BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

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|---|---|---|
| FOR THE PURPOSE OF SUPPORTING RECYCLING BY PROVIDING RECYCLING DROP/RECEIVING CENTERS AND AMENDING THE SOLID WASTE MANAGEMENT PLAN | ) ) ) ) ) | RESOLUTION NO. 79-85<br><br>Introduced By The Solid Waste/ Public Facilities Council Committee |

WHEREAS, The MSD Solid Waste Management Plan (SWMP) outlines the goal of waste reduction through the implementation of resource recovery, source separation and recycling; and

WHEREAS, The MSD Solid Waste/Public Facilities Council Committee approved the concept of MSD involvement in the region's recycle effort; and

WHEREAS, The Committee requested the MSD staff to prepare an analysis of potential involvement strategies including management and fiscal impacts which is contained in the report, "Recycling Drop/Receiving Centers Proposal," September, 1979; and

WHEREAS, The Solid Waste Policy Alternatives Committee and the Solid Waste/Public Facilities Council Committee, have reviewed the "Recycling Drop/Receiving Centers Proposal" and support the proposal; now, therefore,

BE IT RESOLVED,

1. That the MSD Council adopts a policy that allows MSD to promote recycling receiving services by offering financial and managerial support to Recycling Drop/Receiving Centers.

2. That the MSD Council amends the MSD's Solid Waste Management Plan to provide for Recycling Drop/Receiving Centers.

3. That the MSD Council approves the implementation

strategy of initially providing, on a trial basis, two full-line Recycling Drop/Receiving Centers in the Beaverton and S. E. Portland areas for one year, after which time an evaluation will be performed to determine the future MSD recycling effort.

ADOPTED by the Council of the Metropolitan Service District this 13th day of September, 1979.

Michael L Burton
Presiding Officer

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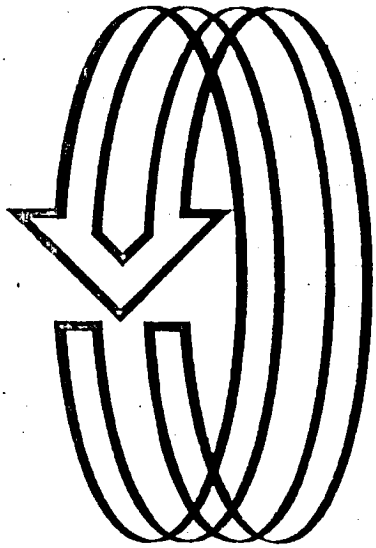
# RECYCLING DROP/RECEIVING CENTERS PROPOSAL



**Metropolitan Service District**

September, 1979

# RECYCLING DROP/RECEIVING CENTERS
# PROPOSAL

Prepared by:
Solid Waste Division

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## I. Introduction

The MSD Solid Waste Management Plan (SWMP) outlines the goal of waste reduction through the implementation of resource recovery, source separation and recycling. The impact of waste reduction is significant; resulting in extended landfill site life, increased collection efficiency, and energy conservation.

Historically, the recycling effort has been limited to the metropolitan area. Collection centers operated by neighborhood associations and citizen groups receive glass, newspaper, aluminum, cardboard (corrugated), tin cans, motor oil and other materials for recycling. The overall effort has been only marginally successful; with most centers operating in the "red," due to participation and management problems and varying materials markets.

Foreseeing a necessity for an organized districtwide recycling program, the MSD Solid Waste/Public Facilities Council Committee (SW/PFCC) approved the concept of MSD involvement in the region's recycle effort. The committee requested the MSD staff to prepare an analysis of potential involvement strategies including management and fiscal impacts.

## II. Findings and Recommendations

The investigation and analysis summary is outlined in the "findings." The "recommendations" outline proposed action to accommodate these needs.

Findings:

1. As a public service, the existing recycling effort in the metropolitan area should be expanded and include surrounding environs such as Beaverton, Hillsboro, Gresham and Oregon City.

2. Supporting recycling receiving centers in the District is a viable approach toward the accomplishment of waste reduction as mandated in the MSD SWMP and SB 925.

3. MSD managerial and financial support is necessary for the continuation of existing recycling service.

4. The annual cost to support the two proposed recycling centers would be approximately $28,350 -- 54,900, or $1,181 -- 2,287 per month, depending on tonnage of recycling material and existing materials market (see Part VII).

5. The financial impact of the expanded recycling effort in terms of disposal cost savings (collection, landfills) and resource recovery facility operations cannot be estimated at this time.

Recommendations

1. The SWMP should be amended to provide MSD with the ability to promote recycling receiving services by offering financial and managerial support.

2. Implementation of the preliminary phase of waste reduction through the deployment of two trial full line recycle drop/receiving centers for a period of one year in Southeast Portland and Beaverton areas.

These recommendations reflect stipulations outlined in Section VI of this report.

## III. History of Recycling

Solid waste management practices in the United States have encountered major changes down through history. Until the twentieth century, solid waste consisted primarily of food waste and ashes. Foods and other commodities were generally sold in bulk and carried home from the store in paper containers and the food waste was fed to fowl and domestic animals. Refuse collection was performed by "rag" men and "junk" men who collected scrap metals and farmers who collected food waste which was fed to domestic animals. Following World War I tin cans and glass bottles came into general use and the composition of household waste changed significantly. Solid waste management programs now operating in the Portland area are basically refinements of the landfill system started in the 1920s (City Club Report, 1976, p. 106). However, some changes in the solid waste picture have occurred. Open burning dumps are closed. Hazardous wastes are now being landfilled by environmentally sound methods. Citizens are strongly opposed to landfill sites in their communities, with landfill siting becoming a near impossibility.

But one unique manner in which the citizen is directly involved in the business of garbage is the growth during this decade of residential recycling systems. While these programs date back to Depression and World War I and II era practices, the environmental movement following Earth Day 1970 gave new definition to the reclamation of resources. Many individuals, particularly in Oregon, are concerned about the resource and energy consequences of traditional disposal practices.

The most traditional waste management alternative is the recycling of materials. The Liberty Bell was melted and reformed twice, George Washington owned a copper recycling mill, and Paul Revere was actually a metals broker. This deep history has been duplicated in Portland. Waste haulers have been reclaiming corrugated boxes since Independent Paper opened in Northwest Portland in 1918. The scrap metal reclamation business is a traditional Portland enterprise due to our fresh water port. Portland is a major junk car recycling center.

The local glass container manufacturing plant is one of the nation's largest cullet reclamation sites. There are several long-time waste oil recycling facilities in the city.

Source separation programs have been used extensively in recent history -- the most notable being the neighborhood can and paper recovery programs during World War II -- both for recovery of materials and reducing disposal volumes. Source separation implies a totally different citizen concept of waste -- that is, preparation of a resource rather than disposal of an annoyance.

Since 1970, residential recycling has changed. There has been a concerted move away from the one item fund raising recycling drives toward multi-material programs. Two compatible systems have developed to serve the citizen's recycling needs: the drop-off center and the recycling collection service. Portland has good examples of each; the former is represented by Portland Recycling Team and the latter by Cloudburst and Sunflower Recycling. Some refuse haulers are also providing collection of recyclable material as a service and their customers.

## IV. Existing Recycling Efforts

Recycling is becoming a more prominent factor in the refuse industry. Aided by the fact that Portland is the eighth most diversified manufacturing center in the United States, Portland has a variety of local secondary material users. DEQ ended 1977 "with listings in the Portland area for 88 nonprofit recycling projects, 58 individuals or small businesses recycling for profit, 15 garbage haulers offering free recycling collection to their customers; and 43 markets (2 glass, 27 paper, 4 plastic, and 13 metals) for a total of 203 Portland area recycling organizations" (Source Franchise Report, p. 5).

The Portland Recycling Team, Inc. (PRT) is the oldest and largest nonprofit recycling organization in the Pacific Northwest. PRT began in 1970 and was incorporated in 1972. The organization's activities were first limited to the campus at Portland State, but after a trial period in 1972 it developed into a full-time recycling center.

At present, PRT employs 35 full-time people, and in 1978 recycled 725 tons/month. PRT acts as consultant to community groups to help establish recycling centers or projects. The Team also acts as a "middleman" between 22 small nonprofit markets. Through PRT's assistance, two neighborhood recycling collection projects, Cloudburst and Sunflower Recycling, have been implemented.

PRT offers a community education program that provides for speaking engagements to schools, citizen groups, etc., a tour

of a recycling facility, displays at fairs and conventions. At the main office there is an educational resource center.

PRT was funded by the Federal Energy Administration to begin a Recycling Switchboard for industry. PRT serves as a waste information exchange between industries, about wastes they can reuse, in particular inorganic chemicals, acids, sludges, and solvents.

Cloudburst has been in the recycling business since April, 1975. The area serviced is in Northeast Portland and Northwest Portland, and Cloudburst is now serving about 350 residences in those neighborhoods. It offers two services. One is a monthly recycling service at $1.50 per month. The other is a complete collection service where recyclables are collected as well as residual garbage. Service rates are $4.00 per month, weekly service, for one can plus recyclables. Every other week service is $2.75 and once a month service is $2.00.

Sunflower Recycling has been in business since late 1973. They currently serve approximately 400 homes throughout Portland, and provide the same types of services as Cloudburst. PRT, and the organizations it serves, recycled approximately 8,662 tons of materials in 1978. Following is more specific information on the types of materials kept from the landfills:

| | | |
|---|---|---|
| Glass | 4,255 | tons |
| Cans | 325 | " |
| Newsprint | 1,749 | " |
| Scrap | 1,144 | " |
| Aluminum | 59 | " |
| Kraft | 44 | " |
| HiGrade | 249 | " |
| Corrugated | 837 | " |

In the last year the average price being paid for source separated material was as follows:

| | | |
|---|---|---|
| Newsprint | $ 25 | per ton |
| White Ledge | $ 70 | " " |
| Corrugated | $ 22 | " " |
| Waste Paper | $ 8 | " " |
| Glass | $ 30 | " " |
| Cans | $ 30 | " " |
| Aluminum | $ 340 | " " |

SCS Engineers of Long Beach, California, recently conducted a detailed survey of household waste separation procedures and concluded: "Requirements for householder separation efforts consume minimal amounts of time and are not costly." The study involved four materials which are most likely to be collected separately -- newspaper, glass, tin/steel and aluminum, which comprise around 30 percent of total household wastes."

SCS judged costs to the resident negligible, because the equipment needed for home separation -- a second garbage can, a knife, a can opener, is inexpensive and likely to be present in the home anyway. Ongoing costs for water, twine and electricity used in cleaning and bundling totaled 2 cents per month.

SCS similarly found time requirements for home separation minimal -- householder time, including cleaning, bundling, and transportation of recyclables, was estimated at 2-1/2 minutes per day; or 18 minutes per week; or 73 minutes per month, barely enough to qualify as a chore to occupy a slothful kid. Storage space required for a one-month accumulation averaged 9 square feet. This, then, is the total measure of social inconvenience to the householder: 73 minutes, 2 cents, and 9 square feet per month for separation of 30-35 per cent of total waste generated. (Source: Resource Conservation Through Citizen Involvement in Waste Management, p. 23.)

## V. Evaluation of Recycling Needs

### Public Concern

Public outcry has demonstrated that the need for a viable recycling program exists in Portland and vicinity. For example, in 1977 the DEQ Recycling Switchboard received over 13,000 calls, mostly dealing with citizens requesting information about recycling various materials. Interest in recycling has increased significantly since that time. For example, in February-May, 1978, 3,424 calls were received, whereas in the same period in 1979, 5,183 calls were handled by the switchboard. When it was determined that there would not be any recycling receiving service in the southeast Portland area, 1,880 people called the switchboard in the month of June (1979) as compared to 715 calls in the same month last year.

The key concerns of the public have been convenience and availability of recycling receiving centers. In the Portland metropolitan area, there are 120 centers -- 80 percent of which recycle only newspaper and glass. Since December, 1978, 45 centers have gone out of business and only three centers have started service. PRT, which operates the only full-line recycling service, recently discontinued service in southeast Portland. Two other larger recycling operations in northeast Portland face relocation due to the loss of a storage facility.

Service in the outlying areas of Gresham-Troutdale, Oregon City, Beaverton and Hillsboro is also limited. Gresham Recycling, which handled 40-50 tons/month recently went out of business. Existing service in that area is limited to Lynchwood Church, St. Ann's Parish and Luthern High School. Other smaller operations also exist. In Oregon City, the operations in Gladstone, the Oregon City High School and Clackamas County Recreational Center have been curtailed. Currently, only minor service is provided.

In Beaverton, and Hillsboro cursory service is provided by various neighborhood associations. In light of this lack of service, the public must travel greater distances to deposit their source separated materials. Also, most of existing recycling centers are limited to operating once or twice a month rather than on a continuous basis.

According to a 1975 PRT public survey, the reason that most people recycle is to clean up the environment. Whereas technology exists for environmentally safe large-scale energysaving systems (e.g., resource recovery, solar and wind power), recycling is a "technology" where the individual can directly participate in its implementation. The individual gets immediate feedback in the form of self-satisfaction -- knowing that he/she can directly contribute to the making of a better environment.

Recycler's Concern

The overall lack of success of recycling operations can be attributed to several factors:

a. Difficulty in locating receiving centers due to cost and/or zoning constraints
b. Increased equipment cost
c. Materials market variability
d. Poor management techniques
e. Increased operating costs
f. Lack of continued participation due to inconveniences to users

A majority of the recycling centers are operating at a deficit and the MSD has been approached by several recycling operators seeking funds. Recycling services in southeast Portland have been curtailed. The center at Lewis and Clark College has also closed, leaving a large area without service.

## VI. MSD Involvement Strategy

It is proposed that two trial recycle receiving centers be deployed for one year to assess the feasibility of MSD involvement in the recycling effort. After one year, the data and experience obtained from the operation will be reviewed and evaluated by MSD staff or an outside consultant. The evaluation of the trial centers will address economic, environmental and market impacts. The evaluation will also contain a critique of public involvement and promotion effectiveness.

By establishing a trial center:

- in an area where a full line recycle receiving center recently operated (Southeast Portland), and
- in a new service area (Beaverton),

the probability for a credible evaluation after one year is substantially greater than an evaluation based on the data from only one test center. Specifically, operating two centers in the proposed locations will provide data for the determination of possible demographic impacts on recyle success. For example, the following comparisons will be addressed:

- Suburban Location vs. Urban Location
- Home-Owner District vs. Rental District
- Higher Income District vs. Moderate Income District
- Commuting District vs. Public Transit District

The recycle center evaluation will provide the necessary input required for sound decision making.

Phase I. Acquire Site and Obtain Contractor

- Acquire site (purchase, lease, rent).
- The site may be selected by either MSD or the prospective operator.
- Publish RFP and receive bids for recycle operation (one year). Operation responsibilities include:
  - Site Improvement and Facilities
  - Equipment Acquisition
  - Trucking Costs to Markets
  - Marketing and Processing Costs
  - Public Involvement and Promotion Program
  - Operational Data Compilation
- Award contract to best proposal on basis of cost, services offered and qualifications.

The proposal may include the extent of MSD's financial and managerial commitment:

- Rental Costs
- Utilities Costs
- Equipment Costs
- Cost Recovery Scheme from Recycled Materials
- Securing Markets

Phase II. Recycle Center Monitoring and Evaluation

- Monitor recycle centers (survey users) and make mid-stream modifications if necessary.

- Evaluate sites after one year on basis of:
  - Expenses Incurred
  - Public Usage
  - Operation Criteria
  - Contractural Agreement
- Decision Making -- discontinue MSD involvement or continue and expand service.

Phase III. Comprehensive Recycling Plan

If a recommendation is made to continue involvement, a Comprehensive Recycling Plan will be formulated. This Plan will address such issues as:

- MSD/DEQ Coordination
- Certification/Franchising Implementation
- Recycling Receiving Center Operations Criteria
- Operation Monitoring
- Recycle Receiving Center/Transfer Station Distribution
- Financial and Managerial Support Guidelines
- Role in Materials Market
- Media/Promotion Program

MSD and DEQ will ensure a cohesive recycling program is implemented. It is predicted that the DEQ role as the information clearing house will continue. This includes providing for educational workshops, hot-line service, information and technical assistance. DEQ has plans of expanding its role by implementing statewide certification.

## VII. Managerial and Financial Impacts on MSD

To ensure a coordinated Recycling/Resource Recovery Program as outlined in the SWMP, management of the recycling effort will be conducted by MSD Solid Waste staff. MSD managerial support includes:

- Project Management and Direction (procurement and budget administration)
- Establishment of Operational Criteria
- Contract Compliance Evaluation/Modification
- Facility Monitoring/Auditing
- Materials Market Assistance
- Establishment of Mechanisms for Receipt of Public Comments
- Permit Aquisition Assistance

It is projected that MSD Solid Waste Division has sufficient qualified (in-house) staff to manage the proposed initial recycling centers as outlined in Section VI.

Financial impact scenarios of MSD's initial recycling involvement are outlined below. Centers A and B reflect existing operations based on PRT experience and include a possible cost recovery arrangement. The expenses include rent, labor and utilities. The cost recovery scheme designates (e.g., Glass) the operator to receive a minimum price for recycled materials based on 16/30 of the market value ($30). MSD and the operator equally split the remaining $14 fraction. From this arrangement, MSD would receive $171.22 from 24.5 tons of glass. Center C (MSD projections) outlines a range of costs based on variances in tonnage. Center D reflects a past operation in the Southeast Portland area. A cost recovery scheme where the operator and MSD equally split the cost of recovered materials is also outlined.

As previously outlined, it is proposed that the contractor as part of his bid, will designate the respective MSD costs and cost recovery agreement (recycled materials).

## FINANCIAL IMPACT SCENARIOS

| MSD Expenses | Center A | Center B |
|---|---|---|
| Rent | $ 125 | $ 500 |
| Labor @$5/hr. (includes benefits) | 1,512 | 1,512 |
| Utilities | 50 | 50 |
| TOTAL MSD Cost | $1,687 | $2,062 |
| MSD Cost Recovery Scheme w/Floor Price | | |
| Glass @$30/ton; $16 to contractor and 50/50 on $14 | $ 171.22 (24.5 tons) | $ 141.77 (21.1 tons) |
| News @$27.50/ton; $7.50 to contractor and 50/50 on $20 | 413.70 (41.4 tons) | 257.80 (25.8 tons) |
| Tin @$30/ton; $22 to contractor and 50/50 on $8 | 20.44 (5.1 tons) | 22.48 (5.6 tons) |
| Scrap paper @$8/ton; $7.50 to contractor and 50/50 on $.50 | 6.04 (24.2 tons) | 3.77 (15.1 tons) |
| TOTAL MSD RECOVERED COSTS | $ 611.40 | $ 431.82 |
| NET COST TO MSD per mo. | 1,075.60 | 1,630.18 |
| NET COST TO MSD per yr. | 12,907.20 | 19,561.56 |

TOTAL NET MONTHLY COST TO MSD UNDER SUCH AN ARRANGEMENT WOULD BE $2,705.78.

TOTAL NET ANNUAL COST TO MSD FOR TWO RECYCLE CENTERS $32,468.76.

## FINANCIAL IMPACT SCENARIOS (Continued)

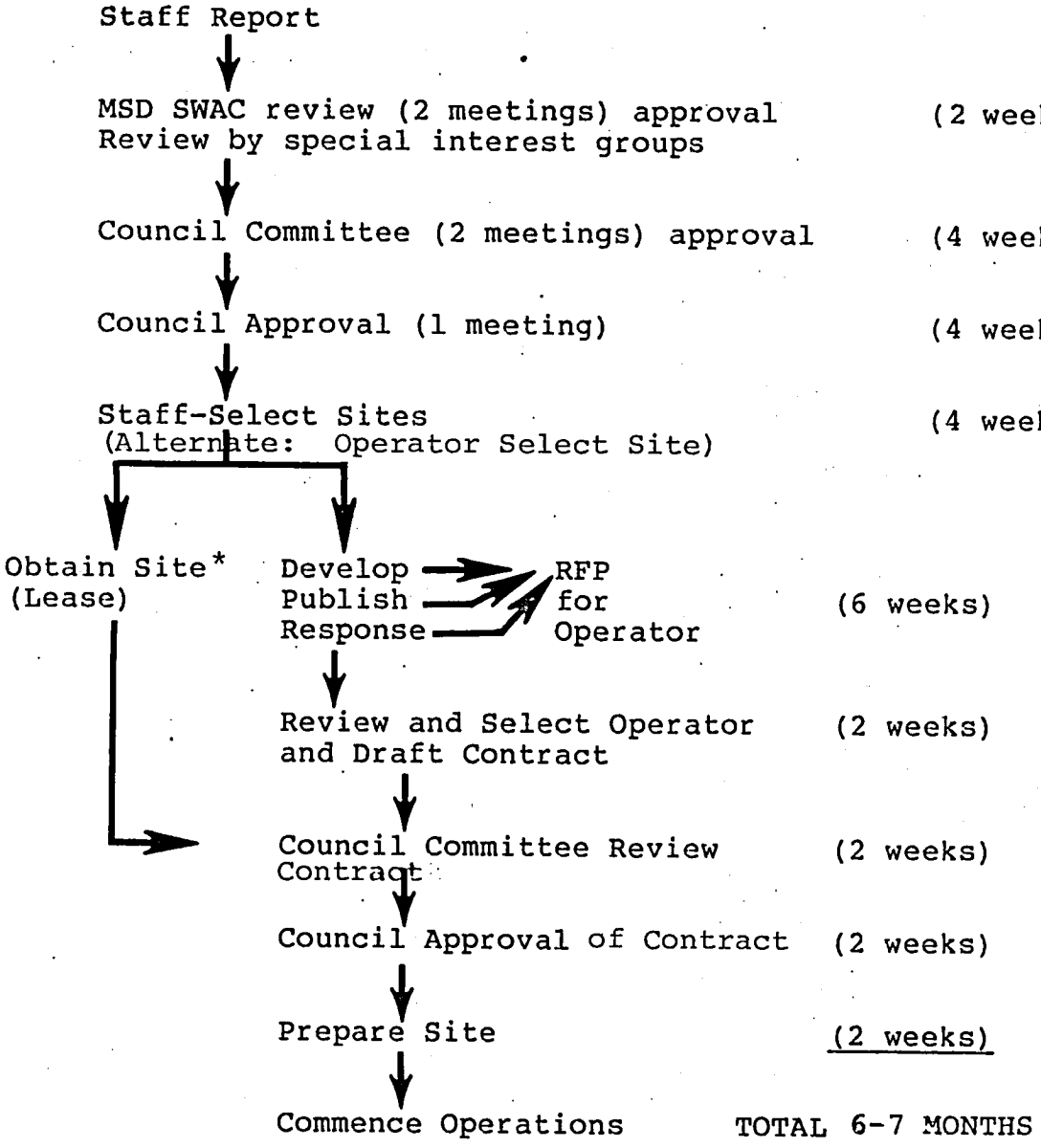
| MSD Expenses | Center C | Center D |
|---|---|---|
| Rent | $1,000 | $500 |
| Labor | 2,000 | 1,700 |
| Utilities | 100 | 100 |
| TOTAL MSD Cost | $3,100 | 2,300 |

MSD Cost Recovery Scheme (MSD and Operator Sharing Equally)

| | | |
|---|---|---|
| Glass<br>@ $30/ton | $375-700<br>25-50 tons | $250.50<br>16.7 tons |
| News (tons)<br>@27.50/ton | $343.75-825<br>25-60 tons | $222.75<br>16.2 tons |
| Tin (tons)<br>@30/ton | $75-300<br>5-20 tons | $46.50<br>3.1 tons |
| Scrap paper<br>@ $7.50/ton | $18.75-93.75<br>5-25 tons | $31.50<br>8.4 tons |
| TOTAL MINIMUM RECOVERED COSTS | $ 812.50 | ----- |
| TOTAL MAXIMUM RECOVERED COSTS | $ 1,918.75 | $551.25 |
| NET COST TO MSD per mo. | 1,181.25 - 2,287.50 | $1,748.75 |
| NET COST TO MSD per yr. | $14,175 - 27,450 | $20,985 |
| NET COST TO MSD per yr. FOR TWO RECYCLE CENTERS | | $28,350 - 54,900 |

## VIII. MSD Schedule for Implementation

The following proposed schedule provides for accommodation of comments from the SWPAC, Council Committee and the public. If necessary the schedule will be updated after 12 weeks.




*Alternative: Operator Select Site

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# APPENDIX

In April, 1975, PRT conducted a survey to determine the effectiveness of its different types of collection operations. Results of the more than 200 replies received is listed below. The chart should be interpreted as follows: "Twenty-three percent of the people who attend full-line service centers in the southwest recycle to reduce garbage bills."

## SURVEY OF DROP-OFF CUSTOMER ATTITUDES

| Survey question/response | Attended Full-line | Unattended Full-line | Periodic Full-line | Home Coll. Full-line |
|---|---|---|---|---|
| (1) Why do you recycle? | | | | |
| . to reduce garbage bills | SW 23%<br>SE 66% | 10% | 41% | 30% |
| . to clean up environment | SW 92%<br>SE 85% | 94% | 96% | 69% |
| . to raise money for sponsor | SW 42% | 10% | 51% | 38% |

| (2) Which items do you recycle? (would like to start?) | Attended | Unattended | Periodic |
|---|---|---|---|
| Newspaper | SW 90%<br>SE 78% | 94% | 100% |
| Glass | SW 90%<br>SE 80% | 100% | 95% |
| Cans | SW 70%<br>SE 74% | 89% | 88% |
| Scrap Paper | SW 69%<br>SE 44% | 60% | 50% |
| Plastic | SW 30%<br>SE 50% | 44% | 45% |
| Aluminum | SW 42%<br>SE 44% | 82% | 57% |
| Oil | SW 2%<br>SE 8% | 0% | 14% |
| Organics | SW 2%<br>SE 32% | 16% | 15% |

| | | | | | |
|---|---|---|---|---|---|
| (3) | How far do you come to recycle?*** (miles) | Attended<br>SW 6.2<br>SE 5.0 | Unattended<br>6.0 | Periodic<br>1-2.5 | |
| (4) | How often do you recycle? | Attended | Unattended | Periodic | Home Coll |
| | Every week | SW 8%<br>SE 7% | 13% | 0 | 22% |
| | Twice a month | SW 8%<br>SE 7% | 13% | 0 | 33% |
| | Every month | SW 48%<br>SE 55% | 40% | 100% | 33% |
| | Less than once/month | SW 36%<br>SE 31% | 34% | 0 | 11% |

An earlier poll established that over 70 percent of the customers used the recycling center on the way to other destinations, and the average amount of out-of-the-way driving was less than one mile.

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