SECTION 3.0

HOW MUCH WASTE DOES THE CITY AND REGION DISPOSE OF? AND WHERE DOES IT GO?

3.0 HOW MUCH WASTE DOES THE CITY AND REGION DISPOSE OF? AND WHERE DOES IT GO?

HF&H Consultants performed the disposal demand and capacity projections with the assistance of ESD staff. A description of the work performed for this task and the results of the analyses are provided in this section. All of the tables referenced in Section 3.0 are included in Volume II, including the capacity analysis tables (Tables 3-9 to 3-15).

3.1 SYSTEM DEMAND AND CAPACITY ANALYSIS

3.1.1 DEMAND ANALYSIS

The purpose of the demand analysis was to project solid waste generation for the Strategic Plan study period for the next 25 years from a base year of 2005 to year 2030 for the City and the surrounding region.

3.1.1.1 POPULATION FORECAST

Population projections up to the year 2030 were developed for each of the cities in San Diego County. The source data was the most recent (Fall 2006) San Diego Association of Governments' (SANDAG) Regional Growth Forecast. Because SANDAG's projections are reported in 10-year increments, HF&H averaged the growth projections between the forecasted years to develop the annual growth projections (Table 3-1).

3.1.1.2 DISPOSAL PROJECTIONS FROM CITIES AND UNINCORPORATED AREAS

Annual waste disposal volumes from 2001 through 2006 were collected for each of the seven landfills in San Diego County (Borrego, Otay, Ramona, Sycamore, West Miramar, and the two military waste landfills: Las Pulgas and San Onofre). The Borrego and Ramona landfills are remote, low daily tonnage sites. The Las Pulgas and San Onofre military landfills do not accept non-military waste and thus were not included in the capacity analysis as sites that were available for disposal of the regional waste stream. Based on actual reported waste disposal volumes, future disposal volumes for each city and unincorporated areas were projected from 2007 to 2030 (Table 3-2).

For each city and the unincorporated area of San Diego County, HF&H determined the volume of waste disposed at the landfill disposal sites in the County for the past six years (2001 to 2006) using the current data from the CIWMB records (Disposal Reporting System dated October 2007). It was assumed that each city would continue to dispose the same portion of its waste at the same landfill disposal sites. Information was tabulated by each jurisdiction's disposal tonnages to a landfill (Table 3-3) and by the percentage of the jurisdiction's solid waste to each landfill (Table 3-4). In addition, the percentage of each landfill's waste stream by jurisdiction is presented in Table 3-5.

3.1.1.3 SENSITIVITY ANALYSIS

Because actual disposal tonnages in the County declined by 6 percent from 2005 to 2006, HF&H performed a sensitivity analysis on the diminishing capacity model run. This was performed by increasing and decreasing the 2006 SANDAG projected annual population percent increase for San Diego by 150 percent and 50 percent, respectively. In other words, the projected annual population percent increase, which for the City of San Diego was 0.9 percent from 2005 to 2006, was increased 150 percent (1.8 percent) and decreased 50 percent (0.45 percent) and then these new percent changes were used to develop diminishing capacity models. The purpose for doing this is to provide a range of demand that reflects differences in assumed changes to growth.

3.1.2 CAPACITY ANALYSIS

3.1.2.1 LANDFILL CAPACITY

For each landfill disposal site in the County, the following determinations are based on the latest data posted on the CIWMB website. This data will be revisited in Phase II and the most current data will be used for the final report at the end of Phase II.

- Total cubic yard capacity,
- Remaining cubic yard capacity (this was converted to tons assuming a density of 1,180 cubic yards per ton),

- Closure date, and
- Disposal tons per day.

For each landfill in the County, HF&H then calculated the annual beginning capacity in tons, the annual disposed tonnage (from all jurisdictions), and the annual ending capacities in tons. As each landfill's total permitted capacity was reached, it was assumed that the waste tonnage would be redirected to the landfill with remaining capacity closest to the city from which it was generated. When this portion of the report was developed, only the 2006 CIWMB Jurisdiction of Origin Waste Disposal Report was available which indicated that the City of Oceanside and five other cities in San Diego County (Santee, Vista, El Cajon, City of San Diego, and northern unincorporated San Diego County) were disposing of their waste in Orange County's Prima Deshecha Landfill (source 2006 CIWMB Jurisdiction of Origin Waste Disposal Report). For the City of Oceanside, the Prima Deshecha Landfill is their primary disposal site; for all other cities, it is a supplementary site. The Orange County out-of-County waste disposal contracts expire on June 30, 2016 and the contracts are not expected to be renewed. Therefore, this northern San Diego waste stream was assumed to be directed to the Sycamore Landfill beginning in 2016.

Additional potential disposal capacity from the Miramar Height Increase, the Sycamore Landfill Expansion, and the potential opening of the Gregory Canyon Landfill were also evaluated.

3.1.2.2 TRANSFER STATIONS

The permitted capacity of the nine existing transfer stations in the region, as well as the planned SANCO Transfer Station in Lemon Grove, that could transport waste to out-of-County landfills was taken from the CIWMB Solid Waste Information System as of August 2007. The nine available transfer stations and their associated permitting capacities are summarized below, more detailed information can be found in Table 3-6 of Volume II.

Active Transfer Stations		
Name	**City**	**Permitted Capacity (Tons per Day)**
EDCO Station	La Mesa	462
EDCO Transfer Station	San Diego	1,716
Escondido Resource Recovery	Escondido	3,402
Fallbrook Recycling Facility	Fallbrook	792
Palomar Transfer Station, Inc.	Carlsbad	800
Ramona MRF & Transfer Station	Unincorporated	405
Universal Refuse Removal	El Cajon	1,000
EDCO Construction/Demolition	San Marcos	174
SANCO Resource Recovery	Lemon Grove	1,000
TOTAL		**9,751**

All of the above transfer stations are viable to take City of San Diego waste, except for Ramona, Fallbrook, and Escondido which are located too far away from the City of San Diego to be considered as potential transfer stations for the City's waste.

3.1.2.3 COMPOSTING FACILITIES

The permitted capacity of the seven composting facilities in San Diego County with capacity of 100 tpd or greater and the planned Treesource Recycling Facility were identified from the CIWMB Solid Waste Information System (dated 2007). The composting facilities, their operator, city location, and permitted capacities are shown on Table 3-7.

3.1.2.4 RECYCLABLES PROCESSING CENTERS

The 52 recycling centers in San Diego County were identified from the State of California, Department of Conservation records, August 2007 and detailed information regarding their name, city location, and materials accepted is shown on Table 3-8.

3.2 FINDINGS

3.2.1 CITY PROJECTED DEMAND

The City of San Diego's population is anticipated by SANDAG to increase from 1,295,147 in 2004 to 1,656,257 by 2030 (Table 3-1). Using the SANDAG 2006 projections, the City of San Diego's 2006 annual disposal rate of 1,895,926 tons is anticipated to be 2,427,109 tons in 2030 (Table 3-2).

In 2006, the City's waste was disposed of as follows: 480,197 tons (25 percent) went to Otay, 128,527 tons (7 percent) went to Sycamore, and 1,287,202 tons (68 percent) went to West Miramar (Table 3-3).

The remainder of waste disposed of at the West Miramar Landfill was primarily from the Cities of Coronado, Del Mar, and National City at 45 percent, 42 percent, and 19 percent of each City's waste stream, respectively (Table 3-4). Without the proposed height increase, and assuming municipal solid waste disposal volumes increase proportionately, the West Miramar Landfill is anticipated to reach its current permitted capacity and closure date in 2012 (Table 3-9).

3.2.2 REGIONAL PROJECTED DEMAND

Countywide population is anticipated by SANDAG to increase from approximately 3 million in 2004 to approximately 4 million in 2030, for a total increase of 32 percent or slightly less than 1.3 percent annually (Table 3-1).

By 2014, nearly 4.3 million tons of waste per year are projected to be generated in the County and will need to be reduced, recycled, converted, and/or disposed. This does not include the approximately 130,000 tons currently disposed of in Orange County landfills, primarily at the Prima Deshecha Landfill, under a disposal agreement with the County of Orange that terminates in 2016. By 2030, the Countywide generated waste tonnage amount will increase to over 5.2 million tons per year (Table 3-2).

Based on the current permitted capacities at West Miramar and Sycamore, West Miramar is projected to reach capacity in 2012 and Sycamore in 2017 (Table 3-9). There is a small amount of capacity available (10,000 to 12,000 tons per year) at the remote Borrego Landfill; however, the Borrego Landfill is located about 80 miles from the West Miramar Landfill and, therefore, Borrego Landfill was not considered feasible for disposal of the City's waste.

3.2.3 PROPOSED ADDITIONAL CAPACITY

3.2.3.1 WEST MIRAMAR LANDFILL

As discussed in Section 2.3.1, the City is proposing a height increase at the West Miramar Landfill (WML). This proposed project would increase the total permitted capacity of the WML from the maximum 1996 permitted airspace volume of 75,210,000 cy to a total permitted airspace capacity of 87,760,000 cy. This additional capacity would allow West Miramar to remain open until 2017 at a minimum and projections indicate that with impact from the diversion ordinances capacity could be extended to 2019.

3.2.3.2 SYCAMORE LANDFILL

A Draft Environmental Impact Report (EIR) was circulated for public review in April 2008 for the proposed 47.2 million ton landfill expansion at the Sycamore Landfill which is about 8 miles from the West Miramar Landfill. A public hearing on the Draft EIR was held in October 2008 by the City's Planning Commission and further action by the City Council is anticipated in the near future. This proposed expansion is projected to provide capacity at Sycamore until the year 2029.

3.2.3.3 GREGORY CANYON LANDFILL

If the Gregory Canyon Landfill were to begin operating by 2010, as is currently projected, it could provide an additional 33.4 million tons of capacity and provide regional landfill capacity beyond 2030 (Table 3-16). However, given its northern San Diego location, approximately 41 miles from West Miramar, it is not likely that the City's waste would be landfilled there. There are several

pending issues before the Gregory Canyon Landfill can begin operating, such as a pending court decision to lift a writ of mandate that would allow the project to proceed. The County of San Diego Local Enforcement Agency and the owners of the Gregory Canyon Landfill returned to court in late October 2008 and asked that the writ be dissolved. The Gregory Canyon proponents requested an additional waiver of timeline extending the deadline for submission of the proposed permit application package to the CIWMB to January 15, 2009. The CIWMB Executive Director then has 60 days to concur or object on the solid waste permit application.

3.2.4 POTENTIAL STRATEGIES FOR MANAGING THE WASTE STREAM

3.2.4.1 EXPORTATION

Currently, there are ten large scale transfer stations with approximately three million tons of capacity per year that can be used for transporting waste to distant landfills. A planned transfer station at Miramar could provide additional transfer capacity of approximately 1.6 million tons per year or approximately 5,000 tpd, six days a week (Table 3-8).

3.2.4.2 WASTE DIVERSION

The cities in the County have a relatively high CIWMB preliminary reported diversion rate for 2006 with a median rate of 49 percent and a mode of 49 to 51 percent. Currently, the City is up to a 55 percent diversion rate, while the average countywide diversion rate was 49 percent. This has been achieved in part through the use of:

- Seven large scale composting facilities, not including the proposed Treesource Facility in Ramona (Table 3-7).
- Over 50 recyclable processing locations in the County (Table 3-8).

For the purposes of the Strategic Plan demand projections, regional diversion rates were conservatively assumed to be at the same level as in 2006. If the cities were able to reach higher diversion rates this could provide additional landfill

capacity than the demand projections anticipate. For the City of San Diego, the effect of the ordinances on increased diversion was included in the analysis.

3.2.5 SENSITIVITY ANALYSES

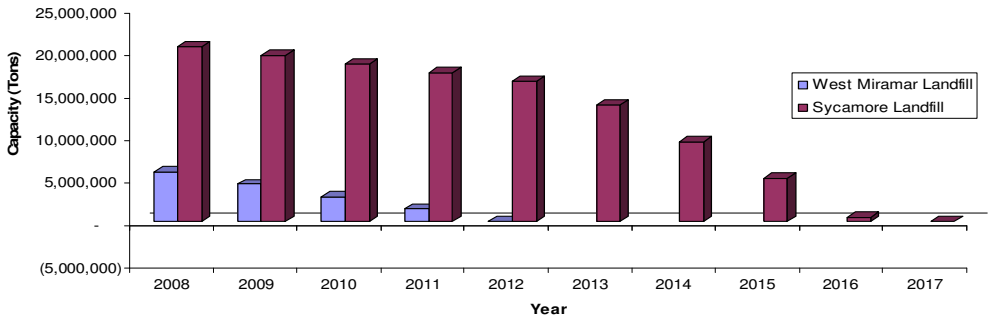
The City has two new ordinances whose anticipated effect on disposal tonnages was reflected in the projected capacity analysis tables. The first is a recycling ordinance and the second is a C&D ordinance. Due to the decline in disposal volumes from 2005 to 2006 and the unknown impact from the new City ordinances on disposal volumes, a sensitivity analysis was performed to evaluate potential impacts.

As previously discussed, the disposal projections were adjusted by assuming the annual change in population at 50 percent and 150 percent of the SANDAG population percent projections. Additionally, the City provided anticipated diversion volumes from the West Miramar Landfill resulting from the implementation of the two City ordinances and those projections were included in the capacity models.

3.2.6 PROJECTED CAPACITY - WITHOUT MIRAMAR HEIGHT INCREASE, WITHOUT SYCAMORE EXPANSION, AND WITH IMPACT FROM CITY ORDINANCES

Based on the SANDAG 100 percent projections, West Miramar would reach capacity in 2012 and the region would have capacity at the Sycamore Landfill up to the year 2017. These projected dates include the impact from the implementation of the City's recycling and C&D ordinances. A detailed modeling run is included in Table 3-9 (Volume II) of this report. Below is a graphic depiction of the modeling results.

FIGURE 3-1
Projected Capacity
Without West Miramar Landfill Height Increase &
Without Sycamore Landfill Expansion
(with Impact from City's Recycling & C&D Ordinances)



3.2.7 PROJECTED CAPACITY – WITH MIRAMAR HEIGHT INCREASE, SYCAMORE EXPANSION, AND IMPACT FROM CITY ORDINANCES

To determine the potential system capacity from the Miramar Height Increase and Sycamore Expansion, six different regional landfill system capacity models were run based the following variables:

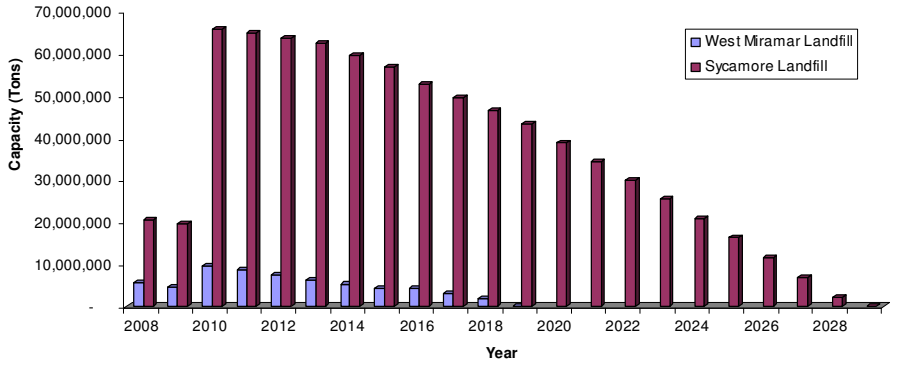
- Proposed capacity increases from the Miramar Height Increase and the Sycamore Landfill proposed expansion;
- Diversion impacts from the City's recycling and C&D ordinances; and
- Growth at 100 percent and a sensitivity analysis at 50 percent and 150 of the percent population increase projections.

These three modeling efforts resulted in these projected system capacities:

	Referenc e Table	**Year West Miramar Reaches Capacity**	**Year Regional Capacity is Reached**
Growth at 100 percent SANDAG Projections (with City ordinances)	3-10	2017 with height increase only 2019 with height increase and diversion ordinances	2029
Growth at 50 percent SANDAG Projections (with City ordinances)	3-11	2020	Beyond 2030
Growth at 150 percent SANDAG Projections (with City ordinances)	3-12	2018	2028

Detailed modeling results are included in Volume II: Tables 3-10, 3-11, and 3-12. The modeling results indicate that West Miramar is projected to have capacity to 2017 with the height increase. With the height increase and diversion ordinances, Miramar gains capacity to 2019 and Sycamore is projected to have capacity to 2029 (Table 3-10). Figure 3-2 below illustrates the results from Table 3-10.

FIGURE 3-2
Projected Capacity With
West Miramar Landfill Height Increase &
Sycamore Landfill Expansion
(With City Ordinances)



3.2.8 PROJECTED CAPACITY – WITH MIRAMAR, SYCAMORE, AND GREGORY ADDITIONAL CAPACITIES AND IMPACT FROM CITY ORDINANCES

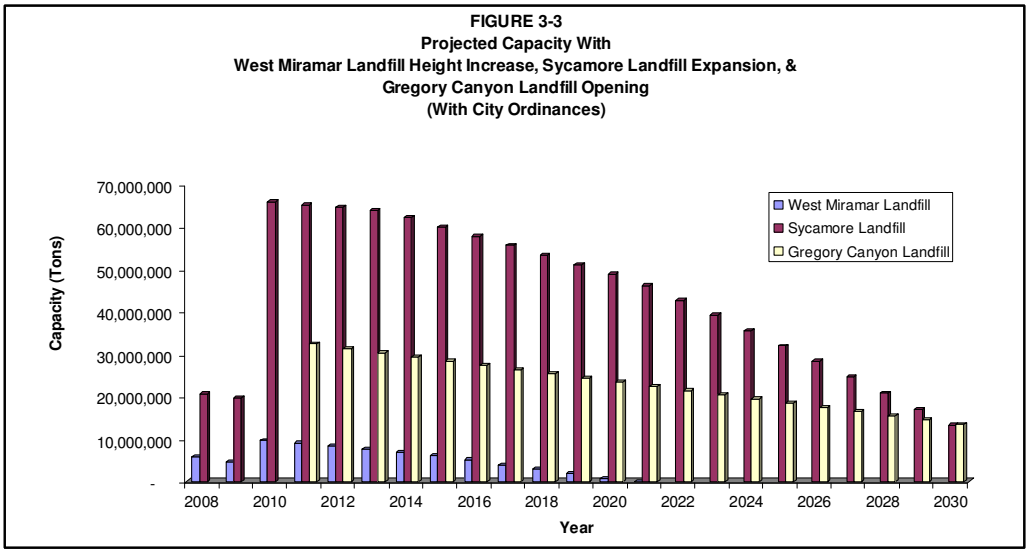
To determine the potential system capacity from the Miramar Height Increase, the Sycamore Landfill expansion, and Gregory Canyon Landfill three regional landfill system capacity models were run for this scenario based the following variables:

- Proposed capacity increases from the Miramar Height Increase, the Sycamore Landfill expansion, and Gregory Canyon Landfill beginning operations in 2010;
- Diversion impacts from the City's recycling and C&D ordinances; and
- Growth at 100 percent and a sensitivity analysis at 50 percent and 150 of the percent population increase projections.

These models resulted in the following system capacities:

	Reference Table	Year West Miramar Capacity Reached	Year Regional Capacity Reached
Growth at 100 percent SANDAG Projections	3-13	2021	Beyond 2030
Growth at 50 percent SANDAG Projections	3-14	2021	Beyond 2030
Growth at 150 percent SANDAG Projections	3-15	2021	Beyond 2030

Figure 3-3 below illustrates the regional system capacity projections from Table 3-13.



3.3 CONCLUSION

The City faces running out of landfill capacity at the West Miramar Landfill by 2012 if the Miramar Height Increase Plan is not approved. The region is projected to have capacity only until 2017 if the Sycamore Expansion is not approved (Table 3-9). These projected dates include the capacity gained from the City's recycling and C&D ordinance implementation.

If the Miramar Height Increase is approved, the Sycamore Expansion approved. and diversion continues from implementing the City's recycling and C&D ordinances, the City will have local capacity at West Miramar beyond 2019 and the region will have capacity until 2029 at the Sycamore Landfill (Table 3-10).

These projected capacities and dates include having the northern San Diego waste stream that was previously disposed of in Orange County, returning to the San Diego system in 2016. The County of Orange will discontinue out-of-County waste importation on June 30, 2016.

If the Gregory Canyon Landfill were to open by 2010, it could provide system capacity beyond 2030 (Table 3-13). Therefore, based on current data and projections, for the San Diego region to have disposal capacity up to 2030, the following milestones are critical:

1. Continued implementation of the City ordinances for recycling and C&D,
2. Approval of the Miramar Height Increase,
3. Approval of the Sycamore Landfill expansion, and
4. Gregory Canyon Landfill opening approximately in 2010.

If these four milestones were to all occur, West Miramar is projected to have capacity beyond 2020 and the region would have landfill disposal capacity beyond 2030.