BEFORE THE COUNCIL OF THE
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF AMENDING THE OPERATIONS CONTRACT FOR THE ST. JOHNS LANDFILL TO IMPLEMENT A A RESIDENTIAL SALVAGEABLE BUILDING MATERIALS DEMONSTRATION PROJECT	)))))	RESOLUTION NO. 90-1258 Introduced by Rena Cusma, Executive Officer

WHEREAS, Order No. SW-WR-89-01 of the Environmental Quality Commission of the State of Oregon established a series of time lines for Metro to execute the 1986 Waste Reduction Program and measure conformance; and

WHEREAS, one element of Order No. SW-WR-89-01 required Metro analysis regarding the feasibility of accepting source separated residential salvageable building materials; and

WHEREAS, a demonstration project is necessary to assess the technical feasibility of accepting salvageable residential building materials; and

WHEREAS, the demonstration project will be conducted at the St. Johns Landfill public recycling area as a minor addition to the services already offered to the public by Metro; and

WHEREAS, BFI, Inc., the current operations contractor to Metro at the St. Johns Landfill, is willing to manage the demonstration project for a fee of $1,000 per month for up to nine (9) months;

WHEREAS, The resolution was submitted to the Executive Officer for consideration and was forwarded to the Council for approval; now therefore,

BE IT RESOLVED,

The Council approves an amendment to the Contract for Operation of the St. Johns Landfill per the terms of Contract Change Order No. 12, appended hereto as Exhibit A, to allow staff to conduct a Demonstration Project for Residential Salvageable Building Materials at the St. Johns Landfill.

Adopted by the Council of the Metropolitan Service District this 10th day of May, 1990.

Tanya Collier, Presiding Officer

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 90-1258, FOR THE PURPOSE OF AMENDING THE OPERATIONS CONTRACT FOR THE ST. JOHNS LANDFILL TO CONDUCT A RESIDENTIAL SALVAGEABLE BUILDING MATERIALS RECOVERY DEMONSTRATION PROJECT.

Date: April 25, 1990

Presented by: Debbie Gorham
Keith Thomsen

FACTUAL BACKGROUND

Unilateral Order No. SW-WR-89-01, Section 4.A.(a), issued by the Environmental Quality Commission, State of Oregon, requires Metro to "evaluate all Metro-area disposal sites and transfer stations to determine the feasibility of establishing an area at each site for receiving lumber and reusable or recyclable building material from the residential waste stream." Pursuant to the Order, the Waste Reduction staff conducted a study and prepared a report to the DEQ that reviewed all pertinent data regarding this waste substream, evaluated various options and formulated specific recommendations.

Pursuant to The Code of the Metropolitan Service District, Chapter 2, Section 04.045, the Change Order to the Operating Contract for the St. Johns Landfill required to accomplish the work, shown in Exhibit A, is herewith submitted to the Metro Council for review and approval. Approval is required since the change order will exceed the 10% aggregate change order limit established by Code for this type of contract.

SUMMARY

The purpose of the study was to determine the feasibility of establishing an area at existing disposal facilities within the boundary of the Metropolitan Service District (METRO) to accept source separated residential salvageable building materials. The study points out that residential salvageable building materials represent only a small fraction of the total construction and demolition debris waste substream. Although the EQC Order also addresses this waste substream, salvageable residential building materials required separate treatment.

The study was comprised of six (6) sections. The following is a summary of each section.

1. Section one reviews the research methodology that was followed in conducting the study.

2. Section two presents a review of the national literature on salvageable building materials collection and/or processing facilities.

3. Section three examines general market conditions and local markets.

4. Section four reviews the Planning Department's and Solid Waste Department's ongoing efforts to formulate a comprehensive regional management plan for the construction and demolition debris waste substream. Also, a discussion of the inter-relationship of the salvageable residential building material waste substream and the construction and demolition debris waste substream is presented.

5. The fifth section is an analysis of existing disposal facilities to determine whether these facilities could be retrofitted to accept source separated residential salvageable building materials.

6. Section six presents conclusions and recommendations of staff regarding accepting source separated residential salvageable building materials at existing disposal facilities.

Based on the facilities analyses and evaluations, staff recommended that none of the existing disposal facilities be retrofitted to collect and/or process salvageable building materials at this time. Long term solutions for the entire construction and demolition debris waste substream will be addressed in the Regional Solid Waste Management Plan - Select Waste Work Plan currently being developed cooperatively by the staffs of the Planning Department and Waste Reduction Division.

During the course of conducting the facility analyses, it became clear that substantial gaps in data regarding residentially generated salvageable building materials exist. To correct this problem, staff proposes to conduct a demonstration project to collect needed data. The demonstration project proposed will be of **limited duration** and will be conducted by the contract landfill operator under staff supervision. Details of the demonstration project are contained in the attached copy of the report to the DEQ.

DEMONSTRATION PROJECT SUMMARY

The demonstration project will consist of two (2) 8' x 8' x 40' cargo containers that will be modified to serve as material storage areas. The containers will be placed near the existing public drop-off area and will be used to collect source separated residential self-hauled salvageable building materials. Routine

operation of the project will be provided by the contract landfill operator, BFI, Inc. Since BFI also operates the public recycling area at the St. Johns Landfill, this demonstration project will be included as a minor addition to this work. The project will last between 6 - 9 months, and data will be collected and reported on a weekly basis.

Information to be collected will include the following:

1. Quantity of each type of material collected.

2. Availability of local market channels to purchase or absorb the recovered materials.

3. Current prices for each type of material collected.

4. Quantity of each type of rejected material.

5. General operational information (problems, unusual occurrences, etc.).

Staff will compile the data to track the overall cost effectiveness of collecting residential salvageable building materials in this manner. A final report will be prepared that will summarize the results and make recommendations regarding the viability of this concept. The total cost of the project is estimated to be approximately $15,000.00. Of this total, $6,000.00 will be expended in fiscal year 1988-89 and $9,000 will be expended in fiscal year 1989-90, and will consist of:

Payments to BFI to operate the project	$9,000.00
Purchase cost for containers	$3,000.00
Contingency	$3,000.00

The following items are proposed to be accepted:

1) New or good quality used doors.

2) New or good quality used lumber.

3) New or used door and window hardware.

4) New or good quality used toilets.

5) New or good quality used bathtubs.

Staff has great confidence that this demonstration project will generate substantial data regarding collection, processing and marketing of residential salvageable building materials. It will

also provide substantial insights into the long-term viability of one specific collection option for salvageable residential building materials.

EXECUTIVE OFFICER RECOMMENDATION

The Executive Officer recommends adoption of Resolution No. 90-1258.

EXHIBIT A
RESOLUTION NO. 90-1258

CHANGE ORDER No. 12

Change Order to Amend the Contract for Operation of the St. Johns Landfill - Dated June 1985, to Accommodate a Residential Salvageable Building Materials Demonstration Project

This agreement, dated March 26, 1990, is entered into between the Metropolitan Service District (Metro) and Browning-Ferris Industries, hereinafter called "Contractor," pursuant to the Contract Documents for operation of the St. Johns Landfill, Dated June 1985, Part 3 - General Conditions, Article 22 - Additional or Deleted Work, Paragraph A - Compensation for Additional Work, Section 1 - Unit Prices, page 21. No payment beyond this additional sum shall be authorized by Metro without a specific written amendment to the original contract.

This amendment is an expansion of Contractor's original Scope of Work, and is being added in accordance with the recommendations contained in a report by Metro, titled "An Analysis to Determine the Feasibility of Receiving Salvageable Building Materials at Existing Disposal Facilities within the Metropolitan Service District's Boundary", to the Oregon Department of Environmental Quality, dated December 1, 1990, prepared in compliance with Order No. SW-WR-89-01, Section 4.A.(a) of the Environmental Quality Commission of the State of Oregon.

EXHIBIT A
RESOLUTION NO. 90-1258

The work described herein includes all coordination involving Metro and the Contractor's subcontractors, if any, and management of all activities necessary to complete the work. It is acknowledged by Metro and Contractor that the labor and materials to be provided herein were not included in the original contract.

1. Contractor agrees to perform the following additional work and provide the following items and materials:

   A. Adapt two (2) 8' x 8' x 20' closed top containers, to be provided by Metro, per the attached sketch titled "STORAGE CONTAINER RETROFIT DESIGN", dated March 15, 1990, Revision 1. All labor and materials, except as provided elsewhere, required to adapt the containers shall be provided by Contractor.

   B. Place the two containers, after modification per 1.A. above, in the public drop-off recycling area by June 1, 1990. The modified containers are to be used by the general public during normal daylight operating hours to drop-off source separated, self-hauled residential salvageable building materials. Businesses may also use this service so long as any materials received are source separated, and accepting these materials does not pose any significant operational problems. Metro retains the right to refuse any and all materials, from any source whatever, at Metro's sole discretion.

   C. Collect weekly data to include:

      a. Quantity of each material collected.

      b. Quantity of each material sold.

      c. Price per item for all materials sold.

      d. Quantity of any rejected material.

e. General operational information including problems, unusual occurrences and itemized operating expenses.

f. Weekly data shall be summarized and reported by no later than the 15th day of the following month.

g. Upon termination of the project, Contractor shall prepare a final summary report based on the data collected above. The final report shall be submitted to Metro within 30 days of termination of the project.

D. Install informational sign(s). The sign(s) will state the operating hours, type of material accepted and where and how to place each type of material. The sign(s) will be provided by Metro.

E. All reject material shall be disposed of by Contractor at the St. Johns Landfill at no cost to Metro. Contractor shall obtain permission from Metro prior to disposing of any material.

F. Contractor shall make good faith effort to market all materials collected. Any revenues generated from the sale of collected materials shall be the property of Contractor.

G. The project duration shall be from June 1, 1990 through February 1, 1991; provided, however, that Metro may terminate the project at any time at Metro's discretion. Should Metro decide to terminate the project early, Metro shall provide Contractor ten (10) days written notice. Early termination of the project by Metro shall not constitute cause for any claim by Contractor. If the project is terminated prior to October 31, 1990, Metro shall pay Contractor an amount equal to the sum that would have been due to Contractor had the project continued through October 31, 1990. If the project is terminated after October 15, 1990, the final payment shall be made on a pro-rata basis per the monthly unit price shown in Section 2 of this Contract Change Order.

H. Contractor shall accept, as a minimum, the following categories of materials at the project site:

a. New, or good quality used, doors.

b. New, or good quality used, dimension lumber.

c. New, or used, door and window hardware.

d. New, or good quality used, bathtubs and toilets.

e. Additional categories of materials may be added by Metro, so long as the total number of material categories included does not exceed six (6), at no increase in cost to Metro.

f. Metro shall make all determinations of acceptability of materials. Such determinations of acceptability of materials by Metro shall be made, whenever possible, in cooperation with Contractor.

I. Contractor may accept additional material categories. Contractor shall notify Metro in writing within 10 days of beginning acceptance of a new material category. Additional materials collected by Contractor under the terms of this provision shall be at no additional cost to Metro.

J. Metro may terminate collection of any material category at any time during the project. Metro shall notify Contract in writing, and Contractor shall cease acceptance within 10 days of such notification.

K. Contractor may, with the approval of Metro's Operations Manager or Site Supervisor, accept source separated recyclable building materials delivered by private companies. Under no circumstances shall acceptance of such materials, or approval by Metro to accept such materials, constitute a basis for any type of claim for additional work.

EXHIBIT A
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L. At the conclusion of the project, Contractor shall clean the site, removing and disposing of any remaining materials. The two storage containers shall be the property of Metro, and shall be moved to a location on site as directed by Metro's Operations Manager or Site Supervisor.

2. Metro agrees to pay Contractor a unit price of One Thousand Dollars ($1,000.00) per month for the above described services and materials. Metro shall pay the Contractor within 30 days of completion of services and receipt of an approved billing from the Contractor.

3. The maximum compensation that Metro shall be obligated to pay the Contractor pursuant to this Change Order shall be Nine Thousand Dollars ($9,000.00).

4. All other terms and conditions of the original agreement remain in full force and effect.

CONTRACTOR	METROPOLITAN SERVICE DISTRICT
_____	_____
Contractor	Department Head
_____	_____
Print name	Executive Officer
_____	_____
Date	Date

EXHIBIT B
RESOLUTION NO. 90-1258

AN ANALYSIS TO DETERMINE THE FEASIBILITY OF RECEIVING SALVAGEABLE BUILDING MATERIALS AT EXISTING DISPOSAL FACILITIES WITHIN THE METROPOLITAN SERVICE DISTRICT'S BOUNDARY

DECEMBER 1, 1989

EXHIBIT B
RESOLUTION NO. 90-1258

PURPOSE

The purpose of this study is to determine the feasibility of establishing an area at existing disposal facilities within the boundary of the Metropolitan Service District (METRO) to accept salvageable building materials generated by residential households. The analysis is based on an evaluation of various technical and economic factors which would be critical to the successful enhancement of existing facilities to accept salvageable building materials.

RESEARCH METHODOLOGY

The research methodology consisted of two phases. First, a limited review of available national literature regarding salvageable building materials collection and/or processing facilities was conducted. The articles and textbooks included for review were limited to those containing specific references to salvageable building materials collection and/or processing facilities (specific to the residential or household waste stream where possible), and are listed in the reference section at the end of this report.

The second phase of the research methodology involved conducting site visits and evaluations of each disposal site within the METRO boundary to evaluate the feasibility of accepting salvageable building materials from the residential waste stream for recycling. The site visits were conducted in cooperation with local operations personnel at each site and

included discussions of pertinent operating constraints which might affect the analysis.

Based on this review and analysis, specific recommendations were made regarding the feasibility of retrofitting specific facilities to accept salvageable building materials. These recommendations are presented and summarized in the section titled "FACILITY EVALUATIONS".

NATIONAL LITERATURE REVIEW

A review of the national literature on salvageable building materials collection and/or processing facilities yielded substantial data regarding specific facilities design criteria. First, the size of the facility required to collect and/or process salvageable building materials is governed principally by three design parameters. These include:

1) The amount and degree of contamination of the materials to be collected.
2) The amount of material that will be stored on-site vs. the amount that will be removed from the collection area.
3) The amount of material that can be effectively absorbed by local markets.

Each of these design parameters directly affects the size of the facility designed. In situations where an existing facility will be retrofitted, the amount of expansion space available becomes an additional critical design parameter. As a

consequence, limitations on the type of collection and processing systems which may be used are common. For example, a fully integrated facility may not be possible when available space precludes installation of a complete processing plant. With a limited capacity material processing facility, only **selective** collection and/or processing of salvageable building materials may be possible. Frequently, bulky items have to be processed off-site or else landfilled. Additionally, storage space is often limited, necessitating frequent shipments to customers or off-site storage to prevent creating nuisance conditions.

Second, the quantity of salvageable building materials collected should be closely tied to the ability of the marketplace to absorb the reclaimed products. If the collection operation results in significantly more material being collected than can be absorbed by the marketplace, stockpiling occurs. Long-term stockpiling of salvageable building materials usually creates safety (both fire and personnel), storage and visual problems and does not provide an acceptable alternative to landfilling.

LOCAL MARKETS

Local market opportunities for salvaged building materials are relatively limited. Existing businesses which sell these types of materials include:

1. Allied Demolition, Portland, OR.
2. Dan Obrist Demolition, Portland, OR.

3. Hippo Hardware, Portland, OR.

4. Murphy's, Portland, OR.

5. Northwest Equipment Rentals, Inc., Portland, OR.

6. R&R Demolition, Portland, OR.

7. Rejuvenated House Parts Co., Portland, OR.

8. K.A. Ritter Co., Salem, OR.

9. The Wall, Portland, OR.

10. Robinson Recycled Building Materials, Vancouver, WA.

Only limited information is available on the capacity of local markets to absorb additional materials, however, phone conversations with several individuals employed by the firms identified above indicate a limited market response capability. Of the firms identified above, several are demolition contractors who operate a salvage yard and retail operation in conjunction with their demolition activities. At least four (4) of the businesses will purchase materials directly from individuals, although prices are generally low. Some of these firms offer barter services, or retail purchase credits in lieu of paying cash.

ADDITIONAL CONSIDERATIONS

METRO is currently finalizing a technical report which outlines specific regional management options for various select waste substreams, including construction and demolition debris. The literature consistently reports that the construction and demolition debris select waste substream consists of two

components, industrial and residential debris. Industrial debris includes all material generated and disposed of by commercial builders, remodelers or other contractors. Residential debris includes all material generated by individual homeowners in the course of home maintenance or construction, including materials generated by commercial remodelers or constructors, which is disposed of by the homeowner. Within the METRO region, generation is currently estimated at approximately 240,000 tons per year. Of this total, residential debris represents no more than 2,000 - 4,000 tons per year.

It was reported in the literature that commercially hauled construction and demolition debris represents the largest proportion of the total volume generated, typically more than 98%. The METRO technical report is being prepared as an integral component of the Regional Solid Waste Management Plan. The report identifies three primary treatment options. These include:

1. Construct up to four (4) salvageable materials depots per the DEQ order. Depots to be located at transfer stations, landfills and/or other locations. These would be relatively small facilities, equipped to handle, in total, approximately 7,000 - 14,000 tons per year of salvageable building materials.

2. Construct intermediate processing centers (IPC). These IPC's can have one of three possible alternative configurations, including:

   A. Low recovery IPC - this type of facility involves modifying an existing transfer station to allow the unloading of relatively "pure" loads of construction and demolition debris for transfer to other facilities which are equipped to process the material. The amount of material which could be handled by this type of system is estimated to be approximately 60,000 tons per year total.

   B. Medium recovery IPC - A facility co-located with a transfer station, but equipped with specialized equipment to handle and process construction and demolition debris. Co-location would allow cost savings due to non-replication of similar facilities, such as scales and gate houses. The amount of material which could be handled by this type of system is estimated at approximately 91,000 tons per year.

   C. High recovery IPC - A single facility located separately from existing transfer stations and other waste handling facilities. The larger size and fully integrated materials handling and processing equipment would allow the greatest potential recovery rates. The amount of material which could be handled by this type

of system is estimated at approximately 121,000 tons per year.

3. Land disposal. There are three possible alternative configurations for this option. These include:

   A. Locate and construct a new limited purpose, construction and demolition debris landfill.

   B. Ship construction and demolition debris to an out-of-region landfill (other than the Gilliam County facility).

   C. Transport construction and demolition debris to the Gilliam County landfill.

The construction and O&M costs associated with each management option identified above were not available, but the options are listed in approximate order of increasing capital construction costs.

If selected, each of the management options identified above will have a significant impact on the viability of retrofitting existing facilities to provide for the recovery of household salvageable building materials. It is important that any decision to recover source separated residential salvageable building materials be compatible with the management option selected for dealing with the much larger commercial waste substream.

The report will be submitted for planning review and adoption in accordance with normal METRO policies. It is

anticipated that the report will be ready by the first quarter of 1990, and that policy review and adoption will follow within 3 - 6 months.

FACILITY EVALUATIONS

All primary disposal facilities within the METRO boundary were evaluated to determine whether these facilities accepted salvageable building materials. These evaluations consisted of on-site visits by METRO staff and local supervisory personnel. In cases where no provision to accept residential salvageable building materials had been made, an analysis was conducted to determine the feasibility of altering that operation to include provisions for salvageable building materials collection and processing.

ST. JOHNS LANDFILL

The St. Johns landfill is located at 9363 North Columbia Boulevard in Portland. Adjacent land uses include the Columbia Slough and Smith and Bybee Lakes to the north, a non-operating incinerator to the south, a tavern and auto wrecking yards to the east and an auto wrecking yard and private home to the west. A facilities evaluation was conducted on June 30, 1989 by Keith Thomsen and Jim Shoemake of METRO.

The St. Johns landfill encompasses approximately 250 acres near the confluence of the Willamette and Columbia Rivers and has been in operation since 1939. The land and appurtenant facilities are owned by the City of Portland. METRO operates the

facility as an integral part of a regional solid waste disposal system and is responsible for the final closure plan for this facility.

Residential construction and demolition debris is accepted for disposal at this facility, however no provisions have been made to recover or process any portion of the salvageable component of these wastes. Because this facility is scheduled to close within 18 - 20 months, it would not be economically feasible to retrofit the facility to accept and process salvageable building materials. Additionally, once the facility closes full control of the property will revert to the City of Portland. The City, in conjunction with various planning bodies such as the Port of Portland, has indicated that potential development plans for this site may be incompatible with continued solid waste use.

RECOMMENDATION: PLANNED DEVELOPMENT BY THE CITY OF PORTLAND PRECLUDES CONTINUED SOLID WASTE USE AFTER CLOSURE. DO NOT RETROFIT FOR ACCEPTING AND PROCESSING SALVAGEABLE BUILDING MATERIALS.

KILLINGSWORTH FAST DISPOSAL

Killingsworth Fast Disposal, also known as Killingsworth landfill or KFD, is owned and operated by Riedel Waste Disposal Systems, Inc. (RWDS). It is located at 5700 N.E. 75th Avenue, Portland, OR. Adjacent property uses include light to heavy

industrial development. An evaluation of the facility was conducted on July 7, 1989 by Keith Thomsen of METRO and Jack Hatly and Charles Bird of RWDS.

KFD has been in operation since 1981. Disposal services were restricted to non-food wastes, and approximately 85% of all loads disposed of were from commercial drop boxes. The materials disposed of at this location included a significant volume of both commercial and residential construction and demolition debris. This site recently closed to all commercial and is scheduled to close by December 25, 1989 to private self-haul disposal.

Riedel's use permit requires that no additional wastes be accepted after the DEQ's acceptance of the final closure plan and final closure of the site. METRO will have no control over this facility after final closure and representatives of RWDS have indicated that development plans for this site may preclude continued use for solid waste activities.

RECOMMENDATION: THIS SITE IS SCHEDULED FOR CLOSURE. FUTURE DEVELOPMENT MAY BE RESTRICTED. THIS WILL PROBABLY PRECLUDE ANY USE AS A SALVAGEABLE BUILDING MATERIALS COLLECTION SITE.

HILLSBORO LANDFILL

The Hillsboro landfill is located at 8205 S.E. Minter Bridge Road in Hillsboro. Adjacent land uses include open agricultural land to the north, homes and greenhouses to the south, east and

west. An evaluation of the facility was conducted on June 28, 1989 by Keith Thomsen of METRO and Gary Clapshaw of the Hillsboro Landfill.

The facility is privately owned and operated. METRO has a an agreement with the owners to accept limited quantities of dry wastes from within the METRO boundary. The owner currently accepts both commercial and residential self-haul construction and demolition debris, which frequently contain significant amounts of salvageable building materials. No provisions have been made to process or recover salvageable building materials, although scavenging of the materials is allowed.

It should be noted that this facility is not within the METRO boundary and therefore does not fall within the scope of this analysis. However, METRO recognizes that this facility is an integral part of the region's solid waste system and as such will be included in the Regional Solid Waste Management Plan as part of the Select Waste work plan being developed by METRO staff.

RECOMMENDATION: NOT WITHIN THE METRO BOUNDARY, BUT WILL BE INCLUDED IN THE REGIONAL SOLID WASTE MANAGEMENT PLAN BEING DEVELOPED BY METRO.

LAKESIDE RECLAMATION LANDFILL

The Lakeside Reclamation Landfill, also known as Grabhorn Landfill, is located near the southern end of Vandermost Road,

northwest of Tigard. Adjacent land uses include a sewage lagoon and orchards to the north, and open agricultural land to the south, east and west. An evaluation of the facility was conducted on July 6, 1989 by Keith Thomsen of METRO and Howard Grabhorn, the facility owner/operator.

This privately owned and operated facility currently accepts limited amounts of commercial dry wastes from within the METRO boundary for disposal. No provisions have been made to process or recover salvageable building materials. Additionally, no private self-haul is allowed at this site.

It should be noted that this facility is also not within the METRO boundary. Since no private self-haul is allowed and METRO lacks authority to order any operational changes, this facility does not meet the requirements for inclusion in this report. However, like the Hillsboro Landfill, this facility is recognized as an integral part of the region's solid waste system and will also be included in the Regional Solid Waste Management Plan as part of the Select Waste work plan mentioned previously.

RECOMMENDATION: NOT WITHIN THE METRO BOUNDARY, BUT WILL BE INCLUDED IN THE REGIONAL SOLID WASTE MANAGEMENT PLAN BEING DEVELOPED BY METRO.

METRO SOUTH TRANSFER STATION

Formerly known as CTRC, the Metro South Transfer Station (Metro South) is located at 2001 Washington Street in Oregon

City. Adjacent property uses include a freeway exit ramp to the north, a log yard and paper mill to the south, an old non-operating landfill to the east and a rail line and interstate freeway to the west. An evaluation of the facility was conducted by Keith Thomsen of METRO and Bruce Bergoyne of Wastech.

The facility is owned by METRO and operated under a fixed term management contract by Wastech, Inc. It processes an average of 800 tons of waste per day, primarily preparing it for transport to the St. Johns Landfill. Some wastes are transported to the Marion County Energy Recovery Facility and the Riverbend Landfill in Yamhill County.

Wastes are delivered by both private, self-haul individuals (12%) and commercial haulers (88%). The wastes are dumped into an enclosed pit, compacted by a bulldozer, then pushed into transfer trucks. Collection facilities have been provided to accept loads of corrugated cardboard (OCC), newsprint, scrap metal/tin cans, glass, appliances and tires.

Metro South has always encouraged customers with identifiable salvageable building materials in their loads to take either separate salvageable items for collection in the materials recycling area at Metro South, or to take their loads to one of several materials handling and recovery operations such as East County Recycling.

Construction and demolition debris is an extremely bulky and awkward material to handle, even in limited quantities. The

existing building at Metro South does not have sufficient room to collect, process or store significant volumes of salvageable building materials. Design modifications currently scheduled for this fiscal year (July 1, 1989 to June 30, 1990) are required to support the planned shipment of wastes to the Arlington landfill beginning in 1990. The modifications consist of the addition of two compactors and a substantial expansion of the transfer station parking and queuing area to handle the transport trucks which will haul this waste to Arlington. This expansion will eliminate any available space for expanding or adding additional materials recovery activities.

A final limitation is that construction and demolition debris, in addition to being very heavy and bulky, is also an extremely abrasive material. Any significant amounts at Metro South would accelerate wear and increase maintenance on the compactor equipment. This would cause much higher than anticipated operating and maintenance costs at this facility.

RECOMMENDATION: DO NOT ACCEPT SALVAGEABLE BUILDING MATERIALS AT THIS FACILITY. REFER LOADS CONTAINING SALVAGEABLE BUILDING MATERIALS TO EXISTING RECYCLING CENTERS CAPABLE OF HANDLING THEM.

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FOREST GROVE TRANSFER STATION

The Forest Grove Transfer Station is located at 1525 "B" Street in Forest Grove. The adjacent land uses include a light industrial building, a commercial building and light residential to the north, vacant land to the south, residential to the east and commercial buildings to the west. An evaluation of the facility was conducted on June 22, 1989 by Keith Thomsen of METRO and the facility owner/operator, Ambrose Calcagno.

This facility is privately owned and operates under a METRO franchise. Operations began in 1985, and the facility currently processes approximately 60 tons of waste per day for transfer to the Riverbend Landfill in Yamhill County. The facility is available for both commercial and public use and a complete recycling center consisting of drop boxes is available for public use.

Adequate space is not currently available to accept salvageable building materials at this facility. The proximity of this facility to the limited purpose Hillsboro Landfill makes it very unlikely that deliveries of significant quantities of residential salvageable building materials will develop.

RECOMMENDATION: DO NOT IMPLEMENT COLLECTION OF SALVAGEABLE BUILDING MATERIALS AT THIS TIME. THIS FACILITY WILL BE EVALUATED FURTHER AND INCLUDED IN THE REGIONAL SOLID WASTE MANAGEMENT PLAN - SELECT WASTE WORK PLAN BEING DEVELOPED BY METRO.

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SANDY TRANSFER STATION

The Sandy Transfer Station is located at 19600 S.E. Cannon Valley Road at the east end of Sandy. Adjacent land uses include heavy vegetation to the north, south, and east and homes to the west. An evaluation of the facility was conducted on July 20, 1989 by Keith Thomsen of METRO and Tom Karlen of Mt. Hood Refuse Removal, Inc.

This facility is privately owned and operated and serves the Sandy area. All wastes collected are transferred to the Metro South Transfer Station. Complete recycling services are provided to the public via collection bins for aluminum, newspaper, cardboard, scrap metal, tin, glass, motor oil and appliances. Additionally, two community cleanups are sponsored each year.

The owner do not provide for routine public drop-off or collection of salvageable building materials. He indicated that very little salvageable building materials are received as mixed waste. What little material is collected is usually part of the semi-annual cleanups. The owner speculated that most people in the area apparently recycle their own salvageable building materials, or give it to friends who will.

It should be noted that this facility is also outside the METRO boundary, and is therefore outside the scope of this analysis. However, METRO does recognize that this facility is an integral part of the region's solid waste system and will be

included in the Regional Solid Waste Management Plan Select Waste work plan discussed previously.

RECOMMENDATION: NOT WITHIN THE METRO BOUNDARY, BUT WILL BE INCLUDED IN THE REGIONAL SOLID WASTE MANAGEMENT PLAN - SELECT WASTE WORK PLAN BEING DEVELOPED BY METRO.

OREGON PROCESSING AND RECOVERY CENTER

The Oregon Processing and Recovery Center (OPRC) is located at 401 N. Hunt Road, Portland, OR. Adjacent land uses include the Columbia Slough to the north, a tire processing facility to the south and east, and a truck shipping yard to the west. An evaluation of the facility was conducted on July 20, 1989 by Keith Thomsen of METRO and Merle Irvine of OPRC, Inc.

This facility is privately owned and is operated under a METRO franchise. The facility receives commercial waste, primarily from drop boxes or high-grade materials recycling bins, for processing. The facility also includes a public buy-back center which provides complete recycling services to the public for source separated materials which are delivered to the center.

Mixed waste materials received from commercial drop boxes and high-grade materials recycling bins are processed through a series of mechanical devices and manual picking lines which separate the mixed waste into recyclable and non-recyclable components. The non-recyclable materials are currently disposed

of at the St. Johns landfill. The processing center does not accept self-haul residential wastes of any type.

Since residential self-haul is not allowed, except at the buy-back center for source separated materials, it is not possible for this facility to accept residential salvageable building materials. The facility is not currently designed to allow for this type of activity, and retrofit or redesign would be prohibitively expensive.

The owner is not planning on providing for routine public drop-off or collection of salvageable building materials. He indicated that only limited quantities of salvageable building materials are received as mixed waste currently, and doubts that additional effort would be cost effective.

RECOMMENDATION: MAINTAIN CURRENT OPERATIONS. DO NOT PROVIDE FOR PUBLIC SELF-HAUL OF SALVAGEABLE BUILDING MATERIALS BEYOND WHAT IS CURRENTLY PROVIDED AT THE PUBLIC BUY-BACK CENTER.

CONCLUSIONS AND RECOMMENDATIONS

Based on the facilities analyses and evaluations above, METRO recommends that none of the existing disposal facilities be retrofitted to collect and/or process salvageable building materials at this time. Long term solutions for the construction and demolition debris waste substream will be addressed in the Regional Solid Waste Management Plan - Select Waste Work Plan currently under development by METRO staff.

EXHIBIT B
RESOLUTION NO. 90-1258

During the course of conducting the facility analyses, it became clear that substantial gaps in data regarding residentially generated salvageable building materials exist. To correct this problem, METRO proposes to conduct a demonstration project aimed at collecting data regarding this waste substream. The project will be of **limited duration** and will be conducted at the St. Johns Landfill. The purpose of the project will be to gather specific data regarding the volume, type and availability of this material for reuse or recycling.

DEMONSTRATION PROJECT DETAILS

The demonstration project will consist of two (2) 15' x 40' cargo containers which will be modified to serve as material storage areas. Each container will have a series of collection bins and storage areas constructed for each type of material collected. The containers will be placed near the existing public drop-off area and will be used to collect source separated residential self-hauled salvageable building materials. Routine operation of the project will be provided by the contract landfill operator, BFI, Inc.

METRO will conduct the project over a 6 - 12 month period. Data will be collected on a weekly basis and reported to METRO. The information to be collected will include the following:

1. Quantity of each type of material collected.

2. Availability/response of market channels to purchase or absorb the recovered materials.
3. Current market prices for, or interest in, each type of material collected.
4. Quantity of each type of rejected material.
5. General operational information (problems, unusual occurrences, etc.).

METRO will compile the data to track the overall cost effectiveness of collecting residential salvageable building materials in this manner. A final report will be prepared which will summarize the results and make recommendations regarding the viability of this concept. The cost of the project is estimated as follows:

A. Rental cost for the two (2) cargo containers - $50 per month each, $100 total.
B. Cost to retrofit the containers to serve as storage areas - $1,500.
C. Operating expenses for BFI - $1,000 per month (this is estimated as the most reasonable scenario given that BFI would operate the facility).
D. Contingency and reserve - $1500 per fiscal year.

Cost figures were determined as follows:

a) This item was estimated based on calls to several suppliers of rental containers using an average rental

figure for this type of container described, including delivery to St. Johns landfill.

b) This item was estimated based on preliminary design sketches (attached) for retrofitting the containers, including the quantity of materials ($500) and labor (30 hrs @ $30 per hr) necessary to accomplish the work.

c) This estimate was derived in cooperation with Jim Watkins and Roosevelt Carter. It represents the most likely amount that it could cost METRO, per month, to have BFI run the operation at the St. Johns landfill.

d) Contingency and reserve were estimated at approximately 30% of the total cost.

The total cost of this project during the current budget year is estimated at approximately $5,000. An additional $6,000 - $8,000 should be budgeted in the 1990 - 91 fiscal budget if this project is approved for a 12 month duration ($3,000 - $4,000 if approved for 6 months). The demonstration project will operate as follows:

I. Negotiate a change order to BFI's contract to operate and maintain the project site. Require BFI to maintain accurate records of all materials collected and/or sold. Record and maintain other information as requested.

II. Rent and modify and place the cargo containers.

III. Place the containers in the public recycling area at St. Johns landfill.

IV. Provide informational signs on each container stating what type and condition materials may be recycled and where to place each type of material.

V. Allow free public drop-off of source separated salvageable building materials.

VI. BFI operates the area in conjunction with the normal public recycling area and assures that unacceptable materials are not placed in the containers.

VII. Waive the disposal fee at the landfill for unacceptable material collected at the site (BFI would dispose of this material at no cost to METRO).

The operating agreement with BFI will be negotiated as a change order to their existing operating agreement. BFI will operate the salvageable building materials collection center as an extension of the services currently offered at the public drop-off center at St. Johns. BFI will operate the facility at no cost to METRO and would be allowed to keep any revenues from the sale of materials. In addition, METRO will waive the disposal fee payment for all rejected material which must be landfilled.

Waiving the disposal fee payment to BFI will have two beneficial consequences from METRO's standpoint. First, BFI will have no incentive to cheat and take materials collected at the

drop-off center over to the landfill for disposal in order to collect the disposal fee. Second, BFI will have a large incentive to keep the area clean and avoid letting the public use it as a dump site since any material collected at the site and subsequently rejected would not generate any revenue for BFI.

The effectiveness of the demonstration project will be reviewed on a quarterly basis after the first six (6) months. If the project has not demonstrated sufficient potential, METRO's Waste Reduction Manager will terminate the project. A project summary will be prepared at the conclusion of the project. This report will contain a detailed review of the demonstration project, the data collected and will make specific recommendations as to the practicality of continuing or expanding the demonstration project.

METRO proposes to accept, minimally, the following items:

1) New, or good quality, used doors.

2) New, or good quality, used lumber.

3) New or used door and window hardware.

4) New, or good quality used toilets.

5) New, or good quality, used, cast iron bathtubs.

METRO has great confidence that this demonstration project will help us gather substantial data regarding collection, processing and marketing of residential salvageable building materials. This project will also provide substantial insights into the long-term viability of one specific collection option.

EXHIBIT B
RESOLUTION NO. 90-1258

REFERENCES

1. Chatterjee, Samar, "Predictive Criteria for Construction/Demolition Solid Waste Management", final report. Battelle Columbus Laboratories, Columbus, Ohio, November 1974.

2. Itoh, Taichi, "An Assessment of the Economic Attractiveness of Waste Concrete as Aggregate Material", Master's Degree Thesis, Department of Civil Engineering, Massachusetts Institute of Technology, June 1976.

3. Weisman, Richard M., and Wilson, David G., "An Investigation of the Potential for Resource Recovery from Demolition Wastes", report to the National Science Foundation. Department of Mechanical Engineering, Massachusetts Institute of Technology, October 1976.

4. Wilson, David Gordon, Davidson, Thomas A., and Herbert, T.S. Ng, "Demolition Wastes: Data Collection and Separation Studies", report to the National Science Foundation. Department of Mechanical Engineering, Massachusetts Institute of Technology, December 1979.

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April 24, 1990

SOLID WASTE COMMITTEE REPORT

RESOLUTION NO. 90-1258, FOR THE PURPOSE OF AMENDING THE OPERATIONS CONTRACT FOR THE ST. JOHNS LANDFILL TO CONDUCT A RESIDENTIAL SALVAGEABLE BUILDING MATERIALS RECOVERY DEMONSTRATION PROJECT

Date: May 2, 1990 Presented by: Councilor Gary Hansen

Committee Recommendation: The Solid Waste Committee voted 4 to 0 to recommend Council adoption of Resolution No. 90-1258. Voting: Councilors Hansen, Bauer, Buchanan and DeJardin. Absent: Councilor Wyers. This action was taken May 1, 1990.

Committee Discussion/Issues: The staff report was presented by Keith Thomsen of the Solid Waste Department. An Environmental Quality Commission (EQC) Order requires Metro to "evaluate all Metro-area disposal sites and transfer stations to determine the feasibility of establishing an area at each site for receiving lumber and reusable or recyclable building material from the residential waste stream." The Waste Reduction staff conducted a study and prepared a report to the Department of Environmental Quality (DEQ). In the course of conducting the study, it became clear that substantial gaps in data regarding residentially generated salvageable building materials existed. To avoid this problem, staff proposes to conduct a demonstration project to collect needed data.

The demonstration project will be at St. Johns Landfill and will consist of large cargo containers that will serve as storage areas. The containers will be placed near the existing public drop-off area and will be used to collect source separated residential and self-hauled salvageable building materials. Browning-Ferris Industries (BFI) will provide operation of the project. The project will last between 6 to 9 months. Total cost of the project is estimated to be $15,000.

Councilor Hansen asked the staff to consider the reclaiming of wood for use as firewood. Staff said they would look at the possibility. There were no further comments, suggestions or issues and the Committee voted unanimously to recommend Council adoption of Resolution No. 90-1258.

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