



DEPARTMENT OF
PUBLIC WORKS

CITY OF SACRAMENTO
CALIFORNIA

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SOLID WASTE DIVISION

December 9, 1986

916-449-5757

JOHN F. BOSS
SOLID WASTE
DIVISION MANAGER

Transportation and Community Development/
Budget and Finance Committees
Sacramento, California

Honorable Members in Session:

SUBJECT: SOLID WASTE TRANSFER STATION PLANNING

SUMMARY

In late 1985 City Council directed staff to conduct an economic and siting study for a solid waste transfer station. Three options were considered:

- o Direct haul to the two County owned and operated transfer stations
- o Construction of a centralized transfer station-- City owned and operated
- o Construction of a centralized transfer station-- Privately owned and operated

Based on the results of the investigation, staff recommends construction of a City owned transfer facility to be located just west of the existing 28th & A Street Sanitary Landfill.

BACKGROUND

With the projected closure of the City's 28th Street Sanitary Landfill, City Public Works Department staff has been actively investigating options for disposal after the closure of the landfill. Following is a brief synopsis of activities previously reported to Council:

June, 1985:

Presented a three part planning process to a) evaluate waste-to-energy feasibility; b) evaluate the feasibility of locating a new landfill (Granite Gravel Quarry) and/or a new transfer station; and c) request proposals for other solid waste disposal options.

October, 1985:

Presented the results of the planning evaluation with the following recommendations adopted by Council:

- A. Staff conduct an economic and siting evaluation for various transfer station options.
- B. Authorize California Co-Compost Systems, Inc. six months to submit a detailed contract proposal to augment the conceptual proposal submitted earlier.
- C. Drop consideration of opening up a new landfill at three proposed sites within the City (including the Granite Gravel Quarry).
- D. Track other options such as processing waste for fuel, etc., and report back to Council if/when they become viable options.
- E. Drop active consideration of waste-to-energy as a viable option until air emission and energy sales contract problems are resolved.

June, 1986:

Presented the Closure Plan for the 28th Street Sanitary Landfill to City Council, which was adopted. The Closure Plan anticipates that the Landfill will reach capacity in late 1990.

June, 1986:

Presented staff findings and recommendations on the contract proposal submitted by California Co-Compost Systems, Inc. The Combined Transportation and Community Development/Budget and Finance Committees found the contract submitted as deficient, and recommended suspension of further consideration of that option.

September, 1986:

Presented to the Transportation and Community Development Committee staff findings and recommendations for construction of a City owned transfer station just west of the City's 28th Street Landfill/Dispatch/Maintenance facility. The report was presented to the Committee for preliminary information to allow sufficient time for external review of staff's recommendations.

At this time, staff is submitting the transfer station siting and options evaluation to the combined Transportation & Community Development/Budget and Finance Committee for consideration. A summary of alternatives reviewed is given below. A detailed report prepared by City staff and Jones and Stokes Associates, Inc. covering the solid waste transfer system analysis is presented as Attachment B. Attachment C compiles comments received and staff's responses.

DISCUSSION OF ALTERNATIVES

Two basic transfer station alternatives were evaluated: 1) Haul of City collected refuse to the two Sacramento County owned and operated transfer stations; or 2) Construction of a single transfer station to handle all refuse collected by City forces. The preference of a City owned/operated or privately owned/operated facility was also evaluated under the second alternative.

1. County Transfer Station Alternative

Under this alternative, all refuse collected north of the American River would be hauled to the County's North Area Transfer Station located adjacent to McClellan AFB, and all refuse collected south of the river would be hauled to the County's Fruitridge Transfer Station, just east of the Sacramento Army Depot. Sacramento County has indicated that the County would not consider selling or deeding the facilities to the City for ownership/operation. Both stations would require significant reconstruction to allow the City to use them. Reconstruction would include a) structures to enclose them (both are currently open-air facilities), b) expanded tipping floors and vehicle circulation areas, and c) revised and expanded access for City vehicles. City staff, with assistance from Jones & Stokes Associates thoroughly investigated this option, which is included as Chapter 2 of the Attachment B report. Major findings and conclusions are as follows:

- A. The County facilities are significantly removed from the City Solid Waste Division's dispatch and maintenance facilities, resulting in increased operating costs to the City's waste collection fleet (about \$400,000-500,000 per year).

- B. The County expects the City to pick up a significant portion of the reconstruction costs of the two facilities. These costs are estimated to be at least \$2 million, and may be much higher. Although the City would not have any vested ownership interest in the facilities, the City would be required to enter into a long-term agreement (20+ years) to use the facilities, effectively precluding a potential switch to alternative waste processing and resource recovery options.
- C. City collection crews could experience significant delays at the transfer station sites, as they would be used jointly by the City, the County, and the public-at-large.
- D. Currently the County is charging a fee of \$20/ton at the two transfer stations. According to County correspondence operating costs may be reduced to \$17/ton if the City elects to send all its waste to the transfer stations. These operating costs do not include capital amortization and increased City fleet operations costs.
- E. The total disposal cost is expected to be over \$20/ton.
- F. At this time Sacramento County is not using either transfer stations for County collection vehicles, even though they are dispatched from the North Area Station. This is primarily due to the high operating costs of the transfer stations, and possibly other factors.

2. New Transfer Station Located Within City

This option envisions the construction of a new transfer station within the City dedicated to accepting all refuse collected by City crews. Such a transfer station must be designed to accommodate current waste stream (750 tons/day) and future growth (900-1,000 tons/day). The first aspect of this option evaluated by City staff was to determine the preferred location for such a facility. Jones & Stokes Associates conducted this site analysis, which is presented in detail in Chapter 3 of Attachment B. The purpose of this site evaluation was to locate a preferred site for a new transfer station, which option could then be compared with Option 1 (County Transfer Stations).

A number of sites were considered and evaluated by Jones & Stokes Associates, Inc. for a centralized facility. Their evaluation included a review of previous transfer station site analyses conducted for the City by Brown & Caldwell Engineers (circa 1979-80). The location with the most favorable characteristics for a centralized transfer station is the western section of the 28th Street Landfill/Dispatch/Fleet Maintenance Facility. This is the area generally west of 28th Street and north of the railroad tracks paralleling (and just south) of A Street. The locations of sites evaluated are shown on Figure 1, and the evaluation matrix on Table 1.

In order to compare a new transfer station with direct haul to the Sacramento County facilities, staff prepared a cost estimate for constructing/operating such a facility at the preferred location (28th & A Streets). Both a City owned/operated and privately owned/operated option were developed. The details of the cost estimate, and assumptions, are given in Table 2.

A. City owned/operated facility with transfer haul to Sacramento County Landfill. City staff, in conjunction with consultant support (Cooper Engineers) prepared a cost estimate for constructing the facility, purchasing equipment and operating the facility. Based on acquiring municipal bond financing for this facility, the first year costs are estimated to be less than \$17/ton (1986 \$). Potential advantages for this option include the following:

- 1) Flexibility, without long-term contract constraints, to convert to alternative waste management options such as resource recovery, waste processing, waste-to-energy, etc. Private ownership would require a long-term contract (20 years), with associated private operation. The City would not have the flexibility to obtain lower cost operation through more frequent operating contract rebidding.
- 2) Greater control for meeting regulatory concerns; greater responsiveness to meet concerns of constituents near the facility.
- 3) Consolidation of other fleet management/facility management needs with transfer station construction.

- 4) City collection vehicles and transfer station operating personnel would be under direct supervision of Solid Waste Division Manager, allowing for effective and efficient reduction of potential operational conflicts between the two groups.
 - 5) Greater flexibility to modify transfer station operations, and/or collection operations to meet changing conditions and/or demands.
- B. Privately owned/operated facility with transfer haul to either Sacramento County Landfill (Kiefer Road) or Yolo County Landfill (West of Yolo Bypass). Evaluation of this option is based on reviewing the two top proposals received from the private sector. In order to proceed with this option the City would need to enter into a long-term contract (20 years) for use of the facility, with a companion contract for facility operation.

Initial costs for such an option appear to be about the same as a City owned/operated facility (\$17/ton - 1986 \$). This cost includes a landfill disposal charge of about \$6/ton. Potential advantages for this option include the following:

- 1) The City would not have to raise, through bonds, the funds necessary to construct the facility and purchase equipment.
- 2) The City would not have to recruit and train transfer station staff. All private parties submitting proposals have considerable experience in operating solid waste transfer stations.

Based on the above evaluation, it appears that a centralized facility would have significant economic and operations advantages over direct haul to the two County transfer stations. The evaluation also indicates no significant cost differences between a City owned or privately owned facility. However, there are system and operations disadvantages to a privately owned facility.

Landfill Disposal

Preliminary responses from Sacramento County and Yolo County, regarding their desire to contract with the City for disposal, and their general contract provisions, indicate that the County of Sacramento offers better terms and conditions. However, additional discussions are necessary. Sacramento County's preliminary contract terms and conditions are as follows:

- a. Tip fees to be based on incremental costs to handle City wastes. These fees should be comparable to fees charged the private sector. Fees for 1986/87 are anticipated to be about \$5.50-6.00/ton.
- b. A minimum contract of five (5) years to allow cost recovery of additional equipment.
- c. Payment of a capacity "surcharge" to allow the County to recover lost capacity through expansion of their site.

At this time it appears that the disposal fee proposed for use of Sacramento County's Landfill is lower than the estimated initial disposal cost of a City owned/operated Landfill located near the County's Kiefer Road facility. Construction of any new landfills will likely require expensive water quality protection measures. However, as capacity diminishes at the County's landfill, and as costs for that site escalate due to possible additional environmental constraints placed on it, it is prudent for the City to develop an alternate disposal site.

FINANCIAL IMPACT

There are several short-term and long-term financial implications to the choice of a transfer station option at this time:

	<u>Estimated Tip Fee</u> <u>\$/ton (1986 \$)</u>	<u>Capital</u> <u>Cost to City</u>
County Transfer Stations	\$ 20-21	\$ 3,000,000
Private Transfer Station	\$ 16-17	-0-
City Transfer Station	\$ 16-17	\$ 5,085,000

The estimated tip fee for the City owned/operated transfer station (\$16-17/ton) includes the total cost for maintenance, operating and debt service. The 1986-1987 approved Solid Waste Division budget includes \$400,000 for the environmental assessment, design, and permitting of the facility. This is included as part of the overall \$5,085,000 CIP estimate. A portion of the environmental assessment can be handled as part of the existing consultant services contract with Jones & Stokes Associates, Inc.

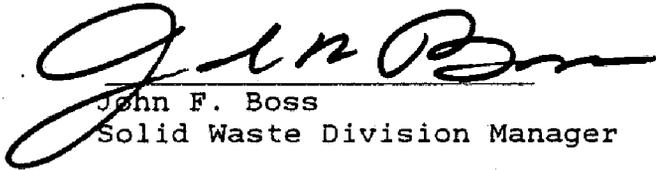
RECOMMENDATIONS

Staff presents the following recommendations to the combined Transportation and Community Development/Budget and Finance Committee for its consideration and approval:

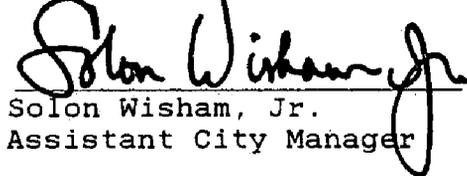
1. Approve the Draft Resolution (Attachment A) for submittal to City Council for adoption.
2. Endorse the construction of a centrally located City owned Solid Waste Transfer Station as the preferred transfer station implementation option.
3. Proceed with an environmental assessment for the construction of a solid waste transfer station to be located west of 28th Street at the City's 28th & A Street Landfill/Dispatch/Fleet Maintenance Complex.
4. Proceed with the procurement of permits for a City owned transfer station.
5. Defer until later a decision on whether to contract operations out to the private sector, or to assign transfer operations to City staff.

6. Authorize staff to complete the following activities to assure adequate landfill disposal capacity for the transferred wastes:
 - a. Negotiate contract specifications for an agreement for disposal at the Sacramento County Landfill.
 - b. Investigate and assess other landfill opportunities as they arise.

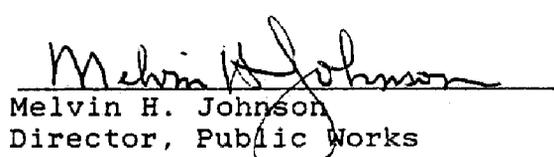
Respectfully submitted,


John F. Boss
Solid Waste Division Manager

Recommendation Approved:


Solon Wisham, Jr.
Assistant City Manager

Approved:


Melvin H. Johnson
Director, Public Works

Attch: Attachment A - Draft Resolution
Attachment B - Report -- Solid Waste Transfer System Analysis
Attachment C - Comments received and staff's responses

RESOLUTION NO.

ADOPTED BY THE SACRAMENTO CITY COUNCIL ON DATE OF

A RESOLUTION ENDORSING THE
CONSTRUCTION OF A CITY-OWNED,
CENTRALIZED SOLID WASTE TRANSFER STATION
AND AUTHORIZING PREPARATION OF AN EIR

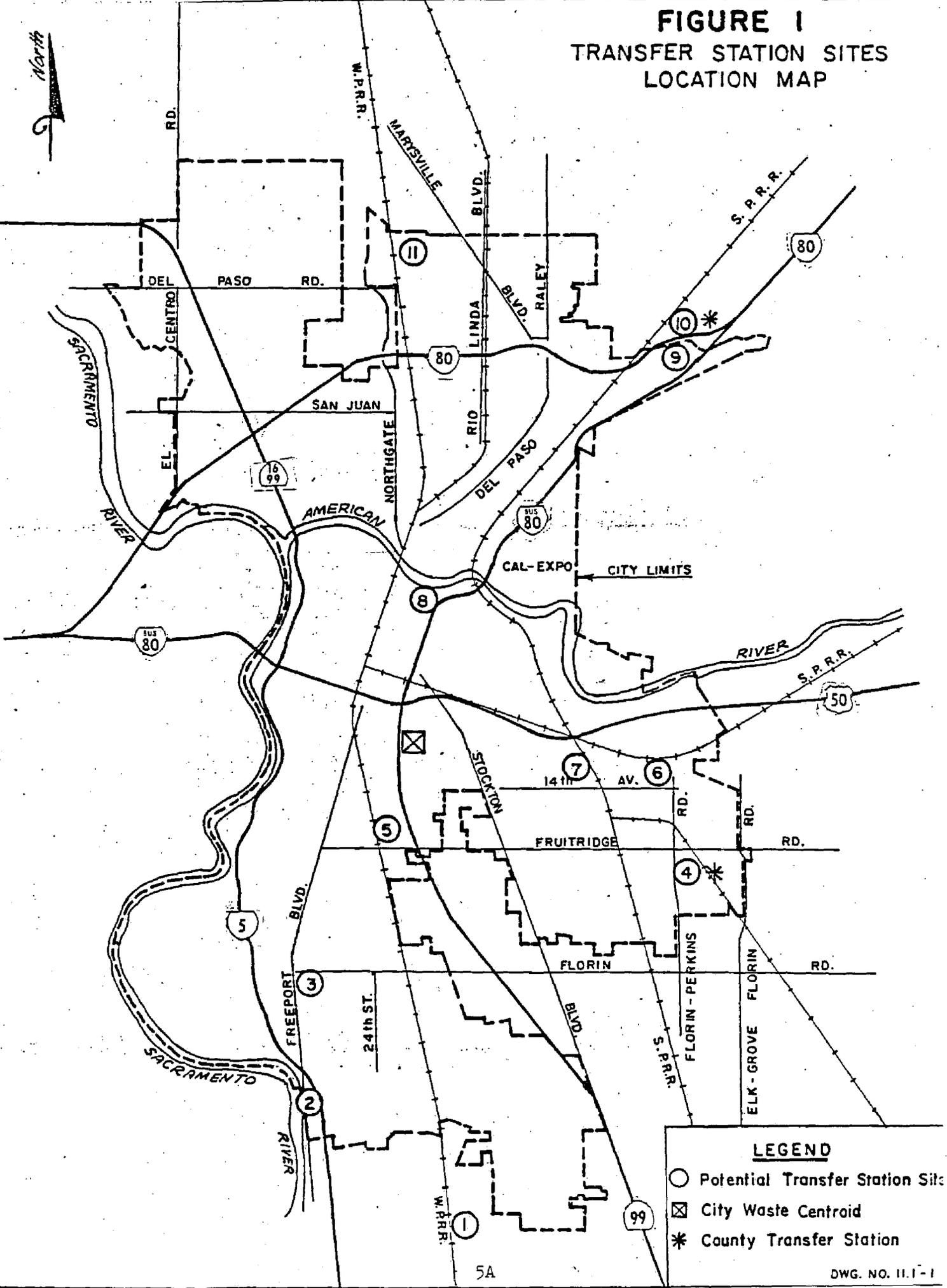
WHEREAS, the construction of a centrally located City-owned, Solid Waste Transfer Station is in the best interest of the City of Sacramento and citizens thereof, NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SACRAMENTO THAT:

1. City staff proceed with the environmental assessment for the construction of a solid waste transfer station to be located west of 28th Street at the Dispatch/Maintenance/Landfill complex;
2. City staff proceed with procurement of the necessary permits for the City-owned transfer station;
3. The City Manager is authorized to:
 - a. Negotiate contract specifications for an agreement for disposal at the Sacramento County Landfill.
 - b. Investigate and assess other landfill opportunities as they arise.

MAYOR

ATTEST:

FIGURE I
TRANSFER STATION SITES
LOCATION MAP



LEGEND

- Potential Transfer Station Site
- ⊗ City Waste Centroid
- * County Transfer Station

TABLE 1

City of Sacramento Transfer Station Site Options: Matrix Evaluation

Evaluation criteria	Site no.					
	1	2	5	6	7	8
<u>Policy conformity^a</u>						
Consistency with land use plans	●	●	●	●	●	○
Consistency with COSWMP	●	●	●	●	●	○
<u>Economic character^b</u>						
Site development cost	○	○	○	●	○	●
Operation and maintenance cost	●	●	○	●	●	○
Alternate use value	○	○	○	●	●	●
<u>Engineering character^b</u>						
Ease of permitting	○	○	○	○	○	○
Geotechnical	○	○	○	○	○	●
Drainage	●	○	○	●	●	○
Use of existing equipment	●	●	●	●	●	○
Site access	●	●	○	○	●	○
Size constraints for maintenance facility	○	○	○	○	●	N/A
Accommodate alternative technology	○	○	○	○	●	○
Effect of transport distance	●	●	○	●	●	○
<u>Environmental character^c</u>						
Soil loss	○	○	○	○	○	○
Water quality	○	○	○	○	○	○
Flooding	○	○	○	○	○	○
Biological resources	○	○	○	○	○	○
Noise	○	○	●	○	○	○
Land use conversion	○	○	○	○	○	○
Land use compatibility	○	○	●	○	○	○
Traffic/circulation	○	○	●	○	○	○
Public services	○	○	○	○	○	○
Energy	●	●	○	○	○	○
Health	○	○	○	○	○	○
Cultural resources	○	○	○	○	○	○
Aesthetics	●	●	●	○	○	○
Public acceptance	○	○	●	●	○	○

^a ○ = consistent; ○ = marginally consistent; ● = inconsistent

^b ○ = good; ○ = adequate; ● = poor; N/A = not applicable

^c ○ = no impact; ○ = potential minor impact; ● = potential major impact

TABLE 2

COST SUMMARY FOR BASIC TRANSFER SYSTEM COMPONENTS

Capital Costs	City owned and City Operated	*Private Owned Private Operate	*City owned and Private Operate	County Transfer Station
1. Design, Permits, EIR	\$ 400,000	\$ 385,000	\$ 400,000	
2. Site Work and Construction	3,470,000	3,075,000	3,470,000	
3. Rolling stock	750,000	-	-	
4. On-site Equipment	235,000	-	235,000	
5. Transfer Trailer repair bldg. & Report vehicle	230,000	-	-	
Subtotal (1-5)	\$5,085,000	\$3,140,000	\$4,105,000	
Cost for administrative debt service	1,656,000	60,000	1,656,000	
Total Capital Amount	\$6,741,000	\$3,200,000	5,761,000	\$3,000,000
6. Equipment 5 yr amortization		330,000	330,000	
Annual Debt payment				
20 yr. @ 8%	686,600	360,000	587,000	310,000
B. Maintenance and Operating costs				
1. Rolling stock	675,000	490,000	490,000	
2. Facility maintenance	100,000	60,000	90,000	
3. On-site Equipment	50,000	42,000	42,000	
4. Insurance, security, tax, licenses	50,000	196,000	221,000	
5. Labor	571,000	287,000	338,000	
6. Utilities	30,000	64,000	64,000	
7. Interdepartmental	60,000	65,000	65,000	
8. Increased fleet milage cost	-	-	-	463,000
9. Contract services cost	-	11,000	17,000	
10. Contingency & Management fees	-	170,000	170,000	
11. Administration supplies	-	48,000	48,000	
	\$2,222,600	\$2,123,000	\$2,462,000	\$773,000
*(Proposal Cost Ranges)		(2,123,000 - 2,226,250)	(2,462,000 - 1,937,200)	
*Transfer station total annual amount	\$2,222,600	\$2,177,500 ave	\$2,199,600 ave	
Landfill tip fee @ \$6 per ton	1,291,400	1,291,400	1,291,400	
County Transfer Station tip fee	-	-	-	\$3,660,000
Total annual cost	\$3,514,000	\$3,469,000	\$3,491,000	\$4,443,000**
Haul cost per ton (215,250 ton/yr.)	\$16.33/ton	\$16.12	\$16.22	\$20.60

*Private sector proposals varied widely in total cost and their line items, the amount used represents an average.

Physical Parameters Comparison

Item Description	City	Private (Range Variation)
1) Station Type	Tip floor	Tip floor/compactor pit
2) Total bldg. area	35,000 sq. ft.	(13,175 sq. ft.-39,000 sq. ft.)
3) Dozer	-	(none-1 specified)
4) Front end loader	2	2
5) a) Crane	-	-
b) Backhoe	2	-
6) Yard sweeper	None	1
7) Report vehicle	1	1
8) Scales	Axle + Existing	Axle + Existing City
9) Tractors	8	8
10) Trailers	8	(6-8)
11) Trailer Payload size	20 ton	(20 ton-24 ton)
12) Truck slots	15	(6-16)
13) Round trip time	80 minutes	(75 - 100 minutes)
14) Extra construction features	Piles & venting	(none stated-piles & venting)