



2018

SOLID WASTE MANAGEMENT PLAN



Solid Waste Management Authority
Environmental Health Division
Solid Waste and Compliance Section
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Las Vegas, NV 89107

for submittal to

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SOLID WASTE MANAGEMENT PLAN
Clark County, Nevada
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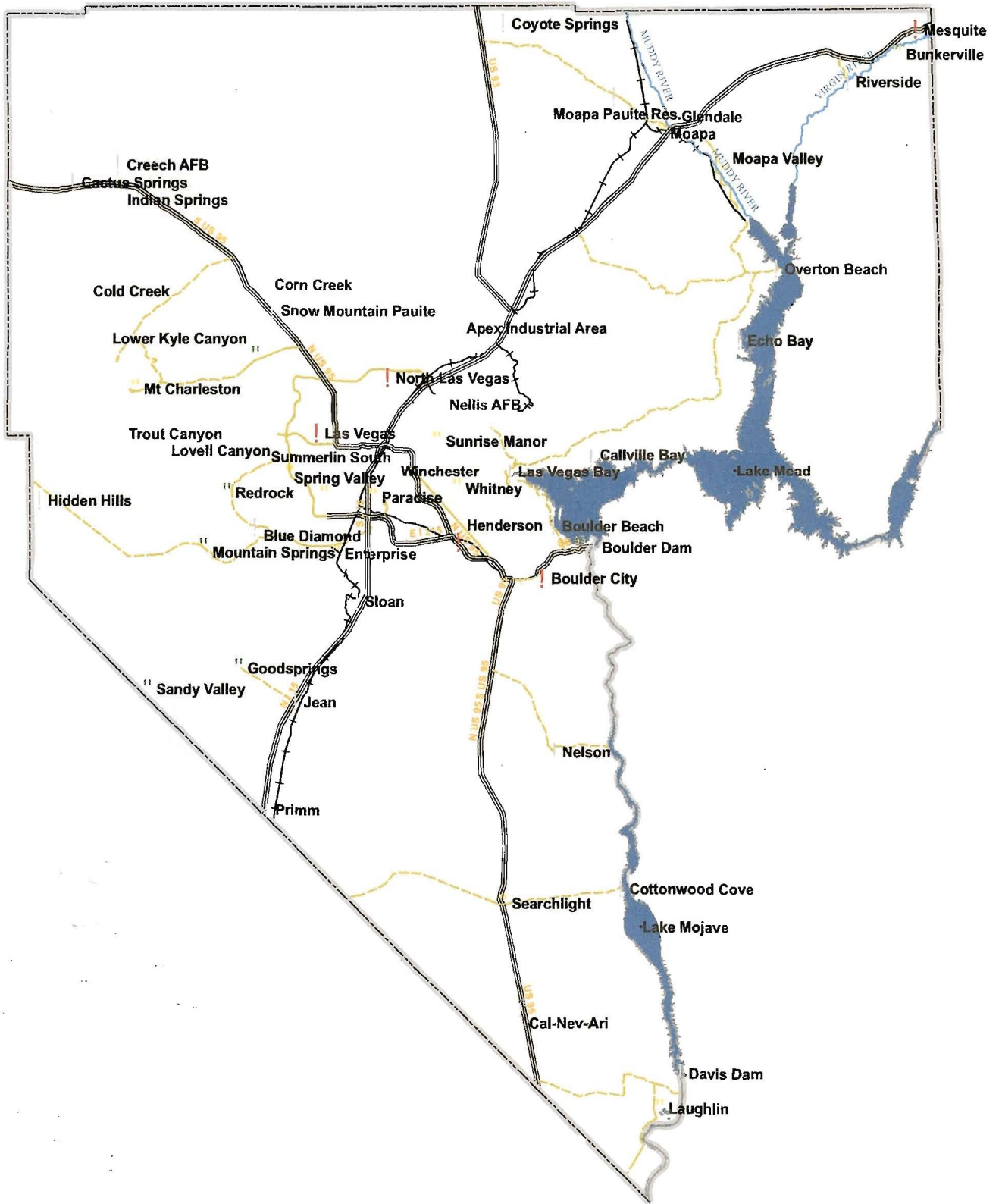
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MAP- CLARK COUNTY, NEVADA AND INCORPORATED JURISDICTIONS



ACRONYMS AND ABBREVIATIONS

Summary of acronyms and abbreviations of terms used in this Plan:

BOH	Southern Nevada District Board of Health
C&D	Construction and Demolition
CCEMBP	Clark County Emergency Management Basic Plan
CCOEM	Clark County Office of Emergency Management
CESQG	Conditionally Exempt Small Quantity Generator
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
EHS	Environmental Health Specialist
EPA	United States Environmental Protection Agency
HHW	Household Hazardous Waste
ISDS	Individual Sewage Disposal System
MOU	Memorandum of Understanding
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NRS	Nevada Revised Statutes
RCRA	Resource Conservation and Recovery Act
RWMI	Restricted Waste Management Inspection
SEC	Nevada State Environmental Commission
SNHD	Southern Nevada Health District
SQG	Small Quantity Generator
SWMA	Solid Waste Management Authority
SWMAR	Solid Waste Management Authority Regulations

EXECUTIVE SUMMARY

Southern Nevada’s Solid Waste Management Plan (afterwards known as PLAN) provides a description of the existing framework for management of solid waste within the applicable laws, regulations and infrastructure within the jurisdiction. The Solid Waste Management Authority (SWMA) must develop a plan to provide for a Solid Waste Management System which adequately provides for the management and disposal of solid waste within Clark County (NRS 444.510).

INTRODUCTION AND OVERVIEW: CHAPTER 1 contains an overview of the purpose of the PLAN, a brief introduction to disposal, recycling and reuse and the roles and responsibilities of government in the management of solid waste.

SOLID WASTE GENERATION: CHAPTER 2 contains current and presumed future waste generation rates for Clark County, the current waste streams in Southern Nevada, the importation and exportation of wastes from other areas into or out of Southern Nevada, the definitions of solid waste: residential, commercial, and industrial solid wastes, and wastes requiring special handling.

DESCRIPTIONS OF SOLID WASTE MANAGEMENT SYSTEMS: CHAPTER 3 contains definitions of the solid waste disposal and management facilities including landfills, recycling centers, materials recovery facilities, composting facilities, transfer stations, waste tire management facilities, waste to energy facilities and waste to fuel facilities; solid waste collection franchise agreements within the various incorporated and unincorporated cities and areas within Clark County; description of the single-stream recycling programs included in the franchise agreements, illegal waste dumping, the costs associated with illegal dumping, and enforcement programs.

LAWS AND REGULATIONS: CHAPTER 4 contains references to the relevant federal, state, local, and SWMA regulations affecting the proper management of solid waste in Southern Nevada.

FINANCIAL SUSTAINABILITY: CHAPTER 5 contains the current funding sources for solid waste management programs in Southern Nevada including permits, the waste tire fund, grants, and tipping fees.

THE CLARK COUNTY EMERGENCY DEBRIS MANAGEMENT PLAN: CHAPTER 6 contains a brief description of the Clark County Emergency Debris Management Plan and the Solid Waste Management Authority's role in managing the disposal of wastes resulting from an area-wide emergency or catastrophe, including an annual State of Nevada evaluation of the Debris Management Plan.

PROGRAM EVALUATION: CHAPTER 7 contains an evaluation of the PLAN and discusses future considerations regarding the management of solid waste in Southern Nevada.

CHAPTER 1

INTRODUCTION AND OVERVIEW

1.1 Purpose and Scope

This PLAN reviews the status of collection and disposal systems within unincorporated Clark County and the five incorporated cities therein: (1) Las Vegas, (2) North Las Vegas, (3) Henderson, (4) Boulder City, and (5) Mesquite. The PLAN considers the adequacy of regulatory standards governing solid waste management facilities and attempts to identify viable economic incentives and other methods that will encourage the most efficient use of resources, reduction of waste generation, and optimum recovery of resources from the solid waste stream.

Planning and implementing a system to effectively manage solid waste is a responsibility of the affected cities and Clark County, in cooperation with the Southern Nevada District Board of Health (BOH), the Solid Waste Management Authority (SWMA) for all areas in Clark County. Nevada Revised Statute (NRS) 444.510 requires the development of a plan for the management of solid waste and its periodic revision at least every five years.

1.2 Introduction to Solid Waste Management

Solid waste is any item that is intended for discard, i.e., to be thrown away (see below for exemptions). The standard regulatory definition of solid waste is provided in 40 CFR 258.2.

Solid waste means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. 1342, or source, special

nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

Solid Waste Management includes:

- (1) Waste disposal
- (2) Recycling,
- (3) Reduction, and
- (4) Reuse.

1.2.1 Waste Disposal

Waste disposal can be segmented into three phases:

- (1) Storage by the generator,
- (2) Collection and transportation, and
- (3) Disposal.

(1) On-site storage is the responsibility of the generator of the waste. Putrescible solid waste, which is waste, such as food waste, that is readily decomposed and capable of causing odors or gases, must be collected within 24 hours of generation.

(2) In smaller communities, solid waste is collected by contracted or franchised solid waste haulers and often transported directly to a disposal site, such as a landfill. In larger communities, solid waste is collected by a contracted or franchised solid waste hauler and is often taken to local collection center, called a transfer station, where the waste is consolidated into large tractor-trailers for transport to the landfill. Additionally, businesses and/or individuals may transport their own waste directly to a transfer station or landfill.

(3) Solid waste generated in Clark County is disposed of utilizing land filling. Landfill sites are categorized as Class I, II, or III sites. Landfills bury solid waste in engineered cells or landfill units. These cells are designed to protect the environment from possible contamination by the buried waste. Modern landfills are bottom-lined by materials virtually impermeable to liquids and gases, usually

clay and/or high-density plastic materials. Class II sites are similar to Class I landfills, but may only accept very small amounts of waste. Class III sites only accept industrial solid waste or other inert materials as approved by the Solid Waste Management Authority. Clark County does not currently permit any Class II Landfills.

1.2.2 Recycling

Recycling is the redirection of solid waste back into the manufacturing process to create new products. Recyclable materials are collected from homes and/or businesses by solid waste hauling companies. Individuals may collect their own recyclable materials for sale at local recycling centers.

Recyclable materials are transported to recycling centers where they may be sorted, compacted and/or baled for shipment. Recyclable materials are often sold to out of state, or country, companies for use as a feedstock in manufacturing new products or for further processing prior to reintroduction into the economic mainstream.

1.2.3 Solid Waste Reduction

Reduction should be the first consideration regarding solid waste generation. Preventing a material from ever becoming a solid waste saves energy and resources. No additional energy needs to be expended to dispose of the material and no resources must be exhausted to replace the material.

1.2.4 Reuse

Reuse is the repurposing of items that would otherwise end up as solid waste. These items may be refurbished or used as-is condition. Items that are no longer desired may be sold or donated. Thrift stores, charitable organizations, used vehicle or equipment sales, and salvage operations are most typically associated with this type of waste management.

1.3 Government Roles and Responsibilities

Nevada Revised Statutes (NRS) designate the Southern Nevada District Board of Health (BOH) as Solid Waste Management Authority (SWMA) (NRS 444.595), the primary regulatory body over the management of solid waste, in Clark County and all incorporated municipalities located therein. The State Environmental Commission (SEC) retains the ultimate authority to implement municipal landfill regulations, if necessary, acting in state-level role similar to the BOH (NRS 444.558). The BOH is responsible for: issuing permits to operate solid waste disposal sites (NRS 444.553(2)), conducting inspections of solid waste disposal sites for compliance with SWMA regulations (NRS 444.556.5(b)), and investigating illegal dumping (NRS 444.592). The BOH, as well as municipal governments, may adopt standards and regulations (NRS 444.580) governing solid waste disposal site location, design, and operation. Such regulations or codes must be at least as strict as, and must not conflict with, state regulations. Nevada Administrative Codes (NAC) governing solid waste are found in NAC 444.570-7499 and are described briefly in Chapter 4, as are Solid Waste Management Authority (SWMA) Regulations adopted by the BOH and municipal codes adopted by the various municipalities.

CHAPTER 2 SOLID WASTE GENERATION

2.1 Current Waste Generation

In 2016, Clark County residents generated approximately 5.78 pounds of MSW per person per day. When including tourists, the number drops to 5.42 pounds. The Environmental Protection Agency's (EPA) estimate for per person MSW generation for 2010 is 4.4 pounds (EPA 2013).

2.1.1 Imported Solid Waste

Clark County does not import significant amounts of solid waste from outside Nevada or Clark County. The Clark County Solid Waste Profile from the Nevada State Plan from 2012 to 2016 indicates zero Imported waste disposed (tons). (NDEP 2017)

2.1.2 Exported Solid Waste

Despite the capacity for the disposal of solid waste that is available at Southern Nevada disposal sites, a significant amount of solid waste is exported from the Clark County, NV area for disposal in landfills outside of Clark County.

2.1.3 Residential Solid Waste

Household waste means any solid waste, including garbage, trash and sanitary wastes, derived from households, including single and multiple family residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and recreation areas used during the daytime. (SWMAR 1-4 & NAC 444.581)

Household waste is managed pursuant to the local franchise agreements. The franchise hauler is the sole company authorized to collect these wastes other than the original generator.

2.1.4 Commercial Solid Waste

Commercial waste means all solid waste including, but not limited to, solid wastes generated by stores, hotels, markets, offices, restaurants, warehouses and other non-manufacturing activities excluding industrial wastes. (SWMAR 1-4)

Depending on the type of business these wastes can range from putrescible food wastes to recyclable materials such as old corrugated cardboard. Municipal solid waste is managed pursuant to the franchise agreements in each jurisdiction. Commercial source separated recyclable collection is not a part of any of the franchise agreements and thus open for competitive bidding.

2.1.5 Industrial Solid Waste

Industrial solid waste means solid waste derived from industrial or manufacturing processes, including, but not limited to, the solid waste generated by the:

- (a) Generation of electric power;
- (b) Manufacture of fertilizer and agricultural chemicals;
- (c) Manufacture of food and its related products and by-products;
- (d) Manufacture of inorganic chemicals;
- (e) Manufacture of leather and products made from leather;
- (f) Manufacture of nonferrous metals, including the foundries which manufacture those metals;

- (g) Manufacture of organic chemicals;
 - (h) Manufacture of plastics, resins and other miscellaneous products made from plastic;
 - (i) Pulp and paper industry;
 - (j) Manufacture of rubber and other miscellaneous products made from rubber;
 - (k) Manufacture of products made from stone, glass, clay and concrete;
 - (l) Manufacture of textiles;
 - (m) Manufacture of transportation equipment;
 - (n) Treatment of water;
 - (o) Manufacture of iron and steel; and
 - (p) Construction, refurbishing or demolition of buildings or other structures.
- The term does not include waste generated by the mining, oil and gas industries. (SWMAR Appendix 1 & NAC 444.585)

2.2 Wastes Requiring Special Handling

2.2.1 Asbestos Waste

Asbestos means the asbestiform varieties of Chrysotile (serpentine), Crocidolite (riebeckite), Amosite (cummingtonite-grunerite), Anthophyllite, Tremolite or Actinolite (SWMAR 1-4, NAC 444.966 & NAC 618.750).

Transport of asbestos waste is covered in the SNHD SWMAR 4-1.

2.2.2 Contaminated Soil

Soils contaminated by releases of petroleum hydrocarbons, grease, oils, fats, dry cleaning chemicals, industrial wastes, or uncontrolled sewage releases or other environmental contaminants are evaluated for removal, treatment or proper disposition according to federal, state and/or local regulations.

2.2.3 Dead Animals

Dead animals may be disposed of at the four (4) class I landfills servicing Clark County: Apex, Boulder City, Laughlin, and Mesquite.

Animals must be placed in a separate trench and covered immediately. (NAC 444.694)

2.2.4 Fluorescent Light Bulbs

Residents are encouraged to recycle their fluorescent bulbs and compact fluorescent bulbs instead of disposing these items in with their regular trash.

Commercial fluorescent bulbs shall be managed as a restricted waste and must be sent to a facility capable of treating, recovering, recycling, or properly disposing of them.

2.2.5 Household Hazardous Waste

Household Hazardous Wastes (HHW) are hazardous products used and disposed of by residential as opposed to industrial consumers. This includes paints, stains, varnishes, solvents, pesticides, and other materials or products containing chemicals that are ignitable, reactive, corrosive or toxic.

Although household hazardous wastes are exempt from the federal hazardous waste disposal requirements, SNHD recommends that these wastes be sent for proper disposal/recycling as they may present safety and/or environmental risks.

The local franchise waste haulers will accept household hazardous waste from their customers at specified facilities.

2.2.6 Junk Vehicles, Vehicle Batteries, and Used Motor Oil

Management of junk vehicles includes the management of lead-acid batteries, mercury switches, and waste fluids including but not limited to used motor oil, fuel, lubricants, and anti-freeze.

SNHD EHSs conduct routine inspections of facilities that generate Restricted Waste including automotive waste fluids. Restricted Waste Management is covered in the SNHD SWMAR 4-3.

2.2.7 Medical Waste

Medical waste means solid waste that is generated in the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biological agents, excluding Hazardous Waste identified or listed under 40 CFR Part 261 or any House Hold Waste as defined in 40 CFR §261.4(b)(1). (SWMAR 1-4 & Clark County Code Chapter 9.04.010(25))

The management of medical waste is covered in the SNHD SWMAR 3-6 & 4-2.

2.2.8 Pharmaceuticals

Whether prescription or over the counter the disposal of pharmaceuticals presents a problem. Historically, the public was directed to dispose of these items by flushing them into the domestic sewer. This is no longer the preferred method of disposal. When disposing of unused pharmaceuticals, the public should follow best management practices by mixing it with inert material such as kitty litter and/or coffee grounds rendering them irretrievable before disposing in the trash.

2.2.9 Restricted Waste

Restricted waste means a solid waste with properties that make it dangerous or potentially harmful to human health and/or the environment and is prohibited from disposal in a solid waste landfill. Restricted wastes include hazardous waste, universal waste, and special waste.

Facilities may be exempt from obtaining a Restricted Waste Management Permit if they meet certain standards found in the SNHD SWMAR Section 4-3.01(A)

2.2.10 Septic Waste, Sewage Sludge, and other Liquid Waste

Sewage and septic waste are wastewater and excrement conveyed in solution or suspension to be removed in a sanitary manner. Also known as domestic or municipal wastewater, it consists mostly of grey-water (from sinks, tubs, showers, dishwashers, and clothes washers) and black-water (the water used to flush toilets, combined with the human waste that it flushes away).

The management of septic tank pumping and raw sewage is covered in the SNHD Solid Waste Management Authority Regulations 4-4.

2.2.11 Waste Grease

Waste Grease is defined as recovered yellow or brown grease. Yellow grease means cooking oil, used vegetable oil, recycled vegetable oil, or waste vegetable oil is recovered from businesses and industries that use the oil for cooking. It is used to feed livestock, and to manufacture soap, make-up, clothes, rubber, and detergents. Grease recovered from a grease interceptor is commonly referred to brown grease.

2.2.12 Waste Tires

Waste tire means a tire that is not fit for use as a tire. (SWMAR 1-4 & NAC 444A.270) A waste tire is not from a device not considered a vehicle as defined by NRS 484A.320, a low speed vehicle as defined by NRS 484B.637 or an off-highway vehicle as defined by NRS 490.060.

In Clark County waste tires are prohibited from disposal in a Municipal Solid Waste or Class I landfill.

The requirements and exemptions for Waste Tire Haulers are in the SNHD SWMAR 4-5. The additional requirements for a waste tire management facility are in the SNHD SWMAR 3-11.

2.2.13 White Goods

White goods means large household appliances including, but not limited to, refrigerators, washing machines, clothes dryers, and dish washers that were primarily finished with white enamel, but now are sold in other colors (SWMAR & Clark County Code 9.04.01(53)).

These items are handled and processed as plastics and scrap metal. Federal regulations require the removal of chlorofluorocarbons (CFCs) prior to shredding, flattening, or baling white goods by an approved technician. (Section 608 of the Clean Air Act of 1990, as amended)

CHAPTER 3 DESCRIPTIONS OF SOLID WASTE MANAGEMENT SYSTEMS

3.1 SNHD Solid Waste Management Authority Regulations

To protect public health, safety and the environment through preventive measures and timely correction of public health and environmental risks and to promote the safe and sanitary reuse and recycling of solid waste, the SNHD Solid Waste and Compliance Staff has drafted solid waste management regulations that were adopted by the Southern Nevada District Board of Health as the Solid Waste Management Authority.

SNHD SWMAR govern all solid waste management facilities under the authority of the SNHD SWMA. These regulations set standards for the storage, collection, transportation, processing, recycling and disposal of solid waste; outline record keeping and reporting requirements; provide for enforcement; and include provisions for the issuance, suspension and revocation of permits.

All solid waste management facilities are required to comply with the standards in Chapter 2 of the SNHD SWMAR.

3.2 Solid Waste Management Facilities

3.2.1 Class I Sites (MSW Landfills)

A Class I Site is defined as a disposal site which is comprised of at least one municipal solid waste landfill unit, or cell, including all contiguous land, structures, appurtenances and improvements on the land used for disposal of solid waste and is not a Class II Site or Class III Site. Commonly referred to as a Class I Landfill. (SWMAR 1-4 & NAC 444.5705)

Class I Sites, or Class I Landfills, are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-1. SNHD EHSs inspect these facilities a minimum of four times per year.

3.2.2 Class II Sites (MSW Landfills)

Class II Site means a disposal site which is comprised of at least one municipal solid waste landfill unit, or cell, which accepts less than twenty (20) tons of solid waste per day on an annual average, for which there is no evidence of contamination of groundwater originating from the site, which serves a community that has no other practicable alternatives for waste management, which is located in an area which annually receives no more than twenty-five (25) inches of precipitation and is not a Class I site or Class III site. This term includes all contiguous land, structures, appurtenances and improvements on the land used for the disposal of solid waste. Commonly referred to as a Class II Landfill. (NAC 444.571 & SWMAR 1-4)

Class II Sites, or Class II Landfills, would be required to comply with the additional standards found in the SNHD SWMAR Chapter 3-2. Clark County does not have any currently permitted Class II sites.

3.2.3 Class III Sites (Industrial Solid Waste Landfills)

A Class III Site is defined as a disposal site which accepts only industrial solid waste. Commonly referred to as a Class III Landfill (NAC444.5715). “Industrial Solid Waste” means solid waste derived from industrial or manufacturing processes,

including but not limited to electrical power generation wastes, fertilizer and agricultural product manufacturing, construction debris and demolition, leather manufacturing, inorganic and organic chemical production, water treatment, paper, plastic and rubber manufacturing, nonferrous and ferrous metal production, and food production. Industrial solid waste does not include waste generated by mining, oil, and gas industries. (SWMAR 1-4 & NAC 444.585)

Class III Sites, or Class III Landfills, are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-3. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.4 Composting Facilities or Compost Plants

A Compost Plant is defined as a facility where compost is produced by the process of composting (SWMAR 1-4). Composting is defined as a biological process of degrading organic materials that is facilitated and controlled through the intentional and active manipulation of piles and/or windrows (SWMAR 1-4 & NAC 444.572). (SWMAR 1-4)

Composting Facilities, or Compost Plants, are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-4. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.5 Materials Recovery Facilities

Materials Recovery Facility means a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment or any combination of those materials. This term does not include facilities that receive only recyclable materials that have been separated at the source of waste generation if further processing of the materials generates less than ten (10) percent waste residue by weight on an annual average, a salvage yard used for the recovery of used motor vehicle parts, or a facility that recovers less than twenty-five (25) percent of recyclable material from the solid waste received on an annual average. (Clark County Code Chapter 9.04.010(24)) (SWMAR 1-4)

Materials Recovery Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-5. SNHD EHSs inspect these facilities a minimum of four times per year.

3.2.6 Medical Waste Management Facilities

A Medical Waste Management Facility is a facility that collects, stores, transports, transfers, processes, treats and/or disposes of medical waste. (SWMAR 1-4)

Medical Waste Management Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-6. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.7 Recycling Centers

Recycling Center means a facility designed and operated to receive, store or process recyclable material which has been separated at the source from all but residual solid waste. A Recycling Center does not include a facility that recycles less than ninety percent (90%) of materials accepted per year, by weight, a Materials Recovery Facility, a Transfer Station, a Compost Plant, a Hazardous Waste Recycling Center or a Solid Waste Storage Bin Facility. (Clark County Code Chapter 9.04.010(38)) (SWMAR 1-4)

Recycling Centers are required to comply with the Standards for Solid Waste Management Facilities found in Chapter 2 of the Solid Waste Authority Regulations. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.8 Solid Waste Storage Bin Facilities

Solid Waste Storage Bin Facility means a facility that provides one or more portable containers which are used for the collection of solid waste for transport to a solid waste management facility or disposal site. The term does not include residential or commercial waste containers that are located on or near the site of waste generation. (SWMAR 1-4)

Solid Waste Storage Bin Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-8. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.9 Transfer Stations

Transfer Station means a solid waste processing site where solid waste is transferred from one vehicle to another vehicle or storage device for temporary storage until transferred to a disposal site. Some processing may be included therein. The term does not include solid waste storage bin facilities. (SWMAR 1-4)

Transfer Stations are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-9. SNHD EHSs inspect these facilities a minimum of four times per year.

3.2.10 Waste Grease Facility

Waste Grease Facility means a facility for the collection, storage and/or processing of waste grease including, but not limited to a processing plant, a Transfer Station or trans-shipment facility. (SWMAR 1-4)

Waste Grease Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-10. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.11 Facility for the Management of Waste Tires (Waste Tire Management Facility)

Facility for The Management Of Waste Tires means a site where waste tires are deposited for processing, recycling or use as a fuel. A facility that receives waste tires only inadvertently, unintentionally or that are incidental to the load being received is not a Facility for The Management Of Waste Tires. (NAC 444A.210) (SWMAR 1-4)

Waste Tire Management Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-11. SNHD EHSs inspect these facilities a minimum of two times per year.

3.2.12 Waste to Energy/Fuel Facilities

Waste to Energy/Fuel Facility means a facility that produces energy in the form of electricity or a fuel such as methane from solid waste using some process of conversion. This process may be thermal (gasification, thermal depolymerization, incineration, pyrolysis, plasma arc gasification, etc.) or non-thermal (anaerobic digestion, fermentation, mechanical biological treatment, etc.). (SWMAR 1-4) Waste to Energy/Fuel Facilities are required to comply with the additional standards found in the SNHD SWMAR Chapter 3-12. SNHD EHSs inspect these facilities a minimum of two times per year.

3.3 Solid Waste Collection/Franchises

3.3.1 Boulder City

Waste Logistics Nevada, doing business as Boulder City Disposal, is the exclusive franchise holder for the city of Boulder City. This agreement gives Waste Logistics Nevada the sole right to provide solid waste collection services, including residential single stream recycling, within Boulder City. All solid waste is transported by Waste Logistic Nevada to a Class I Landfill owned by Boulder City, and operated by Waste Logistics Nevada.

3.3.2 Clark County-Unincorporated

Republic Services is the exclusive franchise holder for unincorporated Clark County. This agreement gives Republic Services the sole right to provide solid waste collection services, including residential single stream recycling, within unincorporated Clark County. Solid waste is transported by Republic Services from the point of collection to transfer stations, where it is consolidated and placed into long haul trailers to be taken for disposal to the Apex Regional Landfill or directly hauled to Apex Regional Landfill or the Laughlin Landfill.

3.3.3 Henderson

Republic Services is the exclusive franchise holder for the City of Henderson. This agreement gives Republic Services the sole right to provide solid waste collection services, including residential single stream recycling, within the City of Henderson. Solid waste is transported by Republic Services from the point of collection to transfer stations, where it is consolidated and placed into long haul trailers to be taken for disposal to the Apex Regional Landfill or directly hauled to Apex Regional Landfill.

3.3.4 Las Vegas

Republic Services is the exclusive franchise holder for the city of Las Vegas. This agreement gives Republic Services the sole right to provide solid waste collection services, including residential single stream recycling, within the city of Las Vegas. Solid waste is transported by Republic Services from the point of collection to transfer stations, where it is consolidated and placed into long haul trailers to be taken for disposal to the Apex Regional Landfill or directly hauled to Apex Regional Landfill.

3.3.5 Mesquite

Virgin Valley Disposal is the exclusive franchise holder for the City of Mesquite. This agreement gives Virgin Valley Disposal the sole right to provide solid waste collection services, including curbside recycling, within the City. All solid waste is transported by Virgin Valley Disposal to a Class I Landfill owned by the City and operated by Virgin Valley Disposal or transported away for recycling.

3.3.6 North Las Vegas

Republic Services is the exclusive franchise holder for the City of North Las Vegas. This agreement gives Republic Services the sole right to provide solid waste collection services, including residential single stream recycling, within the City of North Las Vegas. Solid waste is transported by Republic Services from the point of collection to transfer stations, where it is consolidated and placed into long haul

trailers to be taken for disposal to the Apex Regional Landfill or directly hauled to Apex Regional Landfill.

3.3.7 Non-Franchise Diversion Programs

Permitted private businesses accept and process recyclable materials outside franchise agreements. Municipal codes allow the collection and transport of commercially generated source separated recyclables and construction and demolition debris by any properly licensed company.

3.3.8 New Business License Investigations

A new business applying for a Clark County business license generates a referral to the Solid Waste and Compliance Section for investigation of possible permitting requirements. SNHD staff visits all new businesses that may require permitting, meets with the owner/operator, and generates a response to Clark County.

Unpermitted solid waste management facilities are brought into compliance through the Solid Waste and Compliance complaint process via an Administrative Order and/or Notice of Violation. These facilities will either cease operations or obtain the required permits.

3.4 Illegal Dumping

Illegal dumping means causing solid waste to be placed, deposited or dumped in or upon any street, alley, public highway or road in common use, or upon any private property, public park or other public property other than properly designated or set aside for such purpose by the government for proper land disposal (SWMAR 1-4).

Complaints made by the public provide the most common source of information, but Solid Waste and Compliance also receives complaints from government representatives from the various jurisdictions.

Complaints fall into two major categories: those that require an immediate

response and those that can be handled in the course of routine work. Sewage overflows are an example of an imminent health threat that must be remediated immediately upon discovery.

3.4.1 Enforcement

The Southern Nevada Health District (SNHD) Board of Health is the Solid Waste Management Authority (SWMA) for Clark County, Nevada. Solid Waste and Compliance staff enforce solid waste regulations on behalf of the District Board of Health. Currently, the Solid Waste and Compliance section employs nine (9) Environmental Health Specialists (EHS) who investigate incidents of illegal dumping, prepare cases to prosecute those responsible for the illegal dumping through an administrative hearing process, and ensure that solid waste is removed and properly disposed.

In the event those responsible for the illegal dumping are not identified, the property owner is ultimately responsible for mitigating the dump site. In such cases, the property owner is obligated to remove and properly dispose of the illegally dumped solid waste.

In cases where the illegal dumping was witnessed (or conclusive evidence was gathered), the assigned EHS vigorously pursue prosecution of the responsible party. Prosecution occurs through an administrative hearing process where a Hearing Officer has the power to assess administrative penalties to the individual(s) found to have violated Nevada State law(s) or SNHD SWMA Regulations. These penalties range from five hundred (\$500) to five thousand (\$5,000) dollars per incident, per day and may also require the responsible party to remediate the site and properly dispose of the illegally dumped solid waste at their own additional expense.

Prior to the establishment of the administrative hearing, cases of illegal dumping were prosecuted as misdemeanors through local municipal or justice courts. They were not a high priority for the courts, and therefore satisfactory resolutions were rare.

Solid Waste Compliance staff often work with other municipal representatives including code enforcement officers. Code Enforcement Officers enforce solid waste code for their respective municipalities. Each municipality has enforcement mechanisms they utilize to have residents and businesses clean up solid waste.

SNHD Solid Waste and Compliance Illegal Dumping Totals					
	2013	2014	2015	2016	2017
Complaints	1499	1731	1396	1281	1477
Cases	184	119	101	69	66
Penalties Assessed (\$)	314,177	214,910	158,484	62,406	74,133
Penalties Collected (\$)	165,057	151,715	92,348	57,177	86,423

SNHD Illegal Dumping Complaints, Cases and Monetary Penalties documented from 2013-2017 fiscal years. (amount collected per year is indicative of total money collected during that time frame not solely from cases originating and/or terminating during that time frame.)

Solid Waste Laws and Regulations

4.1 Federal Laws and Regulations

Federal solid waste regulations apply to solid waste disposal sites and relate to the protection of human health and the environment. The Resource Conservation Recovery Act of 1976 (RCRA), as amended, provides the statutory basis for federal regulation of solid waste. Subtitle D of RCRA applies specifically to Municipal Solid Waste (Class I & II) landfills. These regulations are found in Volume 40 of the Code of Federal Regulations, Part 258 (40 CFR Part 258) and are commonly referred to as Subtitle D regulations.

4.2 Nevada Revised Statutes (NRS) and Nevada Administrative Codes (NAC)

NRSs are the laws established by the legislative branch of the Nevada government. NACs are requirements adopted by governmental regulatory agencies to implement statutes. Codes have the effect of law because they are enforceable under the authority granted to regulatory agencies by the statutes.

State regulations governing solid waste management facilities were adopted pursuant to NRS 444.560 and can be found in NAC 444.570 to 444.7499. They are based largely on 40 CFR Part 258. Current regulations apply to all types of solid waste management facilities with specific sets of regulations for several specific types of facilities including: transfer stations (NAC 444.666 – 66645), public waste storage bin facilities (NAC 444.66647), compost plants (NAC 444.670), incinerators (NAC 444.672), landfills (NAC 444.6769 – 747), and materials recovery facilities (NAC 444.7474 – 74779)

4.3 Municipal Codes

The county and each incorporated municipality have adopted codes related to Solid Waste Management, including storage, collection, transportation, and disposal. Those codes can be found on the corresponding jurisdictions websites.

4.4 SNHD Regulations

Pursuant to NRS 444.580, the SNHD Board of Health, as Solid Waste Management Authority for Clark County and all incorporated municipalities, has adopted regulations governing the storage, collection, processing, treatment, and disposal of solid waste. These regulations can be found on the SNHD website.

FINANCIAL SUSTAINABILITY

5.1 Introduction

The SNHD (SNHD) has an annual fee schedule approved by the SNHD Board of Health. Each service provided by SNHD has a clearly delineated associated fee on the current fee schedule, which is posted on the SNHD website. These fees were calculated carefully as fee-for-service, in the interest of collecting the precise amount of funding to operate Solid Waste Management Programs to their optimal levels.

The fee schedule goes through an extensive public review period prior to being placed into effect, giving the business community opportunities to offer their opinions and reasons as to why a fee is or is not necessary and sufficient to cover the related service provided.

5.2 Current Funding Sources

Funding for the Solid Waste and Compliance section is generated through plan review fees, permit fees, administrative penalties, state tire fund and tipping fees.

If additional grant funding becomes available, SNHD always attempts to apply for relevant program dollars.

5.2.1 Permits and Fees

SNHD operates under a fee schedule that came into effect July 1, 2010. Waste Management Fees and other funding sources are discussed below.

Solid Waste Management Plan Review Fees

A permit to operate must be obtained for any solid waste management facility in Clark County. Solid Waste Plan Review has established a formal process for an operator to obtain approval to operate a facility for the management of solid

waste in Clark County. In addition, the purchase of an existing solid waste management facility requires a new permit to operate. Based on the type of solid waste management facility and/or if a variance or waiver is required the fees vary considerably.

Solid Waste Management Annual Operating Permit Fees

Once a facility is open and functioning, compliance inspections are conducted at all permitted disposal sites in Clark County. To cover staff costs, a fee schedule has been developed based on the type of solid waste management facility and the associated operational complexity.

If the facility chooses to make alterations that are of a nature or extent where a permit modification is necessary, then they must apply for a plan review of the modification. Additionally, these fees are utilized to cover the investigations unpermitted solid waste management facilities.

Waste Asbestos Transport Permit Fees

As per the State of Nevada regulations for the disposal of asbestos (NAC 444.972), the SNHD has been issuing Waste Asbestos Transport permits upon receipt of an application.

The solid waste plan review fees, annual operating permit fees for permitted solid waste management facilities and waste asbestos transport permit fees generated approximately \$230,000 during fiscal year 2017.

Restricted Waste Management Permit

Solid Waste and Compliance staff inspect facilities that generate restricted waste once a year (category 1) or once every three years (category 2). Restricted waste management fees generated approximately \$725,000 during fiscal year 2017.

Solid Waste Management Authority Hearing Officer Penalties

During fiscal year 2017 SNHD collected approximately \$105,000 from Hearing Office penalties.

5.2.2 State Tire Fund

The State Tire Fund is the result of a fee collected for each tire sold in Nevada. According to NRS 444A.090, the sale of each tire results in the collection of one dollar per tire sold. This goes into a fund for solid waste management. The amount of dollars in the fund is split between four agencies within the State of Nevada: NDEP, receives 44.5 percent; Washoe County Health District receives 25 percent; SNHD receives 30 percent; and the Nevada Department of Taxation receives the remaining 0.5 percent. Based on this distribution, SNHD received approximately \$595,000 during fiscal year 2017.

5.2.3 Tipping fees

In February 2004, a solid waste management fee was implemented to increase the SNHD's (SNHD) capability to effectively enforce the Solid Waste Management Regulations and statutes in Clark County, Nevada. This solid waste management fee is paid by third-party commercial customers of all Transfer Stations and Landfills in Clark County. The tipping fee is a charge of 2.3 percent collected by the operators of all transfer stations and landfills in Clark County, Nevada. SNHD received approximately \$210,000 during fiscal year 2017.

CLARK COUNTY EMERGENCY SOLID WASTE MANAGEMENT

6.1 Introduction

The **Clark County Office of Emergency Management (CCOEM)** provides guidance for the government of Clark County to outline the concept of operations, organizational plan, and responsibilities for managing and coordinating the occurrence or immediate threat of severe damage, injury or loss of life or property resulting from any natural or man-made cause, including but not limited to hazardous substance releases, bioterrorism, emerging epidemics, fire, flood, earthquake, storms, radioactive material, explosion, aircraft accidents, avalanches, civil disturbances, dam failure, fuel shortages, terrorists acts, water shortages, or hostile military or paramilitary action and restore essential services within a disaster area. The CCOEM provides a single point of coordination to facilitate and support the resources that will enable Clark County to mitigate, prepare for, respond to and recover from emergencies. To clarify their guidance, the CCOEM periodically generates a Clark County Emergency Management Basic Plan (CCEMBP).

6.2 Function

The Clark County Emergency Management Basic Plan (CCEMBP) is a document which applies to the government of Clark County and provides guidance to local

jurisdictions, the private sector, non-governmental organizations, and the public involved in the management of incidents, emergencies, or disasters within the geographic boundaries of Clark County.

SNHD has a primary responsibility under the CCEMBP for extreme heat emergencies. In addition, they may be called upon, depending upon the type of emergency, to participate under the Incident Command System (ICS) as a responder.

One responding role that SNHD/ SWMA may be required to perform is facilitating the collection, management and disposal of wastes generated during an emergency event. Potential debris management operations are outlined in Annex X of the CCEMBP and will depend on the nature, duration, location, magnitude, and severity of the disaster incident generating debris. These factors will necessitate close coordination between local, state, and federal law enforcement, and SWMA, representing health and environmental interests in the community.

The CCEMBP can be found online at the Clark County Government website.

PROGRAM EVALUATION

7.1 Future Waste Generation and Changes in Capacity

7.1.1 Boulder City

Waste Logistics Nevada estimates their daily disposal rate is approximately 80 tons. Boulder City recently completed an expansion of their landfill. Class I Landfills are required to complete a volumetric survey at least once every five years. The most current volumetric survey states that the Boulder City Landfill has approximately 227 years of airspace remaining.

7.1.2 Las Vegas Valley and surrounding areas

Annual volumes at the Apex Regional Landfill have been trending upwards since 2012. The daily average tonnage during 2017 was approximately 7,000 tons a day. Class I Landfills are required to complete a volumetric survey at least once every five years. The most current volumetric survey states that the Apex Regional Landfill facility has approximately 258 years of airspace remaining.

The Wells Cargo Landfill is available within the Las Vegas Valley for disposal of inert construction aggregate waste. The most current volumetric survey projected the landfill had at least 28 years of remaining operating life.

7.1.3 Laughlin, Urban Solid Waste Service Area

The Laughlin landfill is the final disposal site for nearly all solid waste generated in Laughlin. The landfill accepted approximately 30,000 tons in 2017. Class I Landfills are required to complete a volumetric survey at least once every five years. The most current volumetric survey states that the Laughlin Landfill facility has approximately 36 years of airspace remaining.

7.1.4 Mesquite

The Virgin Valley Landfill is the final disposal site for solid waste generated in Mesquite. The landfill accepted approximately 30,000 tons in 2017. The most current volumetric survey states that the Virgin Valley Landfill has approximately 9 years of airspace remaining.

7.2 Future Considerations

In 2008 Republic Services began a pilot program for single stream recycling. The program participants were given two large bins; one for recyclables and one for trash. Once a week the trash and recyclables were picked up and Republic Services separated the recyclables at its disposal facility. This program has been adopted by all the jurisdiction. The final roll out is due to be completed by December 2018.

In 2015 Republic Services built a 110,000-square foot Materials Recovery Facility which can process a maximum of 2,000 tons **per day** of source separated material ~~a day~~. The facility serves the whole of the Las Vegas Valley.

Southern Nevada recycling outcomes could be further improved if decision makers had accurate and current waste stream characterization information. Community-specific information would allow for the maximizing of waste stream asset recovery.

A characterization study could be a collaborative effort between waste haulers/processors, SNHD, the University of Nevada-Las Vegas, and the municipalities. This would be a regular part of waste management planning. In order to verify progress and allow for strategy adjustments, the analyses would be revised regularly with funding mechanisms built into municipal code or franchise/waste management service agreements.