

BEFORE THE COUNCIL OF THE  
METROPOLITAN SERVICE DISTRICT

FOR THE PURPOSE OF PURCHASING ) RESOLUTION NO. 90-1280  
COMPUTER EQUIPMENT FOR USE AT ) Introduced by Gary Hansen,  
METRO SOLID WASTE DISPOSAL SITES ) Chair, Solid Waste Committee

WHEREAS, Computerization of self-haul operations at Metro solid waste disposal sites is expected to minimize the discrepancy between expected revenues and revenues received; and

WHEREAS, Computerization of self-haul operations will provide a back-up for handling commercial loads; and

WHEREAS, Computerization of self-haul operations must be performed by February 1991 in order to support the weighing of self-haul loads at all operations; and

WHEREAS, Securing sufficient funding is a critical priority to accomplishing the task of computerizing self-haul operations; and

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

BE IT RESOLVED,

That the Council of the Metropolitan Service District approves Resolution Number 90-1280 for the purpose of purchasing computer equipment for use at Metro Solid Waste Disposal Sites.

ADOPTED by the Council of the Metropolitan Service District  
this \_\_\_\_\_ day of \_\_\_\_\_, 1990.

NOT CONSIDERED  
Tanya Collier, Presiding Officer

SOLID WASTE COMMITTEE REPORT

RESOLUTION NO. 90-1280, For the Purpose of Purchasing  
Computer Equipment for Use at Metro Solid Waste  
Disposal Sites

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Date: June 21, 1990                      Presented by: Councilor Lawrence Bauer

COMMITTEE RECOMMENDATIONS: The Solid Waste Committee voted 3 to 0 to recommend Council adoption of Resolution No. 90-1280. Voting: Councilors Bauer, DeJardin and Wyers. Absent: Councilors Buchanan and Hansen. This action was taken June 19, 1990.

COMMITTEE DISCUSSION/ISSUES: Roosevelt Carter presented the staff report. The Solid Waste Department is requesting approval of a funding proposal to purchase computer equipment for use at METRO solid waste disposal sites.

Currently, only commercial loads arriving at the METRO South Transfer Station and St. Johns Landfill are weighed and recorded through the use of computers. The FY 88-89 accounting report by Pete Marwick and Associates points out problems with the scale house operations that could be solved with the proposed computer equipment system to weigh and record all users of METRO disposal sites.

The proposed computer equipment is estimated to cost \$90,000. This amount is available in the current FY 89-90 budget, but needs to be carried over into FY 90-91 in order to fund the project.

The cost breakdown is as follows:

\$65,000	computer system
15,000	printers
10,000	generators and uninterruptable power supplies

The Solid Waste Committee feels that the proposed equipment will result in a better analysis of the solid waste system, including rate setting, budgeting, accounting, planning, and operations.

No issues were raised by the Committee. The Committee voted unanimously to recommend Council adoption of Resolution No. 90-1280.

a:REPOR621.sw

**REQUEST FOR PROPOSALS:  
COMPUTER NETWORKS, FILE SERVERS, EXTERNAL DISK DRIVES,  
AND DISKLESS WORKSTATIONS**

**MAY 1990**

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**REQUEST FOR PROPOSALS:  
COMPUTER NETWORKS, FILE SERVERS, EXTERNAL DISK DRIVES,  
AND DISKLESS WORKSTATIONS**

**I. INTRODUCTION**

The Solid Waste Department of the Metropolitan Service District (Metro) is requesting proposals for computer networks, file servers, file server/workstations, external disk drives, and diskless work stations at three solid waste disposal sites. Two of the sites (St. Johns Landfill and Metro South Transfer Station) are already in existence; the systems and equipment will automate and integrate procedures for recording, and accounting for, self-haul waste with those currently in place with respect to commercial waste. Installation of the proposed equipment is scheduled during the week of August 20, 1990 at these two existing sites with installation of software to proceed during the week of August 27.

The third site (Metro East Transfer Station) is in the design stage. The proposed equipment is not scheduled to be installed at this site until December 1990. However, this site's equipment and software will be tested at one of the existing sites during August 1990.

Proposals must be in a sealed envelope and will be due by 1 p.m. Pacific Daylight Time on Monday, July 16, 1990 (post marks are not acceptable). Proposals must be addressed to Jeff Stone, Project Manager, Metro Solid Waste Department, 2000 S.W. First Avenue, Room 320, Portland, OR 97201. FAX transmittals are not acceptable. Details concerning the project and proposal are contained in this document.

A preproposal conference will be held Monday, July 2, 1990, at 9:00 a.m., in room 240 of Metro Center.

**II. BACKGROUND/HISTORY OF PROJECT**

The Solid Waste Department of the Metropolitan Service District (Metro) is responsible for managing all aspects of solid waste disposal in the Portland metropolitan area. Currently commercial loads of waste are tracked at Metro sites using a stand-alone computer running proprietary applications software. The software is owned and maintained by Information Systems, Inc. of Baltimore, Maryland. Records for self-haul loads of waste are not computerized. Metro has decided to computerize record keeping of self-haul loads, and to integrate this data with the commercial information, as soon as possible. Hence the need for the items listed in this proposal.

### III. PROPOSED SCOPE OF WORK, SPECIFICATIONS, and SCHEDULE

#### A. Location and Configuration Of Sites

Attachments 1 through 3 schematically depict the required hardware and networking requirements at each site. Attachment 4 addresses alternatives for disk duplexing as they might pertain to the scalehouses. Disk duplexing (software and hardware integrated such that a file server's hard drive is constantly being duplicated, and such that controller and/or hard drive failure can quickly be overcome) is Metro's preferred method of minimizing server down time. However, proposals of other methods will be evaluated if they demonstrate similar or superior computer system fault-tolerance.

#### B. Proposers Must Visit Existing Sites

Proposals will only be accepted from qualified firms which visit the sites described on Attachments 1 and 2 (St Johns Landfill and Metro South Transfer Station, respectively). Metro will provide transportation to and from these sites as part of its June 7, 1990 preproposal conference. These firms are expected to evaluate the operations at these sites in enough depth to assure that current computer operations will be replicated as much as possible when the computers and printers are replaced with the equipment purchased as a result of this RFP.

#### C. Description Of Existing Applications Software

The primary requirement of all services and materials provided under this RFP is that it support existing software applications in a networking environment. The applications software currently being used, and which will continue to be used with the new equipment, was written by Information Systems, Inc. (ISI). It runs within 640 K of memory, uses BTRIEVE Data Base Manager as a file interface, and requires Multiuser DOS 3.1 file locking or equivalent protocol. It is a point of sale system which uses a series of screens to allow the operator to indicate a variety of details about transactions. Approximately two transactions per minute, involving up to 6 screens per transaction and resulting in two records of approximately 300 characters each, may be generated from each work station. Responders to this RFP must insure support of these workloads using existing ISI software. For this reason, responders are encouraged to contact Mr. James E. Manley at the following address:

Mill Centre - Suite 210	(301) 366-3995 (office)
300 Chestnut Avenue	(301) 366-3998 (FAX)
Baltimore, Maryland 21211	



#### D. Three Tasks

There are three tasks associated with this proposal:

**TASK 1:** General Specifications: Provide, install, test, and provide training on three sets of file servers, external hard drives, and backup file servers/work stations. Includes monitors, keyboards, thin ethernet cabling, disk duplexing (or equivalent) software, manuals, maintenance, and one year on-site warranty.

As shown in Attachment (4), each site shall have a primary file server, separate workstation, and at least one external hard drive. Depending on how disk duplexing (or equivalent) is accomplished, the workstation will also be able to function as a backup file server by being able to use the external hard drive. The workstations shall have 640x480 pixel VGA color boards/monitors and mouse ports. The file servers will have monochrome boards/monitors and not necessarily come equipped with mouse ports.

Minimum Hardware Specifications: The file server and workstation shall each have a 386 microprocessor, 20 Mhz, 5 MB RAM, 80 MB hard disk drive (if applicable), less than 25 ms access time, 1 to 1 interleaving, 80387 Intel or 3167 Weytek math coprocessor, video card, serial port, parallel port, mouse port, 175-watt power supply, 35-nanosecond cache memory, and two empty 16-bit slots (after accounting for a memory card, ethernet LAN card, video card, serial port, parallel port, and mouse port). An internal modem must be supplied for the primary file server. The primary file server must also have software and an internal tape backup unit capable of backing up the entire hard drive in an unattended mode (nobody is needed to swap data cartridges). Each network must have the ability to be logged on via external phone modem for:

- a. System Support diagnosis
- b. Application Software Support
- c. Downloading data files

Computer backups must be able to occur while the system is on-line. All keyboards for computers and workstations in this system shall be equivalent to the Key Tronic Model 2001 and have plastic membranes and dust covers.

Minimum Software Specifications: At a minimum, each (file server) + (external hard drive) + (file

server/workstation) system will be able to employ disk duplexing (or equivalent) while satisfactorily running ISI software, based on BTRIEVE file access, currently in use at the sites. All computers and workstations in this system must utilize the same operating system when in a network mode and must be able to boot from DOS in a stand-alone mode. The file server must have applicable modem software and software to perform unattended internal tape backups of its hard drive (if applicable). If the primary file server does not have a hard drive then the capability (hardware and software) must exist to backup the external hard drive in an unattended mode.

**TASK 2:** General Specifications: Provide, install, test, and provide training on eight diskless workstations. Includes monitors, keyboards, manuals, maintenance, and warranty.

Minimum Specifications: Each workstation, together with a resource sharing device (such as an Easy-Share box), must be able to support at least three printers and interfaces to two vehicle scales at each workstation site. All workstations in this system must utilize the same operating system when in a network mode. Identical keyboard layout as that provided under Task 1 (equivalent to Key Tronic model 2001), plastic membranes and dust covers.

**TASK 3:** General Specifications: Provide, install, test, and provide training on three networks. Includes active/passive hubs, resource sharing devices (such as Easy-Share boxes), ethernet cabling (other than the thick ethernet provided by Metro connecting the scalehouses and compactors), software, maintenance, manuals, and warranty.

Minimum Specifications: A star network topology (or equivalent) is favored to minimize disruption if there are network cable or workstation problems, unless it can be demonstrated that another topology is equal or superior in this regard. Training, modem, on-line diagnostic help, and ease of operation must be such that existing non-technical site supervisors can run the system, diagnose common problems, and determine solutions.



Proposers must specify the software and hardware being provided and must list file servers, workstations, and diskless workstations which are compatible with the proposed software and hardware.

#### E. Desirable Specifications

The following are highly desirable aspects of the final system. These aspects involve a combination of the three tasks. In addition to the minimum requirements addressed in the preceding section, proposals must address cost and how well their proposals meet the following:

1. Support 8 workstations at a time, processing 5 transactions per minute ("transactions" are defined as those produced by the current system) on a twenty four hour per day, 365 days per year basis.
2. Each set of file servers and workstations can process 5 transactions per minute using current applications software, given current record formats, user capabilities, and current maximum numbers of screens accessed, keystrokes, and data fields per record. As such, the system is capable of interaction with at least six shared tables per transaction, displaying three interactive screens per transaction (300 characters of stored information per transaction) and producing four selected output files.
3. The computer system (file servers, workstations, diskless workstations, and network software) ought not be down due to hardware or network software problems more than one hour in any three month period. If this occurs after the 30 day acceptance period then the Proposer should, if necessary, work overtime to remedy the problem as soon as possible at no expense to Metro.
4. The system should be able to be returned to service within one hour by on-site operations staff and/or on-line assistance from vendor support.
5. Preventive maintenance should be performed at least quarterly after 5 p.m. and before 8 a.m.
6. Faulty equipment should be repaired or replaced with identical makes and models (or Metro acceptable equivalents) within 4 working hours after notification. (Working hours is defined as 8:00am to 5:00pm Monday-Friday).

## F. Testing

The test for each task shall be that of insuring that existing ISI software functions with the entire network (all three tasks completed) in place.

## G. Work Schedule

- |               |  |
|---------------|--|
| July 16       | Proposals due and opened.  |
| July 17-20    | Proposals evaluated, contracts written and signed. Equipment ordered.  |
| August 20-24  | Equipment installed at St. Johns and Metro South. By this date Metro Solid Waste Engineering has installed and tested thick ethernet cabling between scalehouses and dog boxes (ends having in-series connectors and thick-to-thin ethernet connectors). |
| August 27-31  | Network installed at both sites.   |
| September 4-7 | Testing of all equipment and networks, including that which will not be used until Metro East becomes operational.   |
| October 7     | <u>IF</u> testing has proven satisfactory by September 7 then full payment will be made to the proposers by August 7.  |

Metro intends to award contracts for bids it chooses to accept on July 20, 1990. At that time the successful contractor(s) will be asked to sign a contract. The contract will contain language to the following effect:

Contractor agrees to provide all deliverables to Metro-designated FOB points (probably the Metro South Transfer Station and St. Johns Landfill) at 8 A.M. on August 20, 1990. Contractor will provide Metro an invoice for the deliverables by that time and date. Contractor agrees to provide installation, training, and testing according to the following schedule. Metro agrees to pay the Contractor the total amount stipulated in the Contract within 30 days after Metro agrees that test results are to Metro's satisfaction. If the test results are unsatisfactory the Contractor and Metro agree that the Contract may be declared null and void, the deliverables will be returned to the Contractor, and that no payment will be made to the Contractor.



The following schedule pertains to installation, training, and testing:

1. METRO SOUTH TRANSFER STATION and ST JOHNS LANDFILL

a. TASKS 1 and 2 (equipment, excluding testing, certification, and training)

Metro will install thick ethernet cable between the public and commercial scale houses by August 20, 1990. The ends of the cable will have in-series connectors, joined to thick-to-thin ethernet connectors. During the week of August 20, 1990 Tasks 1 and 2 will be accomplished (excluding testing, certification, and training).

b. TASK 3 (network, excluding testing, certification, and training)

During the week of August 27, 1990 the network will be installed. Proposer is to provide all ethernet cabling and connectors other than that connecting the two scale houses. Proposer is also to provide resource sharing devices (such as Easy-Share boxes), active and passive hubs. At least two hours of training will be provided in the operation and trouble shooting of the network.

c. TESTING

During the week of September 4, 1990 all facets of the system will be tested by the Contractor and certified by both the Contractor and Metro as fully capable of handling existing ISI software. Training will proceed upon certification of the entire system.

2. METRO EAST TRANSFER STATION

Equipment destined for this site will be tested at the Metro South Transfer Station during the week of September 4, 1990. Installation will occur at the Metro East Transfer Station at a date to be specified later (probably sometime during December 1990).

IV. Basis of Award

Single proposals covering all three tasks are preferred but not mandatory. Proposals will be accepted from any qualified proposer regarding one, two, or all three of the tasks, or to reject all proposals.

Metro reserves the right to award contracts for the three tasks to different proposers, to award two or more of the contracts to the same proposer, or to not award one or more contracts to any proposer.

Metro reserves the right to visit the proposer's local equipment site and service center.

The Proposer shall identify a single person as project manager to work with Metro. The Proposer shall be responsible for any subproposer work and shall be responsible for the day-to-day direction and internal management of the Proposer and subproposer effort.

#### **V. WARRANTY AND MAINTENANCE CONTRACTS**

Proposals must include a one year warranty and maintenance contracts for parts and labor for all materials supplied by the Proposer. The warranty must insure that, from 8 a.m. to 5 p.m. on normal work days, faulty equipment will be repaired or replaced (with an identical make and model) within four (4) hours of failure during the warranty period.

Maintenance will consist of quarterly preventive maintenance performed after 5 p.m. and before 8 a.m.

Proposals must also include a bid to add an additional year of warranty and maintenance as described above.

#### **VI. QUALIFICATIONS/EXPERIENCE**

The successful proposer(s) must have been in business for at least one year and be financially and technically able to repair or replace equipment with identical makes and models within 4 working hours.

Proposers must submit names and telephone numbers of three references.

#### **VII. PROJECT ADMINISTRATION**

Metro's project manager and contact for this project is Mr. Jeff Stone, Planner/Analyst in the Budget and Finance Division of the Solid Waste Department. The Metro executive staff and council are involved in review and final approval of the project.



Proposals must identify a single person as project manager to work with Metro. The proposer must assure responsibility for any subproposer work and shall be responsible for the day-to-day direction and internal management of the project.

## VIII. PROPOSAL INSTRUCTIONS

### A. Format

Any proposed task must address the following in the following format:

1. Description of the services and/or equipment being supplied. Include make, model, performance characteristics, compatibility, and other specifications. In the case of multiple components (such as work stations, monitors, and keyboards), describe each component separately. Specifically address how these components will be configured at each of the three sites, how disk duplexing (or equivalent) will be employed at each site, and an estimate of the number of occurrences and duration per occurrence that the system will be down due to the items supplied by the vendor.
2. Price for accomplishing the task described in Section III.D.
3. Price for an additional one year of preventive maintenance, service, and warranty.
4. Statement as to how the company (and subproposers, if any) conforms to the requirements outlined in Section VI.
5. Statement as to how the proposed items meet the desirable features listed in Section III.E.

Three copies of the proposal shall be furnished to in a sealed envelope to Metro addressed to:

Jeff Stone, Computer RFP Project Manager  
Metropolitan Service District  
2000 S.W. First Avenue, Rm 320  
Portland, OR 97201-5398

### B. Deadline

Proposals will not be considered if received after 1 p.m., Pacific Daylight Time, Monday, July 16, 1990. At that time the proposals will be opened (public is invited).

**C. RFP as Basis for Proposals**

This RFP and the preproposal conference represent the most definitive statement Metro will make concerning information upon which proposals are to be based. Any verbal information which is not contained in this RFP or disseminated at the preproposal conference will not be considered by Metro in evaluating the proposals. All questions relating to the RFP, or the project must be submitted in writing to Jeff Stone. Any questions which in the opinion of Metro warrant a written reply or RFP amendment will be furnished to all parties receiving a copy of this RFP. Metro will not respond to questions received after noon on July 13, 1990.

**D. Subconsultants; Disadvantaged Business Program**

A subconsultant is any person or firm proposed to work for the prime consultant on this project. Metro does not wish any subconsultant selection to be finalized prior to contract award. For any task or portion of a task to be undertaken by a subconsultant, the prime consultant shall not sign up a subconsultant on an exclusive basis.

In the event that any subconsultants are to be used in the performance of this agreement, consultant agrees to make a good faith effort, as that term is defined in Metro's Disadvantaged Business Program (Section 2.04.160 of the Metro Code) to reach the goals of subcontracting five percent of the contract amount to Disadvantaged Business Enterprises and five percent of the contract amount to Women-owned Business Enterprises. Metro reserves the right, at all times during the period of this agreement, to monitor compliance with the terms of this paragraph and Metro's Disadvantaged Business Program.

**IX. PROPOSAL CONTENTS AND EVALUATION**

Timely submission of a document in the format described in Section VIII.A. constitutes submission of a proposal. Section III delineates the three different tasks addressed in this RFP. Individual vendors may make proposals on any or all of these three categories, but preference will be given to proposals made by proposers encompassing all three tasks.

**A. Evaluation Criteria**

Section VIII.A. of this RFP lists five required responses which comprise a proposal. The possible points which Metro can assign to each response are as follows:



1. Description of the services and/or equipment being supplied. Include make, model, performance characteristics, compatibility, and other specifications. In the case of multiple components (such as work stations, monitors, and keyboards), describe each component separately. Specifically address how these components will be configured at each of the three sites, how disk duplexing (or equivalent) will be employed at each site, and an estimate of the number of occurrences and duration per occurrence that the system will be down due to the items supplied by the vendor. POSSIBLE POINTS = 40

2. Price for accomplishing the task described in Section III.D. POSSIBLE POINTS = 30

3. Price for an additional one year of preventive maintenance, service, and warranty.  
POSSIBLE POINTS = 10

4. Statement as to how the company (and subproposers, if any) conforms to the requirements outlined in Section VI. THIS IS A PASS/FAIL CRITERIA

5. Statement as to how the proposed items meet the desirable features listed in Section III.E.  
POSSIBLE POINTS = 20

**B. Exceptions/Comments**

To facilitate evaluation of proposals, Metro wishes that all responding firms adhere to the format outlined in Section VIII.A. of this RFP.

Firms wishing to take exception to, or comment on, any specified criteria within this RFP are encouraged to document their concerns in this part of their proposal. Exceptions or comments should be succinct, thorough and organized.

**X. GENERAL PROPOSAL/CONTRACT CONDITIONS**

**A. Limitation and Award**

This RFP does not commit Metro to the award of a contract, nor to pay any cost incurred in the preparation and submission of proposals in anticipation of a contract. Metro reserves the right to accept or reject any or all proposals received as the result of this request, to negotiate with all qualified sources, or to cancel all or part of this RFP. Metro reserves the right to award contracts for the three tasks to

different proposers, to award two or more of the contracts to the same proposer, or to not award one or more contracts to any proposer.

**B. Contract Type**

Metro intends to award a Public Contract with the selected firm(s) for accomplishment of the three tasks. A copy of the standard form contract which the successful contractor will be required to execute is included as an attachment. This contract will have wording such as the following:

Contractor agrees to provide all deliverables to Metro-designated FOB points (probably the Metro South Transfer Station and St. Johns Landfill) at 8 A.M. on August 20, 1990. Contractor will provide Metro an invoice for the deliverables by that time and date. Contractor agrees to provide installation, training, and testing according to the following schedule. Metro agrees to pay the Contractor the total amount stipulated in the Contract within 30 days after accepting the test results. If the test results are unsatisfactory, the Contractor and Metro agree that the contract may be declared null and void, the deliverables will be returned to the Contractor, and that no payment will be made to the Contractor.

**C. Billing Procedures**

Proposers are informed that the billing procedures of the selected firm(s) are subject to review and prior approval of Metro before reimbursement of services can occur. Metro will reimburse the vendor(s) upon delivery, installation, and acceptance testing to the satisfaction of Metro. The estimated budget for this RFP is not expected to exceed \$65,000.

**D. Validity Period and Authority**

The proposal shall be considered valid for a period of at least ninety days and shall contain a statement to that effect. The proposal shall contain the name, title, address and telephone number of an individual or individuals with authority to bind the company contacted during the period in which Metro is evaluating the proposal.



**E. Performance Period - Acceptance Test**

Proposer shall certify in writing to Metro when the system is installed, unless the item is usually customer installed and Metro is so notified in the proposal. The performance period, 30 consecutive calendar days, shall commence on the first working day following receipt by Metro of certification from the Contractor, at which time operational control becomes the responsibility of Metro. In the event of apparent failure to meet the standard of performance during any initiated performance period, a new 30-day performance period shall commence upon successful repair of the failure.

**F. Patent and Copyright Protection**

In the event of any claim by any third party against Metro that the products furnished under this contract infringe upon or violate any United States patent or copyright, Metro shall promptly notify Proposer. Proposer shall defend such claim, in Metro's name or its own, as appropriate, but at Proposer's expense. Proposer will indemnify Metro against all costs, damages and attorney's fees that a Court finally awards as a result of any such claim.

**G. Warranties**

Proposer warrants that the equipment when installed will be in good working order and will conform to the Proposer's official published specifications and the technical specifications of the RFP. Equipment must be new. Proposer will warrant the equipment for 1 year with free repair or replacement within 4 working hours from the time Metro notifies (telephone notification is sufficient) the Proposer of a problem.

**LIST OF ATTACHMENTS**

**Schematic of Network at St. Johns Landfill**

**Schematic of Network at Metro South Transfer Station**

**Schematic of Network at Metro East Transfer Station**

**Alternative Approaches to Disk Duplexing**

**Copy of Standard Form for a Public Contract**

ATTACHMENT 1

Schematic Of Network At St Johns Landfill  
(to be installed approximately August 1990)

# ST. JOHNS LANDFILL

9363 N. Columbia Road, Portland, OR 97220

Contact for appointments to visit site: Penny Erickson (503) 286-9614

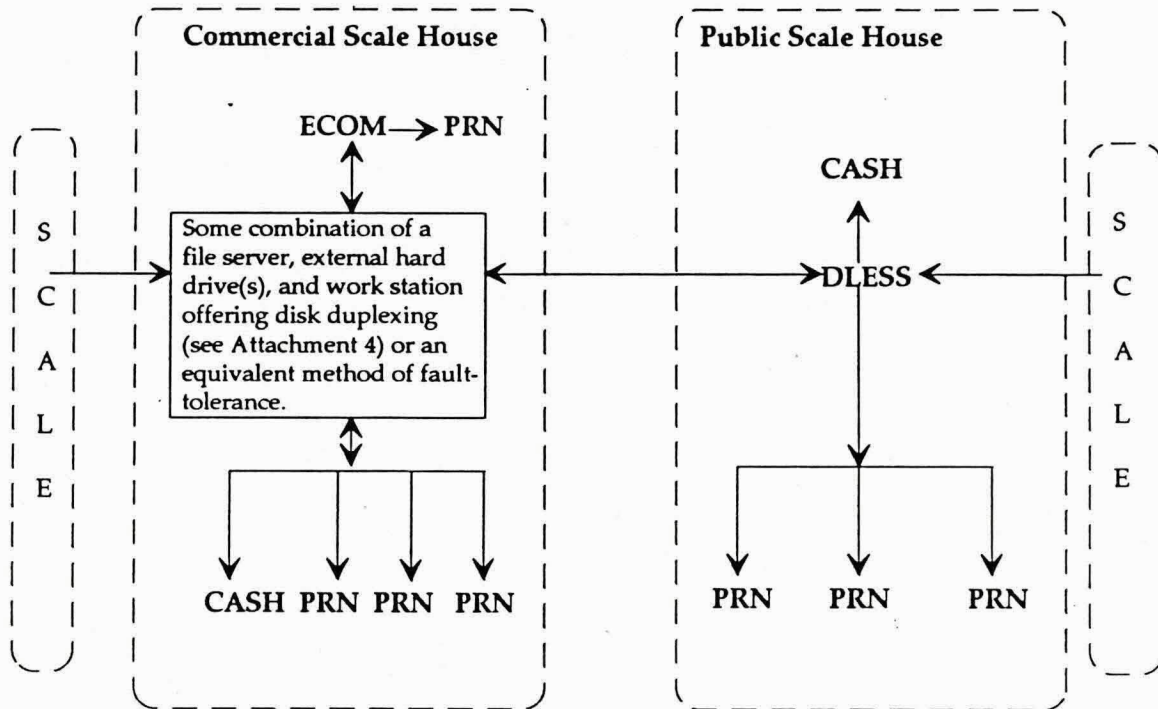
**Note: This is a schematic. It is NOT to scale. Assume that distances between nodes does not exceed 500 feet.**

**Legend: ECOM = Existing COMPAQ 286**

**PRN = New Printer**

**DLESS = Diskless Workstation**

**CASH = New Cash Drawer**



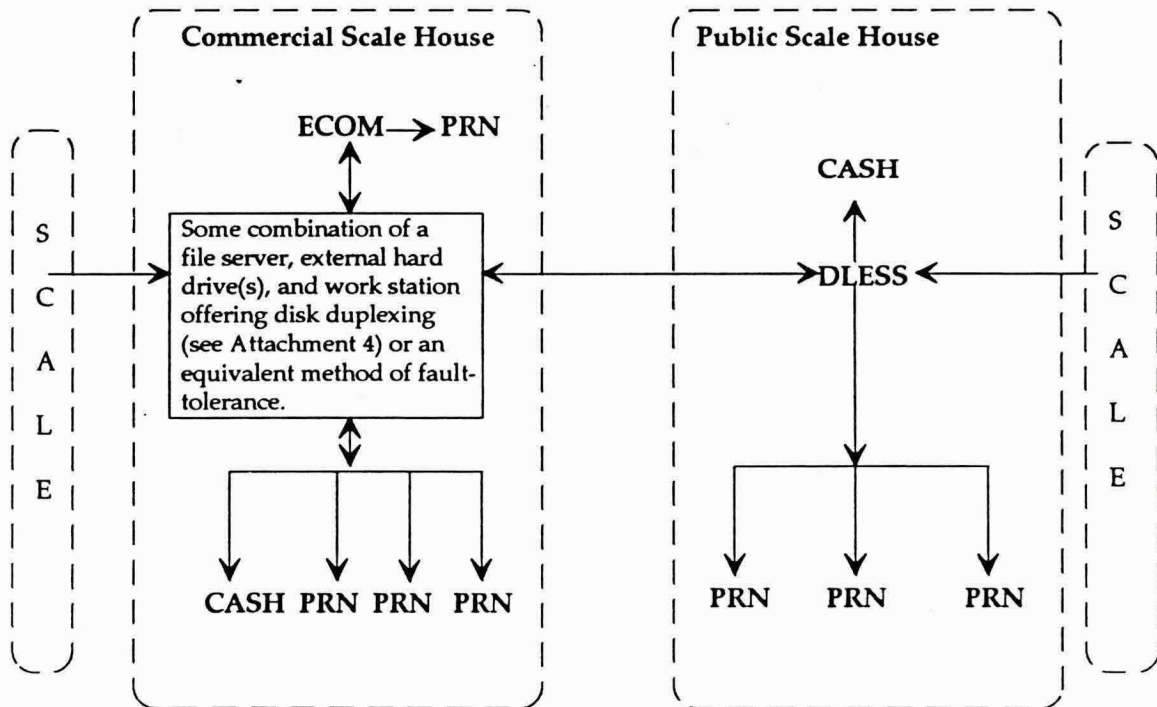
ATTACHMENT 2  
Schematic Of Network At Metro South Transfer Station  
(to be installed approximately August 1990)

## METRO SOUTH TRANSFER STATION

2001 Washington Street, Oregon City, Oregon 97045  
Contact for appointments to visit site: Pat Lent 657-2873

**Note:** This is a schematic. It is NOT to scale. Assume that distances between nodes does not exceed 500 feet.

**Legend:** ECOM = Existing COMPAQ 286                      PRN = New Printer  
DLESS = Diskless Workstation                      CASH = New Cash Drawer





ATTACHMENT 3

Schematic Of Network At Metro East Transfer Station  
(to be installed approximately January 1991)

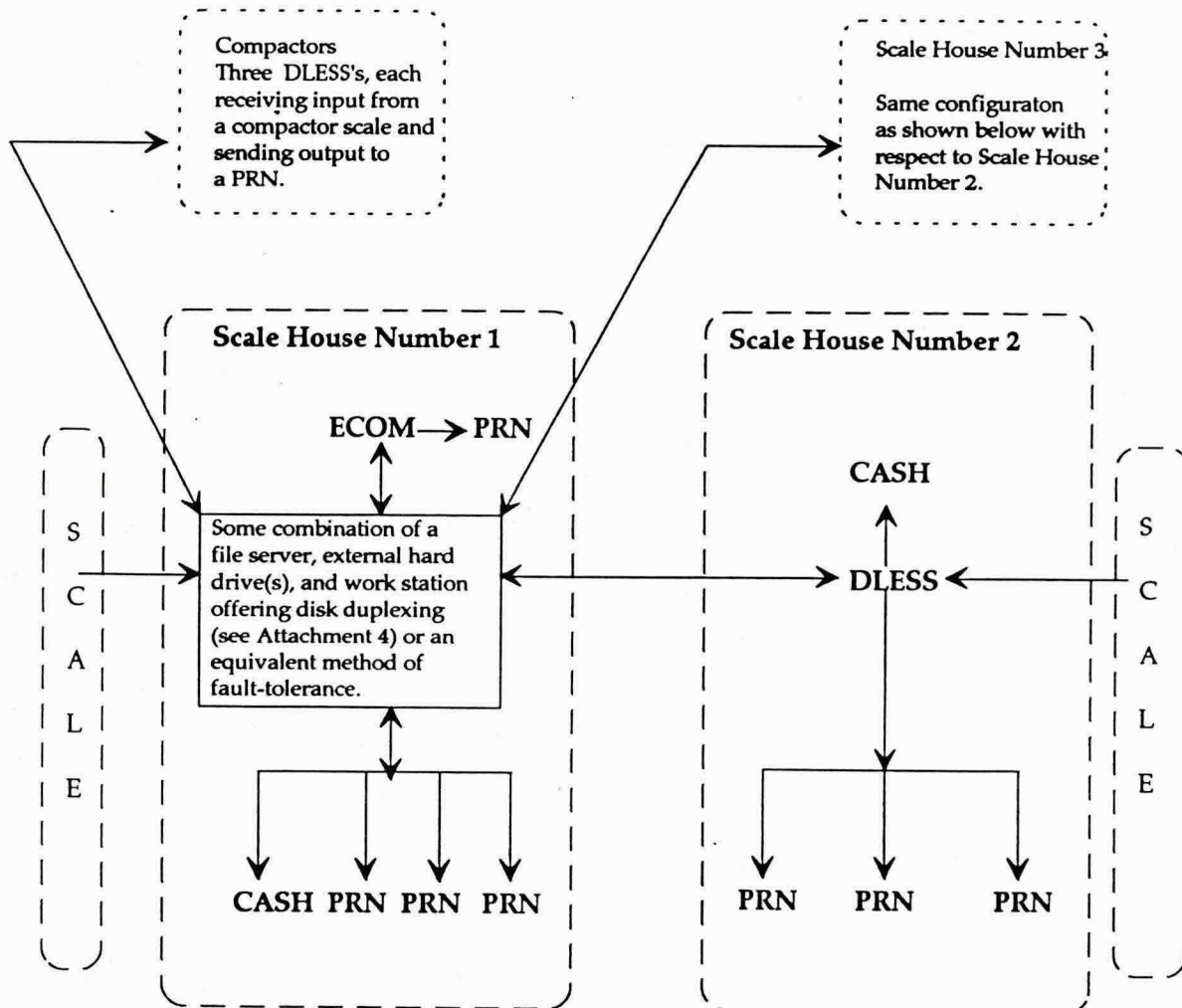
**METRO EAST TRANSFER STATION**

This facility is still in the design stage. Assume scale and compactor operations to be the same as at the Metro South Transfer Station.

**Note: This is a schematic. It is NOT to scale. Assume that distances between nodes does not exceed 500 feet.**

**Legend:** ECOM = Existing COMPAQ 286  
DLESS = Diskless Workstation

PRN = New Printer  
CASH = New Cash Drawer

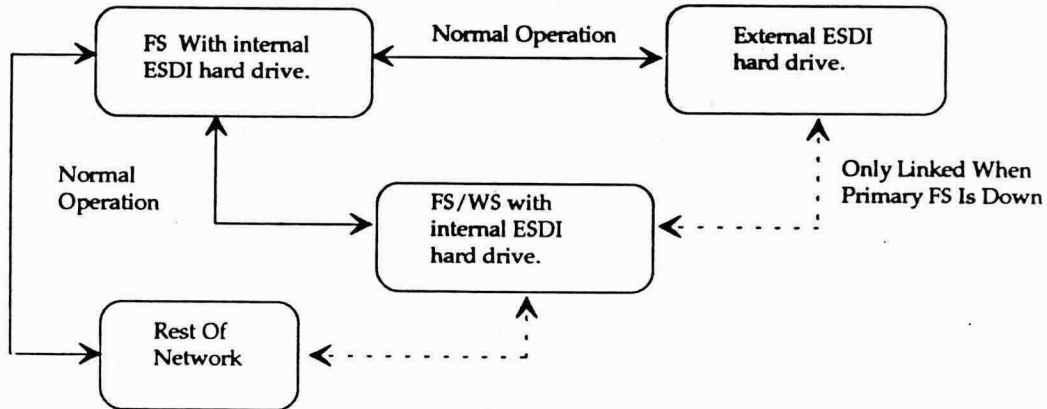


## ATTACHMENT 4

### Alternative Approaches To Disk Duplexing

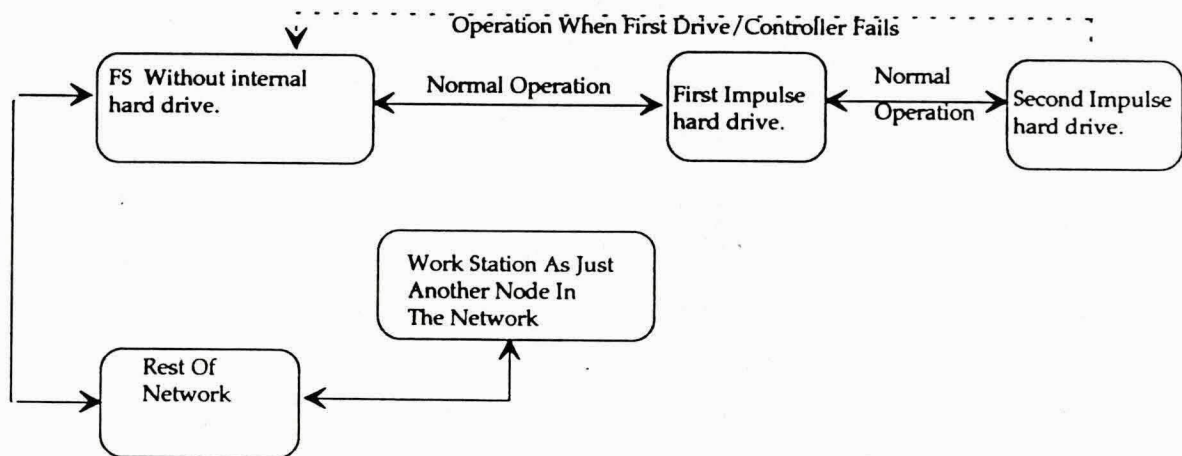
#### ALTERNATIVE ONE

Use software to have constant disk duplexing between a file server (which has its own ESDI hard drive) and an external ESDI disk system. If the file server (denoted below as FS) suffers a hard drive or controller failure, the ESDI drive (denoted below as ESDI) automatically takes over with no downtime on the network. If something else, such as a power supply or motherboard fails on the primary server then the capability exists to flip a switch on a secondary file server (which normally functions as a DOS workstation) to disable the secondary's internal disk drive and boot the secondary file server (denoted below as FS/WS) from the external ESDI hard disk. Net effect: Within 5 minutes of primary FS failure, the secondary FS/WS is running the network from the external ESDI hard drive.



#### ALTERNATIVE TWO

FS has no hard drive. There are two Impulse external disk systems doing disk duplexing and driving the FS. The FS/WS is simply a workstation (denoted as a WS) that is not capable of performing as a file server. If one of the Impulse drives or controllers fails, the other Impulse drive keeps the FS operative.



#### ALTERNATIVE THREE

Some other disk duplexing system using a 386 file server with a 32 bit operating system and another 386 system which may function as a backup file server or as a DOS workstation.

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 90-1280 FOR THE  
PURPOSE OF PURCHASING COMPUTER EQUIPMENT FOR USE  
AT METRO SOLID WASTE DISPOSAL SITES

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Date: May 29, 1990

Presented by: Bob Martin  
RooseveltCarter

PROPOSED ACTION

To endorse a funding proposal and corresponding request for proposals (RFP) for the computerization of public transactions at Metro Solid Waste Disposal Sites.

FACTUAL BACKGROUND AND ANALYSIS

A. Current Deficiencies

Currently only commercial loads arriving at the Metro South Transfer Station and St. Johns Landfill are weighed and recorded through the use of computers. Public (also referred to as "self-haul") loads have been recorded without the use of computers and have not been weighed. The FY 88-89 accounting report submitted by Pete Marwick and Associates noted significant discrepancies between the actual public revenues received and those which would be expected in accordance with the current method of record-keeping.

It is also not currently possible to route commercial traffic through the "dog box" (public scalehouse) because of a lack of scales and computers.

B. Solutions Offered By This Resolution

Making the commercial and public scalehouses identical in all respects would introduce the redundancy necessary to minimize downtime and better serve all users of Metro solid waste facilities.

Although the scales at Metro South and Metro East are not scheduled to be installed until February 1991, computerization of the dog boxes in September will immediately begin to accomplish the following objectives:

►Minimize the discrepancy between expected revenues and revenues received.

- ▶Enhance control of scalehouse operations.
- ▶Provide the same computerized format and accuracy of public data as is now received regarding commercial data (trips, tonnages, and revenues).
- ▶Debug the computer system destined for Metro East prior to the opening of the facility.

PROJECT SCHEDULE

- June 5 Council approves RFP.
- June 15 Advertisements to run June 18 through June 22.
- June 28 Council approves carryover of \$90,000 for this RFP and associated services and equipment.
- July 2 (9 AM) Preproposal conference. Attendees will be taken to St. Johns and Metro South.
- July 16 Proposals due and opened.
- July 17-20 Proposals evaluated, contracts written and signed. Equipment ordered.
- Aug 20-24 Equipment installed at St. Johns and Metro South. By this date Metro SW Engineering has installed and tested thick ethernet cabling between scalehouses and dog boxes (ends having in-series connectors and thick-to-thin ethernet connectors).
- Aug 27-31 Network installed at both sites.
- Sep 4-7 Testing of all equipment and networks, including that which will not be used until Metro East becomes operational.
- October 7 IF testing has proven satisfactory by September 7 then full payment will be made to the proposers by August 7.

### BUDGET IMPACTS

The estimated \$90,000 needed to complete this project is available in the current FY 89-90 budget and need to be carried over into FY 90-91 in order to fund this project.

The funding breakdown is as follows: \$65,000 for the computer system outlined in the attached RFP and Contract Summary Form; \$15,000 for printers (to be purchased from the State Bid List); \$10,000 for generators and uninterruptable power supplies (UPSs).

The budget carryover of \$90,000 will be addressed in late June during the FY 90-91 budget process.

### SUMMARY AND CONCLUSION

This resolution represents a major milestone in understanding, managing, and controlling public scalehouse data through the use of automation. It will result in better analysis of the entire solid waste system, including rate setting, budgeting, accounting, planning, and operations. Endorsement of this proposal constitutes acknowledgement of the importance of tracking and supervising public scalehouse information.





# GRANT/CONTRACT SUMMARY

METROPOLITAN SERVICE DISTRICT

FY90-91 531 317000 571500 75000

GRANT/CONTRACT NO. \_\_\_\_\_ BUDGET CODE NO. \_\_\_\_\_  
 FUND: 531 DEPARTMENT: S.W. (IF MORE THAN ONE) \_\_\_\_\_  
 SOURCE CODE (IF REVENUE) General Account \_\_\_\_\_

### INSTRUCTIONS

- OBTAIN GRANT/CONTRACT NUMBER FROM CONTRACTS MANAGER. CONTRACT NUMBER SHOULD APPEAR ON THE SUMMARY FORM AND ALL COPIES OF THE CONTRACT.
- COMPLETE SUMMARY FORM.
- IF CONTRACT IS —
  - SOLE SOURCE, ATTACH MEMO DETAILING JUSTIFICATION.
  - UNDER \$2,500, ATTACH MEMO DETAILING NEED FOR CONTRACT AND CONTRACTOR'S CAPABILITIES, BIDS, ETC.
  - OVER \$2,500, ATTACH QUOTES, EVAL FORM, NOTIFICATION OF REJECTION, ETC.
  - OVER \$50,000, ATTACH AGENDA MANAGEMENT SUMMARY FROM COUNCIL PACKET, BIDS, RFP, ETC.
- PROVIDE PACKET TO CONTRACTS MANAGER FOR PROCESSING

1. PURPOSE OF GRANT/CONTRACT Purchase of computer for use at solid waste disposal sites.

2. TYPE OF EXPENSE  PERSONAL SERVICES  LABOR AND MATERIALS  PROCUREMENT  
 PASS THROUGH AGREEMENT  INTER-GOVERNMENTAL AGREEMENT  CONSTRUCTION  
 OTHER

OR

TYPE OF REVENUE  GRANT  CONTRACT  OTHER

3. TYPE OF ACTION  CHANGE IN COST  CHANGE IN WORK SCOPE  
 CHANGE IN TIMING  NEW CONTRACT

4. PARTIES 1) METRO and 2) Unknown

5. EFFECTIVE DATE July 20, 1990 TERMINATION DATE March 30, 1991  
 (THIS IS A CHANGE FROM \_\_\_\_\_)

6. EXTENT OF TOTAL COMMITMENT: ORIGINAL/NEW \$ 65,000.00  
 PREV. AMEND \_\_\_\_\_  
 THIS AMEND \_\_\_\_\_  
 TOTAL \$ 65,000.00

### 7. BUDGET INFORMATION

A. AMOUNT OF GRANT/CONTRACT TO BE SPENT IN FISCAL YEAR 198 90--91 \$ 65,000.00  
Purchases  
 B. BUDGET LINE ITEM NAME Office Equipment AMOUNT APPROPRIATED FOR CONTRACT \$ 65,000.00  
 C. ESTIMATED TOTAL LINE ITEM APPROPRIATION REMAINING AS OF \_\_\_\_\_, 19\_\_\_\_ \$ \_\_\_\_\_

### 8. SUMMARY OF BIDS OR QUOTES (PLEASE INDICATE IF A MINORITY BUSINESS ENTERPRISE)

SUBMITTED BY \_\_\_\_\_ \$ \_\_\_\_\_  MBE  
 AMOUNT  
 SUBMITTED BY \_\_\_\_\_ \$ \_\_\_\_\_  MBE  
 AMOUNT  
 SUBMITTED BY \_\_\_\_\_ \$ \_\_\_\_\_  MBE  
 AMOUNT

9. NUMBER AND LOCATION OF ORIGINALS \_\_\_\_\_

10. A. APPROVED BY STATE/FEDERAL AGENCIES?  YES  NO  NOT APPLICABLE  
 B. IS THIS A DOT/UMTA/FHWA ASSISTED CONTRACT  YES  NO
11. IS CONTRACT OR SUBCONTRACT WITH A MINORITY BUSINESS?  YES  NO  
 IF YES, WHICH JURISDICTION HAS AWARDED CERTIFICATION \_\_\_\_\_
12. WILL INSURANCE CERTIFICATE BE REQUIRED?  YES  NO
13. WERE BID AND PERFORMANCE BONDS SUBMITTED?  YES  NOT APPLICABLE  
 TYPE OF BOND \_\_\_\_\_ AMOUNT \$ \_\_\_\_\_  
 TYPE OF BOND \_\_\_\_\_ AMOUNT \$ \_\_\_\_\_
14. LIST OF KNOWN SUBCONTRACTORS (IF APPLICABLE)
- |            |               |                              |
|------------|---------------|------------------------------|
| NAME _____ | SERVICE _____ | <input type="checkbox"/> MBE |
| NAME _____ | SERVICE _____ | <input type="checkbox"/> MBE |
| NAME _____ | SERVICE _____ | <input type="checkbox"/> MBE |
| NAME _____ | SERVICE _____ | <input type="checkbox"/> MBE |
15. IF THE CONTRACT IS OVER \$10,000  
 A. IS THE CONTRACTOR DOMICILED IN OR REGISTERED TO DO BUSINESS IN THE STATE OF OREGON?  
 YES  NO  
 B. IF NO, HAS AN APPLICATION FOR FINAL PAYMENT RELEASE BEEN FORWARDED TO THE CONTRACTOR?  
 YES DATE \_\_\_\_\_ INITIAL \_\_\_\_\_

16. COMMENTS:

This purchase will require that existing funds in FY 1989-90 for operational capital outlay be carried over into FY 1990-91

## GRANT/CONTRACT APPROVAL

INTERNAL REVIEW

DEPARTMENT HEAD

FISCAL REVIEW

BUDGET REVIEW

CONTRACT REVIEW BOARD

(IF REQUIRED) DATE \_\_\_\_\_

1. \_\_\_\_\_  
COUNCILOR
2. \_\_\_\_\_  
COUNCILOR
3. \_\_\_\_\_  
COUNCILOR

COUNCIL REVIEW

(IF REQUIRED)

DATE \_\_\_\_\_

LEGAL COUNSEL REVIEW AS NEEDED:

- A. DEVIATION TO CONTRACT FORM \_\_\_\_\_
- B. CONTRACTS OVER \$10,000 \_\_\_\_\_
- C. CONTRACTS BETWEEN GOVERNMENT AGENCIES \_\_\_\_\_