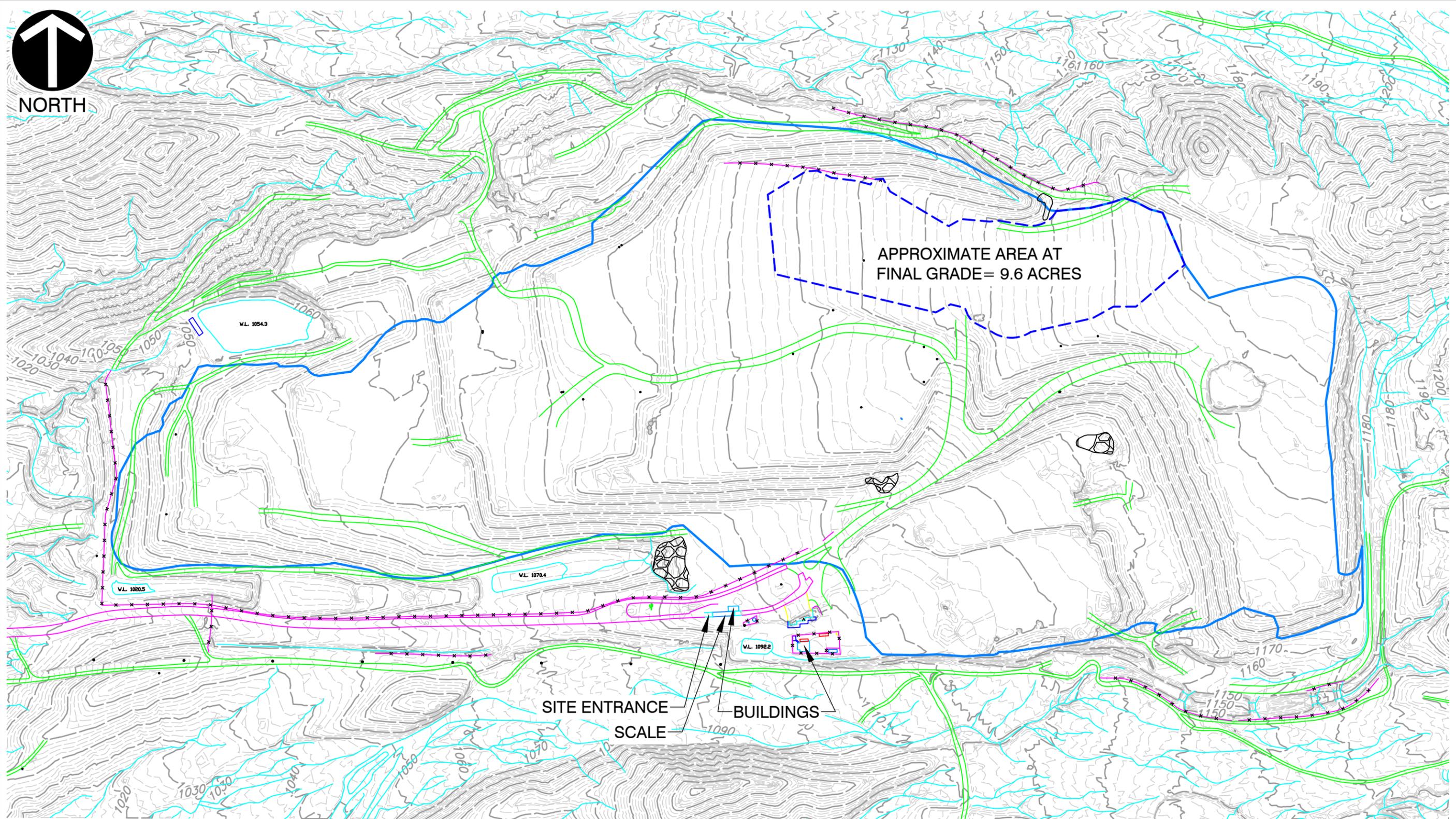
Community Investment Department

ATTACHMENT 3

LANDFILL PLAN DRAWINGS



NORTH



LEGEND

	BUILDING		1072 2017 TOPOGRAPHY INTERMEDIATE CONTOUR		SQUARE TANK
	CANDPY		PAVED ROADS		TRAILER OR MOBILE HOME
	CONCRETE		POST		UNPAVED ROADS
	DRAINAGE / WASHES		POWER POLE		W WALL
	FENCE		RETAINING WALL		LIMITS OF WASTE
	HANDRAIL		RIP-RAP		
	2017 TOPOGRAPHY INDEX CONTOUR		ROUND TANK		



Civil & Environmental Consultants, Inc.

11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
www.cecinc.com

LAKE HAVASU CITY LANDFILL

SITE OVERVIEW

DRAWN BY:	AJP	CHECKED BY:	RFB	APPROVED BY:	RFB	FIGURE NO.:	1
DATE:	FEBRUARY 2018	DWG SCALE:	1" = 300'	PROJECT NO.:	174-328		

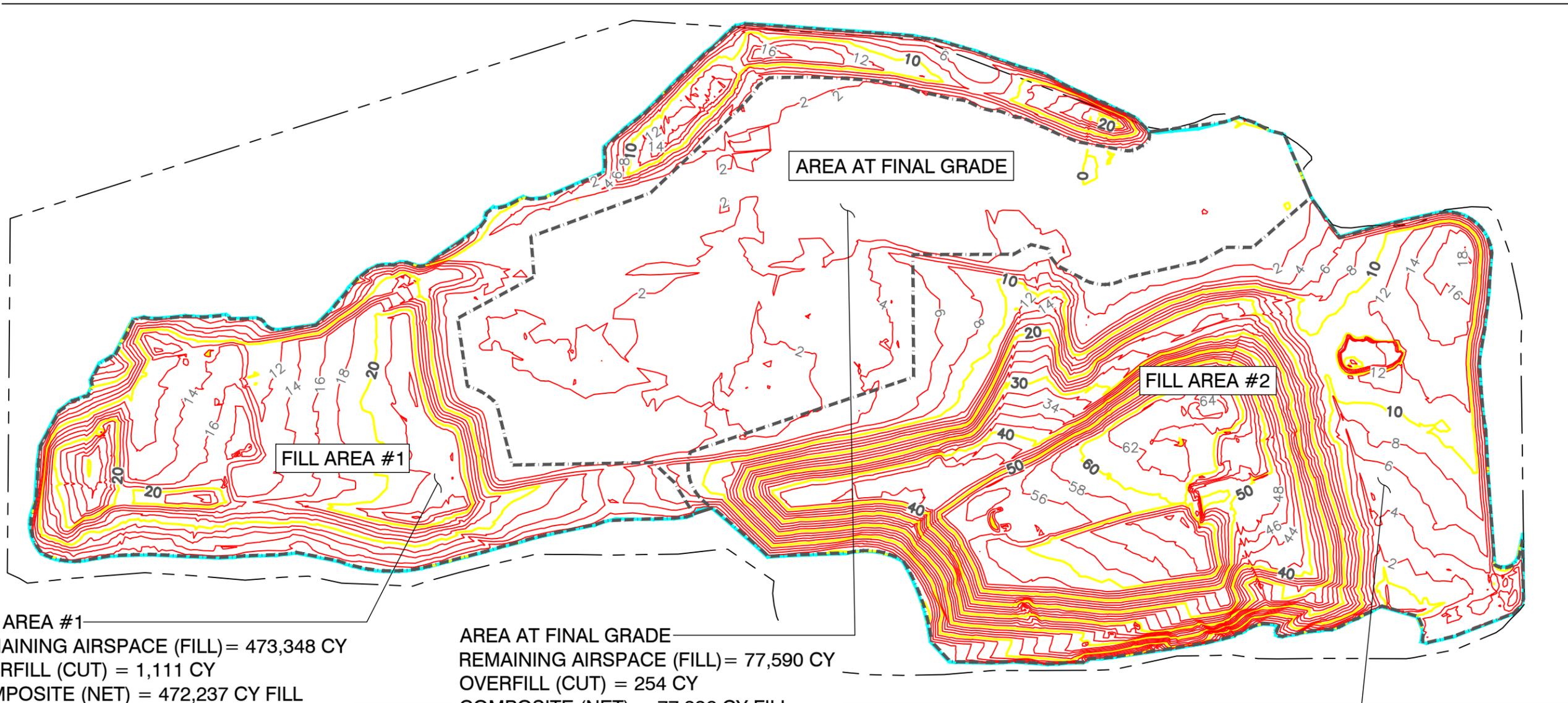
P:\2017\174-328\CADD\DWG\174-328_General Site Overview Figure.dwg\LAYOUT\LS(2/14/2018 - apractor) - LP: 2/14/2018 12:50 PM



NORTH

LEGEND

- LIMITS OF WASTE
- DELINEATION OF FILL/CLOSED AREAS



FILL AREA #1
 REMAINING AIRSPACE (FILL) = 473,348 CY
 OVERFILL (CUT) = 1,111 CY
 COMPOSITE (NET) = 472,237 CY FILL
 OVER 26 ACRES

AREA AT FINAL GRADE
 REMAINING AIRSPACE (FILL) = 77,590 CY
 OVERFILL (CUT) = 254 CY
 COMPOSITE (NET) = 77,336 CY FILL
 OVER 28 ACRES

FILL AREA #2
 REMAINING AIRSPACE (FILL) = 1,727,649 CY
 OVERFILL (CUT) = 251 CY
 COMPOSITE (NET) = 1,727,397 CY FILL
 OVER 42 ACRES

JANUARY 2018 - TOP OF WASTE COMPARISON			
AREA	FILL (yd ³)	CUT (yd ³)	NET (yd ³)
FILL AREA #1	473,237	1,111	14,766 CUT
FILL AREA #2	1,727,649	251	53,540 CUT
AREA AT FINAL GRADE	77,590	254	77,306 FILL
TOTAL	2,278,587	1,616	2,276,970 FILL

2013-2018 AVERAGE ANNUAL AIRSPACE CONSUMED = 118,471 yd³

SITE LIFE CAPACITY = (2,276,970 yd³) / (118,471 yd³/year) = 19.22 YEARS
 ESTIMATED SITE CLOSURE DATE: 4/12/2037



Civil & Environmental Consultants, Inc.

11811 N. Tatum Blvd., Suite 3057 - Phoenix, AZ 85028
 Ph: 602.760.2324 · 877.231.2324 · Fax: 602.760.2330
 www.cecinc.com

LAKE HAVASU CITY LANDFILL
 AIRSPACE / SITE LIFE
 ANALYSIS

REMAINING AIRSPACE CAPACITY - ISOPACH
 JAN18 VS TOP OF WASTE FINAL GRADES

DRAWN BY: AJP	CHECKED BY: RFB	APPROVED BY: RFB	FIGURE NO.: 1
DATE: FEBRUARY 2018	DWG SCALE: 1" = 300	PROJECT NO: 174-328	

Cut/Fill Report

Generated: 2018-02-15 17:47:53

By user: aproctor

Drawing: P:\2017\174-328\ -CADD\Dwg\P:\2017\174-328\ -CADD\Dwg\174-328_Remaining Airspace Capacity_1.dwg

Volume Summary							
Name	Type	Cut Factor	Fill Factor	2d Area (Sq. Ft.)	Cut (Cu.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Remaining Airspace as of Jan2017	full	1.0000	1.0000	4168407.12	1172	2318600	2317429<Fill>
Remaining Airspace as of Jan2016	full	1.0000	1.0000	4168407.12	4052	2383770	2379718<Fill>
Remaining Airspace as of Jan2018	full	1.0000	1.0000	4168407.12	1616	2278587	2276970<Fill>
Remaining Airspace as of Feb2015	full	1.0000	1.0000	4168407.12	1253	2602141	2600888<Fill>
Remaining Airspace as of Feb2014	full	1.0000	1.0000	4168407.12	1985	2705767	2703783<Fill>
Remaining Airspace as of Mar2013	full	1.0000	1.0000	4168407.12	2256	2793567	2791311<Fill>

Totals				
	2d Area (Sq. Ft.)	Cut (Cu. Yd.)	Fill (Cu. Yd.)	Net (Cu. Yd.)
Total	25010442.73	12333	15082432	15070098<Fill>

* Value adjusted by cut or fill factor other than 1.0

7 DESIGN CRITERIA

7.1 Design Plans

Engineering design plans for the LHCLF have been developed to include the information required in ADEQ (1996). These plans are attached to this SWFP as Design Plan Drawings Sheets 1 through 8.

7.2 Design Specifications

ADEQ (1996) requires the submittal of design specifications for materials and installation/construction methods for several elements of the landfill design including foundation, liner, drainage layer, and final cover. Since the LHCLF is an existing landfill operating over an April 25, 1994 landfill footprint, which has no liner/leachate collection system, these elements are not proposed for immediate construction. It is likely that improved materials and/or construction techniques may be developed before some or all of these design elements are installed. Therefore, for purposes of this SWFP submittal, detailed specifications will not be developed for design elements which will be installed in the future. However, detailed specifications for the materials and installation/construction methods will be developed prior to construction of new facilities.

As discussed in Section 7.3, drainage control structures are proposed for the site to address off-site and on-site stormwater runoff in accordance with the requirements of 40 CFR258.25. Specifications for the construction of these facilities will be developed along with the detailed design prior to actual construction of these facilities.

7.3 Engineering Report

The following sections discuss the engineering design features of the plan included in the design plan drawings, including assumptions made, modeling techniques, input parameters, estimates, calculations, etc. It should be noted that the LHCLF is an existing facility with a substantial volume available over the April 25, 1994 footprint. Although this footprint area has no liner or leachate collection system, the regulations at 40CFR258.40 do not require liner/leachate collection systems for existing footprint areas. Conceptual plans have been developed to a permitting level of detail for items that will be

required in the future including alternative liner systems, cover systems, on-site surface water management systems, and final cover grading. These elements are discussed in the following sections. In addition, engineering design estimates and calculations for the drainage channel to divert off-site runoff around the south side of the LHCLF are also presented.

7.3.1 Alternative Liner Demonstration

Proposed lateral expansions from the April 25, 1994 footprint are indicated on Sheet 2. Due to the lack of an available clay source to provide the compacted low permeability soil layer discussed under 40CFR258.40b and the site specific meteorologic, geologic, and hydrologic characteristics, an alternate liner system meeting the requirements of 40CFR258.40.a.1 is proposed for these areas. These requirements, according to the EPA technical guidance manual (EPA, 1993), include demonstrating that insignificant leachate will be generated from the landfill, or if leachate is generated, that design measures will prevent exceedance of water quality standards listed in 40CFR258, Table 1 at the applicable point of compliance. In order to make this demonstration, Hydrologic Evaluation of Landfill Performance (HELP) modeling was conducted for the landfill under open and closed scenarios.

The hydrogeological characteristics of the LHCLF site and surrounding area are discussed in detail in Sections 8.1 and 8.2. In general, the exact depth to groundwater beneath the site is unknown but based on depths to water in other wells in the area is hundreds of feet below the surface. The site is underlain in most places by a thin layer of alluvium, followed by a thin veneer of weathered bedrock, followed by bedrock. Climatic factors for the area are discussed in Section 2.5.4 and the relevant data for HELP modeling, taken from observations at the Lake Havasu City Airport, are discussed in Section 7.3.1.2. No information is available on the physical and chemical characteristics of leachate from the landfill since there is no leachate collection and recovery system at the site.

The EPA HELP-3 computer simulation model, developed by the U.S. Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi, was used to evaluate a closure design for the LHCLF. The HELP-3 model analysis was performed on six simulated landfill configurations. Scenario 1 modeled an open, unlined landfill with 20 feet of refuse that has been exposed for 27 years (1971 through 1997). Scenarios 2 through 5 modeled the addition of refuse to the landfill from 1998 to 2038. Scenario 6 modeled a 30-year postclosure period (2039-2068) of the LHCLF by evaluating the performance of a compacted soil cover.

The following sections describe the HELP-3 model, discusses the default and user specified parameters selected for each case, and summarizes the water balance analyses and results.

7.3.1.1 HELP-3 Computer Simulation Model

The HELP-3 computer program performs a water balance analysis of rainfall, runoff, evapotranspiration, soil moisture storage, lateral drainage, and percolation on a quasi-two-dimensional simulation approach. The HELP model is useful for predicting amounts of runoff, leachate generation, and hydraulic head above the bottom layer of a disposal facility. Careful evaluation of input parameters should be considered to achieve a credible result from the HELP-3 program due to complexity of landfill operations and varying hydrological conditions at the site. The HELP model is capable of running simulations for a maximum time of 100 years. Scenario 1 was run for 27 years, Scenarios 2 through 5 were run for a total of 41 years, and Scenario 6 was run for 30 years. Scenario 1 was run for 27 years to represent the time period from the beginning of landfill operations (1971) to the present. Scenarios 2 through 5 were run to represent conditions during the expected lifetime of the landfill and Scenario 6 was run for a period of 30 years to reflect the standard postclosure monitoring period.

7.3.1.2 Default Parameters

The HELP-3 Model requires climatological data, ground cover and soil characteristics, runoff curve number, and landfill cross-section with associated geotechnical properties to perform the water balance analysis. The HELP-3 Model incorporates a synthetic weather generator which generates daily rainfall, mean daily temperatures, and daily solar radiation values, based on the climatological patterns of various weather stations throughout the United States. The synthetic weather generator uses statistical coefficients to generate daily rainfall, mean daily temperature, and daily solar radiation values for a specific station. Default options for vegetative types and default characteristics for soil types are available for use when site-specific estimates are not available. Parameters used in the water balance analysis are discussed below.

Climate: The HELP-3 Model contains historical climatological "default" data in its database, which allows the user to select a station close to the site under consideration. According to the HELP-3 manual, data from a weather station can be used to simulate temperatures at another location if that other location is less than 100 miles from the selected station and the elevation difference between the two locations does not exceed 500 feet. Data from a weather station can be used to simulate precipitation at another location if that other location is within "a few miles" of the selected station and land use and topography do not vary between the two locations. The program generates a routine designed to preserve the dependence in time, the correlation between variables, and the seasonal characteristics in actual weather data at the specified location. However, the default data provides climatological information for five years (1974-1978) only.

In order to simulate a landfill cross-section for each of the scenarios, the climatological data (i.e., solar radiation, temperature, precipitation and evapotranspiration), for Lake Havasu City, Arizona was generated synthetically according to the number of years the model was performed. Default weather data from Yuma, Arizona (the nearest weather station to the site) was used during the HELP-3 simulations. The synthetically generated precipitation and temperature data was adjusted with average monthly precipitation and temperature values measured in Lake Havasu City, Arizona during 1991 through 1996, and 1989 through 1996, respectively. The normal mean precipitation and temperature values used during the HELP-3 simulations are presented in Table 1. Synthetically generated solar radiation data was adjusted by modifying the default latitude to the approximate latitude of the LHCLF.

Evaporative Zone and Evapotranspiration Data: The HELP-3 Model allows the user to specify an SCS runoff curve number, the fraction of area allowing runoff, evaporative zone depth, initial snow water, and maximum leaf area index. A value of 85 was assigned for the SCS curve number based on tables of standard values included in the HELP-3 manual. An evaporative zone depth of 18 inches (based on default parameters provided by the HELP-3 program) was used during the simulation. The fraction of area allowing runoff was assumed to be 100 percent, the total initial snow water was assumed to be 0.00 inches and the maximum leaf area index was assumed to be 1.0. These values were selected in order to model a conservative simulation.

Soil Characteristics: The HELP-3 Model allows the user to specify the properties of four different layers: vertical percolation layers, lateral drainage layers, barrier soil liners, and geomembrane liners. Because the LHCLF is unlined and there are no provisions for lateral drainage, only vertical percolation layers were used to run each scenario. In order to provide a conservative estimate for lateral expansion areas, these areas were modeled as if no low permeability liner were installed. Since the permeability of the compacted soil cap material is 1×10^{-5} cm/sec (based on geotechnical analyses of possible cover material sources), the cap layer was modeled as a vertical percolation layer rather than a barrier soil layer. The bedrock layers were also modeled as vertical percolation layers because the degree to which those units are weathered and fractured is unknown. The following section provides a description of each layer used in the HELP-3 Model analysis. The properties of each layer utilized to run the model are contained in the results (Appendix P).

Vertical Percolation Layers: The vertical percolation layers considered in the model are the native soil/bedrock layers, the refuse layers and, in Scenario 6, the cap layer. Parameters for the native soil/bedrock layers and the cap layer either were obtained or calculated from geotechnical data. Formulas provided in the HELP-3 manual were used when calculating model parameters such as wilting points, field capacities and initial moisture contents (Appendix P).

Five layers comprised the landfill cross section modeled in Scenario 1. The layers, in descending order, were: a 6-inch native soil layer, a 20-foot refuse layer, a 10-foot native soil layer representing the base of the landfill, and a 5-foot weathered bedrock layer and an additional 5-foot bedrock layer representing the vadose zone. Additional refuse layers were modeled in Scenarios 2 through 5 to represent the addition of refuse during the expected lifetime of the landfill. The layers of additional refuse are separated by 6-inch layers of native soil which represent daily cover material. The effectiveness of a 3-foot cap layer was modeled in Scenario 6. Table 2 and Figure 3 show the landfill cross sections used in the HELP-3 simulations.

The refuse layers were modeled using HELP-3 default soil texture No. 18 with a saturated hydraulic conductivity of 1.0×10^{-3} cm/sec. Table 3 summarizes default model parameters of the HELP-3 program. The initial moisture content for refuse was set at the default wilting point value (0.077 vol/vol). This value was chosen due to relatively high annual evaporation rates and a lack of rainfall in the region. Available historic topographic maps indicated that the thickness of the refuse is approximately 20 feet. Therefore, a thickness of 20 feet was used in Scenario 1 (1971-1997). Additional refuse layers were modeled in Scenarios 2 through 5 (1998-2038).

The base of the landfill was modeled as a 10-foot vertical percolation layer (native soil). In addition, two 5-foot vertical percolation layers were added beneath the unlined landfill to quantify the amount of leachate percolating through the subsurface (weathered bedrock and bedrock). The soil characteristics for the native soil layer were assigned based on the geotechnical data (Appendix Q).

Parameters for the native soil layers and the daily cover layers, which consist of native soil, were based on geotechnical information obtained from samples obtained from two boring logs drilled at the site and bulk soil samples (B1-8, B1-19, B1-25, #2(B1), B2-10, B2-12, B2-20, and #3(B2)). In general, samples collected within the alluvium at the site (approximately 0 to 10 feet below ground surface (bgs)) consisted of gravelly sand. Samples collected beneath 10 to 15 feet bgs generally consisted of weathered bedrock. Auger refusal was encountered at 26 and 20 feet bgs in soil borings B1 and B2, respectively.

Bedrock at the site is comprised of igneous rock encountered at approximately 10 to 15 feet bgs. A hydraulic conductivity of 10^{-4} cm/sec was used to represent weathered bedrock and a hydraulic conductivity of 10^{-5} cm/sec was used to represent unweathered bedrock. According to Driscoll (1995) hydraulic conductivities of unfractured metamorphic and igneous rocks range from 10^{-9} to 10^{-5} cm/sec and from 10^{-3} to 10 cm/sec for fractured metamorphic and igneous rocks. Since the degree of fracturing at the site is laterally and vertically variable, and the upper portion of the igneous rock appears weathered, intermediate values of 10^{-4} and 10^{-5} cm/sec were chosen to represent site conditions.

The final cover layer for Scenario 6 was modeled as a three-foot compacted soil vertical percolation layer to simulate a closed configuration. The use of this alternative final cover section is discussed in Section 7.3.2. The parameters for this layer were obtained from geotechnical analyses of a sample of potential cover material collected along the western portion of the landfill (#1 (West)). Geotechnical results of the cover material are presented in Appendix Q.

7.3.1.3 Model Results

The HELP-3.03 Model output results for each scenario are presented in Appendix P. The results of the model are discussed below.

Scenario 1 - Open Configuration (1971-1997)

The LHCLF began operations in 1971. Therefore, the initial open configuration for the LHCLF was modeled for a 27-year duration. The results for this simulation are provided in Appendix P. According to the model output, the percolation through Layer 5, which is the vertical percolation layer consisting of 5 feet of bedrock, was calculated to be 0.00000 inches. This rate represents 0.0 percent of the total moisture present in the system. The majority of moisture loss occurred due to evapotranspiration (97.8 percent)

Scenario 2 - Open Configuration, Expected Landfill Lifetime (1998-2038)

The LHCLF is estimated to continue operating through the year 2038. Scenarios 2 through 5 modeled the amount of refuse that is expected to be added to the landfill over the next 41 years of operation. The results for these simulations are provided in Appendix P. According to the model output, percolation through the bottom layers of each Scenario was calculated to be 0.00000 inches. This rate represents 0.0 percent of the total moisture present in the system. In each of these scenarios, the majority of moisture loss occurred due to evapotranspiration (86.3 to 97.2 percent).

Scenario 3 - Closed Configuration, Compacted Soil Cover Material (2039-2068)

This configuration was modeled to include a 3-foot cap consisting of sediment collected from the western portion of the landfill (to be compacted). The saturated hydraulic conductivity of this layer is 1×10^{-5} cm/sec. The annual average percolation rate during a 30-year postclosure period from the bottom layer was calculated to be 0.00000 inches. The loss of moisture due to evapotranspiration was calculated to be 67.1 percent.

7.3.1.4 Conclusion

Based on the results of the HELP-3 modeling, MULTIMED modeling was not necessary. The HELP-3 modeling indicated that 0.0000 inches of leachate would percolate through the vadose zone beneath the landfill (i.e., the bedrock layer) over a duration of 98 years.

Since leachate is not expected to be generated and emitted from the base of the landfill at significant quantities, based on EPA guidance, no liner system would be necessary to comply with the requirements of 40CFR258.40a (i.e., no potential for exceedance of an MCL at an applicable point of compliance due to leachate migration). However, in order to provide a stable base for construction of the landfill, a compacted soil liner is proposed for areas of new lateral expansion at the LHCLF. This liner would consist of scarifying the native soils to a depth of approximately 12 inches and recompacting in place to a minimum density of 90% of the standard Proctor density.

7.3.2 Final Cover System Design

As discussed in the preceding section, the HELP modeling performed for the landfill included a three-foot thick layer of compacted soil (monolithic cover). Since the results of the HELP modeling indicated no migration of leachate through the base of the landfill under either open or closed configurations, this compacted soil cover would be sufficient to meet the requirements of 40CFR258.60(b) and would prevent the generation and migration of leachate at rates that could significantly affect groundwater.

The proposed final cover system is indicated in the Design Plan Drawings on Sheet 5. This system would consist of a 36-inch thick layer of compacted soils with similar properties to those collected from the western side of the site (#1 (West)). As discussed in the model input for the cover, the standards for this layer would be a permeability of 1×10^{-5} cm/s, with a minimum density of 90% Standard Proctor. The cover would be graded as indicated on Sheet 4 of the Design Plan Drawings and would incorporate diversion berms, benches, downdrains, and vegetative cover as necessary to minimize erosion of the cover.

7.3.3 Conceptual On-Site Surface Water Management System

The conceptual on-site surface water management system is depicted on Sheet 6 of the Design Plan Drawings. In general, the design includes a retention basin at the western end of the landfill site to capture and contain the volume of the 100-year, 24-hour storm event for the area (4.2 inches per AHD (1970)). Drainage calculations and estimates for the on-site surface water are included in Appendix R.

The retention basin is conceptually configured as indicated on Sheet 6 of the Design Plan Drawings. The concept presented in the drawings includes excavated portions as well as embankment fills in low-lying areas. As an interim measure, or potentially as a final configuration (depending on the subsurface lithology of the basin area), a stepped basin concept may also be utilized. This stepping concept would minimize the height of required berms and/or cuts and maintain the pond depths under the 100-year, 24-hour design storm below 6 feet. Under the stepped basin concept, stormwater runoff from the

landfill is discharged to the uppermost cell of the basin. As this cell is filled to the design basin level, water is allowed to flow from the first cell into the next cell in the series. Each of the cells will fill in series. The number and size of the cells would be designed so that the entire 100-year, 24-hour storm runoff volume would be contained when all of the cells are filled. Additional runoff volume resulting from a larger storm would be discharged off-site from the lowest cell in the series. The conveyances between the cells should be sized to pass the peak flow rate from a 100-year storm.

Flow will be conveyed to the retention basin via two primary collector channels, topographic controls, training berms, benches, and downdrains. For purposes of this SWFP, the collector channels are located and conceptually sized as discussed below. Topographic controls on the on-site stormwater flow have been identified based on existing site topography as indicated on Sheet 6 of the Design Plan Drawings. However, other flow control structures such as training berms, benches, and downdrains will need to be located and sized as needed during operation of the landfill to accommodate changing conditions. Final design of the post-closure bench and downdrain system will be included in the construction-level design of the final cover.

The collector channels are conceptually sized at the downstream end and key locations based on the 100-year storm event using the maximum flow rate predicted by the methodologies contained in COT (1989) and MCFCD (1992). Both of these methodologies are based on the Rational Method, which essentially relates stormwater runoff flow rate to rainfall intensity based on the drainage area contributing to the channel and a factor to account for infiltration and local abstractions within the drainage area. Appendix R contains information on the estimation of 100-year peak flowrates for each of the channels along with conceptual sizing information. During the final design of these channels, consideration will be given to incorporating several different channel cross-sections along the length of a given channel to carry larger flows in the downstream end of the channel due to increasing contributing area. However, selection of the number of different channel cross-sections along the same channel will need to balance the additional design and construction complexity against the benefits of a smaller channel cross-section in the upper reaches. More detailed channel design should also be conducted prior to construction of the channels to incorporate the actual final cover configurations, detailed local topography, downdrain locations, and armoring/freeboard considerations at critical channel locations including bends, junctions, grade breaks, and flow regime changes.

7.3.4 Final Cover Grading

The conceptual final cover grading is depicted on Sheet 4 of the Design Plan Drawings. The design capacity of the landfill under this grading plan is 6.5 million CY (2.74 million tons of waste, assuming an in-place density of 1,200 lb/CY and waste:cover ratio of 4:1). The landfill grading plan has been developed to provide positive drainage of stormwater

runoff to the on-site stormwater management system, as discussed in Section 7.3.3. In order to accommodate anticipated future settlement, a minimum slope of 5% is provided on the top deck of the landfill. In order to minimize potential for erosion and subsequent post-closure maintenance issues, a maximum slope of 3:1 is provided on the sideslopes of the landfill. In addition, grade breaks, benches, and downdrains will be utilized as necessary to minimize the sheet flow path length over these steeper slopes, minimizing the potential for development of shallow concentrated flow, which carries a higher potential for erosion. Providing a maximum slope of 3:1 and incorporating benches into the design will also have the benefit of increasing slope stability.

7.3.5 Off-Site Drainage Management

Two off-site drainage areas cross the LHCLF property, sloping generally from east to west. A discussion of these two drainage areas is presented in Section 8.3. In general, the channel for the northern of these two drainage areas is separated from the landfill footprint by bedrock outcrops along the northern side of the landfill property and by the location of an on-site drainage retention basin (Basin N). It is not anticipated that any structural modifications will be required for this northern channel to protect operations at the landfill.

However, the southernmost of the two drainage areas is more significantly affected by the presence of the landfill site. The historic flow path of the channel in this drainage area crossed the southeastern corner of the landfill footprint area. Previous filling in this area has forced off-site flows from the east in this drainage area to be diverted to the south around the southeastern corner of the landfill. It is likely that the current incised channel near the southeastern corner of the landfill is due to the concentration of flows in this area. No channel protection, berming, armoring, or other protection is currently provided to control stormwater flows in this area.

In order to adequately manage off-site flows from this southerly drainage area and prevent run-on, waste washout, or restricted flow during a 100-year storm event, a constructed drainage control is proposed for this area, as depicted on Sheet 6 of the Design Plan Drawings. This detention basin will collect off-site flows from the east south of the bedrock outcrop ridge line. These flows will be discharged from the southwest corner of the basin a lower peak flow rate and directed back into the natural drainage channel along the southern side of the landfill. The design for this drainage control included consideration of: flow collection of sheetflow, shallow concentrated flow, and braided channel flow from east of the LHCLF site; controlled discharge near the southeast corner of the landfill site; and transition of flow from the constructed channel into the natural channel running south of the site.

Based on the results of the HEC-1 analysis presented in Section 8.3, the 100-year peak discharge at the southeast corner of the landfill is approximately 1540 cfs. As discussed in

Section 8.3, this 100-year peak discharge is based on the drainage area delineation developed from 40-foot contour interval USGS topographic mapping (USGS, 1970). Since the area surrounding the site is an alluvial fan area, the possibility exists that channel migration, flow breakouts, etc. could increase or decrease the contributing area of the upstream watershed. However, since more detailed information was not available, the design presented below is based on the estimated peak 100-year discharge from the drainage area delineated on the topographic mapping presented in Appendix R. The outlet control of this basin will be designed with an emergency spillway configuration to control discharges and reduce resultant damage from flows larger than the basin design flowrates and volumes.

The hydrology of the upstream watershed, as discussed in Section 8.3 results in a relatively high peak flow rate (1540 cfs) occurring over a relatively short length of time. Because of this sharp hydrograph peak and the hydraulic conditions occurring on the eastern side of the landfill, a detention facility was considered for this site. This type of facility will allow a reduction in the 100-year peak flow along the southern side of the landfill and will minimize the hydraulic considerations required to convey flow around the southeast corner of the landfill by slowing flow velocities.

The conceptual design of this basin area is presented on Sheet 6 of the design plan drawings. In general, it consists of a broad, flat basin on the eastern side of the landfill. The flow entering this area from the east occurs in braided channels, the precise position of which can not be predicted for a given storm. Therefore, the flow from these channels will be allowed to enter the basin area over soil cement basin banks extending across the channel area from rock outcrop to rock outcrop. Flow will be discharged from the basin at controlled rates through a discharge weir located at the southwest corner of the basin.

In order to maintain positive drainage of the basin (i.e., so the basin functions as a detention facility rather than a retention facility) and to increase the hydraulic head applied to the discharge, the southern edge of the basin will be constructed at a lower elevation than the average floor elevation of the remainder of the basin. This will allow the crest of the control weir to be lower than the floor of the majority of the basin. Minor ponding in the immediate vicinity of the weir structure and at isolated locations around the basin floor may be expected following significant flow events. However, it is anticipated that this minor ponded water would be lost primarily through evaporation and significant infiltration of stormwater through this basin is not anticipated.

The outlet channel from the weir structure will consist of a lined channel to convey the flow and transition back into the natural channel running along the southern side of the landfill property. The outlet channel will be designed to carry supercritical flows from the weir structure and prevent submergence of the weir during the design discharge from the basin. The slope of the outlet channel will be designed to closely match the existing natural channel slope downstream of the detention basin.

The outlet control weir will be designed to pass the design discharge at the design water surface elevation in the pond. The weir will also be designed to pass additional flows as an emergency contingency measure if the pond elevation increases above the design elevation. At a minimum, the total flowrate through both the normal weir configuration and emergency overflow will be equal to the pre-basin 100-year flowrate of 1540 cfs.

7.3.6 Landfill Gas Monitoring Wells

As discussed in Section 6.1.6, a construction and initial monitoring report for perimeter landfill gas monitoring wells located as indicated on Sheet 2 of the Design Plan Drawings has been previously submitted under separate cover. Boring logs for the landfill gas monitoring wells are included in Appendix Q.

7.4 Quality Assurance/Quality Control Plan

A Construction/Quality Assurance (CQA) plan will be developed along with construction drawings/specifications prior to construction of any new liner or final cover systems at the landfill. This plan will designate responsibilities for quality assurance/quality control for the constructed system(s) to be implemented during the construction process. Because changes in technology, regulations, and/or design criteria may cause changes in final designs for these systems, detailed CQA specifications will not be provided at this time. However, CQA specifications developed during the final design will be submitted to ADEQ.

7.5 Landscape Plan

The LHCLF is located in an area of relatively sparse vegetation in the natural environment, due primarily to the lack of rainfall and deep groundwater in the area. Most of the landfill footprint is already existing and it is not anticipated that any of the vegetation from the lateral expansion areas will be salvageable. The landfill site is located within a series of low ridges and is in a relatively remote area; therefore, it is not anticipated that vegetative screening will be considered for the LHCLF. The final cover surface will be seeded to reduce potential erosion of the cover. Since the landfill is not proposed to receive final cover in the immediate future, a detailed seed mix has not been selected for this cover seeding. However, any seed mix selected will incorporate vegetation that is drought-tolerant and has characteristics that will minimize the potential for erosion of the cover material.

7.6 Construction Reports

Construction certification reports will be developed and submitted to ADEQ following construction of new areas at the LHCLF as part of a request for approval to operate. All construction certification reports will be sealed by an Arizona Registered Professional Engineer and will indicate conformance with specifications and plans submitted as indicated under sections 7.2 and 7.4 of this SWFP. The construction certification reports will include the results of all QA/QC testing, including failed test results. Procedures utilized to correct improperly installed or defective material will be provided along with results of QA/QC retests. In addition, the construction certification reports will document the construction process including as-built drawings noting any deviations from approved plans, a summary of the daily report log, and color photographs of key features of the design. No waste will be placed within the newly constructed facilities until an approval to operate has been obtained from ADEQ.

10 CLOSURE AND POST-CLOSURE PLANS

Closure for the LHCLF is not planned in the immediate future. The following sections provide a brief overview of the conceptual closure and post-closure plans for the facility as required by ADEQ (1996). A more detailed closure and post-closure plan will be developed prior to closure of the LHCLF.

10.1 Final Cover Design/Closure Elevations

Final closure elevations are depicted on Sheet 4 of the Design Plan Drawings. The peak elevation of the landfill cover is planned at approximately 1235 ft msl. Final cover top deck slopes of 5% are proposed to accommodate anticipated future settlement. Side slopes with a maximum of 3:1 are proposed to minimize potential erosion and post-closure maintenance.

Final cover will be installed to comply with the requirements of 40CFR258.60. As depicted on Sheet 5 of the design plan drawings, the final cover over the existing footprint and lateral expansion areas will consist of a 3-foot thick monolithic cover. Based on the modeling results described in Section 7.3.1 and borrow soils exhibiting similar geotechnical characteristics to those of the sample collected from west of the landfill (Sample #1 (West)), this cover configuration will adequately meet the requirements for both infiltration layer and erosion control layer as required by 40CFR258.60(b).

10.2 Conceptual Surface Water Management Plan

The conceptual surface water management plan is depicted on Sheet 6 of the Design Plan Drawings. As discussed in Section 7.3, the on-site surface water management plan has been developed to direct flows contacting the landfill from a 100-year, 24-hour storm event to a retention basin at the western end of the landfill.

Flows will be conveyed to the retention basin by a combination of sheet flow, benches, and downdrains constructed on the landfill surface and by constructed and natural channels around the perimeter of the landfill. The conceptual layout of the perimeter channels is indicated on Sheet 6 of the Design Plan Drawings. The location and configuration of benches, downdrains, and diversion berms on the landfill surface will be adjusted during the operational life of the landfill to reduce erosion and divert on-site flows away from the

active face of the landfill. Since these locations are an operational consideration, and will be continually moving to accommodate the fill sequencing, they are not presented in this SWFP. The final locations of benches and downdrains on the final cover will be included in the final cover/closure design. Benches will be placed at 25-foot vertical intervals on steep slopes (i.e., greater than 5:1) unless slope stability analyses, approved by ADEQ, indicate that unbenched slopes are stable and benches are not needed to control final cover erosion in these areas.

10.3 Conceptual QA/QC Plan

A Construction/Quality Assurance (CQA) plan will be developed along with construction drawings/specifications prior to closure activities at the landfill. This plan will designate responsibilities for quality assurance/quality control for the constructed system(s) to be implemented during the construction process. Because changes in technology, regulations, and/or design criteria may cause changes in final designs for these systems, detailed CQA specifications will not be provided at this time. However, CQA specifications developed during the final design will be submitted to ADEQ.

10.4 Closure/Post-Closure Cost Estimates

Estimated costs associated with closure of the landfill are shown in Table 5. Closure costs will be updated annually, as filling activities continue, in accordance with Federal Subtitle D regulations at 40CFR258, Subpart G. Following closure of the landfill on or about 2038, the City will conduct post-closure maintenance of the site for a period of 30 years. Table 6 presents the estimated costs associated with the performance of 30 years of post-closure maintenance. As discussed in Section 4.1, the City will be responsible for all closure and post-closure requirements at the LHCLF site.

**Lake Havasu City Landfill On-Site and Off-Site Stormwater Management
Facilities Improvements**



FINAL REPORT

30188

Burns & McDonnell

2231 East Camelback Road, Suite 200

Phoenix, Arizona 85016

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Engineer's Certification

Based on the Scope of Services provided, Burns & McDonnell certifies that the Project was constructed in conformance with the project specifications and design drawings developed by EMCON dated December 2001, with some minor revisions. In areas where conformance with specifications was not obtained, it is Burns & McDonnell's opinion that the long-term integrity of the Project was not compromised.



Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Introduction

Purpose

The purpose of the project is to provide improvements to the site to protect the landfill from impact by off-site flows, and to collect and control on-site runoff in accordance with 40CFR 258.26. The facilities include construction of an East Channel to intercept off-site stormwater flows entering the site, and convey the flows around the landfill. The East Channel is protected by grouted riprap, and includes a series of reinforced concrete drop structures to dissipate energy from the runoff flow. The sedimentation basins are each provided with an outlet weir and a grouted riprap spillway to control runoff.

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Scope of Services

Task 1 – Construction Quality Assurance/Project Management

The goal of this Task is to provide Construction Administration and Observation services associated with the Project. CONSULTANT (Burns & McDonnell) shall coordinate their work with the COMPANY (River Cities Waste Services).

- A. Attend Pre-Construction Meeting scheduled for Wednesday, February 13, 2002 at the Lake Havasu City Landfill.
- B. Monitor construction progress in accordance with approved construction schedule.
- C. Conduct construction site visits once every week, at a minimum, during excavation activities to assess conformance to project design and specifications. Take digital photographs to document progress, and log progress of work completed. Review materials testing reports for engineered and general fill material density testing after compaction, engineered fill material testing after screening and/or processing, and concrete/shotcrete material strength testing for compliance with specifications. Verify that placed riprap meets gradation specifications.
- D. Conduct site visits once per week, at a minimum, during concrete structure and/or shotcrete liner construction. Take digital photographs to document work accomplished.
- E. Upon completion of the project, develop a Final Report that documents completion of the Project in conformance with the Project Specifications and Design Drawings, with any modifications. The report will include a third party Arizona Registered Engineer's certification statement, general text describing the project, and attachments including documenting photographs, field-testing results, and construction progress logs.

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Project Summary

A pre-construction conference was held at the Lake Havasu City Landfill on 2/13/02. A copy of the meeting summary, attendance roster, and business cards for the Owner's representatives are attached.

Construction commenced on 2/25/02.

Substantial completion was attained on 7/15/02.

**Pre-Construction Conference
for
Lake Havasu City Landfill
Stormwater Management Facilities Improvements**

**LAKEHAV
30188**

Meeting held at Lake Havasu City Landfill, 13 February 2002 @ 1130 AM.

1. Attendance sheet and introductions.

Owner Representatives:

See attached Business Cards

Project Representative (B&McD)

Jerry Funk

Tele No 928-453-8022

FAX No 928-453-6044

Correspondence address:

Burns & McDonnell Engineering

2164 McCulloch, Suite B

Lake Havasu City, AZ 86403

Other contacts and names will be added as the job start-up begins.

2. Contractor's Representatives:

General Contractor:

Arizona Earthmovers

112 Grove Ave.

Prescott, AZ 86301

Project Manager: Newt Dorr

Contractors local address and phone numbers will be added @ later date.

Owner will deliver drawings this afternoon. The Basin is presently being redesigned and revised drawings will be distributed at a later date. Some grading revisions will be made.

Newt stated he is going to start with the drainage channel.

Newt will make quantity checks with the aid of his local surveyor.

Work Schedule? Newt said he would present his construction schedule next Monday.

Normal workday? 4 – 10 hour days, starting at 0700.

Riprap source? Will need to haul in from Bullhead probably for the base of structures.

Need to complete the required paperwork for Stormwater 'Notice of Intent'.

Newt said he will start moving on site Monday, February 18th .

Water on site? the new well has been completed and has power, can get 22 GPM from the well. They still need to complete the finish fill around the well though.

Newt said he has set up to place his water tower on Chenoweth down next to the highway.

Burns & McDonnell to FAX all weekly reports to Greg on Fridays. Therefore Jerry will make one of his visits to the project site on Thursdays to check on the project progress.

Newt stated he will want to start on the structures in two weeks. Submittals will need to be sent to Burns & McDonnell and approved prior to starting on any construction.

Adjourn; 12:00



011200 Form GCO-29

Client _____ Page _____ of _____

Project _____ Date B Feb 2002 Made By _____

LANDFILL Checked By _____

PRE-COM MEETING Preliminary _____ Final _____

ATTENDANCE REGISTER

New York to Earthmover

Brian Conway - Manager - River City

Roberto Hernandez - Site Foreman -

Rusty Rose - Operations Manager

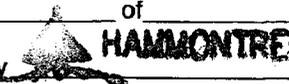
Greg Czarnecki - District Landfill Operator

Cedar Hammontree - B:MC Project Coordinator

Kerry Funk - B:MC INSPECTOR/REPRESENTATIVE

Doug Thomas - LHC WASTEWATER MANAGER



Client _____ Page _____ of _____
 Project _____ Date _____ Made By 

 _____ Checked By _____
 _____ Preliminary _____ Final _____

122199 Form GCO-28



Greg Czerniski
 Compliance Auditor/Environmental Manager

P.O Box 1990 / Chandler, Arizona 85244
 480-895-4996 / 480-895-2215 FAX
 Cellular 602-717-5966



BRIAN CONWAY
GENERAL MANAGER

2011 College Drive
 Lake Havasu City, AZ
 86403

Parker: (928) 669-2559
 Havasu: (928) 855-9441
 Bullhead: (928) 758-0000
 Fax: (928) 855-5369



RUSTY ROSE
MAINTENANCE/OPERATIONS MANAGER

2011 College Drive
 Lake Havasu City, AZ
 86403

Havasu: (520) 855-9441
 Parker: (520) 669-2559
 Fax: (520) 855-2653



Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Construction Observation

Frequency of Site Visits

Construction site visits were conducted weekly to monitor contractor conformance with the contract documents, including project drawings and specifications. Additional visits were made to assure proper placement of reinforcing steel and concrete, observation of all placements and consolidation of concrete, and testing of concrete by an outside testing laboratory. Contractor grading activities were observed to assess conformance with project design.

Weekly Progress Reports

Weekly progress reports were filed. Copies are included in Appendix A.

Photographs

Construction photographs were taken to document project progress and record work activities. Copies are included in Appendix B.

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Construction Testing

Construction testing was conducted by Western Technologies Incorporated (WTI) under contract to Arizona Earthmovers (Contractor). WTI provided test results directly to the Contractor. Test results were reviewed for conformance with the project specifications. Results of soil investigations, concrete and shotcrete tests are included in Appendix C.

Soils Testing

During excavation for the first drop structure, caliche soil conditions were encountered, and the Contractor conferred with the design engineer (EMCON – Tucson, AZ) regarding compaction requirements. EMCON reports being questioned by the Contractor regarding a specific location in the subgrade for one of the concrete drop structures, where subgrade materials were caliche cemented to such an extent that ripping was required and nuclear gauge testing could not be performed. EMCON discussed that subgrade compaction testing could be waived in this location based on the reported circumstances. Similar caliche soil conditions were encountered by the Contractor along the entire length of the diversion channel and drop structures. The construction of Basin D required blasting, in addition to ripping, to successfully excavate the material to form the basin.

Basin A: Compaction Test Result No. 1 (4/4/02) for the Outlet Weir subbase fill East of the weir (approx. STA. W13+15) met the specified requirement. Compaction Test Result No. 8 (10/21/02) for the embankment fill, North of the weir, met the specified requirement.

Basin B: Compaction Test Result No. 5 (10/21/02) for the embankment, North of the weir, met the specified requirement. Compaction Test Result Nos. 6 and 7 (10/21/02) taken at successive elevations in the filled section of the embankment, East of the weir, both met the specified requirement.

Basin C: Compaction Test Result No. 3 (10/21/02) for the embankment, North of the weir, met the specified requirement. Compaction Test Result No. 4 (10/21/02) for the embankment, East of the weir, met the specified requirement.

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Basin D: Compaction Test Result No. 1 (10/21/02) for the embankment, South of the weir, met the specified requirement. Compaction Test Result No. 2 (10/21/02) for the embankment, East of the weir, met the specified requirement.

Drop Structure 1: Compaction Test Result No. 12 (10/21/02) for structure backfill, taken 10 feet North of the Drop Structure, exceeded the specified requirement.

The East End as-built drawing indicates that upstream from Drop Structure 1, the channel (approx. STA. E4+00) was constructed by cut. The Contractor raised the finish grade at the top of the North Bank by placing one to two feet of fill.

Drop Structure 2: Compaction Test Result No. 1 (3/11/02) for the 6" thick engineered aggregate backfill under the Drop Structure base slab exceeded the specified requirements. Compaction Test Result No. 11 (10/21/02) for structure backfill, taken 12 feet North of the Drop Structure, exceeded the specified requirement.

The East End as-built drawing indicates that upstream from Drop Structure 2, the channel (approx. STA. E6+00) was constructed by cut. The Contractor raised the finish grade at the top of the North Bank by placing one to two feet of fill.

Drop Structure 3: Compaction Test Result No. 1 (3/12/02) for the 6" thick engineered aggregate backfill under the Drop Structure base slab exceeded the specified requirements. Compaction Test Result No. 10 (10/21/02) for structure backfill, taken 15 feet North of the Drop Structure, exceeded the specified requirement.

Drop Structure 4: Compaction Test Result No. 1 (3/14/02) for the 6" thick engineered aggregate backfill under the Drop Structure base slab exceeded the specified requirements. Compaction Test Result No. 9 (10/21/02) for structure backfill, taken 20 feet North of the Drop Structure, exceeded the specified requirement.

The East End as-built drawing indicates that upstream from Drop Structure 4, the channel (approx. STA. E9+00) was constructed by cut. The Contractor modified the finish grade at the top of the Northwest

Lake Havasu City Landfill On-Site and Off-Site Stormwater Management Facilities Improvements

Bank to redirect local runoff. Construction of Diversion Berm using engineered fill was not required due to the existing topography.

Concrete Testing

WTI sampled and tested concrete during placement at each structure. WTI obtained a sample from the middle third of the concrete batch as it was being placed, moved a short distance away from the construction activities, took measurements, molded cylindrical concrete specimens, and recorded data. Concrete was specified for a compressive strength of 4,000 psi at 28-days. Burns & McDonnell received a copy of WTI Lab Test results No. 3 through No. 6B directly from WTI. All of the cylindrical concrete 7-day compressive strength tests exceeded the specified 1,800 psi minimum requirement. All of the cylindrical concrete 28-day compressive strength tests exceeded the specified 4,000 psi minimum requirement, with the exception of the Lab No. 06A and Lab No. 06B 28-day compressive strength tests for the Drop Structure 3+75 Wing Walls.

The 28-day compressive strength test results of Lab No. 06A averaged 3,810 psi. The average of this and the two previous consecutive 28-day results exceed the required 28-day strength, and the result is not less than 500 psi below the required 28-day strength, therefore, Lab No. 06A is not considered low-strength concrete, and the result is acceptable.

The 28-day compressive strength test results of Lab No. 06B included cylinder Specimen No. 482 testing at 4,030 psi and cylinder Specimen No. 483 testing at 3,420 psi. The 28-day compressive strength test results of Lab No. 06B averaged 3,730 psi. The average of this and the two previous consecutive 28-day results exceed the required 28-day strength, and the result is not less than 500 psi below the required 28-day strength, therefore, Lab No. 06B is not considered low-strength concrete, and the result is acceptable.

Shotcrete Testing

WTI obtained shotcrete specimens by taking drilled cores at various locations, one day after placement. Shotcrete was specified for a compressive strength of 4,000 psi at 28-days. Burns & McDonnell received WTI shotcrete test results directly from WTI. All test results exceeded 2,500 psi at 28-days, and exceeded 3,000 psi at 56-days. The results do not meet the specified 28-day compressive strength.

Rip-Rap Gradation

Burns & McDonnell visually verified that the placed riprap material met the specified gradation.

**Lake Havasu City Landfill On-Site and Off-Site Stormwater Management
Facilities Improvements**

As-Built Drawings

As-built drawings prepared by Arizona Earthmovers, and certified by Jim Roach Surveying, Inc. are included in Appendix D.



LAKE HAVASU CITY

Community Investment Department

ATTACHMENT 4

OTHER LANDFILL PERMIT INFORMATION

5 OTHER APPROVALS/DEMONSTRATIONS

5.1 Archaeological Clearance

A request was forwarded to the Arizona State Museum regarding archaeological clearance for the subject property. The response to this request indicated that detailed archaeological surveys had not been conducted on the landfill property but that a small site had been found in the northwest quarter of Section 14. (Both of these letters are included in Appendix J.) Based on this finding, the State Museum requested that an on-ground survey be conducted prior to granting an archaeological clearance for the property.

An on-ground survey of the landfill site was conducted on September 2 and 3, 1997 by Archaeological Consulting Services, Ltd. In general, the survey indicated that no archaeological sites were identified during the survey. A report is being generated to document these results. The report will be forwarded to the Arizona State Historic Preservation Officer (SHPO). The report and the response from the SHPO will be forwarded to ADEQ when received and also added to Appendix J of the SWFP maintained in the operating record.

5.2 Zoning

Mohave County was contacted regarding the existing zoning designation for the LHCLF site. The site and surrounding areas are currently zoned as Agricultural - Residential. A copy of the zoning code for this zoning designation is included in Appendix K. Although this zoning designation does not include landfills as a conforming use, the Planning and Zoning Department has indicated that this land use is allowable as a governmental use. A copy of this letter is also included in Appendix K.

5.3 Floodplain Issues

The primary watercourse affected by modifications proposed in this SWFP for the landfill is the unnamed ephemeral wash passing south of the landfill. As discussed in Section 7.3, a detention basin is proposed to be constructed east of the landfill which would divert off-site flows away from the landfill footprint around the southern side of the landfill and reduce downstream peak discharges, while maintaining approximately similar total flow

volumes compared to pre-development conditions. In addition, an outlet structure is proposed to be constructed to transition flows from the detention facility back into the natural drainage course south of the landfill.

In addition to this watercourse diversion, small segments of the headwaters of an unnamed ephemeral watercourse emerging west of the landfill will be contained within the on-site retention pond proposed to be constructed in this area. It is anticipated that the pond will be constructed by excavating elevated portions of the area and berming across low-lying portions of the area. More detail on the design of the pond is included in Section 7.3.

Pending ADEQ approval of the drainage concept presented in this SWFP to manage on-site and off-site flows in accordance with the requirements of 40CFR258.25, detailed designs will be prepared for the detention basin and outlet structures and will be submitted to the local floodplain administrator and the U.S. Army Corps of Engineers (USACOE) for approvals under local floodplain ordinances, FEMA flood insurance regulations, and Clean Water Act requirements. Since it is not anticipated that more than 3 acres or 500 linear feet of any individual contiguous watercourse segment will be disturbed (either by dredging or fill), it is anticipated that USACOE approval will be under a nationwide general permit, rather than individual permit. Upon receipt of the above-described approvals, a copy of the approval document will be placed in the operating record and the construction of these facilities will begin.

5.4 Well Registrations

Currently, there are no groundwater wells on the landfill site. However, a production well is proposed to be installed in the future to supply water for dust control and other non-potable uses. ADWR well registration will be acquired for this well prior to drilling in accordance with ADWR regulations. A copy of the well registration will be placed in the operating record when received.

5.5 Endangered Plants/Species

Requests were submitted to the United States Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD) regarding endangered plants and species at the LHCLF site. Responses from these agencies are included in Appendix L. In general, the AGFD requests the opportunity to review the site plans before granting a final clearance for the site. Relevant portions of this SWFP will be forwarded to the AGFD concurrent with ADEQ's review of the SWFP. Upon receipt of additional responses from AGFD, these will be forwarded to ADEQ and included in Appendix L of the SWFP.

5.6 Stormwater NPDES Permit

The LHCLF site has been included under Laidlaw's NPDES Group Permit. A copy of this group permit application is included in Appendix M. The on-site stormwater management plan, discussed in Section 7.3, includes provisions for retaining the on-site stormwater runoff generated from a 100-year, 24-hour storm without discharge.

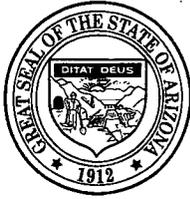
5.7 Air Quality

The current design capacity for the LHCLF, as presented in Section 7.3 is less than 2.75 million tons of waste. Based on current NSPS applicability, this design capacity will allow the facility to be exempt from the New Source Performance Standards (NSPS) for MSWLFs. In addition, because the site has no point sources of emissions from fuel burning or incineration devices, the facility is not subject to other NSPS for those types of sources.

Because the landfill is not subject to any NSPS or other applicable requirements and all of the sources of air emissions are fugitive in nature, no air quality permits, including Title V, are required by ADEQ at this time.

The LHCLF may be subject to emissions guidelines (EGs) in the future. At this time, EGs have not been promulgated for MSWLFs; however, it is anticipated that they may be promulgated in early 1998.

Land fill
FILE • P



ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY



1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov

Janice K. Brewer
Governor

Benjamin H. Grumbles
Director

December 8, 2010
REF: SWICU10-980

LTF Id. #: 53517

Brian Conway
General Manager
Allied Waste Services of Lake Havasu
2011 College Drive
Lake Havasu City, Arizona 86406

Re: Battery Collection/Recycling Facility Authorization for the Lake Havasu Municipal Solid Waste Landfill (MSWLF); Located at 3251 Chenoweth Drive, Lake Havasu City, AZ 86403; T14N, R20W, Sections 13 & 14.

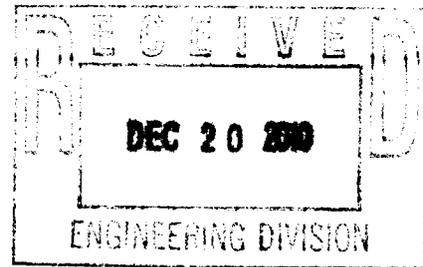
Dear Mr. Conway:

The Arizona Department of Environmental Quality (Department), Solid Waste Inspections and Compliance Unit (SWICU) received the submittal December 6, 2010, requesting authorization for the operation of the battery collection recycling facility at the above-referenced location. Enclosed, please find the new certificate No. 155, which authorizes the collection/recycling of batteries through January 1, 2016, at the above-referenced facility. This enclosed certificate supersedes Certificate No. 132, which is nullified. Allied Waste Services should ensure that the above-referenced facility is operated in a manner consistent with operation procedures as received by the Department on December 6, 2010.

If you have any questions concerning this, please contact me at (602) 771-4118 or 1-800-234-5677, Ext. 771-4118.

Sincerely,

John M. Burross, Environmental Program Specialist
Solid Waste Inspections and Compliance Unit
Waste Programs Division



JMB:jb

Enc: Battery Facility Authorization – Lake Havasu City MSWLF, 3251 Chenoweth Drive, Lake Havasu City, AZ 86403

cc: Mindi Cross, Manager, Solid Waste Inspections and Compliance Unit, WPD
Denise McConaghy, Manager, Solid Waste Plan Review Unit, WPD
Mark Clark, Director, Dept. of Public Works, Lake Havasu City
Battery Collection Facility File

Northern Regional Office
1801 W. Route 66 • Suite 117 • Flagstaff, AZ 86001
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
BATTERY COLLECTION/RECYCLING
FACILITY AUTHORIZATION

Issued to: **Lake Havasu City Municipal Solid Waste Landfill (MSWLF)**

At the location of: **3251 Chenoweth Drive, Lake Havasu City, AZ 86403**

To be used for the collection and/or recycling of lead acid batteries pursuant to the Arizona Revised Statute §44-1322.

This authorization will be valid until the expiration date as noted below and/or as long as the facility is used for the purposes indicated above, and is maintained and operated in a satisfactory manner. This license is not transferable from person to person or facility to facility.



RANDALL MATAS, MANAGER
INSPECTIONS AND COMPLIANCE SECTION

NUMBER: 155

ISSUED: December 8, 2010

EXPIRES: January 1, 2016

SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN

*Allied Waste Transportation, Inc.
Lake Havasu Landfill Services
Lake Havasu City Arizona*

Prepared for:



4811 W. Lower Buckeye Road
Phoenix, Arizona 85043
July 2008

Prepared by



17 West Wetmore Road, Suite 310
Tucson, Arizona 85705
630.633.5806

Project: 060279

CONTENTS

Summary	iii
Management Certification and SPCC Plan Review	iv
Engineer Certification	v
40 CFR Part 112 Cross-Reference Matrix	vi
1 Introduction	1-1
2 Facility Information	2-1
2.1 Site History	2-1
2.2 Oil Products Storage and Spill Containment Systems	2-1
2.3 Fueling Operations	2-1
2.4 Security Systems	2-2
2.5 Equivalent Environmental Protection	2-3
2.6 Facility Piping and Valves	2-3
3 Facility Drainage and Storm Water Management	3-1
3.1 Surface Drainage	3-1
3.2 Storm Water Management	3-1
4 Personnel Training	4-1
4.1 Spill Prevention Training	4-1
4.2 Spill Response Training	4-2
4.3 Record Keeping	4-2
4.4 Appointed Trainers	4-2
5 Emergency Procedures/Spill Response	5-1
5.1 General	5-1
5.2 Discovery of a Release	5-1
5.3 Containment of a Release	5-2
5.4 Communications	5-2
5.5 Spill, Fire, and Safety Equipment	5-2
5.6 Spill Cleanup	5-3
5.7 Post-Cleanup Procedures	5-3
5.8 Liaison with Local Authorities	5-3
6 Emergency Contacts and Reporting Procedures	6-1
6.1 Internal Reporting	6-1
6.2 Reporting to Outside Agencies	6-1
6.3 Post-Cleanup Procedures	6-3
6.4 Internal Report	6-4
7 Facility Inspections/Observations	7-1
7.1 Daily Observations	7-1
7.2 Periodic Inspections	7-1
7.3 Certified Inspections/Integrity Testing	7-2
7.4 Repairs	7-2
7.5 Inspection Records	7-2

List of Tables

Table 1 Tank Inventory Table – AST.....	2-4
Table 2 Tank Inventory Table – UST	2-4
Table 3 Tank Inventory Table - Mobile AST.....	2-5
Table 4 Reasonable Potential for Tank Failure Modes	2-5
Table 5 SPCC Team Members	6-1
Table 6 Spill Reporting Thresholds.....	6-2

List of Figures

Figure 1 Facility Site Plan	2-6
-----------------------------------	-----

List of Appendices

Appendix A Spill Response Procedures	
Appendix B SPCC Regulations 40 CFR 112	
Appendix C State Regulations	
Appendix D Notice to Tank Truck Drivers	
Appendix E Emergency Personnel and Duties	
Appendix F Inspection Record and Incident Report Forms	
Appendix G Spill, Fire, and Safety Equipment	
Appendix H Substantial Harm Criteria	

SUMMARY

If a spill has occurred, go to Appendix A.

Lake Havasu Landfill (Lake Havasu) is subject to the federal Spill Prevention, Control and Countermeasure (SPCC) Plan requirements because it stores more than 1,320 gallons of new and used oil products in aboveground storage tanks (greater than or equal to 55 gallons) on its site. The SPCC Plan does not need to be submitted to the EPA unless requested; however, a copy of the up-to-date SPCC Plan must be available on site during normal business hours.

This SPCC Plan was prepared for Lake Havasu to satisfy the applicable federal requirements under 40 CFR Part 112. This written plan is to prevent the spill and discharge of oil products into navigable waters (e.g., streams, creeks, rivers and lakes) of the United States. The SPCC Plan also addresses the spill response procedures and actions that must be implemented if a spill occurs at this facility.

Lake Havasu must annually train appropriate staff as described in this plan. Training must include spill prevention, potential spill situations including tanks, piping, material transfer, vehicle collisions, and spill/emergency response regulations and activities applicable to the facility. Training records should be kept with this plan.

The SPCC regulations require periodic equipment and facility inspections and documentation of those inspections. Tanks, pumps, piping, and containment structures must be regularly inspected and inspection records should be kept with this plan.

This document includes the emergency procedures that Lake Havasu should follow from the discovery of the release to its containment and cleanup. Post-cleanup activities, including internal and external reporting procedures, are also described for Lake Havasu to use as a guide.

This SPCC Plan requires a review and evaluation at least every five years. Technical amendments to the Plan must be reviewed and certified by a professional engineer. Amendments to the Plan will be implemented as soon as possible, but no later than six months after preparing the amendment.

MANAGEMENT CERTIFICATION AND SPCC PLAN REVIEW

Name of Facility: Allied Waste Transportation, Inc.
Lake Havasu Landfill Services

Type of Facility: Landfill

Year of Initial Facility Operation: 1971

Location of Facility: 3251 E. Chenoweth Drive
Lake Havasu, Arizona 86403

Name and Address of Owner:
4811 W. Lower Buckeye Road
Phoenix, Arizona 85043

Management Certification

This SPCC Plan has been reviewed and approved by management with the authority to commit necessary resources for its implementation. The programs and procedures outlined in the Plan will be implemented and periodically reviewed and updated in accordance with 40 CFR Part 112, and with applicable state and local requirements.

Signature _____ Date _____

Name of Management Representative Brian Conway
(printed)

Title General Manager

SPCC Plan Review

This SPCC Plan requires review and evaluation at least every five years. Changes in equipment, design, construction, operation, or maintenance that materially affect the facility's potential to discharge oil into waters of the United States require amending the SPCC Plan. Technical amendments to the Plan must be reviewed and certified by a professional engineer. Amendments to the Plan will be implemented as soon as possible, but no later than six months after preparing the amendment.

Review	Date	Update or Amendment Required?	Name (Print)	Signature
1				
2				
3				

Notes:

ENGINEER CERTIFICATION

In accordance with 40 CFR 112.3(d), I hereby certify that:

- ✓ I am familiar with the provisions of 40 CFR Part 112 – Oil Pollution Prevention.
- ✓ I, or my agent, have visited and examined the facility described herein.
- ✓ This SPCC Plan has been prepared in accordance with good engineering practices, including consideration of applicable industry standards, and with the applicable requirements of 40 CFR Part 112.
- ✓ Procedures for required inspections and testing have been established.
- ✓ This SPCC Plan is adequate for the facility.

Facility Name and Address: Lake Havasu Landfill, 3251 E. Chenoweth Drive, Lake Havasu City, Arizona 86403

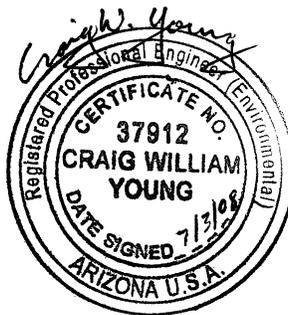
Craig W. Young

Signature, Registered Professional Engineer

Craig W. Young

Printed Name, Registered Professional Engineer

Date July 3, 2008 Registration No. 37912 State Arizona



Expires 09/30/2008

40 CFR 112 CROSS-REFERENCE MATRIX

40 CFR Part 112 Section	Description of Section	Plan Section
112.1	General Applicability of 40CFR, Part 112	Throughout Plan
112.2	Definitions of Terms	Throughout Plan
112.3	Preparation Requirements, Engineer Certification	page iv
112.4	SPCC plan amendment by Regional Administrator	N.A.
112.5	Plan Amendments required by changes or 5-year period	page iii
112.6	Qualified Facility Plan Requirements	N.A. - SPCC Plan is not self-certified
112.7a(1)	Conformance with Requirements	Throughout Plan
112.7a(2)	Deviations from requirements – Equivalent environmental protection	Section 2.5
112.7a(3)	Facility Description and Site Layout	Section 2; Figure 1
112.7(a)(3)(i)	Type of Oil and Storage Capacity	Tables 1-4
112.7(a)(3)(ii)	Discharge Prevention Measures	Section 2.3; Section 5
112.7(a)(3)(iii)	Discharge Drainage Controls	Tables 1-4
112.7(a)(3)(iv)	Countermeasures for Discharge Discovery, Response, and Cleanup	Section 5
112.7(a)(3)(v)	Methods of Disposal of Recovered Materials	Section 6.3
112.7(a)(3)(vi)	Contact List and Phone Numbers	Spill Response Procedures, Appendix A
112.7(a)(4)	Discharge Reporting Information	Appendix F – Incident Report Form
112.7(a)(5)	Organization of Response Procedures	Section 5, Section 6
112.7(b)	Potential Spill Prediction Information	Table 5
112.7(c)	Containment and Diversion Structures or Equipment	Tables 1-4
112.7(d)	Oil Spill Contingency Plan	N.A.; see 112.7(c)
112.7(e)	Inspections, Integrity Testing and Recordkeeping Practices	Section 7
112.7(f)	Personnel Training, and Discharge Prevention Procedures	Sections 4, 5
112.7(g)(1)	Security – Site Access	Section 2.4
112.7(g)(2)	Security – Secured master flow and drain valves	Section 2.4
112.7(g)(3)	Security – Locking and location of pump starter controls	Section 2.4
112.7(g)(4)	Security – Capped and blank-flanged pipelines	Section 2.4
112.7(g)(5)	Security – Adequate facility lighting	Section 2.4
112.7(h)	Facility Tank Car and Truck Loading/Unloading Rack	N.A.
112.7(i)	Field-constructed Aboveground Container Repair	N.A.
112.7(j)	Applicable State Rules and Regulations	Throughout plan
112.8(a)	General Requirements	112.7; 112.8(b-d)
112.8(b)	Facility drainage requirements for diked and undiked areas	Section 3.2
112.8 (c)(1)	Bulk Storage Container Material of Construction	N.A.
112.8 (c)(2)	Bulk Storage Container Secondary Containment	Tables 1-4
112.8 (c)(3)	Bulk Storage Container Area Drainage – Check discharge before release	Section 3.2

40 CFR Part 112 Section	Description of Section	Plan Section
112.8 (c)(4)	Completely Buried Metallic Tank Cathodic Protection	N.A.
112.8 (c)(5)	Partially Buried Metallic Tank Cathodic Protection	N.A.
112.8 (c)(6)	Integrity Test Aboveground Containers	Section 2.5, 7.3
112.8 (c)(7)	Leak Control of Heating Coils	N.A.
112.8 (c)(8)	Discharge Prevention Devices – overfill protection	Tables 1-4, Appendix D
112.8 (c)(9)	Inspection of Effluent Treatment Systems	N.A.
112.8 (c)(10)	Visible Discharges/Accumulation of Oil – Clean up	Section 7.3
112.8 (c)(11)	Mobile or Portable Storage Containers	Table 3
112.8(d)(1)	Piping and Valve Requirements -- Buried Piping	N.A.
112.8(d)(2)	Piping and Valve Requirements -- Terminal Connection	Section 2.4 - See 112.7g(4)
112.8(d)(3)	Piping and Valve Requirements -- Pipe Supports	Section 2.6
112.8(d)(4)	Piping and Valve Requirements -- Inspection of Aboveground Piping	Section 7
112.8(d)(5)	Piping and Valve Requirements – Security from vehicle damage	Section 4.1
112.9	Oil production facility requirements	N.A.
112.10	Onshore oil drilling or workover facilities requirements	N.A.
112.11	Offshore oil drilling, production, or workover facilities requirements	N.A.
112.12	Animal fats and oils and greases, fish and marine mammal oils, and vegetable oils – General Requirements	N.A.
112.13	Onshore oil production facilities requirements	N.A.
112.14	Onshore oil drilling and workover facilities requirements	N.A.
112.15	Offshore oil drilling, production, or workover facilities requirements	N.A.
112.20	Substantial harm criteria and the need for a facility response plan	Does not meet criteria. Appendix H
112.21	Facility response training and drills/exercises	N.A. – See 112.20

1 INTRODUCTION

Lake Havasu is subject to the federal Spill Prevention, Control and Countermeasure (SPCC) Plan requirements because it stores more than 1,320 gallons of new and used oil products in aboveground storage tanks (greater than or equal to 55 gallons) on its site.

Oil is defined in 40 CFR, Part 112.2, as "...oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil." This SPCC Plan lists the procedures and equipment required to prevent discharge of oil and hazardous substances in quantities that:

- violate applicable water quality standards.
- cause a sheen upon or discoloration of the surface of navigable waters or adjoining shorelines.
- cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

The Plan also addresses the spill response procedures and actions that must be implemented if a spill does occur at this facility.

This Plan has been prepared for Allied Waste Transportation, Inc. for the Lake Havasu facility pursuant to 40 CFR Part 112 (see Appendix B). The Plan does not need to be submitted to the EPA unless requested; a complete copy of the Plan shall be maintained at Lake Havasu and be made available to the EPA Regional Administrator and his agents, upon request, for on-site review during normal working hours

Appropriate employees at the facility shall become familiar with the contents of the Plan. The SPCC Coordinator shall be responsible for implementation of emergency spill response activities. In addition, a second full-time employee shall be trained to assume the SPCC Coordinator's responsibilities in the Coordinator's absence.

This plan shall be amended whenever there is a change in facility design, construction, operation, or maintenance that affects the facility's potential for the discharge of oil to navigable waters. Non-technical changes to the plan, such as updating employee information, do not require its recertification.

2 FACILITY INFORMATION

2.1 Site History

The Lake Havasu City Landfill began operations in 1971. Prior to the present operations, the site was vacant land belonging to the Bureau of Land Management. Reportedly, there have been no significant releases of petroleum products within the last three years at the site.

2.2 Oil Products Storage and Spill Containment Systems

The following is a list of oil products stored (tanks and drums) and used at Lake Havasu that are regulated under provisions of 40 CFR Part 112.

- Diesel Fuel used to fuel facility vehicles and heavy equipment.
- Lubricating Fluids (motor oil, gear oil, etc) are used in facility vehicles and heavy equipment and machinery.
- Hydraulic Fluids (hydraulic oil, transmission fluid, brake fluid, etc.) are used in facility vehicles and heavy equipment and machinery.
- Used motor and hydraulic oils are stored on site prior to collection for disposal or recycling.

Tanks and containment systems are summarized as follows:

- | | |
|--|------------|
| • Tank and secondary containment inventory | Tables 1-3 |
| • Potential tank failure modes, flow rates, direction of flows | Table 4 |
| • Facility Site Plan | Figure 1 |

2.3 Fueling Operations

Fueling operations occur at this facility. The following vehicle fueling items are Lake Havasu Best Management Practices (BMPs) to contain leaks and spills.

- **Facility and Supplies**
 - A drip bucket/pan.
 - A spill kit that includes absorbent material, salvage drum, plastic sheeting, and spill containment socks.
 - A shovel.
 - A yard brush.

- Dispensing hoses for the diesel fuel tank should be fitted with a breakaway coupling.

- **Operating Procedures**

- The vehicle's ignition must be turned off during fueling.
- The fueler must remain with the vehicle while fueling.
- The fueler must not overfill the tank.
- The fueler must not keep the nozzle open using a device or method other than his hand.
- If a spill of less than 25 gallons occurs, no matter how small, the fueler must immediately place absorbent on the spilled fuel, pick up the absorbed material with a sweeping brush and shovel, and place the material in the 'Used Absorbent' receptacle.
- The fuel pad must be dry cleaned (sweep and shovel - absolutely no water).
- The 'Clean Absorbent' and 'Used Absorbent' storage containers must be covered or otherwise protected from rain at all times.
- Used absorbent must be disposed of properly.
- The 'Clean Absorbent' container must be refilled when it has been depleted to less than half of its capacity.
- The shovel and drip pan/bucket must always be replaced at the fueling area following use.
- The drip pan/bucket must be stored up-side down when not in use.
- If a spill of 25 gallons or more occurs, refer to Sections 5.0 and 6.0.

2.4 Security Systems

Site access is restricted by fencing and building access. Site buildings and gates are locked when the site is unoccupied.

All tanks, with master flow and drain valves, are located inside buildings that are locked or are located in the fenced yard. The starter control for all oil pumps is located at a site only accessible to authorized personnel.

SPCC regulations require the facility to have and maintain adequate lighting— commensurate with the type and location of the facility—that will assist in discovering discharges occurring during hours of darkness and will discourage acts of vandalism that may cause discharges. Lake Havasu has lighting that meets the regulations. There is overhead lighting in the open maintenance area where the tanks are located.

2.5 Equivalent Environmental Protection

In accordance with 40 CFR Part 112.7(a)(2), a facility may deviate from certain aspects of the SPCC plan requirements provided that equivalent environmental protection is achieved through other means of spill prevention, control, or countermeasure. For this facility, the equivalent environmental protection includes:

- Equivalent environmental protection in lieu of overflow protection requirements of 40 CFR 112.8(c)(8) for the 250-gallon waste oil tank (Tanks A-3 in Table 1) based on good engineering practices considering the various tanks size, installation, and alternative measures implemented by the facility. The liquid level in the tank is visually observed to determine available capacity. Waste oil will be added by hand in quantities which are less than the available capacity by site personnel. This approach provides equivalent environmental protection to the overflow protection requirements of 40 CFR 112.8(c)(8).

2.6 Facility Piping and Valves

Based on the volume of product used and the level of risk, the pipes and pipe supports are designed to minimize abrasion and corrosion, and allow for expansion and contraction.

No tanks or piping are kept in standby service for an extended period of time. If tanks or piping are not in service for an extended period, the loading/unloading connections must be securely capped or blank-flanged to secure them.

**Table 1
Tank Inventory Table – AST**

AST	AST Capacity (gal)	Is AST in use? (Yes/No)	AST Contents	AST Construction Type/Material	Secondary Containment Type (Steel, Dirt, Lined Dirt, None)	Secondary Containment Capacity (gal)	Type of High Level Indicator (Depth, Volume, Sight Glass, None)? Operational?	Is AST protected from moving vehicles?	Is AST anchored? (Y/N)	Is AST electrically grounded? (Y/N)	Is there adequate lighting near the tank or dispenser? (Y/N)	Comments
A-1	1,000	Yes	Diesel	Shop/Steel	Steel	1795	Dip Port	Yes	Yes	Yes	Yes	
A-2	250	Yes	Motor Oil	Shop/Steel	Steel	400	Dip Port	Yes	Yes	Yes	Yes	
A-3	250	Yes	Used Oil	Shop/Steel	Steel	400	Dip Port	Yes	Yes	Yes	Yes	
A-4	55	Yes	Transmission Fluid	Shop/Steel	None	None	None	No	No	No	Yes	

**Table 2
Tank Inventory Table – UST**

UNDERGROUND STORAGE TANKS (List all USTs)												
	UST Capacity (gal)	Is UST in use? (Yes/No)	UST Contents	State ID No.	Date UST Installed	Date of Last Leak Test	Did the UST leak? (Y/N)	Tank Construction Material	Type of Corrosion Protection	Spill/Overfill Prevention	Is there adequate lighting near the tank or dispenser? (Y/N)	Comments
U-1	No Underground Storage Tanks											

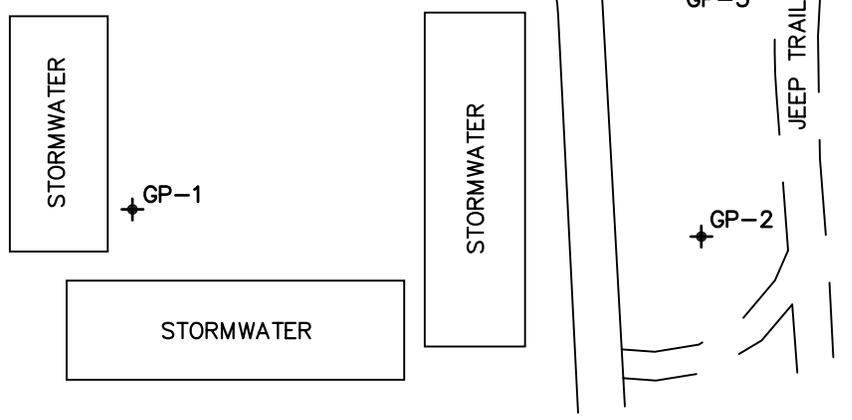
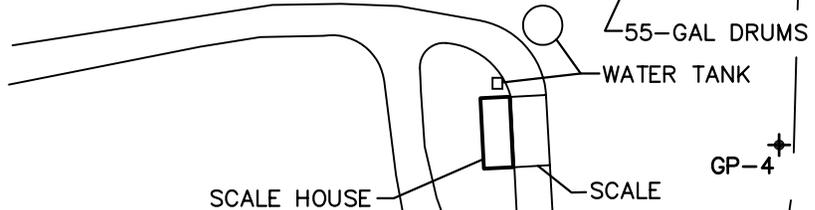
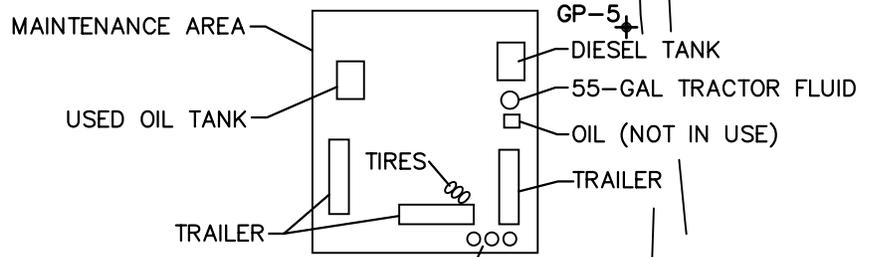
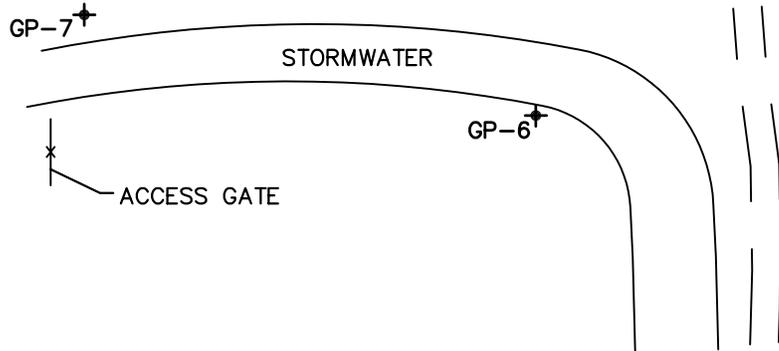
**Table 3
Tank Inventory Table - Mobile AST**

MOBILE ABOVEGROUND STORAGE TANKS (List all mobile ASTs >= 55 gal other than on-board vehicle fuel tanks)										
	AST Capacity (gal)	Is AST in use? (Yes/No)	AST Contents	AST Construction Type/Material	Secondary Containment Type (Steel, Dirt, Lined Dirt, None)	Secondary Containment Capacity (gal)	Type of High Level Indicator (Depth, Volume, Sight Glass, None)? Operational?	Is AST protected from moving vehicles?	Is AST electrically grounded?	Comments
M-1	55	Yes	Varies	Steel	None	None	None	Yes	No	Motor Oil and Hydraulic Fluid

**Table 4
Reasonable Potential for Tank Failure Modes**

Tank #	Loading/Unloading equipment failure			Tank overflow			Tank rupture			Leakage		
	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction	Flow rate (gpm)	Total Quantity (gal)	Direction
A-1	50	3,000	Southeast	50	1,000	Southeast	Varies	1,000	Southeast	< 1	1,000	Southeast
A-2	10	250	Southeast	10	50	Southeast	Varies	250	Southeast	< 1	250	Southeast
A-3	10	250	Southeast	10	50	Southeast	Varies	250	Southeast	< 1	250	Southeast
A-4	5	55	Southeast	5	55	Southeast	Varies	55	Southeast	< 1	55	Southeast
M-1	5	55	Southeast	5	55	Southeast	Varies	55	Southeast	< 1	55	Southeast

Notes: Varies - The flowrate of a tank rupture depends on the size and location of the rupture.



LEGEND:

✦ LANDFILL GAS PROBE

NOT TO SCALE



ALLIED WASTE SERVICES
LAKE HAVASU LANDFILL
SPCC PLAN

FIGURE NO.

1

PROJECT NO.
60279.001

This drawing represents intellectual property of Cornerstone Environmental Group, LLC. Any modification to the original by other than Cornerstone Environmental Group, LLC personnel violates its original purpose and as such is rendered void. Cornerstone Environmental Group, LLC will not be held liable for any changes made to this document without express written consent of the originator.

FACILITY SITE PLAN

3 FACILITY DRAINAGE AND STORM WATER MANAGEMENT

3.1 Surface Drainage

Surface drainage from this facility consists of sheet flow to the west. The water collects in a retention basin west of the maintenance area which is contained by soil berms to the south and west. Stormwater from the maintenance area drains to the west.

3.2 Storm Water Management

All of the storage units are exposed to storm water. Storage of oil products in outside tanks is permissible under the National Pollution Discharge Elimination System (NPDES) Multi-Sector General Permit provided that the storm water BMPs in the SWPPP are implemented. SWPPP BMPs generally include following the requirements of this SPCC plan.

Storm water discharge from the site is covered under the NPDES Multi-Sector General Permit for Industrial Activities.

Storm water ponding in the secondary containers will be removed as necessary. Storm water will not be discharged to waters of the U.S. if an oil sheen is present. A log of storm water drainage activities from secondary containers is included in Appendix F.

4 PERSONNEL TRAINING

4.1 Spill Prevention Training

4.1.1 Permanent Personnel

Appropriate facility personnel will be trained annually in how to:

- perform their duties in a way to prevent the discharge of harmful quantities of oil or hazardous substances.
- perform their duties for compliance with the spill and emergency response regulations applicable to the facility.
- respond to potential spill situations including tanks, aboveground and underground piping, and transfer of oil products.
- avoid vehicle collisions with tanks, aboveground and underground piping.

Appropriate new personnel will be trained after entering the facility.

4.1.2 Transient Personnel

When necessary, transient personnel will be advised of applicable spill prevention measures upon entering the facility. Transient personnel and drivers of vehicles not regularly employed at the facility will be advised, when necessary, of the presence of aboveground and below ground pipes, tanks, and other potential spill sources.

4.1.3 Tank Truck Drivers

Tank truck drivers loading or unloading oil products at the facility shall adhere to the following guidelines.

- Remain with the vehicle while loading/unloading.
- Drain the loading/unloading lines to the storage tank and close the drain valves before disconnecting lines and make sure a drain pan or other appropriate containment device is located under all connections.
- Inspect the vehicle before departure to be sure loading/unloading lines have been disconnected and drain and vent valves are closed.
- Immediately report any leaks or spills, including quantity, to the SPCC Coordinator.

The instructions listed above are to be documented using the notice to tank truck drivers found in Appendix D.

4.2 Spill Response Training

Appropriate facility personnel will be trained annually in spill and emergency response procedures. This training includes reporting, stopping, containing, cleaning up, and disposing of spill materials, emergency communications, etc.

4.3 Record Keeping

Accurate records will be maintained of personnel emergency response training. Personnel training will be recorded on forms and will be kept in safety training files. Copies of training forms should be kept with this SPCC plan.

4.4 Appointed Trainers

Initial training will be conducted by, or under the supervision of the SPCC Coordinator or his designated representative chosen by the General Manager. Supervisors may then conduct training for appropriate facility workers.

5 EMERGENCY PROCEDURES/SPILL RESPONSE

IF THERE IS AN IMMEDIATE THREAT TO HUMAN LIFE (E.G., A FIRE IN PROGRESS OR FUMES OVERCOMING WORKERS), MAKE AN ANNOUNCEMENT TO EVACUATE THE BUILDING AND CALL 911.

5.1 General

If a spill has occurred, open Appendix A and refer to the Spill Response Flowchart outlining specific steps to be followed. Site personnel should be familiar with this flowchart and utilize it in the event of a spill.

EPA regulations state that a discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil excluding discharges in compliance with a permit under section 402 of the Clean Water Act or authorized by a permit issued under Section 13 of the River and Harbor Act of 1899. For purposes of this plan, storm sewers, ditches, and swales are considered to fall under the definition of a "navigable waterway" since they usually discharge into a navigable waterway. Contaminated groundwater may also have the potential to seep, leach, or flow into navigable water, which would be included in this definition.

An important facet of an effective response procedure during an oil or substance release incident is to keep the material separated from water to minimize migration and the resulting potential increase in human and environmental exposure. Every effort should be made to prevent spills and emphasize substance containment at the source rather than resort to separation of the material from expanded portions of the environment or downstream waters.

5.2 Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should immediately report the incident to the Supervisor and the SPCC Coordinator. If there is an immediate threat to human life (e.g. a fire in progress or fumes overcoming workers), make an announcement to evacuate the building, and call the fire department.

- **Extinguish any nearby sources of ignition.** Assure that no danger to human health exists. Unless the spilled material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be turned off, extinguished, or

removed. Vehicle's engines should be turned off. If the ignition source is stationary, attempt to move spilled material away from ignition source. Avoid sparks and movement creating static electricity.

- **Attempt to stop the release at its source.** Assure that no danger to human health exists. Simple procedures (e.g., turning valves, plugging leaks) may be attempted by the discoverer if there is a reasonable certainty of the leak's origin. All other efforts to control leaks should be supervised by the SPCC Coordinator or Assistant SPCC Coordinator.
- **Initiate spill notification and reporting procedures.** Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility boundary (see Section 6.0). The SPCC Coordinator will perform necessary corporate and external regulatory notifications.

5.3 Containment of a Release

If material is released outside the containment areas, the material must be accurately identified and appropriate control measures taken in the safest possible manner. Consult the MSDS notebook in the facility office. To contain a release, follow these procedures:

- **Attempt to stop the release at the source.** If the source of the release has not been found; if special protective equipment is necessary to approach the release area; or if assistance is required to stop the release, call the fire department to halt the discharge at its source. Site personnel should remain available to guide the fire department's efforts.
- **Contain the material released into the environment.** Following proper safety procedures, contain the spill by placing absorbent materials and dikes using shovels and brooms. A spill kit that includes adsorbent material, containment socks, rags, plastic, and a salvage drum is located in the facility. Consult applicable MSDSs for material compatibility, safety, and environmental precautions.
- **Continue the notification procedure.** Inform the SPCC Coordinator of the release (the Coordinator shall perform subsequent notification as appropriate). Obtain outside contractors to clean up the spill, if necessary.

5.4 Communications

In case of a fire, spill, or other emergency, use facility telephones, paging systems and/or two-way radios to contact appropriate personnel.

5.5 Spill, Fire, and Safety Equipment

Portable fire extinguishers are located throughout the facility, are well marked, and are easily accessible. Records are kept on fire equipment in service and regular testing is performed in

accordance with established good practices. A recommended list of fire extinguishers, spill, and safety equipment is included in Appendix G.

5.6 Spill Cleanup

Appropriate personal protective equipment and clean-up procedures can be found in the MSDSs. Care must be taken when cleaning up spills to minimize waste generation. The Environmental Manager can provide assistance for the issues discussed below. The Environmental Manager must be made aware of all cleanups of spills over 25 gallons.

- **Recover or clean up the spilled material** - As much material as possible should be recovered and reused where appropriate. Material that cannot be reused must be declared waste. Solid materials used to absorb liquids shall be shoveled into 55-gallon drums or, if the size of the spill warrants, into a roll-off container. When drums are filled after a cleanup, the drum lids shall be secured and the drums appropriately labeled to identify the substance, the date of the spill/cleanup, and the facility name and location. Combining non-compatible materials can potentially cause dangerous chemical and/or physical reactions or may severely limit disposal options. Compatibility information can be found on MSDSs.
- **Cleanup of the spill area** - Surfaces that are contaminated by the release shall be cleaned by the use of an appropriate substance or water. Cleanup water must be minimized, contained and properly disposed. Occasionally, porous materials (such as wood, soil, or oil-dry) may be contaminated; such materials will require special handling for disposal.
- **Decontaminate tools and equipment used in cleanup** - Even if dedicated to cleanup efforts, tools and equipment that have been used must be decontaminated before replacing them in the spill control kit.

5.7 Post-Cleanup Procedures

Post-cleanup procedures are discussed in Section 6.

5.8 Liaison with Local Authorities

Copies of this plan will be submitted to the local fire department, police department, and hospital as requested. In addition, familiarization sessions may be held with personnel from these organizations as necessary. It is important that personnel responding to an emergency be familiar with chemicals used, the possibilities for releases of hazardous materials, and the location of the fire equipment such as hydrants and extinguishers.

6 EMERGENCY CONTACTS AND REPORTING PROCEDURES

In the event of an accident or chemical spill at the facility, the manager with direct responsibility for the day-to-day facility operation will make internal and external contacts, as appropriate, as soon as practical after the incident has occurred (see Tables 6 and 7). If spill discharge to surface waters is imminent, the regulatory emergency agencies (see Section 6.2.1) should be immediately notified of the potential discharge.

Hazardous chemical spills are not covered under this plan and need to be handled according to the facility's Emergency Response Plan.

**Table 5
SPCC Team Members**

Team Position	Name	Title
SPCC Coordinator	Brian Conway	General Manager
Assistant SPCC Coordinator	Abraham Fresh	Lead Operator

** - Designated Individual Responsible for Spill Prevention*

Internal Contacts

Team Position	Name	Work Telephone	Mobile Telephone
Lead Operator	Abraham Fresh	928.855.9441	
General Manager	Brian Conway	928.855.9441	928.716.4413
Environmental Manager	Doug Sawyer	602.442.5985	602.908.0225
District Manager	Steve Meyer	602.442.7287	602.284.3250
Regional Engineer	Tony Pellitier	480.627.1904	480.212.6985

6.1 Internal Reporting

In the event of a spill it is the SPCC Coordinator's responsibility to make the necessary internal contacts (see Table 6) and any required regulatory contacts (see Table 7). Table 7 contains a listing of the reporting requirement thresholds.

6.2 Reporting to Outside Agencies

The SPCC Coordinator is responsible for determining if notifying regulatory agencies is necessary (see Table 7). If regulatory agencies are contacted, the contact information must be

recorded in the Incident Report form (Appendix F). In addition, the Regional Engineer must be notified that a regulatory agency has been contacted.

**Table 6
Spill Reporting Thresholds**

Reporting Level	Regulatory Driver	On-site Contained Spill with No Surface or Storm Water Impact	Off-site Contained Spill with No Surface or Storm Water Impact
Tier 1 – Internal Only	SPCC Plan	If spill results in a surface stain of 1 foot diameter or more – Report to the SPCC Coordinator. If the spill takes more than one day to clean up, contact the Environmental Manager and Regional Engineer.	Report to the SPCC Coordinator, Environmental Manager, and Regional Engineer.
Tier 2 – Internal, State	State of Arizona Regulations	The Arizona Department of Environmental Quality regulates spills based upon EPA reportable quantities for individual chemicals as shown in Appendix C. Notify SPCC Coordinator, Environmental Manager, and Regional Engineer.	The Arizona Department of Environmental Quality regulates spills based upon EPA reportable quantities for individual chemicals as shown in Appendix C. Notify SPCC Coordinator, Environmental Manager, and Regional Engineer.
Tier 3 – Internal, State, EPA	EPA Regulations	1,000 gallons or more for a single event, or 42 gallons from two or more spills in a 12-month period. A spill that impacts surface or storm water to violate applicable water quality standards or causes a film or sheen upon or discoloration of the surface of the water or adjoining shorelines or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines. Report to the EPA Regional Administrator. Notify SPCC Coordinator, Environmental Manager, and Regional Engineer.	

Hazardous substances as defined in 40 CFR 117 may have smaller reportable quantities than those listed above, are not covered under this plan, and will be handled per a separate Emergency Response Plan.

6.2.1 Releases/Spills to Land, Air, Navigable or Other Waters

If a spill threatens to reach an off-site waterway, and the spill cannot be contained and recovered by facility personnel, then the following contacts shall be made in addition to the above contacts:

Lake Havasu City Fire Department

928.855.1141 or **911**

Arizona Emergency Response Center

602.771.2330

National Response Center (U.S. Coast Guard)

800.424.8802

Arizona Department of Environmental Quality
800.234.5677

Environmental Protection Agency Region 9
415.744.1500
415.744.2000 (24 hours)

Mohave County Emergency Management
928.753.9141

6.2.2 Reporting Procedures

The following information shall be communicated in reporting to outside agencies.

- Name, title, telephone number, and address of reporter
- Name, telephone number, and address of facility/spill
- Time, type and amount of materials involved
- Extent of injuries/illness, if known
- Possible hazards to human health and environment
- Any body of water involved
- The cause of accident/spill
- The action taken or proposed by the facility/personnel

6.3 Post-Cleanup Procedures

Post-cleanup procedures are discussed in Section 6.

- **Notify outside agencies** - The SPCC Coordinator shall determine if a reportable spill has occurred (See Section 6). Verbal notifications to government agencies and emergency planning committees shall be made, if necessary. Where verbal notification is given, a confirming written report shall be sent to the same entity.
- **Arrange for proper disposal** - Waste material from the cleanup must be properly characterized. If going to a Company-owned or -operated landfill, the Company Special Waste Approval Group must approve the disposal. Representative sampling and analysis may be necessary to make this determination. In any case, the SPCC Coordinator shall assure that the waste is transported and disposed in compliance with applicable laws and regulations. When manifests are needed, the SPCC Coordinator shall see that they are prepared and, when appropriate, returned in the allotted time by the disposal site.
- **Review contingency and spill plans** - Management and operating personnel shall review spill response efforts, notification procedures, and cleanup equipment usage to evaluate their adequacy during the episode. Where deficiencies are found, the SPCC Plan shall be revised and amended.

6.4 Internal Report

Spills that are regulated per this plan must be documented using the Incident Report Form or equivalent (see Appendix F). The report shall be prepared by the SPCC Coordinator. At a minimum, the report will document the following items.

- Date, time, and duration of release.
- Source and total volume of the release.
- Spill cleanup procedures.
- Personnel who discovered and/or participated in the spill remediation.
- Equipment used during the cleanup.
- Waste disposal method.
- Unusual events, injuries, or agency inspections.

7 FACILITY INSPECTIONS/OBSERVATIONS

The SPCC Coordinator or his designee shall inspect the facility for malfunctions, deterioration, operator errors, and discharge that may be causing, or may lead to, spills of oil and hazardous substances. Inspections shall be conducted often enough to identify problems in time to correct them before a spill occurs. The following schedule should provide adequate protection against a spill due to equipment failure:

- Aboveground Tanks, Containers, and Containment:
 - Exterior inspection – monthly
 - Structural supports – monthly
 - Secondary containment – monthly
 - Integrity testing – See Section 7.3
 - Overfill Protection Devices – monthly
- Aboveground Piping
 - Exterior inspection – monthly
- Underground Fuel Tanks and Piping
 - Not applicable. There are no underground fuel tanks or pipes at this facility.

7.1 Daily Observations

If a problem is detected in observations during daily operations, the SPCC Coordinator must be notified and the appropriate action initiated. The following daily observations will be performed:

- AST connections will be observed for leakage, drainage, tightness, and appropriate capping.
- Pumps will be observed for evidence of leakage, proper operation, and damage.
- Aboveground piping will be observed for dripping, loose joints, damage to supports, and pipe deflection.
- Paved and unpaved ground will be observed for evidence of spills or leaks.
- After the facility has closed for the day, the security of the tanks should be checked; i.e., pumps are turned off, buildings and gates are locked.

7.2 Periodic Inspections

ASTs (including drums) containing oil or hazardous substances will be visually examined on a periodic basis to note their condition and potential maintenance needs. ASTs' foundations and structural supports should be examined. Tank exteriors will be observed for signs of

deterioration; leaks from seams, rivets, bolts, and gaskets; and accumulation of oil or hazardous substances inside containment structures. If signs of significant tank deterioration are noted, the AST will be scheduled for more thorough inspection which may include inspections by certified tank inspectors and/or integrity testing.

Aboveground Piping. Aboveground valves and piping will be examined for general condition of supports, flange joints, expansion joints, valve glands and bodies, and drip pans. Periodic pressure or other non-destructive integrity testing may be warranted for piping where facility drainage is such that a failure might lead to a spill event. Out-of-service pipes that are connected to in-use tanks will be observed for leaks or potential leaks.

Containment Structures. Secondary containment structures, walls, and berms will be visually inspected at frequent intervals to find accumulations of oil or hazardous substances and determine their sources. An oil stain can create a sheen on the surface of rainwater standing in containment areas. It is a violation of the SPCC regulations to release rainwater with that has an oil sheen.

7.3 Certified Inspections/Integrity Testing

ASTs will be inspected and integrity tested as a baseline during the 5 year period of this SPCC plan. Based upon this inspection and integrity test, a schedule for future inspections and integrity testing will be developed for each tank based upon its baseline inspection.

7.4 Repairs

Lake Havasu personnel will promptly correct visible discharges that result in a loss of oil from containers including, but not limited to, seams, gaskets, piping, pumps, valves, rivets, and bolts. Accumulations of oil in containment areas must be promptly removed. Residues shall be removed to the greatest extent possible by wiping the area with sorbent pads (or comparable material).

7.5 Inspection Records

Inspections and repairs will be documented (see Appendix F), signed by the SPCC Coordinator, and kept on file at the facility with the SPCC plan (per 40 CFR 112.7.e) for a period of three years.

Appendix A

Spill Response Procedures

If there is an immediate threat to human life (e.g. a fire in progress or fumes overcoming workers), make an announcement to evacuate the building and call 911.

EMERGENCY RESPONSE GOAL: An effective response procedure during an oil or substance release incident is to keep the material separated from water to minimize migration and the resulting potential increase in human and environmental exposure.

EMERGENCY CONTACTS:

- A. SPCC COORDINATOR
Brian Conway
928.855.9441
928.716.4413 (Cell)
- B. ASSISTANT SPCC COORDINATOR
Abraham Fresh
928.855.9441
- C. LAKE HAVASU CITY FIRE DEPARTMENT
928.855.1141 or 911
- D. HAVASU REGIONAL MEDICAL CENTER
101 Civic Center Lane
Lake Havasu City, AZ 86403
928.855.0440 or **911**
- E. ARIZONA EMERGENCY MANAGEMENT PROGRAM
800.324.5677
- F. NATIONAL RESPONSE CENTER (U.S. COAST GUARD)
800.424.8802
- G. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
602.207.4132
- H. ENVIRONMENTAL PROTECTION AGENCY REGION 9
415.744.1500
415.744.2000 (24 hours)
- I. MOHAVE COUNTY EMERGENCY MANAGEMENT
928.753.9141

Discovery of a Release

The person discovering a release of material from a container, tank, or operating equipment should immediately report the incident to the Supervisor and the SPCC Coordinator.

- **Extinguish any nearby sources of ignition.** Assure that no danger to human health exists. Unless the spilled material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be turned off, extinguished, or removed. Vehicles engines should be turned off. If the ignition source is stationary, attempt to move spilled material away from ignition source. Avoid sparks and movement creating static electricity.
- **Attempt to stop the release at its source.** Assure that no danger to human health exists. Simple procedures (e.g., turning valves, plugging leaks) may be attempted by the discoverer if there is a reasonable certainty of the leak's origin. All other efforts to control leaks should be supervised by the SPCC Coordinator or Assistant SPCC Coordinator.
- **Initiate spill notification and reporting procedures.** Request the assistance of the fire department's hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the facility boundary. The SPCC Coordinator will perform necessary corporate and external regulatory notifications.

Containment of a Release

If material is released outside the containment areas, the material must be accurately identified and appropriate control measures taken in the safest possible manner. Consult the MSDS notebook in the facility office. To contain a release, follow these procedures:

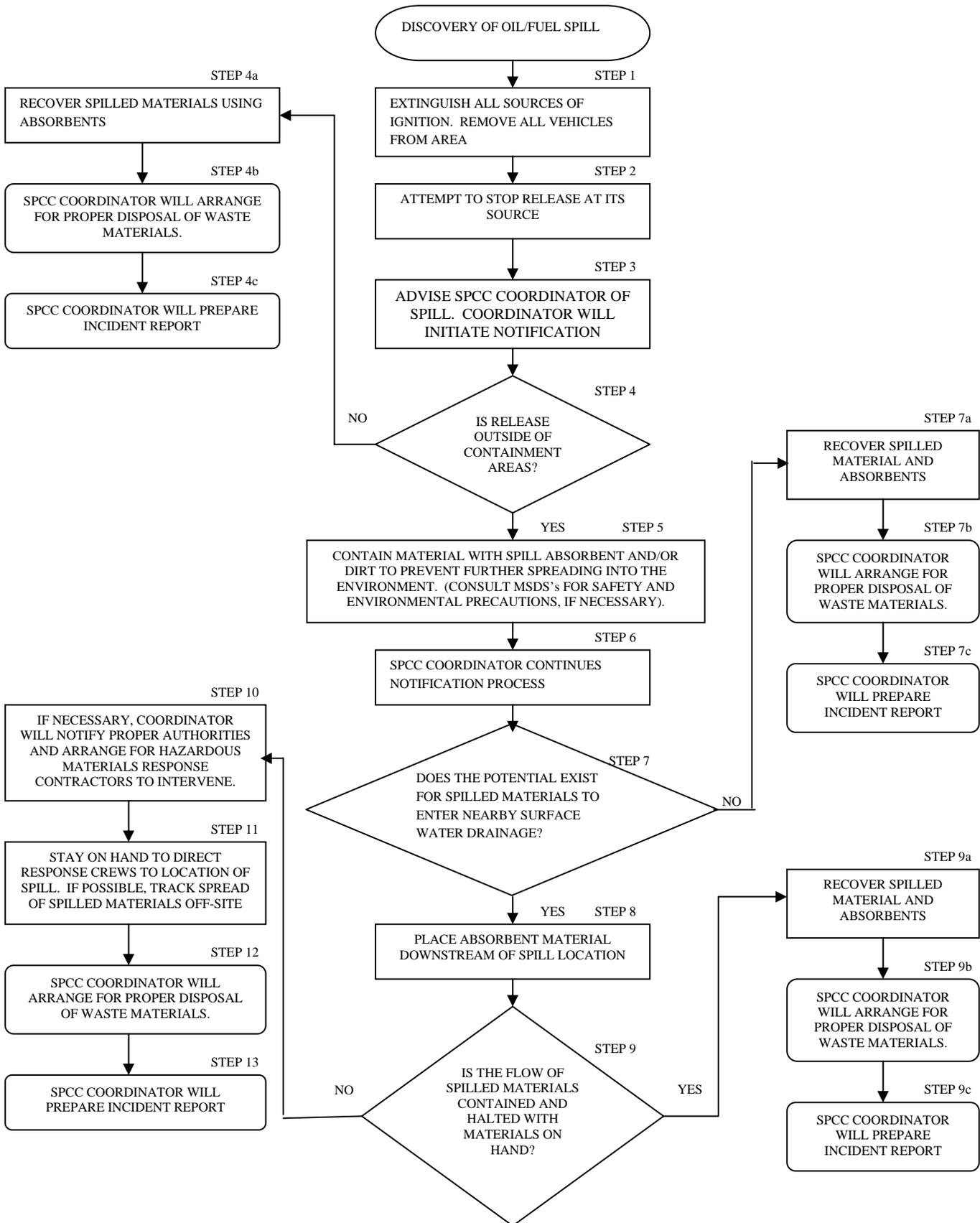
- **Attempt to stop the release at the source.** If the source of the release has not been found; if special protective equipment is necessary to approach the release area; or if assistance is required to stop the release, call the fire department to halt the discharge at its source. Site personnel should remain available to guide the fire department's efforts.
- **Contain the material released into the environment.** Following proper safety procedure, contain the spill by placing absorbent materials and dikes using shovels and brooms. A spill kit that includes adsorbent material, containment socks, rags, plastic, and a salvage drum is located in the facility. Consult applicable MSDSs for material compatibility, safety, and environmental precautions.
- **Continue the notification procedure.** Inform the SPCC Coordinator of the release (the Coordinator shall perform subsequent notification as appropriate).

Spill Cleanup and Reporting

Once the spill situation is under control and the release has been contained, facility personnel should commence the cleanup and reporting procedure described in Section 6. Obtain outside contractors to clean up the spill, if necessary.

Lake Havasu City Landfill

SPILL RESPONSE FLOWCHART



Appendix B
SPCC Regulations
40 CFR 112

40 CFR

Protection of Environment

CHAPTER I

ENVIRONMENTAL PROTECTION AGENCY (CONTINUED)

Subchapter D -- Water Programs

PART 112 -- OIL POLLUTION PREVENTION

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

- § 112.1 General applicability.
- § 112.2 Definitions.
- § 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.
- § 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.
- § 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.
- § 112.6 Qualified Facility Plan Requirements
- § 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

- § 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).
- § 112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.
- § 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.
- § 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.

- § 112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities)
- § 112.13 [Reserved].
- § 112.14 [Reserved].
- § 112.15 [Reserved].

Subpart D—Response Requirements

- § 112.20 Facility response plans.
- § 112.21 Facility response training and drills/exercises.
- Appendix A to Part 112—Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency
- Appendix B to Part 112—Memorandum of Understanding Among the Secretary of the Interior, Secretary of Transportation, and Administrator of the Environmental Protection Agency
- Appendix C to Part 112—Substantial Harm Criteria
- Appendix D to Part 112—Determination of a Worst Case Discharge Planning Volume
- Appendix E to Part 112—Determination and Evaluation of Required Response Resources for Facility Response Plans
- Appendix F to Part 112—Facility-Specific Response Plan

Authority: 33 U.S.C. 1251 *et seq.*; 33 U.S.C. 2720; E.O. 12777 (October 18, 1991), 3 CFR, 1991 Comp., p. 351.

Source: 38 FR 34165, Dec. 11, 1973, unless otherwise noted.

Editorial Note: Nomenclature changes to part 112 appear at 65 FR 40798, June 30, 2000.

Subpart A—Applicability, Definitions, and General Requirements for All Facilities and All Types of Oils

Source: 67 FR 47140, July 17, 2002, unless otherwise noted.

§ 112.1 General applicability.

- (a) (1) This part establishes procedures, methods, equipment, and other requirements to prevent the discharge of oil from non-transportation-related onshore and offshore facilities into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act).
- (2) As used in this part, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa, as the case may require.
- (b) Except as provided in paragraph (d) of this section, this part applies to any owner or operator of a non-transportation-related onshore or offshore facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location, could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, into or upon the navigable waters of the United States or adjoining shorelines, or into or upon the waters of the contiguous zone, or in connection with activities under the Outer Continental Shelf Lands Act or the Deepwater Port Act of 1974, or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States (including resources under the Magnuson Fishery Conservation and Management Act) that has oil in:
- (1) Any aboveground container;
 - (2) Any completely buried tank as defined in §112.2;
 - (3) Any container that is used for standby storage, for seasonal storage, or for temporary storage, or not otherwise “permanently closed” as defined in §112.2;
 - (4) Any “bunkered tank” or “partially buried tank” as defined in §112.2, or any container in a vault, each of which is considered an aboveground storage container for purposes of this part.
- (c) As provided in section 313 of the Clean Water Act (CWA), departments, agencies, and instrumentalities of the Federal government are subject to this part to the same extent as any person.
- (d) Except as provided in paragraph (f) of this section, this part does not apply to:
- (1) The owner or operator of any facility, equipment, or operation that is not subject to the jurisdiction of the Environmental Protection Agency (EPA) under section 311(j)(1)(C) of the CWA, as follows:
 - (i) Any onshore or offshore facility, that due to its location, could not reasonably be expected to have a discharge as described in paragraph (b) of this section. This determination must be based solely upon consideration of the geographical and location aspects of the facility (such as proximity to navigable waters or adjoining shorelines, land contour, drainage, etc.) and must exclude consideration of manmade features such as dikes, equipment or other structures, which may serve to restrain, hinder, contain, or otherwise prevent a discharge as described in paragraph (b) of this section.
 - (ii) Any equipment, or operation of a vessel or transportation-related onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation, as defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of EPA, dated November 24, 1971 (Appendix A of this part).
 - (iii) Any equipment, or operation of a vessel or onshore or offshore facility which is subject to the authority and control of the U.S. Department of Transportation or the U.S. Department of the Interior, as defined in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).
 - (2) Any facility which, although otherwise subject to the jurisdiction of EPA, meets both of the following requirements:
 - (i) The completely buried storage capacity of the facility is 42,000 gallons or less of oil. For purposes of this exemption, the completely buried storage capacity of a facility excludes the capacity of a completely buried tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and

containment systems, that is currently subject to all of the technical requirements of part 280 of this chapter or all of the technical requirements of a State program approved under part 281 of this chapter. The completely buried storage capacity of a facility also excludes the capacity of a container that is “permanently closed,” as defined in §112.2.

(ii) The aggregate aboveground storage capacity of the facility is 1,320 gallons or less of oil. For the purposes of this exemption, only containers with a capacity of 55 gallons or greater are counted. The aggregate aboveground storage capacity of a facility excludes the capacity of a container that is “permanently closed,” and the capacity of a “motive power container” as defined in §112.2.

(3) Any offshore oil drilling, production, or workover facility that is subject to the notices and regulations of the Minerals Management Service, as specified in the Memorandum of Understanding between the Secretary of Transportation, the Secretary of the Interior, and the Administrator of EPA, dated November 8, 1993 (Appendix B of this part).

(4) Any completely buried storage tank, as defined in §112.2, and connected underground piping, underground ancillary equipment, and containment systems, at any facility, that is subject to all of the technical requirements of part 280 of this chapter or a State program approved under part 281 of this chapter, except that such a tank must be marked on the facility diagram as provided in §112.7(a)(3), if the facility is otherwise subject to this part.

(5) Any container with a storage capacity of less than 55 gallons of oil.

(6) Any facility or part thereof used exclusively for wastewater treatment and not used to satisfy any requirement of this part. The production, recovery, or recycling of oil is not wastewater treatment for purposes of this paragraph.

(7) Any “motive power container,” as defined in §112.2. The transfer of fuel or other oil into a motive power container at an otherwise regulated facility is not eligible for this exemption.

(e) This part establishes requirements for the preparation and implementation of Spill Prevention, Control, and Countermeasure (SPCC) Plans. SPCC Plans are designed to complement existing laws, regulations, rules, standards, policies, and procedures pertaining to safety standards, fire prevention, and pollution prevention rules. The purpose of an SPCC Plan is to form a comprehensive Federal/State spill prevention program that minimizes the potential for discharges. The SPCC Plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility. Compliance with this part does not in any way relieve the owner or operator of an onshore or an offshore facility from compliance with other Federal, State, or local laws.

(f) Notwithstanding paragraph (d) of this section, the Regional Administrator may require that the owner or operator of any facility subject to the jurisdiction of EPA under section 311(j) of the CWA prepare and implement an SPCC Plan, or any applicable part, to carry out the purposes of the CWA.

(1) Following a preliminary determination, the Regional Administrator must provide a written notice to the owner or operator stating the reasons why he must prepare an SPCC Plan, or applicable part. The Regional Administrator must send such notice to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of such notice to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(2) Within 30 days of receipt of such written notice, the owner or operator may provide information and data and may consult with the Agency about the need to prepare an SPCC Plan, or applicable part.

(3) Within 30 days following the time under paragraph (b)(2) of this section within which the owner or operator may provide information and data and consult with the Agency about the need to prepare an SPCC Plan, or applicable part, the Regional Administrator must make a final determination regarding whether the owner or operator is required to prepare and implement an SPCC Plan, or applicable part. The Regional Administrator must send the final determination to the owner or operator by certified mail or by personal delivery. If the owner or operator is a corporation, the Regional Administrator must also mail a copy of the final determination to the registered agent, if any and if known, of the corporation in the State where the facility is located.

(4) If the Regional Administrator makes a final determination that an SPCC Plan, or applicable part, is necessary, the owner or operator must prepare the Plan, or applicable part, within six months of that final determination and implement the Plan, or applicable part, as soon as possible, but not later than one year after the Regional Administrator has made a final determination.

(5) The owner or operator may appeal a final determination made by the Regional Administrator requiring preparation and implementation of an SPCC Plan, or applicable part, under this paragraph. The owner or operator must make the appeal to the Administrator of EPA within 30 days of receipt of the final determination under paragraph (b)(3) of this section from the Regional Administrator requiring preparation and/or implementation of an SPCC Plan, or applicable part. The owner or operator must send a complete copy of the appeal to the Regional Administrator at the time he makes the appeal to the Administrator. The appeal must contain a clear and concise statement of the issues and points of fact in the case. In the appeal, the owner or operator may also provide additional information. The additional information may be from any person. The Administrator may request additional information from the owner or operator. The Administrator must render a decision within 60 days of receiving the appeal or additional information submitted by the owner or operator and must serve the owner or operator with the decision made in the appeal in the manner described in paragraph (f)(1) of this section.

§ 112.2 Definitions.

For the purposes of this part:

Adverse weather means weather conditions that make it difficult for response equipment and personnel to clean up or remove spilled oil, and that must be considered when identifying response systems and equipment in a response plan for the applicable operating environment. Factors to consider include significant wave height as specified in Appendix E to this part (as appropriate), ice conditions, temperatures, weather-related visibility, and currents within the area in which the systems or equipment is intended to function.

Alteration means any work on a container involving cutting, burning, welding, or heating operations that changes the physical dimensions or configuration of the container.

Animal fat means a non-petroleum oil, fat, or grease of animal, fish, or marine mammal origin.

Breakout tank means a container used to relieve surges in an oil pipeline system or to receive and store oil transported by a pipeline for reinjection and continued transportation by pipeline.

Bulk storage container means any container used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment is not a bulk storage container.

Bunkered tank means a container constructed or placed in the ground by cutting the earth and re-covering the container in a manner that breaks the surrounding natural grade, or that lies above grade, and is covered with earth, sand, gravel, asphalt, or other material. A bunkered tank is considered an aboveground storage container for purposes of this part.

Completely buried tank means any container completely below grade and covered with earth, sand, gravel, asphalt, or other material. Containers in vaults, bunkered tanks, or partially buried tanks are considered aboveground storage containers for purposes of this part.

Complex means a facility possessing a combination of transportation-related and non-transportation-related components that is subject to the jurisdiction of more than one Federal agency under section 311(j) of the CWA.

Contiguous zone means the zone established by the United States under Article 24 of the Convention of the Territorial Sea and Contiguous Zone, that is contiguous to the territorial sea and that extends nine miles seaward from the outer limit of the territorial area.

Contract or other approved means means:

- (1) A written contractual agreement with an oil spill removal organization that identifies and ensures the availability of the necessary personnel and equipment within appropriate response times; and/or
- (2) A written certification by the owner or operator that the necessary personnel and equipment resources, owned or operated by the facility owner or operator, are available to respond to a discharge within appropriate response times; and/or
- (3) Active membership in a local or regional oil spill removal organization that has identified and ensures adequate access through such membership to necessary personnel and equipment to respond to a discharge within appropriate response times in the specified geographic area; and/or
- (4) Any other specific arrangement approved by the Regional Administrator upon request of the owner or operator.

Discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping of oil, but excludes discharges in compliance with a permit under section 402 of the CWA; discharges resulting from circumstances

identified, reviewed, and made a part of the public record with respect to a permit issued or modified under section 402 of the CWA, and subject to a condition in such permit; or continuous or anticipated intermittent discharges from a point source, identified in a permit or permit application under section 402 of the CWA, that are caused by events occurring within the scope of relevant operating or treatment systems. For purposes of this part, the term discharge shall not include any discharge of oil that is authorized by a permit issued under section 13 of the River and Harbor Act of 1899 (33 U.S.C. 407).

Facility means any mobile or fixed, onshore or offshore building, structure, installation, equipment, pipe, or pipeline (other than a vessel or a public vessel) used in oil well drilling operations, oil production, oil refining, oil storage, oil gathering, oil processing, oil transfer, oil distribution, and waste treatment, or in which oil is used, as described in Appendix A to this part. The boundaries of a facility depend on several site-specific factors, including, but not limited to, the ownership or operation of buildings, structures, and equipment on the same site and the types of activity at the site.

Farm means a facility on a tract of land devoted to the production of crops or raising of animals, including fish, which produced and sold, or normally would have produced and sold, \$1,000 or more of agricultural products during a year.

Fish and wildlife and sensitive environments means areas that may be identified by their legal designation or by evaluations of Area Committees (for planning) or members of the Federal On-Scene Coordinator's spill response structure (during responses). These areas may include wetlands, National and State parks, critical habitats for endangered or threatened species, wilderness and natural resource areas, marine sanctuaries and estuarine reserves, conservation areas, preserves, wildlife areas, wildlife refuges, wild and scenic rivers, recreational areas, national forests, Federal and State lands that are research national areas, heritage program areas, land trust areas, and historical and archaeological sites and parks. These areas may also include unique habitats such as aquaculture sites and agricultural surface water intakes, bird nesting areas, critical biological resource areas, designated migratory routes, and designated seasonal habitats.

Injury means a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge, or exposure to a product of reactions resulting from a discharge.

Maximum extent practicable means within the limitations used to determine oil spill planning resources and response times for on-water recovery, shoreline protection, and cleanup for worst case discharges from onshore non-transportation-related facilities in adverse weather. It includes the planned capability to respond to a worst case discharge in adverse weather, as contained in a response plan that meets the requirements in §112.20 or in a specific plan approved by the Regional Administrator.

Mobile refueler means a bulk storage container onboard a vehicle or towed, that is designed or used solely to store and transport fuel for transfer into or from an aircraft, motor vehicle, locomotive, vessel, ground service equipment, or other oil storage container.

Motive power container means any onboard bulk storage container used primarily to power the movement of a motor vehicle, or ancillary onboard oil-filled operational equipment. An onboard bulk storage container which is used to store or transfer oil for further distribution is not a motive power container. The definition of motive power container does not include oil drilling or workover equipment, including rigs.

Navigable waters means the waters of the United States, including the territorial seas.

(1) The term includes:

- (i) All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- (ii) All interstate waters, including interstate wetlands;
- (iii) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
 - (A) That are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - (B) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce;or,
 - (C) That are or could be used for industrial purposes by industries in interstate commerce;
- (iv) All impoundments of waters otherwise defined as waters of the United States under this section;
- (v) Tributaries of waters identified in paragraphs (1)(i) through (iv) of this definition;
- (vi) The territorial sea; and
- (vii) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (1) of this definition.

(2) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds which also meet the criteria of this definition) are not waters of the United States. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with EPA.

Non-petroleum oil means oil of any kind that is not petroleum-based, including but not limited to: Fats, oils, and greases of animal, fish, or marine mammal origin; and vegetable oils, including oils from seeds, nuts, fruits, and kernels.

Offshore facility means any facility of any kind (other than a vessel or public vessel) located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters.

Oil means oil of any kind or in any form, including, but not limited to: fats, oils, or greases of animal, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and, other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse, or oil mixed with wastes other than dredged spoil.

Oil-filled operational equipment means equipment that includes an oil storage container (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Oil-filled operational equipment is not considered a bulk storage container, and does not include oil-filled manufacturing equipment (flow-through process). Examples of oil-filled operational equipment include, but are not limited to, hydraulic systems, lubricating systems (e.g., those for pumps, compressors and other rotating equipment, including pumpjack lubrication systems), gear boxes, machining coolant systems, heat transfer systems, transformers, circuit breakers, electrical switches, and other systems containing oil solely to enable the operation of the device.

Oil Spill Removal Organization means an entity that provides oil spill response resources, and includes any for-profit or not-for-profit contractor, cooperative, or in-house response resources that have been established in a geographic area to provide required response resources.

Onshore facility means any facility of any kind located in, on, or under any land within the United States, other than submerged lands.

Owner or operator means any person owning or operating an onshore facility or an offshore facility, and in the case of any abandoned offshore facility, the person who owned or operated or maintained the facility immediately prior to such abandonment.

Partially buried tank means a storage container that is partially inserted or constructed in the ground, but not entirely below grade, and not completely covered with earth, sand, gravel, asphalt, or other material. A partially buried tank is considered an aboveground storage container for purposes of this part.

Permanently closed means any container or facility for which:

- (1) All liquid and sludge has been removed from each container and connecting line; and
- (2) All connecting lines and piping have been disconnected from the container and blanked off, all valves (except for ventilation valves) have been closed and locked, and conspicuous signs have been posted on each container stating that it is a permanently closed container and noting the date of closure.

Person includes an individual, firm, corporation, association, or partnership.

Petroleum oil means petroleum in any form, including but not limited to crude oil, fuel oil, mineral oil, sludge, oil refuse, and refined products.

Production facility means all structures (including but not limited to wells, platforms, or storage facilities), piping (including but not limited to flowlines or gathering lines), or equipment (including but not limited to workover equipment, separation equipment, or auxiliary non-transportation-related equipment) used in the production, extraction, recovery, lifting, stabilization, separation or treating of oil, or associated storage or measurement, and located in a single geographical oil or gas field operated by a single operator.

Regional Administrator means the Regional Administrator of the Environmental Protection Agency, in and for the Region in which the facility is located.

Repair means any work necessary to maintain or restore a container to a condition suitable for safe operation, other than that necessary for ordinary, day-to-day maintenance to maintain the functional integrity of the container and that does not weaken the container.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan means the document required by §112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

Storage capacity of a container means the shell capacity of the container.

Transportation-related and non-transportation-related, as applied to an onshore or offshore facility, are defined in the Memorandum of Understanding between the Secretary of Transportation and the Administrator of the Environmental Protection Agency, dated November 24, 1971, (Appendix A of this part).

United States means the States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, American Samoa, the U.S. Virgin Islands, and the Pacific Island Governments.

Vegetable oil means a non-petroleum oil or fat of vegetable origin, including but not limited to oils and fats derived from plant seeds, nuts, fruits, and kernels.

Vessel means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds.

Worst case discharge for an onshore non-transportation-related facility means the largest foreseeable discharge in adverse weather conditions as determined using the worksheets in Appendix D to this part.

§ 112.3 Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan.

The owner or operator of an onshore or offshore facility subject to this section must prepare a Spill Prevention, Control, and Countermeasure Plan (hereafter “SPCC Plan” or “Plan),” in writing, and in accordance with §112.7, and any other applicable section of this part.

- (a)
 - (1) If your onshore or offshore facility was in operation on or before August 16, 2002, you must maintain your Plan, but must amend it, if necessary to ensure compliance with this part, by October 31, 2007, and implement the Plan no later than October 31, 2007. If your onshore or offshore facility becomes operational after August 16, 2002, through October 31, 2007, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan on or before October 31, 2007.
 - (2) If your onshore facility is a farm as defined in §112.2, the compliance date described in paragraph (a)(1) of this section is delayed until the effective date of a rule establishing SPCC requirements specifically for farms or otherwise establishes dates by which farms must comply with the provisions of this part.
- (b)
 - (1) If you are the owner or operator of an onshore or offshore facility that becomes operational after October 31, 2007, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations.
 - (2) If your onshore facility meets the definition of farm in §112.2, the compliance date described in paragraph (b)(1) of this section is delayed until the effective date of a rule establishing SPCC requirements specifically for farms or otherwise establishes dates by which farms must comply with the provisions of this part.
- (c) If you are the owner or operator of an onshore or offshore mobile facility, such as an onshore drilling or workover rig, barge mounted offshore drilling or workover rig, or portable fueling facility, you must prepare, implement, and maintain a facility Plan as required by this section. You must maintain your Plan, but must amend and implement it, if necessary to ensure compliance with this part, on or before October 31, 2007. If your onshore or offshore mobile facility becomes operational after October 31, 2007, and could reasonably be expected to have a discharge as described in §112.1(b), you must prepare and implement a Plan before you begin operations. This provision does not require that you prepare a new Plan each time you move the facility to a new site. The Plan may be a general Plan. When you move the mobile or portable facility, you must locate and install it using the discharge prevention practices outlined in the Plan for the facility. The Plan is applicable only while the facility is in a fixed (non-transportation) operating mode.
- (d) Except as provided in §112.6, a licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

- (i) That he is familiar with the requirements of this part ;
- (ii) That he or his agent has visited and examined the facility;
- (iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;
- (iv) That procedures for required inspections and testing have been established; and
- (v) That the Plan is adequate for the facility.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

(e) If you are the owner or operator of a facility for which a Plan is required under this section, you must:

(1) Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or at the nearest field office if the facility is not so attended, and

(2) Have the Plan available to the Regional Administrator for on-site review during normal working hours.

(f) *Extension of time.* (1) The Regional Administrator may authorize an extension of time for the preparation and full implementation of a Plan, or any amendment thereto, beyond the time permitted for the preparation, implementation, or amendment of a Plan under this part, when he finds that the owner or operator of a facility subject to this section, cannot fully comply with the requirements as a result of either nonavailability of qualified personnel, or delays in construction or equipment delivery beyond the control and without the fault of such owner or operator or his agents or employees.

(2) If you are an owner or operator seeking an extension of time under paragraph (f)(1) of this section, you may submit a written extension request to the Regional Administrator. Your request must include:

- (i) A full explanation of the cause for any such delay and the specific aspects of the Plan affected by the delay;
- (ii) A full discussion of actions being taken or contemplated to minimize or mitigate such delay; and
- (iii) A proposed time schedule for the implementation of any corrective actions being taken or contemplated, including interim dates for completion of tests or studies, installation and operation of any necessary equipment, or other preventive measures. In addition you may present additional oral or written statements in support of your extension request.

(3) The submission of a written extension request under paragraph (f)(2) of this section does not relieve you of your obligation to comply with the requirements of this part. The Regional Administrator may request a copy of your Plan to evaluate the extension request. When the Regional Administrator authorizes an extension of time for particular equipment or other specific aspects of the Plan, such extension does not affect your obligation to comply with the requirements related to other equipment or other specific aspects of the Plan for which the Regional Administrator has not expressly authorized an extension.

(g) *Qualified Facilities.* The owner or operator of a qualified facility as defined in this subparagraph may self-certify his or her facility's Plan, as provided in §112.6. A qualified facility is one that:

(1) Has an aggregate aboveground storage capacity of 10,000 gallons or less; and

(2) Has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism).

[67 FR 47140, July 17, 2002, as amended at 68 FR 1351, Jan. 9, 2003; 68 FR 18894, Apr. 17, 2003; 69 FR 48798, Aug. 11, 2004; 71 FR 8466, Feb. 17, 2006]

§ 112.4 Amendment of Spill Prevention, Control, and Countermeasure Plan by Regional Administrator.

If you are the owner or operator of a facility subject to this part, you must:

(a) Notwithstanding compliance with §112.3, whenever your facility has discharged more than 1,000 U.S. gallons of oil in a single discharge as described in §112.1(b), or discharged more than 42 U.S. gallons of oil in each of two discharges as described

in §112.1(b), occurring within any twelve month period, submit the following information to the Regional Administrator within 60 days from the time the facility becomes subject to this section:

- (1) Name of the facility;
- (2) Your name;
- (3) Location of the facility;
- (4) Maximum storage or handling capacity of the facility and normal daily throughput;
- (5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
- (6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
- (7) The cause of such discharge as described in §112.1(b), including a failure analysis of the system or subsystem in which the failure occurred;
- (8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence; and
- (9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

(b) Take no action under this section until it applies to your facility. This section does not apply until the expiration of the time permitted for the initial preparation and implementation of the Plan under §112.3, but not including any amendments to the Plan.

(c) Send to the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located a complete copy of all information you provided to the Regional Administrator under paragraph (a) of this section. Upon receipt of the information such State agency or agencies may conduct a review and make recommendations to the Regional Administrator as to further procedures, methods, equipment, and other requirements necessary to prevent and to contain discharges from your facility.

(d) Amend your Plan, if after review by the Regional Administrator of the information you submit under paragraph (a) of this section, or submission of information to EPA by the State agency under paragraph (c) of this section, or after on-site review of your Plan, the Regional Administrator requires that you do so. The Regional Administrator may require you to amend your Plan if he finds that it does not meet the requirements of this part or that amendment is necessary to prevent and contain discharges from your facility.

(e) Act in accordance with this paragraph when the Regional Administrator proposes by certified mail or by personal delivery that you amend your SPCC Plan. If the owner or operator is a corporation, he must also notify by mail the registered agent of such corporation, if any and if known, in the State in which the facility is located. The Regional Administrator must specify the terms of such proposed amendment. Within 30 days of receipt of such notice, you may submit written information, views, and arguments on the proposed amendment. After considering all relevant material presented, the Regional Administrator must either notify you of any amendment required or rescind the notice. You must amend your Plan as required within 30 days after such notice, unless the Regional Administrator, for good cause, specifies another effective date. You must implement the amended Plan as soon as possible, but not later than six months after you amend your Plan, unless the Regional Administrator specifies another date.

(f) If you appeal a decision made by the Regional Administrator requiring an amendment to an SPCC Plan, send the appeal to the EPA Administrator in writing within 30 days of receipt of the notice from the Regional Administrator requiring the amendment under paragraph (e) of this section. You must send a complete copy of the appeal to the Regional Administrator at the time you make the appeal. The appeal must contain a clear and concise statement of the issues and points of fact in the case. It may also contain additional information from you, or from any other person. The EPA Administrator may request additional information from you, or from any other person. The EPA Administrator must render a decision within 60 days of receiving the appeal and must notify you of his decision.

§ 112.5 Amendment of Spill Prevention, Control, and Countermeasure Plan by owners or operators.

If you are the owner or operator of a facility subject to this part, you must:

(a) Amend the SPCC Plan for your facility in accordance with the general requirements in §112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in §112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

(b) Notwithstanding compliance with paragraph (a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before

August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in §112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, "I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result."

(c) Except as provided in §112.6, have a Professional Engineer certify any technical amendments to your Plan in accordance with §112.3(d).

§ 112.6 Qualified Facility Plan Requirements.

(a) *Preparation and Self-certification of Plan.* If you are the owner or operator of a facility that meets the qualified facility qualification criteria in §112.3(g), you may choose to self-certify your Plan. You must certify in the Plan that:

- (1) You are familiar with the requirements of this part;
- (2) You have visited and examined the facility;
- (3) The Plan has been prepared in accordance with accepted and sound industry practices and standards, and with the requirements of this part;
- (4) Procedures for required inspections and testing have been established;
- (5) The Plan is being fully implemented;
- (6) The facility meets the qualification criteria set forth under §112.3(g);
- (7) The Plan does not deviate from any requirement of this part as allowed by §§112.7(a)(2) and 112.7(d), except as provided in paragraph (c) of this section; and
- (8) The Plan and individual(s) responsible for implementing the Plan have the full approval of management and the facility owner or operator has committed the necessary resources to fully implement the Plan.

(b) *Self-certification of Technical Amendments.* If you self-certify your Plan pursuant to paragraph (a) of this section, you must certify any technical amendments to your Plan in accordance with paragraph (a) of this section when there is a change in the facility design, construction, operation, or maintenance that affects its potential for a discharge as described in §112.1(b) except:

- (1) If a Professional Engineer certified a portion of your Plan in accordance with paragraph (d) of this section, and the technical amendment affects this portion of the Plan, you must have the amended provisions of your Plan certified by a Professional Engineer in accordance with §112.6(d)(2).
- (2) If the change is such that the facility no longer meets the qualifying criteria in §112.3(g) because it exceeds 10,000 gallons in aggregate aboveground storage capacity, you must prepare a Plan in accordance with the general Plan requirements in §112.7 and the applicable requirements in subparts B and C, including having the Plan certified by a Professional Engineer as required under §112.3(d).

(c) *Applicable Requirements.* Except as provided in this subparagraph, your self-certified SPCC Plan must comply with §112.7 and the applicable requirements in subparts B and C of this part:

(1) *Environmental Equivalence.* Your Plan may not include alternate methods which provide environmental equivalence pursuant to §112.7(a)(2), unless each alternate method has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (d) of this section.

(2) *Impracticability.* Your Plan may not include any determinations that secondary containment is impracticable and provisions in lieu of secondary containment pursuant to §112.7(d), unless each such determination and alternative provision has been reviewed and certified in writing by a Professional Engineer, as provided in paragraph (d) of this section.

(3) *Security (excluding oil production facilities).* You must either:

- (i) Comply with the requirements under §112.7(g); or
- (ii) Describe in your Plan how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.

(4) *Bulk Storage Container Inspections.* You must either:

- (i) Comply with the requirements under §112.8(c)(6) or §112.12(c)(6), as applicable; or

(ii) Test/inspect each aboveground container for integrity on a regular schedule and whenever material repairs are made. You must determine, in accordance with industry standards, the appropriate qualifications for personnel performing tests and inspections, the frequency and type of testing and inspections which take into account container size, configuration, and design (such as containers that are: shop built, skid-mounted, elevated, equipped with a liner, double walled, or partially buried). Examples of these integrity tests include, but are not limited to: visual inspection, hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or other systems of non-destructive testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices satisfy the recordkeeping requirements of this paragraph.

(d) *Professional Engineer Certification of Portions of a Qualified Facility's Self-certified Plan.* As described in paragraph (c) of this section, the facility owner or operator may not self-certify alternative measures allowed under §112.7(a)(2) or (d), that are included in the facility's Plan. Such measures must be reviewed and certified, in writing, by a licensed Professional Engineer as follows:

(1) For each alternative measure allowed under §112.7(a)(2), the Plan must be accompanied by a written statement by a Professional Engineer that states the reason for nonconformance and describes the alternative method and how it provides equivalent environmental protection in accordance with §112.7(a)(2). For each determination of impracticability of secondary containment pursuant to §112.7(d), the Plan must clearly explain why secondary containment measures are not practicable at this facility and provide the alternative measures required in §112.7(d) in lieu of secondary containment.

(2) By certifying each measure allowed under §112.7(a)(2) and (d), the Professional Engineer attests:

- (i) That he is familiar with the requirements of this part;
- (ii) That he or his agent has visited and examined the facility; and
- (iii) That the alternative method of environmental equivalence in accordance with §112.7(a)(2) or the determination of impracticability and alternative measures in accordance with §112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part.

(3) The review and certification by the Professional Engineer under this paragraph is limited to the alternative method which achieves equivalent environmental protection pursuant to §112.7(a)(2) or to the impracticability determination and measures in lieu of secondary containment pursuant to §112.7(d).

§ 112.7 General requirements for Spill Prevention, Control, and Countermeasure Plans.

If you are the owner or operator of a facility subject to this part you must prepare a Plan in accordance with good engineering practices. The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan. You must prepare the Plan in writing. If you do not follow the sequence specified in this section for the Plan, you must prepare an equivalent Plan acceptable to the Regional Administrator that meets all of the applicable requirements listed in this part, and you must supplement it with a section cross-referencing the location of requirements listed in this part and the equivalent requirements in the other prevention plan. If the Plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, you must discuss these items in separate paragraphs, and must explain separately the details of installation and operational start-up. As detailed elsewhere in this section, you must also:

(a) (1) Include a discussion of your facility's conformance with the requirements listed in this part.

(2) Comply with all applicable requirements listed in this part. Except as provided in §112.6, your Plan may deviate from the requirements in paragraphs (g), (h)(2) and (3), and (i) of this section and the requirements in subparts B and C of this part, except the secondary containment requirements in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), where applicable to a specific facility, if you provide equivalent environmental protection by some other means of spill prevention, control, or countermeasure. Where your Plan does not conform to the applicable requirements in paragraphs (g), (h)(2) and (3), and (i) of this section, or the requirements of subparts B and C of this part, except the secondary containment requirements in paragraph (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11), you must state the reasons for nonconformance in your Plan and describe in detail alternate methods and how you will achieve equivalent environmental protection. If the Regional Administrator determines that the measures described in your Plan do not provide equivalent environmental protection, he may require that you amend your Plan, following the procedures in §112.4(d) and (e).

(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under §112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes. You must also address in your Plan:

- (i) The type of oil in each container and its storage capacity;
- (ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.);
- (iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge;
- (iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor);
- (v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and
- (vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in §112.1(b).

(4) Unless you have submitted a response plan under §112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

(5) Unless you have submitted a response plan under §112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in §112.1(b), except as provided in paragraph (k) of this section for qualified oil-filled operational equipment. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs. At a minimum, you must use one of the following prevention systems or its equivalent:

(1) For onshore facilities:

- (i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;
- (ii) Curbing;
- (iii) Culverting, gutters, or other drainage systems;
- (iv) Weirs, booms, or other barriers;
- (v) Spill diversion ponds;
- (vi) Retention ponds; or
- (vii) Sorbent materials.

(2) For offshore facilities:

- (i) Curbing or drip pans; or
- (ii) Sumps and collection systems.

(d) Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2), 112.8(c)(11), 112.9(c)(2), 112.10(c), 112.12(c)(2), and 112.12(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:

(1) An oil spill contingency plan following the provisions of part 109 of this chapter.

(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

(e) *Inspections, tests, and records.* Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(f) *Personnel, training, and discharge prevention procedures.*

(1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in §112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

(g) *Security (excluding oil production facilities).*

(1) Fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended.

(2) Ensure that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status.

(3) Lock the starter control on each oil pump in the "off" position and locate it at a site accessible only to authorized personnel when the pump is in a non-operating or non-standby status.

(4) Securely cap or blank-flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time. This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure.

(5) Provide facility lighting commensurate with the type and location of the facility that will assist in the:

- (i) Discovery of discharges occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.); and
- (ii) Prevention of discharges occurring through acts of vandalism.

(h) *Facility tank car and tank truck loading/unloading rack (excluding offshore facilities).*

(1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

(2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

(3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

(j) In addition to the minimal prevention standards listed under this section, include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

(k) *Qualified Oil-filled Operational Equipment.* The owner or operator of a facility with oil-filled operational equipment that meets the qualification criteria in paragraph (k)(1) of this sub-section may choose to implement for this qualified oil-filled operational equipment the alternate requirements as described in paragraph (k)(2) of this sub-section in lieu of general secondary containment required in paragraph (c) of this section.

(1) *Qualification Criteria—Reportable Discharge History:* The owner or operator of a facility that has had no single discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons or no two discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan certification date, or since becoming subject to this part if the facility has been in operation for less than three years (other than oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war or terrorism); and

(2) *Alternative Requirements to General Secondary Containment.* If secondary containment is not provided for qualified oil-filled operational equipment pursuant to paragraph (c) of this section, the owner or operator of a facility with qualified oil-filled operational equipment must:

- (i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and
- (ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:
 - (A) An oil spill contingency plan following the provisions of part 109 of this chapter.
 - (B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

Source: 67 FR 47146, July 17, 2002, unless otherwise noted.

§ 112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

(a) Meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed in this section.

(b) *Facility drainage.*

(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

- (i) Normally keep the bypass valve sealed closed.
- (ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).
- (iii) Open the bypass valve and reseal it following drainage under responsible supervision; and
- (iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

- (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.
 - (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.
 - (iii) Direct audible or code signal communication between the container gauger and the pumping station.
 - (iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.
- (v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.*

(1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

§ 112.9 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil production facilities.

If you are the owner or operator of an onshore production facility, you must:

(a) Meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed under this section.

(b) *Oil production facility drainage.*

(1) At tank batteries and separation and treating areas where there is a reasonable possibility of a discharge as described in §112.1(b), close and seal at all times drains of dikes or drains of equivalent measures required under §112.7(c)(1), except when draining uncontaminated rainwater. Prior to drainage, you must inspect the diked area and take action as provided in §112.8(c)(3)(ii), (iii), and (iv). You must remove accumulated oil on the rainwater and return it to storage or dispose of it in accordance with legally approved methods.

(2) Inspect at regularly scheduled intervals field drainage systems (such as drainage ditches or road ditches), and oil traps, sumps, or skimmers, for an accumulation of oil that may have resulted from any small discharge. You must promptly remove any accumulations of oil.

(c) *Oil production facility bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and the conditions of storage.

(2) Provide all tank battery, separation, and treating facility installations with a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must safely confine drainage from undiked areas in a catchment basin or holding pond.

(3) Periodically and upon a regular schedule visually inspect each container of oil for deterioration and maintenance needs, including the foundation and support of each container that is on or above the surface of the ground.

(4) Engineer or update new and old tank battery installations in accordance with good engineering practice to prevent discharges. You must provide at least one of the following:

- (i) Container capacity adequate to assure that a container will not overflow if a pumper/gauger is delayed in making regularly scheduled rounds.
- (ii) Overflow equalizing lines between containers so that a full container can overflow to an adjacent container.
- (iii) Vacuum protection adequate to prevent container collapse during a pipeline run or other transfer of oil from the container.
- (iv) High level sensors to generate and transmit an alarm signal to the computer where the facility is subject to a computer production control system.

(d) *Facility transfer operations, oil production facility.*

(1) Periodically and upon a regular schedule inspect all aboveground valves and piping associated with transfer operations for the general condition of flange joints, valve glands and bodies, drip pans, pipe supports, pumping well polish rod stuffing boxes, bleeder and gauge valves, and other such items.

(2) Inspect saltwater (oil field brine) disposal facilities often, particularly following a sudden change in atmospheric temperature, to detect possible system upsets capable of causing a discharge.

(3) Have a program of flowline maintenance to prevent discharges from each flowline.

§ 112.10 Spill Prevention, Control, and Countermeasure Plan requirements for onshore oil drilling and workover facilities.

If you are the owner or operator of an onshore oil drilling and workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Position or locate mobile drilling or workover equipment so as to prevent a discharge as described in §112.1(b).

(c) Provide catchment basins or diversion structures to intercept and contain discharges of fuel, crude oil, or oily drilling fluids.

(d) Install a blowout prevention (BOP) assembly and well control system before drilling below any casing string or during workover operations. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while that BOP assembly and well control system are on the well.

§ 112.11 Spill Prevention, Control, and Countermeasure Plan requirements for offshore oil drilling, production, or workover facilities.

If you are the owner or operator of an offshore oil drilling, production, or workover facility, you must:

(a) Meet the general requirements listed under §112.7, and also meet the specific discharge prevention and containment procedures listed under this section.

(b) Use oil drainage collection equipment to prevent and control small oil discharges around pumps, glands, valves, flanges, expansion joints, hoses, drain lines, separators, treaters, tanks, and associated equipment. You must control and direct facility drains toward a central collection sump to prevent the facility from having a discharge as described in §112.1(b). Where drains and sumps are not practicable, you must remove oil contained in collection equipment as often as necessary to prevent overflow.

(c) For facilities employing a sump system, provide adequately sized sump and drains and make available a spare pump to remove liquid from the sump and assure that oil does not escape. You must employ a regularly scheduled preventive maintenance inspection and testing program to assure reliable operation of the liquid removal system and pump start-up device. Redundant automatic sump pumps and control devices may be required on some installations.

(d) At facilities with areas where separators and treaters are equipped with dump valves which predominantly fail in the closed position and where pollution risk is high, specially equip the facility to prevent the discharge of oil. You must prevent the discharge of oil by:

- (1) Extending the flare line to a diked area if the separator is near shore;

- (2) Equipping the separator with a high liquid level sensor that will automatically shut in wells producing to the separator; or
- (3) Installing parallel redundant dump valves.
- (e) Equip atmospheric storage or surge containers with high liquid level sensing devices that activate an alarm or control the flow, or otherwise prevent discharges.
- (f) Equip pressure containers with high and low pressure sensing devices that activate an alarm or control the flow.
- (g) Equip containers with suitable corrosion protection.
- (h) Prepare and maintain at the facility a written procedure within the Plan for inspecting and testing pollution prevention equipment and systems.
- (i) Conduct testing and inspection of the pollution prevention equipment and systems at the facility on a scheduled periodic basis, commensurate with the complexity, conditions, and circumstances of the facility and any other appropriate regulations. You must use simulated discharges for testing and inspecting human and equipment pollution control and countermeasure systems.
- (j) Describe in detailed records surface and subsurface well shut-in valves and devices in use at the facility for each well sufficiently to determine their method of activation or control, such as pressure differential, change in fluid or flow conditions, combination of pressure and flow, manual or remote control mechanisms.
- (k) Install a BOP assembly and well control system during workover operations and before drilling below any casing string. The BOP assembly and well control system must be capable of controlling any well-head pressure that may be encountered while the BOP assembly and well control system are on the well.
- (l) Equip all manifolds (headers) with check valves on individual flowlines.
- (m) Equip the flowline with a high pressure sensing device and shut-in valve at the wellhead if the shut-in well pressure is greater than the working pressure of the flowline and manifold valves up to and including the header valves. Alternatively you may provide a pressure relief system for flowlines.
- (n) Protect all piping appurtenant to the facility from corrosion, such as with protective coatings or cathodic protection.
- (o) Adequately protect sub-marine piping appurtenant to the facility against environmental stresses and other activities such as fishing operations.
- (p) Maintain sub-marine piping appurtenant to the facility in good operating condition at all times. You must periodically and according to a schedule inspect or test such piping for failures. You must document and keep a record of such inspections or tests at the facility.

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, including Oils from Seeds, Nuts, Fruits, and Kernels.

Source: 67 FR 57149, July 17, 2002, unless otherwise noted.

§ 112.12 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

If you are the owner or operator of an onshore facility (excluding a production facility), you must:

- (a) Meet the general requirements for the Plan listed under §112.7, and the specific discharge prevention and containment procedures listed in this section.
- (b) *Facility drainage.*
- (1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked

areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, subject to the requirements of paragraphs (c)(3)(ii), (iii), and (iv) of this section.

(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in §112.1(b) in case there is an equipment failure or human error at the facility.

(c) *Bulk storage containers.*

(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

(2) Construct all bulk storage tank installations (except mobile refuelers) so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose. You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:

- (i) Normally keep the bypass valve sealed closed.
- (ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in §112.1(b).
- (iii) Open the bypass valve and reseal it following drainage under responsible supervision; and
- (iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§122.41(j)(2) and 122.41(m)(3) of this chapter.

(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions. You must regularly leak test such completely buried metallic storage tanks.

(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:

- (i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.
- (ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.
- (iii) Direct audible or code signal communication between the container gauger and the pumping station.
- (iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.
- (v) You must regularly test liquid level sensing devices to ensure proper operation.

(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b).

(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in §112.1(b). Except for mobile refuelers, you must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

(d) *Facility transfer operations, pumping, and facility process.*

(1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.

(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

§ 112.13 [Reserved].

§ 112.14 [Reserved].

§ 112.15 [Reserved].

Subpart D—Response Requirements

§ 112.20 Facility response plans.

(a) The owner or operator of any non-transportation-related onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines shall prepare and submit a facility response plan to the Regional Administrator, according to the following provisions:

(1) For the owner or operator of a facility in operation on or before February 18, 1993 who is required to prepare and submit a response plan under 33 U.S.C. 1321(j)(5), the Oil Pollution Act of 1990 (Pub. L. 101-380, 33 U.S.C. 2701 *et seq.*) requires the submission of a response plan that satisfies the requirements of 33 U.S.C. 1321(j)(5) no later than February 18, 1993.

- (i) The owner or operator of an existing facility that was in operation on or before February 18, 1993 who submitted a response plan by February 18, 1993 shall revise the response plan to satisfy the requirements of this section and resubmit the response plan or updated portions of the response plan to the Regional Administrator by February 18, 1995.
- (ii) The owner or operator of an existing facility in operation on or before February 18, 1993 who failed to submit a response plan by February 18, 1993 shall prepare and submit a response plan that satisfies the requirements of this section to the Regional Administrator before August 30, 1994.
- (2) The owner or operator of a facility in operation on or after August 30, 1994 that satisfies the criteria in paragraph (f)(1) of this section or that is notified by the Regional Administrator pursuant to paragraph (b) of this section shall prepare and submit a facility response plan that satisfies the requirements of this section to the Regional Administrator.
- (i) For a facility that commenced operations after February 18, 1993 but prior to August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan or updated portions of the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator prior to August 30, 1994.
- (ii) For a newly constructed facility that commences operation after August 30, 1994, and is required to prepare and submit a response plan based on the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator prior to the start of operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).
- (iii) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of a planned change in design, construction, operation, or maintenance that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator before the portion of the facility undergoing change commences operations (adjustments to the response plan to reflect changes that occur at the facility during the start-up phase of operations must be submitted to the Regional Administrator after an operational trial period of 60 days).
- (iv) For a facility required to prepare and submit a response plan after August 30, 1994, as a result of an unplanned event or change in facility characteristics that renders the facility subject to the criteria in paragraph (f)(1) of this section, the owner or operator shall submit the response plan, along with a completed version of the response plan cover sheet contained in Appendix F to this part, to the Regional Administrator within six months of the unplanned event or change.
- (3) In the event the owner or operator of a facility that is required to prepare and submit a response plan uses an alternative formula that is comparable to one contained in Appendix C to this part to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach documentation to the response plan cover sheet contained in Appendix F to this part that demonstrates the reliability and analytical soundness of the alternative formula.
- (4) *Preparation and submission of response plans—Animal fat and vegetable oil facilities.* The owner or operator of any non-transportation-related facility that handles, stores, or transports animal fats and vegetable oils must prepare and submit a facility response plan as follows:
- (i) *Facilities with approved plans.* The owner or operator of a facility with a facility response plan that has been approved under paragraph (c) of this section by July 31, 2000 need not prepare or submit a revised plan except as otherwise required by paragraphs (b), (c), or (d) of this section.
- (ii) *Facilities with plans that have been submitted to the Regional Administrator.* Except for facilities with approved plans as provided in paragraph (a)(4)(i) of this section, the owner or operator of a facility that has submitted a response plan to the Regional Administrator prior to July 31, 2000 must review the plan to determine if it meets or exceeds the applicable provisions of this part. An owner or operator need not prepare or submit a new plan if the existing plan meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must prepare and submit a new plan by September 28, 2000.
- (iii) *Newly regulated facilities.* The owner or operator of a newly constructed facility that commences operation after July 31, 2000 must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(ii) of this section. The plan must meet or exceed the applicable provisions of this part. The owner or operator of an existing facility that must prepare and submit a plan after July 31, 2000 as a result of a planned or unplanned change in facility characteristics that causes the facility to become regulated under paragraph (f)(1) of this section, must prepare and submit a plan to the Regional Administrator in accordance with paragraph (a)(2)(iii) or (iv) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(iv) *Facilities amending existing plans.* The owner or operator of a facility submitting an amended plan in accordance with paragraph (d) of this section after July 31, 2000, including plans that had been previously approved, must also review the plan to determine if it meets or exceeds the applicable provisions of this part. If the plan does not meet or exceed the applicable provisions of this part, the owner or operator must revise and resubmit revised portions of an amended plan to the Regional Administrator in accordance with paragraph (d) of this section, as appropriate. The plan must meet or exceed the applicable provisions of this part.

(b) (1) The Regional Administrator may at any time require the owner or operator of any non-transportation-related onshore facility to prepare and submit a facility response plan under this section after considering the factors in paragraph (f)(2) of this section. If such a determination is made, the Regional Administrator shall notify the facility owner or operator in writing and shall provide a basis for the determination. If the Regional Administrator notifies the owner or operator in writing of the requirement to prepare and submit a response plan under this section, the owner or operator of the facility shall submit the response plan to the Regional Administrator within six months of receipt of such written notification.

(2) The Regional Administrator shall review plans submitted by such facilities to determine whether the facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(c) The Regional Administrator shall determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, based on the factors in paragraph (f)(3) of this section. If such a determination is made, the Regional Administrator shall notify the owner or operator of the facility in writing and:

(1) Promptly review the facility response plan;

(2) Require amendments to any response plan that does not meet the requirements of this section;

(3) Approve any response plan that meets the requirements of this section; and

(4) Review each response plan periodically thereafter on a schedule established by the Regional Administrator provided that the period between plan reviews does not exceed five years.

(d) (1) The owner or operator of a facility for which a response plan is required under this part shall revise and resubmit revised portions of the response plan within 60 days of each facility change that materially may affect the response to a worst case discharge, including:

(i) A change in the facility's configuration that materially alters the information included in the response plan;

(ii) A change in the type of oil handled, stored, or transferred that materially alters the required response resources;

(iii) A material change in capabilities of the oil spill removal organization(s) that provide equipment and personnel to respond to discharges of oil described in paragraph (h)(5) of this section;

(iv) A material change in the facility's spill prevention and response equipment or emergency response procedures; and

(v) Any other changes that materially affect the implementation of the response plan.

(2) Except as provided in paragraph (d)(1) of this section, amendments to personnel and telephone number lists included in the response plan and a change in the oil spill removal organization(s) that does not result in a material change in support capabilities do not require approval by the Regional Administrator. Facility owners or operators shall provide a copy of such changes to the Regional Administrator as the revisions occur.

(3) The owner or operator of a facility that submits changes to a response plan as provided in paragraph (d)(1) or (d)(2) of this section shall provide the EPA-issued facility identification number (where one has been assigned) with the changes.

(4) The Regional Administrator shall review for approval changes to a response plan submitted pursuant to paragraph (d)(1) of this section for a facility determined pursuant to paragraph (f)(3) of this section to have the potential to cause significant and substantial harm to the environment.

(e) If the owner or operator of a facility determines pursuant to paragraph (a)(2) of this section that the facility could not, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the owner or operator shall complete and maintain at the facility the certification form contained in Appendix C to this part and, in the event an alternative formula that is comparable to one contained in Appendix C to this part is used to evaluate the criterion in paragraph (f)(1)(ii)(B) or (f)(1)(ii)(C) of this section, the owner or operator shall attach

documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

- (f) (1) A facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (a)(2) of this section, if it meets any of the following criteria applied in accordance with the flowchart contained in Attachment C-I to Appendix C to this part:
- (i) The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons; or
 - (ii) The facility's total oil storage capacity is greater than or equal to 1 million gallons, and one of the following is true:
 - (A) The facility does not have secondary containment for each aboveground storage area sufficiently large to contain the capacity of the largest aboveground oil storage tank within each storage area plus sufficient freeboard to allow for precipitation;
 - (B) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III of the "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan prepared pursuant to section 311(j)(4) of the Clean Water Act;
 - (C) The facility is located at a distance (as calculated using the appropriate formula in Appendix C to this part or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake; or
 - (D) The facility has had a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years.
- (2) (i) To determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines pursuant to paragraph (b) of this section, the Regional Administrator shall consider the following:
- (A) Type of transfer operation;
 - (B) Oil storage capacity;
 - (C) Lack of secondary containment;
 - (D) Proximity to fish and wildlife and sensitive environments and other areas determined by the Regional Administrator to possess ecological value;
 - (E) Proximity to drinking water intakes;
 - (F) Spill history; and
 - (G) Other site-specific characteristics and environmental factors that the Regional Administrator determines to be relevant to protecting the environment from harm by discharges of oil into or on navigable waters or adjoining shorelines.
- (ii) Any person, including a member of the public or any representative from a Federal, State, or local agency who believes that a facility subject to this section could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines may petition the Regional Administrator to determine whether the facility meets the criteria in paragraph (f)(2)(i) of this section. Such petition shall include a discussion of how the factors in paragraph (f)(2)(i) of this section apply to the facility in question. The RA shall consider such petitions and respond in an appropriate amount of time.
- (3) To determine whether a facility could, because of its location, reasonably be expected to cause significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, the Regional Administrator may consider the factors in paragraph (f)(2) of this section as well as the following:
- (i) Frequency of past discharges;
 - (ii) Proximity to navigable waters;
 - (iii) Age of oil storage tanks; and
 - (iv) Other facility-specific and Region-specific information, including local impacts on public health.
- (g) (1) All facility response plans shall be consistent with the requirements of the National Oil and Hazardous Substance Pollution Contingency Plan (40 CFR part 300) and applicable Area Contingency Plans prepared pursuant to section 311(j)(4) of the Clean Water Act. The facility response plan should be coordinated with the local emergency response plan developed by the local emergency planning committee under section 303 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11001 et seq.). Upon request, the owner or operator should

provide a copy of the facility response plan to the local emergency planning committee or State emergency response commission.

(2) The owner or operator shall review relevant portions of the National Oil and Hazardous Substances Pollution Contingency Plan and applicable Area Contingency Plan annually and, if necessary, revise the facility response plan to ensure consistency with these plans.

(3) The owner or operator shall review and update the facility response plan periodically to reflect changes at the facility.

(h) A response plan shall follow the format of the model facility-specific response plan included in Appendix F to this part, unless you have prepared an equivalent response plan acceptable to the Regional Administrator to meet State or other Federal requirements. A response plan that does not follow the specified format in Appendix F to this part shall have an emergency response action plan as specified in paragraphs (h)(1) of this section and be supplemented with a cross-reference section to identify the location of the elements listed in paragraphs (h)(2) through (h)(10) of this section. To meet the requirements of this part, a response plan shall address the following elements, as further described in Appendix F to this part:

(1) *Emergency response action plan.* The response plan shall include an emergency response action plan in the format specified in paragraphs (h)(1)(i) through (viii) of this section that is maintained in the front of the response plan, or as a separate document accompanying the response plan, and that includes the following information:

- (i) The identity and telephone number of a qualified individual having full authority, including contracting authority, to implement removal actions;
- (ii) The identity of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal officials and the persons providing response personnel and equipment can be ensured;
- (iii) A description of information to pass to response personnel in the event of a reportable discharge;
- (iv) A description of the facility's response equipment and its location;
- (v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;
- (vi) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;
- (vii) A description of immediate measures to secure the source of the discharge, and to provide adequate containment and drainage of discharged oil; and
- (viii) A diagram of the facility.

(2) *Facility information.* The response plan shall identify and discuss the location and type of the facility, the identity and tenure of the present owner and operator, and the identity of the qualified individual identified in paragraph (h)(1) of this section.

(3) *Information about emergency response.* The response plan shall include:

- (i) The identity of private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge and other discharges of oil described in paragraph (h)(5) of this section, and to mitigate or prevent a substantial threat of a worst case discharge (To identify response resources to meet the facility response plan requirements of this section, owners or operators shall follow Appendix E to this part or, where not appropriate, shall clearly demonstrate in the response plan why use of Appendix E of this part is not appropriate at the facility and make comparable arrangements for response resources);
- (ii) Evidence of contracts or other approved means for ensuring the availability of such personnel and equipment;
- (iii) The identity and the telephone number of individuals or organizations to be contacted in the event of a discharge so that immediate communications between the qualified individual identified in paragraph (h)(1) of this section and the appropriate Federal official and the persons providing response personnel and equipment can be ensured;
- (iv) A description of information to pass to response personnel in the event of a reportable discharge;
- (v) A description of response personnel capabilities, including the duties of persons at the facility during a response action and their response times and qualifications;
- (vi) A description of the facility's response equipment, the location of the equipment, and equipment testing;
- (vii) Plans for evacuation of the facility and a reference to community evacuation plans, as appropriate;
- (viii) A diagram of evacuation routes; and
- (ix) A description of the duties of the qualified individual identified in paragraph (h)(1) of this section, that include:
 - (A) Activate internal alarms and hazard communication systems to notify all facility personnel;
 - (B) Notify all response personnel, as needed;
 - (C) Identify the character, exact source, amount, and extent of the release, as well as the other items needed for notification;

- (D) Notify and provide necessary information to the appropriate Federal, State, and local authorities with designated response roles, including the National Response Center, State Emergency Response Commission, and Local Emergency Planning Committee;
- (E) Assess the interaction of the discharged substance with water and/or other substances stored at the facility and notify response personnel at the scene of that assessment;
- (F) Assess the possible hazards to human health and the environment due to the release. This assessment must consider both the direct and indirect effects of the release (i.e., the effects of any toxic, irritating, or asphyxiating gases that may be generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosion);
- (G) Assess and implement prompt removal actions to contain and remove the substance released;
- (H) Coordinate rescue and response actions as previously arranged with all response personnel;
- (I) Use authority to immediately access company funding to initiate cleanup activities; and
- (J) Direct cleanup activities until properly relieved of this responsibility.

(4) *Hazard evaluation.* The response plan shall discuss the facility's known or reasonably identifiable history of discharges reportable under 40 CFR part 110 for the entire life of the facility and shall identify areas within the facility where discharges could occur and what the potential effects of the discharges would be on the affected environment. To assess the range of areas potentially affected, owners or operators shall, where appropriate, consider the distance calculated in paragraph (f)(1)(ii) of this section to determine whether a facility could, because of its location, reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines.

(5) *Response planning levels.* The response plan shall include discussion of specific planning scenarios for:

- (i) A worst case discharge, as calculated using the appropriate worksheet in Appendix D to this part. In cases where the Regional Administrator determines that the worst case discharge volume calculated by the facility is not appropriate, the Regional Administrator may specify the worst case discharge amount to be used for response planning at the facility. For complexes, the worst case planning quantity shall be the larger of the amounts calculated for each component of the facility;
- (ii) A discharge of 2,100 gallons or less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility; and
- (iii) A discharge greater than 2,100 gallons and less than or equal to 36,000 gallons or 10 percent of the capacity of the largest tank at the facility, whichever is less, provided that this amount is less than the worst case discharge amount. For complexes, this planning quantity shall be the larger of the amounts calculated for each component of the facility.

(6) *Discharge detection systems.* The response plan shall describe the procedures and equipment used to detect discharges.

(7) *Plan implementation.* The response plan shall describe:

- (i) Response actions to be carried out by facility personnel or contracted personnel under the response plan to ensure the safety of the facility and to mitigate or prevent discharges described in paragraph (h)(5) of this section or the substantial threat of such discharges;
- (ii) A description of the equipment to be used for each scenario;
- (iii) Plans to dispose of contaminated cleanup materials; and
- (iv) Measures to provide adequate containment and drainage of discharged oil.

(8) *Self-inspection, drills/exercises, and response training.* The response plan shall include:

- (i) A checklist and record of inspections for tanks, secondary containment, and response equipment;
- (ii) A description of the drill/exercise program to be carried out under the response plan as described in §112.21;
- (iii) A description of the training program to be carried out under the response plan as described in §112.21; and
- (iv) Logs of discharge prevention meetings, training sessions, and drills/exercises. These logs may be maintained as an annex to the response plan.

(9) *Diagrams.* The response plan shall include site plan and drainage plan diagrams.

(10) *Security systems.* The response plan shall include a description of facility security systems.

(11) *Response plan cover sheet.* The response plan shall include a completed response plan cover sheet provided in Section 2.0 of Appendix F to this part.

- (i) (1) In the event the owner or operator of a facility does not agree with the Regional Administrator's determination that the facility could, because of its location, reasonably be expected to cause substantial harm or significant and substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shorelines, or that amendments to the facility response plan are necessary prior to approval, such as changes to the worst case discharge planning volume, the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The request and accompanying information must be submitted to the Regional Administrator within 60 days of receipt of notice of the Regional Administrator's original decision. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.
- (2) In the event the owner or operator of a facility believes a change in the facility's classification status is warranted because of an unplanned event or change in the facility's characteristics (i.e., substantial harm or significant and substantial harm), the owner or operator may submit a request for reconsideration to the Regional Administrator and provide additional information and data in writing to support the request. The Regional Administrator shall consider the request and render a decision as rapidly as practicable.
- (3) After a request for reconsideration under paragraph (i)(1) or (i)(2) of this section has been denied by the Regional Administrator, an owner or operator may appeal a determination made by the Regional Administrator. The appeal shall be made to the EPA Administrator and shall be made in writing within 60 days of receipt of the decision from the Regional Administrator that the request for reconsideration was denied. A complete copy of the appeal must be sent to the Regional Administrator at the time the appeal is made. The appeal shall contain a clear and concise statement of the issues and points of fact in the case. It also may contain additional information from the owner or operator, or from any other person. The EPA Administrator may request additional information from the owner or operator, or from any other person. The EPA Administrator shall render a decision as rapidly as practicable and shall notify the owner or operator of the decision.

[59 FR 34098, July 1, 1994, as amended at 65 FR 40798, June 30, 2000; 66 FR 34560, June 29, 2001; 67 FR 47151, July 17, 2002]

§ 112.21 Facility response training and drills/exercises.

- (a) The owner or operator of any facility required to prepare a facility response plan under §112.20 shall develop and implement a facility response training program and a drill/exercise program that satisfy the requirements of this section. The owner or operator shall describe the programs in the response plan as provided in §112.20(h)(8).
- (b) The facility owner or operator shall develop a facility response training program to train those personnel involved in oil spill response activities. It is recommended that the training program be based on the USCG's Training Elements for Oil Spill Response, as applicable to facility operations. An alternative program can also be acceptable subject to approval by the Regional Administrator.
- (1) The owner or operator shall be responsible for the proper instruction of facility personnel in the procedures to respond to discharges of oil and in applicable oil spill response laws, rules, and regulations.
- (2) Training shall be functional in nature according to job tasks for both supervisory and non-supervisory operational personnel.
- (3) Trainers shall develop specific lesson plans on subject areas relevant to facility personnel involved in oil spill response and cleanup.
- (c) The facility owner or operator shall develop a program of facility response drills/exercises, including evaluation procedures. A program that follows the National Preparedness for Response Exercise Program (PREP) (see Appendix E to this part, section 13, for availability) will be deemed satisfactory for purposes of this section. An alternative program can also be acceptable subject to approval by the Regional Administrator.

[59 FR 34101, July 1, 1994, as amended at 65 FR 40798, June 30, 2000]

Appendix A to Part 112—Memorandum of Understanding Between the Secretary of Transportation and the Administrator of the Environmental Protection Agency

SECTION II – DEFINITIONS

The Environmental Protection Agency and the Department of Transportation agree that for the purposes of Executive Order 11548, the term:

(1) *Non-transportation-related onshore and offshore facilities* means:

(A) Fixed onshore and offshore oil well drilling facilities including all equipment and appurtenances related thereto used in drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(B) Mobile onshore and offshore oil well drilling platforms, barges, trucks, or other mobile facilities including all equipment and appurtenances related thereto when such mobile facilities are fixed in position for the purpose of drilling operations for exploratory or development wells, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(C) Fixed onshore and offshore oil production structures, platforms, derricks, and rigs including all equipment and appurtenances related thereto, as well as completed wells and the wellhead separators, oil separators, and storage facilities used in the production of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(D) Mobile onshore and offshore oil production facilities including all equipment and appurtenances related thereto as well as completed wells and wellhead equipment, piping from wellheads to oil separators, oil separators, and storage facilities used in the production of oil when such mobile facilities are fixed in position for the purpose of oil production operations, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(E) Oil refining facilities including all equipment and appurtenances related thereto as well as in-plant processing units, storage units, piping, drainage systems and waste treatment units used in the refining of oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(F) Oil storage facilities including all equipment and appurtenances related thereto as well as fixed bulk plant storage, terminal oil storage facilities, consumer storage, pumps and drainage systems used in the storage of oil, but excluding inline or breakout storage tanks needed for the continuous operation of a pipeline system and any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(G) Industrial, commercial, agricultural or public facilities which use and store oil, but excluding any terminal facility, unit or process integrally associated with the handling or transferring of oil in bulk to or from a vessel.

(H) Waste treatment facilities including in-plant pipelines, effluent discharge lines, and storage tanks, but excluding waste treatment facilities located on vessels and terminal storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels and associated systems used for off-loading vessels.

(I) Loading racks, transfer hoses, loading arms and other equipment which are appurtenant to a nontransportation-related facility or terminal facility and which are used to transfer oil in bulk to or from highway vehicles or railroad cars.

(J) Highway vehicles and railroad cars which are used for the transport of oil exclusively within the confines of a nontransportation-related facility and which are not intended to transport oil in interstate or intrastate commerce.

(K) Pipeline systems which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce, but excluding pipeline systems used to transfer oil in bulk to or from a vessel.

(2) *Transportation-related onshore and offshore facilities* means:

(A) Onshore and offshore terminal facilities including transfer hoses, loading arms and other equipment and appurtenances used for the purpose of handling or transferring oil in bulk to or from a vessel as well as storage tanks and appurtenances for the reception of oily ballast water or tank washings from vessels, but excluding terminal waste treatment facilities and terminal oil storage facilities.

(B) Transfer hoses, loading arms and other equipment appurtenant to a non-transportation-related facility which is used to transfer oil in bulk to or from a vessel.

(C) Interstate and intrastate onshore and offshore pipeline systems including pumps and appurtenances related thereto as well as in-line or breakout storage tanks needed for the continuous operation of a pipeline system, and pipelines from onshore and offshore oil production facilities, but excluding onshore and offshore piping from wellheads to oil separators and pipelines which are used for the transport of oil exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended to transport oil in interstate or intrastate commerce or to transfer oil in bulk to or from a vessel.

(D) Highway vehicles and railroad cars which are used for the transport of oil in interstate or intrastate commerce and the equipment and appurtenances related thereto, and equipment used for the fueling of locomotive units, as well as the rights-of-way on which they operate. Excluded are highway vehicles and railroad cars and motive power used exclusively within the confines of a nontransportation-related facility or terminal facility and which are not intended for use in interstate or intrastate commerce.

Appendix B to Part 112—Memorandum of Understanding Among the Secretary of the Interior, Secretary of Transportation, and Administrator of the Environmental Protection Agency

PURPOSE

This Memorandum of Understanding (MOU) establishes the jurisdictional responsibilities for offshore facilities, including pipelines, pursuant to section 311 (j)(1)(c), (j)(5), and (j)(6)(A) of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (Public Law 101–380). The Secretary of the Department of the Interior (DOI), Secretary of the Department of Transportation (DOT), and Administrator of the Environmental Protection Agency (EPA) agree to the division of responsibilities set forth below for spill prevention and control, response planning, and equipment inspection activities pursuant to those provisions.

BACKGROUND

Executive Order (E.O.) 12777 (56 FR 54757) delegates to DOI, DOT, and EPA various responsibilities identified in section 311(j) of the CWA. Sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 assigned to DOI spill prevention and control, contingency planning, and equipment inspection activities associated with offshore facilities. Section 311(a)(11) defines the term “offshore facility” to include facilities of any kind located in, on, or under navigable waters of the United States. By using this definition, the traditional DOI role of regulating facilities on the Outer Continental Shelf is expanded by E.O. 12777 to include inland lakes, rivers, streams, and any other inland waters.

RESPONSIBILITIES

Pursuant to section 2(i) of E.O. 12777, DOI redelegates, and EPA and DOT agree to assume, the functions vested in DOI by sections 2(b)(3), 2(d)(3), and 2(e)(3) of E.O. 12777 as set forth below. For purposes of this MOU, the term “coast line” shall be defined as in the Submerged Lands Act (43 U.S.C. 1301(c)) to mean “the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters.”

1. To EPA, DOI redelegates responsibility for non-transportation-related offshore facilities located landward of the coast line.
2. To DOT, DOI redelegates responsibility for transportation-related facilities, including pipelines, located landward of the coast line. The DOT retains jurisdiction for deepwater ports and their associated seaward pipelines, as delegated by E.O. 12777.
3. The DOI retains jurisdiction over facilities, including pipelines, located seaward of the coast line, except for deepwater ports and associated seaward pipelines delegated by E.O. 12777 to DOT.

EFFECTIVE DATE

This MOU is effective on the date of the final execution by the indicated signatories.

LIMITATIONS

1. The DOI, DOT, and EPA may agree in writing to exceptions to this MOU on a facility-specific basis. Affected parties will receive notification of the exceptions.

2. Nothing in this MOU is intended to replace, supersede, or modify any existing agreements between or among DOI, DOT, or EPA.

MODIFICATION AND TERMINATION

Any party to this agreement may propose modifications by submitting them in writing to the heads of the other agency/department. No modification may be adopted except with the consent of all parties. All parties shall indicate their consent to or disagreement with any proposed modification within 60 days of receipt. Upon the request of any party, representatives of all parties shall meet for the purpose of considering exceptions or modifications to this agreement. This MOU may be terminated only with the mutual consent of all parties.

Dated: November 8, 1993.

Bruce Babbitt,
Secretary of the Interior.

Dated: December 14, 1993.

Federico Peña,
Secretary of Transportation.

Dated: February 3, 1994.

Carol M. Browner,
Administrator, Environmental Protection Agency.

[59 FR 34102, July 1, 1994]

Appendix C to Part 112—Substantial Harm Criteria

1.0 Introduction

The flowchart provided in Attachment C–I to this appendix shows the decision tree with the criteria to identify whether a facility “could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines.” In addition, the Regional Administrator has the discretion to identify facilities that must prepare and submit facility-specific response plans to EPA.

1.1 Definitions

1.1.1 *Great Lakes* means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

1.1.2 Higher Volume Port Areas include

- (1) Boston, MA;
- (2) New York, NY;
- (3) Delaware Bay and River to Philadelphia, PA;
- (4) St. Croix, VI;
- (5) Pascagoula, MS;
- (6) Mississippi River from Southwest Pass, LA to Baton Rouge, LA;
- (7) Louisiana Offshore Oil Port (LOOP), LA;
- (8) Lake Charles, LA;
- (9) Sabine-Neches River, TX;
- (10) Galveston Bay and Houston Ship Channel, TX;
- (11) Corpus Christi, TX;
- (12) Los Angeles/Long Beach Harbor, CA;
- (13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA;
- (14) Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound, WA;
- (15) Prince William Sound, AK; and
- (16) Others as specified by the Regional Administrator for any EPA Region.

1.1.3 *Inland Area* means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80.740–80.850). The inland area does not include the Great Lakes.

1.1.4 *Rivers and Canals* means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less.

2.0 Description of Screening Criteria for the Substantial Harm Flowchart

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility-specific response plan to EPA in accordance with Appendix F to this part. A description of the screening criteria for the substantial harm flowchart is provided below:

2.1 Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil. A non-transportation-related facility with a total oil storage capacity greater than or equal to 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water. These facilities are located adjacent to navigable water.

2.2 Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons. Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems.

2.3 Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons. A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112.2) to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil discharge could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.4 Proximity to Public Drinking Water Intakes at Facilities with a Total Oil Storage Capacity Greater than or Equal to 1 Million Gallons A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c). The distance at which an oil discharge from an SPCC-regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.5 Facilities That Have Experienced Reportable Oil Discharges in an Amount Greater Than or Equal to 10,000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons. A facility's oil spill history within the past 5 years shall be considered in the evaluation for substantial harm. Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the past 5 years must submit a response plan to EPA.

3.0 Certification for Facilities That Do Not Pose Substantial Harm

If the facility does not meet the substantial harm criteria listed in Attachment C–I to this appendix, the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C–II to this appendix. In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

4.0 References

Chow, V.T. 1959. Open Channel Hydraulics. McGraw Hill.

USCG IFR (58 FR 7353, February 5, 1993). This document is available through EPA's rulemaking docket as noted in Appendix E to this part, section 13.

ATTACHMENTS TO 40 CFR 112 APPENDIX C – SUBSTANTIAL HARM CRITERIA

ATTACHMENT C-II -- CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: _____ Facility Address: _____

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes ___ No ___

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes ___ No ___

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula ¹) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments" (see Appendix E to this part, section 13, for availability) and the applicable Area Contingency Plan.

Yes ___ No ___

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in Attachment C-III to this appendix or a comparable formula ¹) such that a discharge from the facility would shut down a public drinking water intake ²?

¹If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.

²For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

Yes ___ No ___

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes ___ No ___

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature _____
Name (please type or print) _____
Title _____
Date _____

Appendix C

State Regulations

Arizona Department of Environmental Quality

EMERGENCY SPILL REPORTING: RCRA HAZARDOUS WASTE

- A. Reportable Incidents:** All fires, explosions, sudden releases, and non-sudden releases that could threaten or have affected human health or the environment **outside** the facility. Applies to all large and small generators, and permitted facilities. Hazardous waste **transportation incidents** involving death, hospitalization, major damage, evacuation or main artery closures. See 40 CFR 265 Subpart D; 40 CFR 263.30; and A.A.C R18-8-262.
- B. Reportable Chemicals:** All hazardous wastes, including "characteristic" or "listed" (40 CFR 261 Subparts C & D). Includes "commercial chemical products" that become hazardous waste when discharged; see 40 CFR 262.33.
- C. Reportable Amounts:** No quantity or time thresholds - "any release ... which could threaten human health or the environment."
- D. When to Report:** "Immediately" for site based reports. "At the earliest practicable moment" for transportation incidents.
- E. Who to Report To:** Always call **911** or your local Fire Department/Emergency Service number when you need assistance. **You must call the National Response Center: 1-800/424-8802. You must call ADEQ: 602/207-2330** (also accessible through 1-800/234-5677 x2330). Calls by the Fire Dept. or ADEQ do not fulfill a facility's duty to file a verbal report to these numbers. You may leave a detailed message with all the information required by rule. You may request on-site emergency assistance from ADEQ by calling our 24 hour number at 602/207-2330 and your call will be referred to our on-call Duty Officer. Local Government Agencies should call the NRC within 24 hours of response if they are seeking federal reimbursement for response cost. See 40 CFR 310.50.
- F. Follow-Up Written Reports:** For off-site incidents as described above, and for any other onsite hazardous waste incident, **a written report is required within 15 calendar days**. Send your written report to ADEQ; Emergency Response Unit; 3033 North Central Avenue, Phoenix, AZ 85012. (See 40 CFR 265.56(j)). The facility must also notify ADEQ that it is ready to resume operations prior to resumption. This may be done using the ADEQ phone numbers above. (See 40 CFR 265.56(l)).
- G. Penalties for Not Reporting:** Arizona and federal law can subject you to a civil penalty not exceeding twenty-five thousand dollars for each day of violation; A.R.S. 49-924.
- H. Information Requirements:** See the attached form.
- I. For Further Assistance:** Please call the ADEQ Emergency Response Unit office at 602/207-4150 for any questions about how to make spill reports.

Arizona Department of Environmental Quality

EMERGENCY SPILL REPORTING: CERCLA HAZARDOUS SUBSTANCES

- A. Reportable Incidents:** Any release to the environment (air, water, land) from a facility, vessel, vehicle, rolling stock or aircraft exceeding reportable quantities in any 24 hour period. On-site or off-site releases. Exceptions for some metals with particle diameters over 100 micrometers. Includes provisions for notification of on-going or continuous releases, see 40 CFR 302.8.
- B. Reportable Chemicals:** Any hazardous substance listed in 40 CFR 302.4, and any unlisted characteristic hazardous waste.
- C. Reportable Amounts:** Any release equal to or exceeding a reportable quantity at 40 CFR 302.4, in any 24 hour period. For mixtures with all hazardous substance quantities identified: count only the portion contributed by the hazardous substance. For mixtures with one or more quantities of hazardous substances unknown: count the quantity of the entire mixture. Includes 100 lb RQ for ignitable, corrosive and reactive hazardous wastes. For TCLP hazardous wastes count entire mixture of waste and apply constituent RQ.
- D. When to Report:** As soon as you have knowledge of any such release.
- E. Who to Report To:** Always call **911** or your local Fire Department/Emergency Service number when you need assistance. **You must call the National Response Center: 1-800/424-8802. You must call ADEQ at 602/207-2330** (also accessible through 1-800/234-5677 x2330). **You must call the Local Emergency Planning Committee if the release is off-site; see attached list.** Calls by the Fire Dept. or ADEQ do not fulfill a facility's duty to file a verbal report to these numbers. You may leave a detailed message with all the information required by rule. You may request on-site emergency assistance from ADEQ by calling our 24 hour number at 602/207-2330 and your call will be referred to our on-call Duty Officer. Local Government Agencies should call the NRC within 24 hours of response if they are seeking federal reimbursement for response cost. See 40 CFR 310.50.
- F. Follow-Up Written Reports:** Written reports are required for "continuous releases" see 40 CFR 302.8. This includes provisions for initial written notification within 30 days of verbal reports, first anniversary follow-up, or a SARA Title III Section 313 report.
- G. Penalties for Not Reporting:** Arizona and federal law provide for penalties including up to ten thousand dollars under Arizona law A.R.S. 49-284.
- H. Information Requirements:** See attached form.
- I. For Further Assistance:** Please call the ADEQ Emergency Response Unit office at 602/207-4150 for any questions about how to make spill reports.

Arizona Department of Environmental Quality

EMERGENCY SPILL REPORTING: RCRA EXTREMELY HAZARDOUS SUBSTANCES

- A. Reportable Incidents:** Any release to the environment (air, water, land, and “the interrelationship between these and all living things”) **that exposes people off-site.** Excepts any release which results in exposure to persons solely within the boundaries of the facility. Excepts continuous releases under CERCLA, see 40 CFR 302.8. See 40 CFR 355.40.
- B. Reportable Chemicals:** All EPCRA "**Extremely Hazardous Substances,**" see 40 CFR Part 355, Appendix A; **and all CERCLA hazardous substances.**
- C. Reportable Amounts:** For any CERCLA substance the quantity established in 40 CFR 302.4; for other substances the reportable quantity is 1 pound. See 40 CFR Part 355, Appendix A.
- D. When to Report:** Immediately.
- E. Who to Report To:** Always call **911** or your local Fire Department/Emergency Service number when you need assistance. **You must call the Local Emergency Planning Committee (LEPC);** see the attached list. **You must call ADEQ at 602/207-2330** (also accessible through 1-800/234-5677 x2330). **You must call the NRC at 1-800/424-8802, if the release is a CERCLA substance.** Calls by the Fire Dept. or ADEQ do not fulfill a facility's duty to file a verbal report to these numbers. You may leave a detailed message with all the information required by rule. You may request on-site emergency assistance from ADEQ by calling our 24 hour number at 602/207-2330 and your call will be referred to our on-call Duty Officer. Transportation related releases may be reported by calling 911 or absent a 911 system, the telephone operator. Local Government Agencies should call the NRC within 24 hours of response if they are seeking federal reimbursement for response cost. See 40 CFR 310.50.
- F. Follow-Up Written Reports:** As soon as practicable after a release requiring immediate verbal notice you must provide a written follow-up notice (or notices, as more information becomes available) setting forth and updating the information provided initially. See 40 CFR 355.40(b)(3). This notice must be received within 30 days; see A.R.S. 26-348. The written notices must be sent to the affected LEPC's; and to the Arizona Emergency Response Commission at 5636 East McDowell Road, Building 103, Phoenix, Arizona 85008.
- G. Penalties for Not Reporting:** Federal law provides for civil penalties of up to twenty five thousand dollars per day of continuing violation, and seventy five thousand dollars for each day of second or subsequent violation. See 40 CFR 355.50(b).
- H. Information Requirements:** See attached form.
- I. For Further Assistance:** Please call the ADEQ Emergency Response Unit office at 602/207- 4150, or ADEMA at 602/231-6346 for any questions about how to make spill reports or how to contact affected LEPC's.

Arizona Department of Environmental Quality

EMERGENCY SPILL REPORTING: ARIZONA SOIL REMEDIATION RULES

- A. Reportable Incidents:** Emergency Soil Remediation. "Remediation" means either: (a) The treatment or removal of contaminated soils to meet predetermined risk levels or site specific risk levels; or (b) Soils that meet predetermined risk levels or site specific risk levels as determined by a risk assessment. See A.A.C. R18-7-209.
- B. Reportable Chemicals:** "Contaminants" regulated by any of the following ADEQ programs: Aquifer Protection Permit, Hazardous Waste Management, Solid Waste Management, Special Waste, Underground Storage Tanks, Water Quality Assurance Revolving Fund, and Any Other Program under Title 49 that regulates soil remediation. Includes the Greenfields, and Voluntary programs.
- C. Reportable Amounts:** No quantity thresholds; any soil remediation.
- D. When to Report:** A person conducting a soil remediation during an emergency who has notified the ADEQ in accordance with emergency notification requirements prescribed in the Arizona WQARF/Superfund law (A.R.S. 49-284) is not required to submit a Notice of Remediation. This call must be made as soon as the person has knowledge of a release. Otherwise, a person conducting soil remediation shall submit a Notice of Remediation **prior to beginning remediation.**
- E. Who to Report To: Call ADEQ at : 602/207-2330** (also accessible through 1-800/234-5677 x2330). Calls by the Fire Dept. or ADEQ do not fulfill a facility's duty to file a verbal report.
- F. Follow-Up Written Reports:** Any person who continues or initiates a soil remediation after the initial emergency response shall submit a written Notice of Remediation.
- G. Penalties for Not Reporting:** Any penalties would depend on the regulatory programs controlling the clean up. (See Reportable Chemicals paragraph, above).
- H. Information Requirements:** If you are calling as soon as you have knowledge of the release during an emergency, the information requirements are the same as for a CERCLA Hazardous Substance Release notification. If you must file a written Notice of Remediation it must include the following information: 1) The name and address of the real property owner; 2) the name and address of the remediating party; 3) A legal description and street address of the property; 4) A list of each contaminant to be remediated; 5) The background concentration or Soil Remediation Level (SRL) the clean up will address; 6) The current and post-remediation land use; 7) The rationale for selection of a residential vs. non-residential SRL; and 8) the proposed technologies for remediating the site.
- I. For Further Assistance:** Please call the ADEQ Emergency Response Unit office at 602/207- 4150 for any questions about how to make spill reports.

Arizona Department of Environmental Quality

EMERGENCY SPILL REPORTING: IMMEDIATE VERBAL REPORT

1. Reporter Name:
2. Reporter Telephone Number:
3. Transportation Carrier* or other entity represented by reporter:
4. Facility Name:
5. Facility Address:
- 6.¹ Location of incident:
7. Date of incident:
8. Time of incident:
- 9.² Duration of release:
10. Type of Incident:
- 11.¹ Nature of hazardous materials involvement:
- 12.² Media into which release occurred: air: [] water: [] land: []
- 13.¹ Continuing danger to life existing at scene:
14. Name of Material:
- 15.² Chemical name of material:
- 16.¹ US. DOT Classification:
17. Quantity; amount and units of measure:
- 18.² Material is a: CERCLA Haz Substance: [] EPCRA Extremely Haz Substance: [] RCRA Haz Waste: []
19. Extent of Injuries:
- 20.³ Possible Hazards to Human Health or the Environment outside the facility:
- 21.² Any known or anticipated acute or chronic health risks; and advice regarding medical attention necessary for exposed individuals:
- 22.² Proper precautions to take as a result of release, including evacuation:
- 23.⁴ Assessment of actual or potential hazards to human health or the environment:
- 24.⁴ Estimated Quantity and Disposition of recovered material resulting from incident:
- 5 Manner of disposition or any removed material; name and address of facility taken to; and attached manifest:
- 25.⁶ Actions taken to respond to and contain the release:
- 26.⁶ Known or anticipated acute or chronic health risks:
- 27.⁶ Advice regarding medical attention necessary for exposed individuals:

National Response Center: **1-800/424-8802**. ADEQ: **602/207-2330** or 1-800/234-5677 x2330

1 From U.S. DOT 49 CFR 171.15 verbal report.

2 From EPCRA 40 CFR 355.40(b) immediate verbal report.

3 From RCRA 40 CFR 265.56(d)(2) immediate verbal report.

4 US EPA RCRA 40 CFR 265.56(j) written report. Due within 15 days to ADEQ.

5 US DOT 171.16 written report. Due within 30 days of discovery to U.S. DOT; and ADEQ if material is a hazardous waste.

6 EPCRA written reports. Due as soon as practicable after release but not later than 30 days. Additional reports due as more information becomes available updating earlier reports. Send to ADEMA and LEPC.

Appendix D

Notice to Tank Truck Drivers

NOTICE TO TANK TRUCK DRIVERS

Tank Truck Drivers

To prevent the release of substances hazardous to the environment, tank truck drivers entering this facility are to comply with the following rules:

- Exercise caution when maneuvering to avoid damage to tanks or containment walls.
- Block truck wheels before starting to load/unload.
- Inspect tank, fitting, and liquid level indicator prior to filling. Note available capacity in tank prior to filling.
- Place drip pans under all pump hose fittings prior to loading/unloading.
- Remain with the vehicle while loading/unloading.
- Monitor tank liquid levels during loading/unloading to prevent overfilling.
- Drain loading/unloading line to storage tank.
- Verify that drain valves are closed before disconnecting loading/unloading lines.
- Inspect vehicle before departure to be sure loading/unloading lines have been disconnected and vent valves are closed.
- Immediately report leakage or spillage to the Facility Emergency and Spill Coordinator or other management personnel.

SPCC Coordinator
Allied Waste Transportation, Inc.
Lake Havasu Landfill Services

Appendix E

Emergency Personnel and Duties

Emergency Personnel and Duties

Responsibilities are assigned to individuals by name. Keep in mind, however, that responsibilities are designated primarily by position/title/descriptions. If individuals are not available due to vacations, trips, transfers, terminations, etc., the person filling the position automatically assumes responsibility. Also, keep in mind that this plan is flexible, and personnel must work together to minimize the effects of an emergency.

Management and supervisory persons must review this plan annually to ensure that they are familiar with it. There is no time to do so after the emergency occurs. Direct coordination between persons is encouraged to help eliminate problems.

Suggestions for improvement or modifications should be directed to the SPCC Coordinator for review and inclusion in the next revision. Managers and supervisors will assist the SPCC Coordinator in training his personnel as necessary, and training will be held at least annually.

Individuals are responsible for notifying the SPCC Coordinator of any changes in home or office telephone numbers and position so the call list can be updated regularly and accurately.

The SPCC Coordinator will direct and coordinate emergency plan activities, and will advise management and company officers as to the extent of the emergency and possible consequences. The SPCC Coordinator will be familiar with environmental control devices and hazard response firms/teams. This person also is responsible for coordination of first aid to injured persons and will probably be one of the first responders to the emergency. If the SPCC Coordinator is not based on site, the Assistant SPCC Coordinator shall be based on-site to serve as the first responder. The on site SPCC Coordinator (or Assistant if the SPCC Coordinator is off-site) is responsible for training of on site personnel. The SPCC Coordinator will be responsible for monthly site inspections of the overall site housekeeping. If these duties overlap with the Storm Water Pollution Prevention Plan, (SWPPP) these inspections may be recorded in the SWPPP documentation.

After the emergency is under control, this person will direct the salvage and restart operations and approve any information release to the news media as applicable. The SPCC Coordinator assures the establishment of liaison and communications as necessary with appropriate agencies, and allocates resources necessary to carry out the duties of this plan, etc. They also direct emergency maintenance, utility, and electrical work to prevent injury and minimize damage to property, product, and the environment. Maintenance personnel are responsible for the safe shutdown of the facility.

**PERSONNEL TRAINING RECORD
SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN
ALLIED WASTE TRANSPORTATION, INC.
LAKE HAVASU LANDFILL SERVICES**

Description of Training _____

Instructor _____

Date _____

EMPLOYEES' NAMES

Printed Name

Signature

Appendix F

Inspection Record and Incident Report Forms

**Aboveground Storage Tank
Monthly Inspection Record**

Inspection Date/ Inspector	Tank Name and/or No.	Location	Contents	Signs of leakage from valves, seals, and gaskets? (YES/NO)	Signs of Oil, Fuel, or Chemicals in Fueling Area or Containment? (YES/NO)	Condition of container supports and foundations	Comments
Describe leaks and/or spills: _____ Corrective action taken: _____ General housekeeping with respect to petroleum staining (Aspects of this may overlap with requirements of the Storm Water Pollution Prevention Plan (SWPPP) and may be recorded in the SWPPP: _____							

**INCIDENT REPORT FORM
ALLIED WASTE TRANSPORTATION, INC.
LAKE HAVASU LANDFILL SERVICES**

1. TIME PROBLEM DISCOVERED: _____ DATE: _____
2. TIME PROBLEM STOPPED: _____ DATE: _____
3. APPROXIMATE LOCATION AND TYPE OF ACCIDENT (E.G., FIRE, EXPLOSION, SPILL):

4. MATERIAL SPILLED: _____
5. APPROXIMATE AMOUNT: _____
6. SOURCE OF THE DISCHARGE: _____
7. AFFECTED MEDIA: _____
8. CAUSE OF THE DISCHARGE: _____
9. EXTENT OF INJURIES (IF ANY): _____

10. WHAT ARE POSSIBLE HAZARDS TO HUMAN HEALTH AND THE ENVIRONMENT? _____

11. ESTIMATED AMOUNT OF MATERIAL RECOVERED: _____
12. WHAT WAS DONE WITH RECOVERED MATERIAL? _____

13. ACTIONS TAKEN TO STOP, REMOVE, AND MITIGATE THE EFFECTS OF THE DISCHARGE:

14. WAS EVACUATION OF THE SITE NECESSARY? _____
15. NAME, ORGANIZATION, DATE, AND TIME CONTACTED CONCERNING THE INCIDENT:

**INCIDENT REPORT FORM
ALLIED WASTE TRANSPORTATION, INC.
LAKE HAVASU LANDFILL SERVICES
(CONTINUED)**

16. ACTIONS TAKEN TO CORRECT THE CAUSE AND PREVENT FURTHER PROBLEMS:

17. UNUSUAL EVENTS AND AGENCY INSPECTIONS RELATING TO THIS EVENT: _____

18. NAME OF INCIDENT REPORTER: _____

TITLE: _____

TELEPHONE NUMBER: (____) _____

FACILITY NAME AND ADDRESS OF INCIDENT REPORTER: _____

19. NAME OF FACILITY WHERE SPILL OCCURRED: _____

FACILITY TELEPHONE NUMBER: _____

ADDRESS OF FACILITY: _____

SIGNATURE (MANAGER) _____

DATE _____

Appendix G

Spill, Fire, and Safety Equipment

SPILL, FIRE, AND SAFETY EQUIPMENT

The following safety equipment is available in order to protect employees and provide containment of contaminants in the event of a spill:

- Spill control/containment materials:
 - Drum/Toter in maintenance building
 - Oil Dry (or equivalent)
 - Sorbent Socks
 - Shovels
 - Brooms
 - Drain Pans
 - All trucks are equipped with spill booms

- Fire extinguishers
 - ABC universal fire extinguishers are located throughout facility buildings.
 - All trucks are equipped with fire extinguishers.

Appendix H

Substantial Harm Criteria

**CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM
CRITERIA**

Facility Name: Lake Havasu Landfill Facility Address: 3251 E. Chenoweth Drive, Lake Havasu, Arizona 86403

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?

Yes _____ No X

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _____ No X

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes _____ No X

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No X

5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil discharge in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No X

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature _____
Name (please type or print) _____
Title _____
Date _____



LAKE HAVASU CITY

Community Investment Department

ATTACHMENT 5

DESIGN CAPACITY CALCULATIONS



December 21, 2016
Project No. 2016.A121

Fennemore Craig, P.C.
Mr. Phillip Fargotstein
2394 East Camelback Road, Suite 600
Phoenix, Arizona 85016

**IN PLACE AND FUTURE WASTE CAPACITY ANALYSIS, LAKE HAVASU CITY LANDFILL
LAKE HAVASU CITY, ARIZONA**

Dear Mr. Fargotstein:

GENERAL

This Memorandum was prepared for Republic Services, Inc. (RSI) by Geo-Logic Associates, Inc. (GLA). It documents the total (in place and future) waste capacity of the Lake Havasu Landfill (site). The work was performed based on conversations with RSI personnel, historical records, previous analyses, and a field site visit. The purpose of this memorandum and its supporting calculations is to compare the total waste capacity of the site to New Source Performance Standards (NSPS) found in 40 CFR 60 subpart WWW and Cc and determine if a landfill gas control system and Title V permitting is required at the site.

BACKGROUND

Site Background

The Lake Havasu Landfill is located in Lake Havasu City, Arizona. The site occupies 225 acres out of which 97 acres are permitted for landfilling. The site is bordered on the north by a step ridgeline of bedrock outcrops and on the south by a drainage channel that conveys stormwater runoff from an unnamed wash around the site. Waste placement began at the site in the early 1970s prior to the development of RCRA Subtitle D regulations; therefore the site is unlined. A Solid Waste Facility Permit (SWFP) was prepared by EMCON in 1997.

In 2002, while excavating for soil for daily and intermediate cover, the site discovered historical waste outside the permitted waste footprint from the SWFP. In late 2012, Weaver Boos Consultants prepared a design capacity calculation to determine the total (in place and future) waste capacity for the site. This capacity calculation included the historical waste that was discovered outside the original SWFP footprint. The results of this capacity calculation determined that the site capacity was below the NSPS threshold. As a follow up to this capacity

calculation, GLA prepared a Type III Permit Modification for the site. The primary intent of this document was to revise the landfill disposal footprint to include the previously discovered historical waste. The final fill grades were also revised in order to maintain the original site capacity, as described in the SWFP, while incorporating the previously discovered historical waste. The Weaver Boos capacity calculation is included as Attachments A.

Waste Capacity Analysis

In order to determine the total waste capacity of the site, GLA utilized Autocad to create base and comparison surfaces. For the base surface, GLA utilized the base surface used in the Weaver Boos capacity calculation. In short, this base surface was created by grading the existing landfill footprint down to an assumed elevation 8-feet below the pre-landfill development topography. The surface was then supplemented with the proposed footprint area from the SWFP. For the comparison surface, GLA utilized the final fill grades (top of waste) from the Type III Permit Modification. Once these surfaces were completed, a digital subtraction was performed to calculate the total capacity of the site within the currently permitted waste footprint. The total site capacity was calculated to be 6,922,708 cy.

In order to convert the total site capacity from units of volume (cubic yards) to units of weight (tons), a density factor was assumed. This density factor was determined using a multi step process. The first step was to use the same density in the Weaver Boos capacity calculation, 1,282 lb/cy. The next step was to determine the average operational density from 2013 to present. RSI's annual aerial budget models were utilized for this and the resulting density was 1,332 lb/cy. The average of these two values was then used as the density factor.

Because the average operational density from budget years 2014-2017 included waste fill mixed with daily and intermediate soil fill, the density of the daily and intermediate soil fill had to be accounted for separately. This was accomplished by using the waste/soil ratio outlined in the SWFP and geotechnical properties of the soil used for daily and intermediate cover.

Once the waste density factor was determined, it was applied to the total site capacity calculated previously. The result was then converted to tons and, subsequently, Megagrams (Mg).

Results and Conclusions

The results of the analysis are included in Attachment B. The results of the analysis yield a total waste capacity of 2,424,125 Mg which is slightly below the 2,500,000 Mg NSPS threshold.

CLOSURE

This report is based on the data and analyses described herein. GLA should be notified of any conditions that differ from those described herein since this may require a reevaluation of the data, conclusions and recommendations presented. This report has been prepared in accordance with generally accepted engineering practices, and makes no other warranties, either expressed or implied, as to the professional data presented in it.

This report has not been prepared for use by other parties and projects other than those named or described above. It may not contain sufficient information for other parties or other purposes.

Sincerely,



Caleb Miller, PE
Project Engineer



Douglas Junk
Regional Manager Solid Waste Services

ATTACHMENTS:

Attachment A: Weaver Boos Design Capacity Calculation

Attachment B: Lake Havasu Landfill Capacity Calculations

ATTACHMENT A

WEAVER BOOS DESIGN CAPACITY CALCULATION

M E M O R A N D U M

TO: Doug Sawyer
Allied Waste Transportation, Inc.

DATE: December 10, 2012

FROM: Matt Stutz, P.E.
Weaver Boos Consultants, LLC

PROJECT: 0120-676-52-00-01

RE: Design Capacity Calculation
Lake Havasu City Landfill

Per your request, we are pleased to present this Design Capacity Report for the Lake Havasu City Landfill. In accordance with New Source Performance Standards (NSPS) within 40 CFR 60 subpart WWW and Cc, we have attached a Design Capacity Form (Attachment 1). As noted in the Design Capacity Form, we have calculated that the total combined design capacity for the Lake Havasu City Landfill to be 2,275,190 Mg which is below the 2.5 million Mg NSPS threshold which would require landfill gas control and Title V permitting.

Design Capacity Calculation Summary

In order to determine the currently permitted volume of the landfill, bottom and top of waste surface were created. Once the volume of waste was calculated, a site specific waste density was applied to convert the volume to mass (Attachment 2).

To prepare the surfaces, the limits of the existing and the proposed waste footprints as shown in the Solid Waste Facility Plan dated September 12, 1997 (SWFP) were placed on the 1970 and 1997 topographic (topo) maps.

As stated on page 2-1 in the SWFP, waste placement in this area began in 1971 with minimal excavation down to about 8-feet. Therefore, the bottom of waste surface in the existing waste fill area was develop by grading the existing footprint down to an elevation 8-foot below the pre-development contours (1970 USGS topo). For the proposed footprint area in the SWFP, the bottom surface was developed using the 1997 topo and Drawing 3 - Excavation Plan from the SWFP. In the areas where the 1997 topo did not match with the 1970 topo used in the original/existing fill area, the two topos were graded at a 3:1 slope to account for the differences in elevations.

The top of waste surface was developed from the contours shown in Drawing 4 - Final Grading Plan of the SWFP and removing the 4-foot thick soil final cover system.

Using AutoCAD, the volume between these two surfaces was calculated using the composite method. This volume was then converted to mass by using the average unit weight of waste and intermediate cover soils which was calculated based on the anticipated average waste column thickness. The unit weight was then adjusted to remove the soil component to determine an approximate in-place density of the waste only. Based on the Solid Waste Facility Plan dated September 12, 1997 (SWFP), a waste to soil ratio of 4:1 was used (page 2-6) to account for the cover soils. The solid waste capacity for this area was calculated to be 2,254,249 Mg.

Additional Waste

In addition to this capacity, Geo-Logic Associates prepared a report dated November 11, 2012 which described some additional waste fill areas outside the 1997 SWFP footprint (Attachment 3). Based on their calculations, the additional waste fill areas were just over 2 acres with a volume of 61,784 cubic yards. Given this relatively small area, the same unit weight and the same waste to soil ratio was used to convert from volume to mass. The waste mass of this additional area was calculated to be 20,941 Mg.

If you have any questions or comments concerning this document, please feel free to call.

Attachments: Attachment 1 – Design Capacity Form
Attachment 2 – Design Capacity Calculation Summary
Attachment 3 – Additional Waste Calculation References

ATTACHMENT 1
DESIGN CAPACITY FORM

DESIGN CAPACITY REPORT FORM

This form fulfills the requirements of the Initial Design Capacity Report for the municipal solid waste landfills new source performance standards and emission guidelines promulgated on March 12, 1996 (61 FR 9905) 40 CFR 60, subparts WWW and Cc. All new landfills subject to the regulations must submit this report. For new landfills, this report also fulfills the requirements of the notification of the date construction is commenced as required under 40 CFR 60.7(a)(1).

I. IDENTIFYING INFORMATION

1. Name of person completing form Matt Stutz
Telephone number 817-735-9770
2. Person's position Principal - Consultant
3. Name of landfill Lake Havasu City Landfill
4. Address of landfill 3251 E Chenoweth Drive, Lake Havasu City, AZ 86404
5. Name of landfill owner Lake Havasu City
6. Address of landfill owner 2330 McCulloch Blvd. N, Lake Havasu City, AZ 86403
7. Name of landfill operator Allied Waste Transpiration, Inc.
8. Address of landfill operator 2011 College Drive, Lake Havasu City, AZ 86403
9. Is landfill new or existing?
 new (began construction, reconstruction, or modification on or after May 30, 1991)
 existing (began construction, reconstruction, or modification before May 30, 1991; and has accepted waste after November 8, 1987 or has additional capacity available for future waste deposition)

II. DATES

10. Date construction or operating permit was issued July 7, 1998 (Approval of Solid Waste Facility Plan); September 28, 1998 (Approval of Aquifer Protection Permit)
11. Date landfill began construction, modification, or reconstruction 1971
12. Date landfill first accepted waste 1971
13. Date this form is submitted December 7, 2012

III. DESIGN CAPACITY INFORMATION

14. Maximum design capacity of landfill in Mg or m³ 2,275,190 Mg

(To calculate Mg, multiply tons by 0.907. To calculate m³, multiply yd³ by 0.7646)

- A. If the landfill has a State, county or tribal agency construction or RCRA permit stating the maximum design capacity, attach a copy of the permit to this form. If there is any waste in place not accounted for in the most recent permit, include this amount in the design capacity and attach documentation.
 - B. If maximum design capacity is NOT specified in a permit, attach design capacity calculations, and provide documentation of the relevant parameters used to calculate design capacity (for example, landfill horizontal dimensions, depth of landfill, waste acceptance rates and/or other parameters that might be used to calculate design capacity).
15. If design capacity is converted from mass to volume or from volume to mass, attach the calculation, including the site-specific density.
16. Attach a map or plot map of the landfill to this form. The map should provide the size and location of the landfill. Include an identification of all areas where refuse may be landfilled according to the permit issued by the State, local, or tribal agency responsible for regulating the landfill.

IV. SIGNATURE

17. Signature of person completing form:

A handwritten signature in black ink, appearing to be "M. J. [unclear]", written over a horizontal line.

18. Date of signature: 12/7/12

ATTACHMENT 2
DESIGN CAPACITY CALCULATION SUMMARY

LAKE HAVASU CITY LANDFILL
DESIGN CAPACITY CALCULATIONS
0120-676-52-00-01

Required: Convert the cubic yard design capacity to Mg using the average waste column thickness to determine the overall waste density.

Solution: Determine total mass of waste in Mg:

$$\begin{aligned} \text{Total airspace}^1 &= 6,650,762 \text{ cy} \\ \text{Percent daily cover}^2 &= 20 \% \\ \text{In-place density of waste/cover soils}^3 &= 1,282 \text{ lb/cy} \end{aligned}$$

¹ Refer to attached Figure 1 for development of total airspace calculation.

² Refer to Section 2.5.8 of the site's Solid Waste Facility Plan.

³ Refer to Page Att2-3 for additional information regarding the average in-place density of waste.

Estimate the total airspace (Mg). To convert the volumetric capacity of the site to a weight based capacity, the average in-place density of the waste/daily cover must first be established. For this calculation, the relevant density is the average density of the waste/cover soils after the waste/cover soils have been subjected to overburden pressure of the completely developed landfill (as opposed to the annual density that is calculated based on the capacity consumed in any given year). The procedure used to calculate the density at the midpoint of the landfill is listed on Page Att2-3 and is based on a number of in-place density studies (refer to Reference 1 listed on Page Att2-3). The estimated in-place density of solid waste/daily cover soils is then further translated into an estimate of the density of the solid waste portion of the landfill capacity, using the following calculation.

Estimate the total airspace (Mg).

Estimate density of waste only.

$$(\gamma_{\text{soil}})(20\% \text{ of } 6,650,762 \text{ cy}) + (\gamma_{\text{waste}})(80\% \text{ of } 6,650,762 \text{ cy}) = (\gamma_{\text{soil/waste}})(6,650,762 \text{ cy})$$

$$(2,673 \text{ lb/cy})(1,330,152 \text{ cy}) + (\gamma_{\text{waste}})(5,320,610 \text{ cy}) = (1,282 \text{ lb/cy})(6,650,762 \text{ cy})$$

$$\gamma_{\text{waste}} = 934 \text{ lb/cy}$$

$$\text{Total waste capacity} = (80\% \text{ of } 6,650,762 \text{ cy}) * (934 \text{ lb/cy} * 1/2000 \text{ tons/lb})$$

Total waste capacity = 2,485,390 tons
--

0.907 = Conversion factor, Mg/tons

Total waste capacity = 2,254,249 Mg
--

LAKE HAVASU CITY LANDFILL
ADDITIONAL DESIGN CAPACITY CALCULATIONS
0120-676-52-00-01

Required: Convert the cubic yard design capacity to Mg using the average waste column thickness to determine the overall waste density.

Solution: Determine additional mass of waste in Mg:

$$\begin{aligned} \text{Additional airspace}^1 &= 61,784 \text{ cy} \\ \text{Percent daily cover}^2 &= 20 \% \\ \text{In-place density of waste/cover soils}^3 &= 1,282 \text{ lb/cy} \end{aligned}$$

¹ Provided by Geo-Logic Associates.

² Refer to Section 2.5.8 of the site's Solid Waste Facility Plan.

³ Refer to Page Att2-3 for additional information regarding the average in-place density of waste.

Estimate the additional airspace (Mg). To convert the volumetric capacity of the site to a weight based capacity, the average in-place density of the waste/daily cover must first be established. For this calculation, the relevant density is the average density of the waste/cover soils after the waste/cover soils have been subjected to overburden pressure of the completely developed landfill (as opposed to the annual density that is calculated based on the capacity consumed in any given year). The procedure used to calculate the density at the midpoint of the landfill is listed on Page Att2-3 and is based on a number of in-place density studies (refer to Reference 1 listed on Page Att2-3). The estimated in-place density of solid waste/daily cover soils is then further translated into an estimate of the density of the solid waste portion of the landfill capacity, using the following calculation.

Estimate the additional airspace (Mg).

Estimate density of waste only.

$$(\gamma_{\text{soil}})(20\% \text{ of } 61,784 \text{ cy}) + (\gamma_{\text{waste}})(80\% \text{ of } 61,784 \text{ cy}) = (\gamma_{\text{soil/waste}})(61,784 \text{ cy})$$

$$(2,673 \text{ lb/cy})(12,357 \text{ cy}) + (\gamma_{\text{waste}})(49,427 \text{ cy}) = (1,282 \text{ lb/cy})(61,784 \text{ cy})$$

$$\gamma_{\text{waste}} = 934 \text{ lb/cy}$$

$$\text{Additional waste capacity} = (80\% \text{ of } 61,784 \text{ cy}) * (934 \text{ lb/cy} * 1/2000 \text{ tons/lb})$$

Additional waste capacity	=	23,089 tons
	0.907 = Conversion factor, Mg/tons	
Additional waste capacity	=	20,941 Mg

Total Combined Capacity	=	2,275,190 Mg
--------------------------------	----------	---------------------

LAKE HAVASU CITY LANDFILL
AVERAGE DENSITY DETERMINATION TO SUPPORT DESIGN CAPACITY CALCULATIONS
0120-676-52-00-01

Required: Determine average density for the landfill between the approximate bottom of waste contours and the final cover system.

Method:

1. Determine average thickness of waste throughout the landfill profile.
2. Determine the average density of the fill between the proposed/permitted bottom of waste contours and the bottom of final cover.
3. Determine the total capacity of the site.

References:

1. Acar, Yalcin B. & Daniel, David E., *Geoenvironment 2000 Characterization, Containment, Remediation, and Performance in Environmental Geotechnics*, Volume 2, American Society of Civil Engineers, 1995.

List of Symbols

D_{avg} = Average Density, lb/yd³

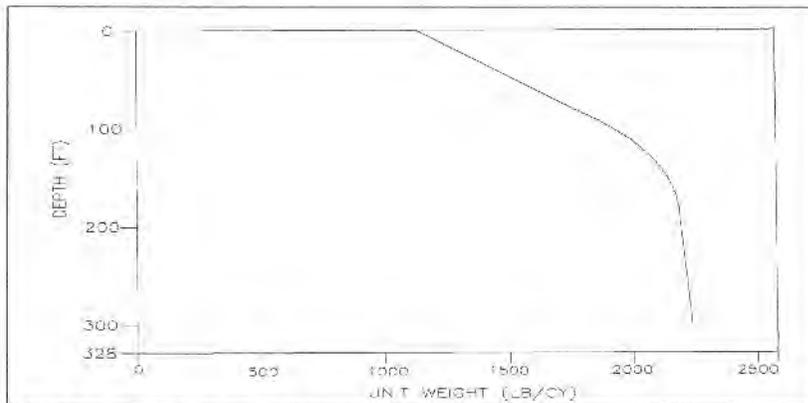
Procedure:

1. Determine average thickness of waste throughout the landfill profile.

Using the Figure 1, it was determined that the average thickness of waste over the entire site is 40 feet.

2. Determine the average density of the fill using the Unit Weight Profile for MSW graph shown below. The density estimate is obtained using the average 40-foot depth.

UNIT WEIGHT PROFILE FOR WASTE/DAILY COVER WITHIN A MSW LANDFILL.¹



¹ Graph derived from Reference 1

Average Depth = 40 feet

The average density is calculated at the midpoint of the average depth (20 feet) to represent the average density of waste/cover soil within the landfill.

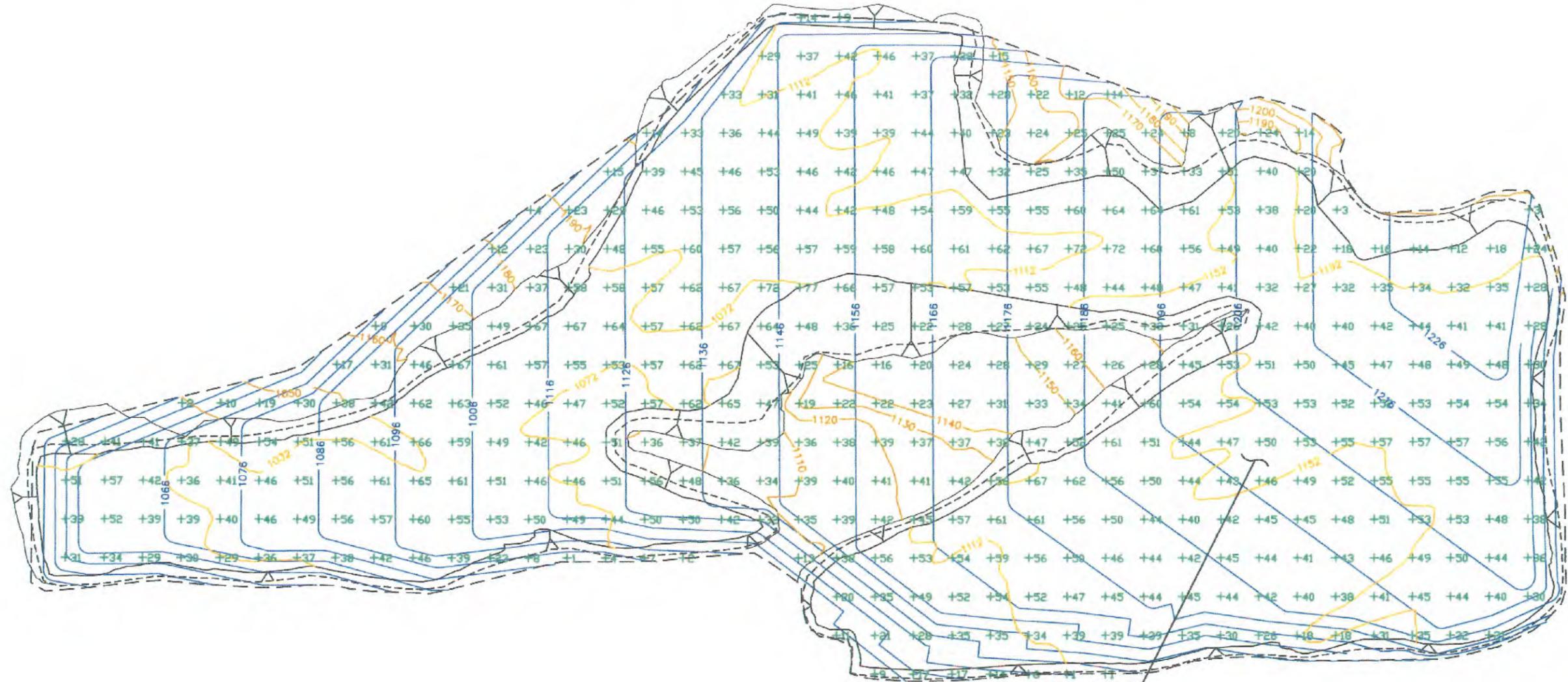
$D_{avg} = 1,282 \text{ lb/yd}^3$

3. Determine the total capacity of the site.

Using AutoCAD, a bottom of waste surface and a bottom of final cover (top of refuse) surface are developed for the landfill. The bottom of waste and bottom of final cover surfaces are then compared in AutoCAD using the composite volume calculation method to develop the volume capacity of the landfill. Refer to Figure 1 for more information.

Total Landfill Capacity = 6,650,762 cy

O:\120120\676\LANDFILL DESIGN CAPACITY\FIGURE 1.dwg, 12/7/2012 8:26:57 AM, rswellers, 1:2



THE TOTAL CAPACITY OF THE LANDFILL IS APPROXIMATELY 6,650,762 CY. THE ESTIMATED AVERAGE DEPTH IS 40 FT. THE MIDPOINT OF THE LANDFILL IS 20 FT (40 FT/2).



LEGEND

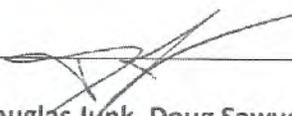
-----	ORIGINAL LIMIT OF WASTE (SEE NOTE 1)
- . - . - .	EXPANSION LIMIT OF WASTE (SEE NOTE 1)
-----	1997 CONTOUR (SEE NOTE 3)
— 1226 —	TOP OF WASTE CONTOUR (SEE NOTE 4)
— 1152 —	ORIGINAL FOOTPRINT BOTTOM OF WASTE CONTOUR (SEE NOTE 2)
— 1170 —	EXPANSION BOTTOM OF WASTE CONTOUR (SEE NOTE 1)
+50	DEPTH OF WASTE COLUMN

- NOTES:**
1. ORIGINAL LIMIT OF WASTE, EXPANSION LIMIT OF WASTE, AND EXPANSION BOTTOM OF WASTE CONTOURS REPRODUCED FROM DRAWING NO. 3 - EXCAVATION PLAN IN THE SEPTEMBER 12, 1997 SOLID WASTE FACILITY PLAN.
 2. WEAVER BOOS CONSULTANTS, LLC DEVELOPED THE ORIGINAL FOOTPRINT BOTTOM OF WASTE CONTOURS BY GRADING THE ORIGINAL LIMIT OF WASTE TO AN ELEVATION 8 FOOT BELOW THE EXISTING 1970 CONTOURS (ADAPTED FROM USGS 7.5 MINUTE QUADRANGLE MAP OF LAKE HAVASU CITY NORTH, ARIZONA (1970) AS INDICATED IN THE SOLID WASTE FACILITY PLAN DATED SEPTEMBER 12, 1997 AS THE ASSUMED BOTTOM OF WASTE.
 3. 1997 CONTOURS PROVIDED BY COOPER AERIAL SURVEYS, CO. FROM AERIAL PHOTOGRAPHY FLOWN JUNE 9, 1997.
 4. TOP OF WASTE CONTOURS DEVELOPED BY WEAVER BOOS CONSULTANTS, LLC FROM DRAWING NO. 4 - FINAL GRADING PLAN IN THE SEPTEMBER 12, 1997 SOLID WASTE FACILITY PLAN BASED ON A 4-FOOT THICK FINAL COVER SYSTEM.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR INFORMATIONAL PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION <input type="checkbox"/> CLIENT APPROVAL BY:	PREPARED FOR FENNEMORE CRAIG, P.C.	LANDFILL DESIGN CAPACITY SITE PLAN												
	LAKE HAVASU CITY LANDFILL LAKE HAVASU CITY, ARIZONA													
DATE: 12/2012 FILE: 0120-676-52 CAD: 1-SITE PLAN.DWG	DRAWN BY: VRS DESIGN BY: RDE REVIEWED BY: MKS	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION						
REVISIONS														
NO.	DATE	DESCRIPTION												
REUSE OF DOCUMENTS <small>THIS DOCUMENT, AND THE DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF WEAVER BOOS CONSULTANTS, LLC AND IS NOT TO BE USED IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF WEAVER BOOS CONSULTANTS, LLC.</small>														
<small>CHICAGO, IL NAPERVILLE, IL COLUMBIAS, OH DENVER, CO</small>		<small>FORT WORTH, TX GRAND RAPIDS, MI SOUTH BEND, IN SPRINGFIELD, IL CLEARWATER, FL</small>												
Weaver Boos Consultants		FIGURE 1												

ATTACHMENT 3
ADDITIONAL WASTE CALCULATION REFERENCES

Memorandum


Attention Douglas Junk, Doug Sawyer
From Jesus Torres
Subject Lake Havasu City Landfill Historical Waste Investigation
Date Friday, November 11, 2012

Geo-Logic Associates (GLA) was contracted by Republics Services, Inc (Republic) to prepare a Type III permit modification to the Solid Waste Facility Plan (SWFP) for Lake Havasu City Landfill (LHCL) which includes modifying the presumed limits of waste placement. This memorandum provides supporting information and drawings documenting the recently discovered historical waste outside the assumed current footprint. The historical waste was discovered during excavations for site improvements including stormwater management channels and retention ponds.

The limit of waste investigation was based on a series of topographic comparisons to evaluate historic, site conditions. This task consisted of utilizing computer-generated digital terrain modelling (DTM) to compare topographic surveys, and calculate volume differences between each surface.

The two surfaces generated as the basis for investigation included the 1957 topography created from Historic Stereoscope photographs (Drawing 1), and the 1997 aerial topography from the SWFP (Drawing 2). After these surfaces were generated, volume estimates were made between the 1957 surface and the 1997 surface (Drawing 3).

Drawing 3 shows the areas of the historical disposal overlayed on the 1957 topography. The historical waste encompasses approximately 2.675 acres in two different locations to the northwest of the existing scale house. Area 1 is approximately 2.0 acres and Area 2 is approximately 0.675 acres. Drawing 3 also includes isopach contours which show the cut and fill depths between the 1957 and 1997 surfaces. Results of the volume calculations are summarized in Table 1 shown below and are also listed on the drawings.

TABLE 1
1957 SURFACE VS. 1997 SURFACE - VOLUME CALCULATION RESULTS

CALCULATION	FILL (CY)	CUT (CY)	DESCRIPTION
Area 1 (2.0 acres)	50,013	0	Soil/Waste Fill
Area 2 (0.675 acres)	11,771	0	Soil/Waste Fill
Combined Total (2.675 acres. Drawing. 3)	61,784	0	Soil/Waste Fill

LOCATION: CA HERRICK HERRICK'S BENTONITE CO. 000107253 Lake Havasu 2012.11.01 Lake Havasu, Yuma CO, USA. DATE: 11/16/2012 3:02 PM. FOOT SCALE = 1" = 100'. PLOTTED BY: JESSIE JOHNS



LEGEND

	1957 10 FT CONTOUR
	1957 5 FT CONTOUR
	EXISTING ROAD
	EXISTING UNPAVED ROAD
	EXISTING FENCE
	EXISTING BRUSHLINE
	EXISTING DRAINAGE
	CONSTRUCTION LIMIT

NOTES:
 1. TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS BY COOPER AERIAL, INC FROM USGS TOPOGRAPHY DATED 1957

REV. NO.	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY

DATE OF ISSUE: _____
 DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 APPROVED BY: _____

Geo-Logic
 ASSOCIATES

REPUBLIC
 SERVICES

LAKE HAVASU LANDFILL
 TYPE III MODIFICATION
 MOHAVE COUNTY, ARIZONA
 1957 TOPOGRAPHY

DRAWING NO.
 1
 PROJECT NO.
 2012.A101

This drawing has not been published but rather has been prepared by Ausenco Vector (Vector Engineering, Inc.) for use by the client named in the title block, solely in respect of the construction operation and maintenance of the facility named in the title block. Ausenco Vector shall not be liable for the use of this drawing on any other facility or for any other purpose.

LOCATION: C:\Users\james\Documents\PROJECTS\Lake Havasu\Site\101 Lake Havasu - Type III\Cap Workline\Drawings\Draw - Date: 11/16/2012 3:02 PM - PLOT SCALE = 1" = 100'



LEGEND

100	1957 10 FT CONTOUR
1957	1957 FT CONTOUR
0	ZERO CUT OR FILL ISOPACH CONTOUR
0	0 FT ISOPACH FILL CONTOUR
2	2 FT ISOPACH FILL CONTOUR
10	10 FT ISOPACH CUT CONTOUR
10	2 FT ISOPACH CUT CONTOUR
---	CONSTRUCTION LIMIT
---	LANDFILL FOOTPRINT
---	HISTORIC WASTE FILL OUTSIDE FOOTPRINT

QUANTITIES

VOLUME OF HISTORIC WASTE:
 WASTE FILL AREA 1 = 50,015 CY
 WASTE FILL AREA 2 = 11,771 CY
 TOTAL WASTE FILL VOLUME = 61,786 CY

AREA 1 = 2.0 ACRES
 AREA 2 = 0.675 ACRES
 TOTAL AREA = 2.675 ACRES

NOTES

- TOPOGRAPHY COMPILED BY PHOTOGRAMMETRIC METHODS BY COOPER AERIAL, INC FROM USGS TOPOGRAPHY DATED 1957
- ISOPACH CREATED BY COMPARING 1957 TOPOGRAPHY TO THE 1997 TOPOGRAPHY

REV. NO.	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY

DATE OF ISSUE: _____
 DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 APPROVED BY: _____



LAKE HAVASU LANDFILL
 TYPE III MODIFICATION
 MOHAVE COUNTY, ARIZONA
 1957 vs 1997 ISOPACH

DRAWING NO.
 3
 PROJECT NO.
 2012.A101

This drawing has not been published but rather has been prepared by Ausenco Vector (Vector Engineering, Inc.) for use by the client named in the title block, solely in respect of the construction operation, and maintenance of the facility named in the title block. Ausenco Vector shall not be liable for the use of this drawing on any other facility or for any other purpose.

ATTACHMENT B

LAKE HAVASU LANDFILL CAPACITY CALCULATIONS

Lake Havasu Landfill Capacity Calculations

Step 1: Determine total site capacity utilizing digital subtraction method (i.e. Autocad).
 base surface: from Weaver Boos design capacity calculation
 comparison surface: final top of waste grades from 2013 Type III Permit Modification
 combined with 2016 topography within the current waste footprint

Total Volume: **6,922,709** cy

note 1: after performing the digital subtraction of the two surfaces, the waste volume was confined to the waste footprint from the Type III Permit Modification

note 2: volume includes waste fill and soil fill used for daily and intermediate cover.

Step 2: Determine operational density.

From Weaver Boos design capacity report, waste/soil density through 2012: 1,282 lb/cy

Estimate density from 2013 to present from RSI aerial budget models

Budget Year	Operational Density (lb/cy)
2014	1,379
2015	1,392
2016	1,370
2017	1,185

Average Operational Density: **1,307** lb/cy

note 1: average of Weaver Boos density and average operational density from 2013 to present

note 2: density includes waste fill and soil used for daily and intermediate cover.

Step 3: Separate waste fill and soil fill.

From SWFP, a 4:1 waste to soil ratio is used at the site.

From Weaver Boos design capacity calculation, 2,673 lb/cy is used for the soil density

$$(\text{Density}_{\text{soil/waste}}) * (\text{total vol}) = (\text{Density}_{\text{soil}}) * (20\% \text{ of total vol}) + (\text{Density}_{\text{waste}}) * (80\% \text{ of total vol})$$

$$\text{Total waste capacity} = (80\% \text{ of total volume}) * (\text{Density}_{\text{waste}}) * (1 \text{ ton}/2000 \text{ lb})$$

Density _{soil}	2,673 lb/cy
Total volume	6,922,709 cy
Density _{soil/waste}	1,307 lb/cy
Density _{waste}	965 lb/cy

Total waste capacity: 2,672,685 tons

Total waste capacity: **2,424,125** Mg



LAKE HAVASU CITY

Community Investment Department

ATTACHMENT 6

FINANCIAL ASSURANCE INFORMATION



April 6, 2018
Project No. AU18.1054

Mr. Will Puntenney
Republic Services, Inc.
4811 Lower Buckeye Rd.
Phoenix, AZ 85043

2017 CERTIFICATION OF CLOSURE AND POST-CLOSURE COST ESTIMATE FOR THE LAKE HAVASU CITY LANDFILL, LAKE HAVASU, ARIZONA

At your request, Geo-Logic Associates (GLA) has updated the Closure and Post-Closure Cost Estimate for the Lake Havasu City Landfill near Lake Havasu, Arizona. This letter is provided to certify that the attached estimates (Table 1, Table 2, and Summary) were prepared in accordance with generally accepted civil engineering and waste management practices and in accordance with the requirements of 40 CFR 258.60, Subpart F. It should be noted that no corrective action is anticipated for the site and therefore, no costs for corrective action are provided in the estimates. The size of closure area remained at 79.0 acres in 2017. The 2017 Closure and Post-Closure Costs were derived after reviewing the previous 2016 costs and adjusting the 2016 total costs based on the latest annual inflation factor of 1.799%.

We hope this provides you with the information you requested. If you have any questions regarding the cost estimate, please contact me at your earliest convenience at (480) 634-6150.

Sincerely,

Geo-Logic Associates

Douglas Junk,
Regional Manager Solid Waste Services



Expires 9-30-19

Caleb Miller, P.E.
Project Engineer

Attachments: Closure/Post-Closure Care Cost Estimate Summary
Table 1 – Final Capping Cost Estimate
Table 2 – Post-Closure Cost Estimate

**LAKE HAVASU CITY LANDFILL
CLOSURE/POST-CLOSURE CARE COST ESTIMATE SUMMARY**

SIZE OF CLOSURE AREA:	79.0 ACRES	YEAR: 2017
TOTAL CLOSURE COSTS:	\$	1,681,762
TOTAL POST-CLOSURE COSTS:	\$	816,470
TOTAL CORRECTIVE ACTION COSTS:	\$	-
TOTAL COST ESTIMATES:	\$	2,498,233

NOTES:

- 1 - Cost estimates are reported in 2017 third-party dollars.
- 2 - Corrective actions are not occurring, nor anticipated, on-site.

**TABLE 1
LAKE HAVASU CITY LANDFILL
FINAL CAPPING COST ESTIMATE**

SIZE OF CLOSURE AREA: 79.0 ACRES

CLOSURE COSTS	UNIT			TOTAL
	MEASURE	COST ⁽¹⁾	QUANTITY	
Grading of Waste/Surface Preparation	Acre	\$ 302	79.0	\$ 23,867
Contractor Mobilization/Demobilization	Lump Sum	\$ 30,256	1	\$ 30,256
Surveying	Acre	\$ 3,896	1.0	\$ 3,896
Supply & Placement of Cover Soil ⁽²⁾⁽³⁾				
Final Cover Borrow Source Identification (Testing and Labor)	Lump Sum	\$ 12,103	1	\$ 12,103
Final Cover Soil Placement (3.0 ft.)	Cubic Yard	\$ 3.02	382,360	\$ 1,155,180
Subtotal				\$ 1,167,283
Supply & Placement of Soil Conditioners				
Fertilizer/Conditioner	Acre	\$ 612	79.0	\$ 48,311
Subtotal				\$ 48,311
Supply & Application of Seed				
Seed Purchase	Acre	\$ 454	79.0	\$ 35,883
Seed Application	Acre	\$ 454	79.0	\$ 35,883
Subtotal				\$ 71,767
Earthwork for Stormwater Management				
Drainage Improvements	Acre	\$ 1,176	79.0	\$ 92,918
QA/QC Report	Lump Sum		1	\$ -
Subtotal				\$ 92,918
Other (List)				
Gas System	Acre		79.0	\$ -
Project Management (Construction Oversight and QC/QA Testing during Installation)	Lump Sum	\$ 63,558	1.0	\$ 63,558
Subtotal				\$ 63,558
TOTAL				\$ 1,501,856

Inflation Index 2017 1.01799 \$ 1,528,875

Contingency 10% \$ 1,681,762

NOTES:

- 1 - Unit costs are reported in 2017 third-party dollars, based on 2016 dollars adjusted by a 1.799% inflation factor.
- 2 - Based on alternative cover consisting of a 3.0-foot monolithic cap.
- 3 - Assumes foundation layer placed as part of daily/intermediate cover.

**TABLE 2
LAKE HAVASU CITY LANDFILL
POST-CLOSURE COST ESTIMATE**

LENGTH OF CLOSURE ACTIVITIES: 30 YEARS

POST-CLOSURE COSTS					COST /YEAR	30-YEAR TOTAL
MAINTENANCE COSTS						
Security, fencing, gates, signs, access, etc.					\$ 1,223	\$ 36,692
Erosion repair, settlement repair, revegetation ⁽¹⁾					\$ 6,052	\$ 181,552
Surface water control maintenance ⁽¹⁾ (run-on/run-off)					\$ 3,025	\$ 90,761
Monitoring system maintenance, repair, replacement					\$ 918	\$ 27,535
Leachate collection system, repair, replacement						\$ -
Gas control system maintenance, repair, replacement						\$ -
Project Management					\$ 7,690	\$ 230,711
Subtotal						\$ 567,251
MONITORING COSTS (2)		# OF WELLS/PTS.	# OF SAMPLES	FREQ/ YR	COST/ SAMPLE	
Surface Water						
3rd Party/Sample Collection		1	-	1	\$ 305	\$ 305
Lab Analysis		1	2	1	\$ 98	\$ 197
Subtotal						\$ 502 \$ 15,064
Landfill Gas						
3rd Party/Sample Collection ⁽²⁾		-	-	4	\$ 1,223	\$ 4,894
Subtotal						\$ 4,894 \$ 146,814
Groundwater (3)						
3rd Party/Sample Collection		-	-	-	\$ -	\$ -
Lab Analysis		-	-	-	\$ -	\$ -
Subtotal						\$ - \$ -
Total						\$ 729,129

Inflation Index 2017 1.01799 \$ 742,246

Contingency 10% \$ 816,470

NOTES:

- 1 - Unit costs are reported in 2017 third-party dollars, based on 2016 dollars adjusted by a 1.799% inflation factor.
- 2 - Estimate reflects 3rd party/sample collection includes costs for leachate sampling, landfill gas monitoring, and facility inspection conducted together, when appropriate.
- 3 - There are no groundwater monitoring requirements for the site.