

5.7.1 Intent

Siting criteria have been developed by the State Department of Health Services for the siting of hazardous waste management (TSD) facilities. The guidelines specify that individual sites to be established or selected by these criteria should at the time of the designation of a site and proposed new facility be required to complete a Risk Assessment and California Environmental Quality Act (CEQA) Evaluation for the proposed site. The criteria listed in Section 5.7.2 below are based on DHS requirements with minor modifications to ensure compliance with the Contra Costa County HWMP and City Code requirements.

Figure 6 shows City of Hercules Zones and Land Uses according to the Hercules Municipal Code, Title 10 (City of Hercules 1987) and the Hercules General Plan (City of Hercules 1990). Figure 8 shows Sensitive Areas, developed to include both public health and environmental considerations, which are inappropriate for TSD facility siting. These areas are based in part on the Siting Criteria discussed in Section 5.7.2 below and in part from specific considerations from the City of Hercules Municipal Code and General Plan.

5.7.2 Siting Criteria

The DHS siting criteria indicate that most TSD facilities, specifically those which are aboveground and similar in nature to any industrial plant can be sited in areas zoned for light or heavy industry. The guidelines also indicate that companies which produce hazardous waste may wish to locate near treatment plants in order to take advantage of services offered by such facilities. The DHS encourages the establishment of industrial tracts for such companies in order to minimize risks associated with the transportation of hazardous waste.

The DHS guidelines for HWMPs indicate that any existing hazardous waste treatment, storage or disposal facilities which do not meet the siting criteria shall be considered existing non-conforming land uses and consistent with the Hercules HWMP. These facilities are not subject to a finding with consistency with the HWMP when they are being reviewed for modification, enlargement or renewal of a permit from DHS unless a risk assessment prepared pursuant to the DHS procedures demonstrates a significant adverse impact on human health or the environment due to the continued operation of the facility. There are presently no off-site hazardous waste treatment facilities in Hercules. The only existing facilities in Hercules are on-site waste reduction and storage facilities at Bio-Rad Laboratories and Pacific Refining Company.

The DHS and Contra Costa County criteria have been reviewed by Hercules and modified or supplemented based on particular needs of and issues important to the city, based on local conditions and known citizen concerns. These criteria include both state and county criteria in addition to a few specific criteria and modifications developed by Hercules to apply to the City's specific concerns. The criteria are as follows:

SPECIFIC SITING CRITERIA

1) HIGH HAZARD AREAS:

(Those areas in which human or animal life could be jeopardized by fugitive or accidental emissions).

SEISMIC AREAS: No facility should be placed within 200 feet of an active or recently active fault.

FLOODPLAINS: Repositories may not be located in areas subject to 100 year flood events. Other facilities may be built in areas subject to 100 year flooding if protected by engineering solutions such as berms, raised foundations etc.

WETLANDS: No facilities shall be located in wetlands (marshes, swamps or bogs as defined).

HABITAT OF ENDANGERED SPECIES: No facilities should be located within critical habitat areas as defined in adopted general regional or state plans.

UNSTABLE SOIL: Facilities located within these areas should have engineered design features to assure structural stability. This area includes steep slopes and areas subject to liquification and subsidence due to natural causes.

MAJOR RECHARGE AREAS FOR AQUIFERS

Repositories should be prohibited within areas known or suspected to be supplying principal recharge for regional aquifers. Other facilities should be discouraged from locating in these areas. If so located, these facilities should provide properly engineered spill containment features, inspection measures and other environmental controls.

2) PUBLIC SAFETY:

DISTANCE FROM RESIDENCES: Repositories must provide a buffer zone of 2,000 feet unless owner demonstrates to DHS and the City that such a buffer is not required to protect public health and safety. All other facilities shall prepare a risk assessment which shall consider the need for buffering residences and other sensitive areas.

DISTANCE FROM IMMOBILE POPULATIONS: Risk assessments shall be performed at the time of permitting to determine the need for buffer zones between the facility and immobile populations.

PROXIMITY TO
MAJOR
TRANSPORTATION
ROUTES

Repositories should have good access to major transportation routes but may have to be more distant from waste generation sites due to requirements for larger land areas. Other facilities should be located so as to minimize distance from major transportation routes and designed to accommodate heavy vehicles. No facility should be so close to transportation corridors as to block access during an upset condition or other emergency. Road networks leading to major transportation routes should not pass through residential neighborhoods and should be demonstrated to be safe with regard to accident rates, excessive traffic and road design and construction.

BUFFER ZONES

A buffer zone will be established precluding development of facilities within 2,000 feet of major highways or arterials, residential neighborhood, immobile population or incompatible land use as defined by the Land Use Element of the City General Plan.

AIR EMISSIONS

TSD facilities or repositories potentially have significant hazardous air emissions shall be required to prepare a detailed Risk Assessment and to mitigate all health risks. Such facilities shall be discouraged from locating up wind from residential areas.

3) PHYSICAL LIMITATIONS OF THE SITE AREA:

PERMEABLE
STRATA AND
SOILS

Repositories shall conform to the requirements of the State Water Resources Control Board. All other facilities should have engineered design features including spill containment and monitoring devices.

NONATTAINMENT
AIR AREAS

Siting should not be precluded from these areas unless risk assessments performed as part of permitting, considering the physical and chemical characteristics of the specific types of wastes that will be handled and design features of the facility, show that emissions will significantly contribute to nonattainment of standards, that such emissions cannot be mitigated and that the emissions of the facility are significantly greater than those associated with transportation of hazardous waste out of this area.

PSD AIR AREAS Transfer and Storage Facilities could be permitted in Prevention of Significant Deterioration (PSD) areas, if they are necessary to handle potentially hazardous wastes generated by visitors or residents in recreational or cultural facility areas which are in the PSD zone. For other facilities, unless an analysis for a specific proposed facility shows that air emissions cannot be adequately mitigated, other facilities can be established in PSD zones. These facilities, however, cannot be located near or within National Parks, wilderness and memorial areas and other similarly dedicated areas.

PRIME AGRICULTURAL LAND Prime agricultural lands under California law may not be used for urban purposes unless an overriding public need is served. When siting hazardous waste management facilities in these areas, such overriding need must be demonstrated.

DEPTH TO GROUNDWATER Repositories shall meet siting requirements of the State Water Resources Control Board. Other facilities may be located in high groundwater areas if the engineered design of the containment structure is capable of withstanding a failure because of geologic or soil failures which may arise.

4) LOCATION-SPECIFIC CRITERIA:

PROXIMITY TO PUBLIC FACILITIES Potential adverse impacts due to proximity to public facilities should be considered and appropriately mitigated through the risk assessment and design features. Public services including water and sewer service should be available where TSD facilities are constructed.

PROXIMITY TO WASTE GENERATION STREAM All TSD facilities except repositories should be located close to the points of generation in order to minimize transportation risks.

INDUSTRIAL, COMMERCIAL AND SPECIALLY ZONED LANDS Hazardous waste management facilities (other than residual repositories) are basically industrial facilities and should be sited in industrial zone. Facility siting is not limited to these zones if special zones are created.

RECREATIONAL, CULTURAL OR AESTHETIC AREAS	Facilities other than low volume Transfer and Storage Facilities should not be permitted in these zones.
MINERAL RESOURCES AREAS	No Facilities should be sited so as to preclude extraction of minerals necessary to sustain the economy of the State.
OTHER LANDS	Military lands are not suitable for the establishment of public TSD facilities according to Department of Defense policies. Other state or federal lands may be suitable, as outlined by the foregoing criteria.

5.8 TRANSPORTATION

Transportation of hazardous waste and materials presently occurs on all major transportation corridors in and near the City of Hercules. Both rail transport through the City via the Southern Pacific Railroad and Atcheson-Topeka and Sante Fe tracks and truck transport to major industries and small quantity generators within and near the city via Interstate 80, State Highway 4 and City streets are the result of commercial/industrial operations which require these materials (Figure 5).

The Southern Pacific Railroad and Atcheson-Topeka and Sante Fe tracks pass through the City along the San Francisco Bay shoreline and north of the downtown area respectively (Figure 5). Railcars of fuels, spent refinery wastes, solvents, acids and other materials are periodically sided along the tracks (along the shoreline and near State Highway 4) and trains carrying similar materials pass through periodically en route to local industries or points near the City. Truck traffic of hazardous materials and waste is particularly heavy on Interstate 80 and State Highway 4.

5.9 INSPECTION, TECHNICAL ASSISTANCE AND ENFORCEMENT

The City of Hercules or an appropriately constituted JPA shall develop and maintain a program for technical assistance, inspection and enforcement of hazardous waste management objectives contained in this plan. The City attorney shall be charged with ensuring that appropriate enforcement procedures are carried out against parties who negligently generate, store, spill or dispose of hazardous wastes or materials in such a manner as to endanger human health or the environment. The City or JPA in coordination with emergency services responders shall develop procedures for dealing with any such incident in terms of emergency response, cleanup and assignment of liability and costs to the responsible parties.

5.10 ORGANIZATIONAL RESPONSIBILITIES FOR IMPLEMENTATION

Primary responsibility for implementation of the Hazardous Waste Management Plan shall lie with the City Manager who will oversee city departments and coordinate with other agencies. Individual city departments shall implement assigned components as shown in the chart on page 6. Access to the data base will be given to all applicable departments and emergency response agencies serving the city. The Department of Public Works shall be responsible for all hazardous waste management activities at City facilities including compliance with handling and storage regulations.

5.11 EMERGENCY RESPONSE PROCEDURES

The City of Hercules and other west-county cities (Pinole, San Pablo, Richmond, El Cerrito) have been involved in a three year effort which formed an emergency response Joint Powers Authority (JPA) for dealing with mutual emergency response issues. The

cities have developed and adopted a state approved multi-hazard plan which includes dealing with toxic spills. The JPA has also accomplished:

- o Specific scenario training and operation of the Emergency Operating Center.
- o Close coordination between the cities and emergency responders (Rodeo-Hercules Fire Protection District, City Police, City Public Works Department).
- o Regular training of police and fire department in toxic substances response.
- o Creation of a HAZMAT Team in West-County, located at the Richmond-Hilltop Fire Substation.

The City of Hercules intends to continue working as part of the West County Emergency Response JPA on these issues. Emergency services responders utilize the County's Area Plan for Emergency Response which outlines duties and responsibilities of all responders.

The City has, in coordination with Rodeo-Hercules Fire Protection District, implemented a data base indicating the presence of hazardous materials handled, and hazardous wastes generated at any given site within the City subject to a business license requirement (much of this data is already on file from business plans specified by AB 2185). The minimum reporting quantities are 55 gallons of liquid, or 500 pounds by weight, or 200 cubic feet of compressed gases. Sources of information that may contribute to the development of the data base include the following sources:

- o Biennial reports filed with California Department of Health Services and the U.S. Environmental Protection Agency every March 1 on the even numbered years.
- o SARA, Title III reporting information required from sections 302 and 313 (provided to the "Administering agency" and local Fire Department).
- o California business plans as required per AB 2185 and amended by AB 2187 and AB 2189 (currently collected by Contra Costa County Environmental Health Division of the Health Services Department). These data are provided by the County to the City and the Rodeo-Hercules Fire Protection District under an existing Memorandum of Understanding (MOU).
- o Review and evaluation of current business license applications and subsequent revisions for future use.
- o Independent surveys from those industries and businesses currently located within the city limits.

This information, once collected, would be usable for reference material by the Rodeo-Hercules Fire Protection District, city police and other appropriate emergency response agencies and personnel if a chemical emergency incident was to occur. Effective emergency response procedures involve the input and planning from those agencies directly involved with administering and assisting any incidents. The primary objectives of emergency response planning should be to first protect human health, second the public, third the environment and fourth, property. Emergency response procedures should serve the City's interests in the above four areas as a result of coordinated plans and policies with both governmental agencies and private industry support.

Some emergency response resources may be provided to the City from private industry through a contractual arrangement. The City receives copies of the "Hazardous Material Release Response Plans" and inventory programs from those current businesses in Hercules city limits from Contra Costa County Environmental Health Division of the Health Services Department (HSD). HSD is the administering agency and recipient of the Business Plans (per AB 2185) from industry that include:

- o facility emergency response procedures to incidents
- o locations, types, and amounts of hazardous materials
- o handling procedures for all such materials

This information can be applied to better enable the City to identify and evaluate those potential emergency response incidents that could occur, and what appropriate procedures the City may implement to manage such occurrences.

5.12 STORAGE REGULATIONS

The City will develop guidelines for storage of hazardous materials and hazardous waste applicable for industries or businesses that handle hazardous materials and/or accumulate hazardous wastes. The Uniform Fire Code (UFC) has promulgated guidelines for building design and construction to hazardous chemicals, along with state and federal regulatory requirements that specify the proper labeling, marking and containment specifications. The City may wish to coordinate with fire inspectors in order to ensure that local businesses are meeting all city hazardous waste requirements.

These regulatory requirements are currently enforced by the U.S. Environmental Protection Agency (EPA), the California Department of Health Services (DHS), and Contra Costa County Health Services

Department (HSD) through a Memorandum of Designation (MOD) entered into in 1983, with the State of California (DHS 1983).

Facility managers should be informed that they are required to separate incompatible hazardous materials/wastes and place both materials/wastes in containers in designated areas that do not present a fire hazard, reactive hazard, nor potential threat to human health, public health or environment. Part V and Part VIII of the UFC regulates the use and storage of hazardous substances used in special processes and several classes of hazardous chemicals not otherwise covered in the UFC, which are highly flammable, or which may react to cause a fire or make a fire especially difficult or dangerous to fight.

The Western Fire Chiefs Association amended Part VIII, Article 80 in 1987 which established storage, secondary containment and monitoring requirements for all classes of hazardous materials. This article also requires hazard identification signs for first responders and development of procedures for chemical spill responses.

In 1984, the Cortese and Sher Assembly Bills required the registration and permitting of nonexempt underground tanks containing hazardous materials. The Environmental Health Division of the County Health Services Department (HSD) is the local agency administering this program. The City should develop a parallel data base that identifies and list all known underground storage tanks (UST) in the city limits and regulatory states.

5.13 CONTAMINATED SITES

The City should identify, on the Hazardous Waste Data Base, the location and type of each contaminated site within the city limits or within 1.0 miles of the city limits which may affect city

property through leaching, air emissions or other processes. Known contaminated sites can be preliminarily identified from lists of sites published by the federal and state government agencies responsible for their supervision throughout the monitoring and cleanup (remediation) process.

Site lists consulted to identify known contaminated sites in Hercules sphere of influence include the Environmental Protection Agency's National Priority List (NPL) and CERCLIS data bases, the State Bond Expenditure Plan List, and the "Cortese List" of known toxic sites (U.S. EPA 1989, DHS 1989a,b). In addition, the City has identified known contaminated sites within the city limits using unpublished data files from Contra Costa County Planning Department (Contra Costa County, unpublished data). All of the data bases overlap to some extent with the others.

Contaminated sites identified from these lists are shown in Figure 9. There are a total of 2 listed sites within the city limits which have resulted from past land use practices. These sites are monitored by the State Department of Health Services and are currently being characterized in preparations for site cleanup, or have implemented cleanup action (Hercules, Inc. and Hercules Properties, Inc. sites). The City of Hercules tracks progress by DHS and the site owners in meeting cleanup schedules and requirements.

More major sites within 10 miles of the City include 5 listed State Bond Expenditure Plan Sites. These are shown in Table 6.

5.14 SMALL QUANTITY GENERATORS

In 1989, Small Quantity Generators produced approximately 191.63 tons of hazardous waste within the City of Hercules. A breakdown of the EPA Waste Types and California DHS Waste Groups are shown

in Table 3. Waste oil accounts for 48.67 tons as shown in Table 4 (based on DHS "No survey method").

Waste oil and certain other hazardous waste types are often collected by route haulers who operate from another jurisdiction. These haulers report and manifest their waste from their own location which may be outside the City of Hercules or outside Contra Costa County, since many such haulers service multi-county areas. Since small quantity generators often lack the technical knowledge and economic resources to manage their own wastes, these haulers provide an important source of waste recovery. The true number and type of route haulers in Hercules is not presently known; therefore, the waste oil and similar waste types generated by small businesses was estimated using the DHS "No Survey" methods for this report.

In an attempt to accurately assess the types, quantities and disposal methods of hazardous waste generated by small businesses, a SQG data base with accurate SIC code groups should be developed by the City or cooperating County agencies. The data base could identify the actual amount of waste generated, the availability of recycling or reuse and proper disposal method for each waste type. To facilitate the data base information collection, all hazardous waste generation should be disclosed by small businesses upon business license application or renewal. An audit of various industrial groups can be conducted to ascertain the accuracy of reporting of hazardous waste types and quantities generated.

The City of Hercules will evaluate the need to develop a small quantity generator program with emphasis on a regional program with neighboring cities. This program might include distribution of educational materials, providing a SQG hotline and/or coordinating a SQG waste consolidation program. These three options are described briefly in the points below:

- o Educational Materials - Educational materials can be disseminated as part of a SQG inspection program. Educational materials should address recycling, re-use options, waste minimization and proper disposal methods.
- o SQG Information Hotline - The City of Hercules should evaluate the potential feasibility of establishing a SQG hotline service. This service would provide an information clearinghouse coordinating with Contra Costa County, and responsible State and Federal Agencies. The service would provide technical assistance, contacts within these agencies and respective telephone numbers.
- o Coordinate an SQG Waste Consolidation Program - The City could enhance proper hazardous waste disposal for SQG's by coordinating a frequent consolidated collection program. Currently SQG hazardous waste is managed by individual companies. Consolidated collection by a service contractor could reduce disposal cost to each generator and serve as a valuable asset for consolidated bulk handling of used oil, solvents and other frequently generated wastes.

The City or JPA could work with the local Chamber of Commerce or other business groups to coordinate such programs.

5.15 HOUSEHOLD HAZARDOUS WASTES

Household hazardous waste management is one of the most difficult issues to deal with due to the small volume of waste and large numbers of necessary participants. Household hazardous waste in Hercules and nearby cities is currently being addressed (along with related requirements of AB 939) by the West County Solid Waste JPA.

That JPA is currently evaluating the advisability of providing oversight capability for household hazardous waste requirements in its jurisdiction. The JPA is also participating in the development of the West County Resource Recovery Center which is expected to provide a transfer station, recycling center and household hazardous waste capability by 1991. The sections below outline current and potential household hazardous waste management methods.

5.15.1 Current Household Hazardous Waste Management

Currently, common household hazardous waste is disposed of by depositing the waste into a residential garbage container; dumping the waste into the City sewer system via a sink or storm drain; pouring the waste onto driveways, streets and land or extending the storage of the waste in old and obsolete containers. The City and County are currently undertaking joint efforts which included a recent collection day for household hazardous waste in June 1990.

Household hazardous waste which is disposed of in a residential garbage container places a potential risk on human and environmental health. Through this disposal method a potential human injury could result from chemical exposure with respect to the refuse collector, transfer station worker, or landfill operator.

Additionally, the surrounding environment is at risk of contamination from the hazardous waste during the transferring, compacting, or final disposal process. Recent data has indicated that household hazardous waste, which is deposited in municipal landfills, has the potential to contaminate groundwater. Contamination occurs through absorption of the chemical which does not degrade similar to the other constituents of the landfill site.

Household hazardous waste which is disposed into a homeowner's sink or drain will migrate along the sewer system and eventually enter into a wastewater treatment facility. Wastewater treatment facilities are not designed to treat, store or dispose of hazardous waste; therefore, the waste stream may disrupt the normal wastewater treatment process or pass through the system untreated. If wastewater effluent or residual solids are toxic, the wastewater treatment facility could be fined or have other regulatory action imposed.

Household hazardous wastes that are disposed via a septic system may disrupt the normal septic process and pass through the system untreated creating a potential groundwater contamination. Hazardous waste that is dumped into street gutters, catch basins and storm drains contaminate the creeks which discharge to the Bay/Delta estuary.

Household hazardous waste such as waste oil and auto-body shop products were previously deposited on land as a form of weed control. This practice actually destroyed plants and had the potential to harm animals and contaminate groundwater. Illegal land disposal still occurs - this disposal technique may also include burying the substance in the back yard or improperly disposing of the waste on other property.

Many homeowners are unaware of the proper disposal procedures for household hazardous wastes, therefore, in some instances, the waste is stored indefinitely. This practice can produce unstable and reactive chemicals which represent additional hazards. Mixing incompatible chemicals can create a harmful potential chemical reaction such as an explosion, fire, vapor generation, heat, etc.

5.15.2 Recommended Household Hazardous Waste Management

The City of Hercules and the West County Solid Waste JPA should continue to assist the community in the proper household hazardous waste management procedures. This effort should promote and incorporate household hazardous waste collection days, educational programs, publicity campaigns and the development and implementation of a household hazardous waste component at the Richmond Transfer Station (West County Resource Recovery Center).

Household hazardous waste collection, recycling and disposal days should continue to be held and should be scheduled on a regular basis and available to all residents within the City of Hercules. Regular household hazardous waste collection programs can greatly reduce the volume of hazardous waste in the solid waste stream and wastewater treatment process. Additionally, a convenient collection program will provide an avenue for homeowners to dispose of their hazardous waste in a responsible manner and will discourage illegal disposal practices.

Along with the aforementioned collection efforts, the City of Hercules should continue to focus attention on public educational programs. The educational element should concentrate on homeowners awareness, waste minimization, safe handling guidelines and proper disposal techniques. Educational programs can be promoted in public school, various organizations, private clubs and public outreach centers. Household hazardous waste promotion programs can be sponsored through the City of Hercules or in conjunction with another agency or association.

Publicity can be a useful tool in the effort to increase public awareness of household hazardous wastes and the proper management of these waste streams. Publicity information can be distributed by direct mailing, posters, flyers, newspaper advertisements and

public service announcements on the radio and television. Annually, the City of Hercules generally identifies the recycling locations, provides information regarding household hazardous waste and encourages recycling efforts to all residents within the City of Hercules via the city newspaper, "Herculean". The City newspaper is distributed on a quarterly basis to all the residents with a Hercules postal address and the Viewpoint development in Rodeo. Additionally, a household hazardous waste management video has been produced by the City and is periodically shown on TV and Cable TV.