

BEFORE THE METRO CONTRACT REVIEW BOARD

FOR THE PURPOSE OF APPROVING A) RESOLUTION NO. 98-2672
SOLE SOURCE AGREEMENT WITH MUSE)
TECHNOLOGIES INCORPORATED (MTI)) Introduced by Mike Burton,
Executive Officer

WHEREAS, Metro has been asked by the U.S. Department of Transportation (USDOT) to help complete a demonstration model improvement for travel forecasting; and

WHEREAS, USDOT and the Los Alamos National Laboratories have chosen to use Metro's new travel demand model as one of the bases for their travel demand and module in Transims; and

WHEREAS, Metro has received a grant for \$1,600,000 federal (100 percent) funds for this demonstration project; and

WHEREAS, MuSE Technologies Incorporated contracted with Los Alamos National Laboratory to provide state of the art, virtual reality display for a prior Transims case study; and

WHEREAS, The MuSE system is a virtual environment graphics display, presentation, and analysis capability developed by Sandia National Laboratory; and

WHEREAS, Through past agreements with Los Alamos, MTI has developed methods within the MuSE framework to receive Transims network, trip plan and microsimulation databases and to display them using three dimensional and coloring techniques in a virtual transportation technology environment; and

WHEREAS, MuSE will be the primary visualization environment for demonstration of the Transims study in Portland; and

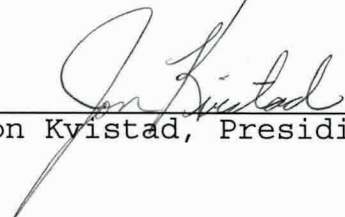
WHEREAS, MTI personnel are familiar with Transims databases and displays and can provide the necessary state of the art virtual reality displays for our Transims study without repeating previous work; now, therefore,

BE IT RESOLVED,

That the Metro Contract Review Board hereby adopts the findings contained in attached Exhibit A and waives the competitive bidding requirement in accordance with Metro Code 2.04:

The Executive Officer is authorized to enter into a sole source agreement with MuSE Technology Incorporated in the amount of \$200,000.

ADOPTED by the Metro Contract Review Board this 13th day of August, 1998.



Jon Kvistad, Presiding Officer

Approved as to Form:



Daniel B. Cooper, General Counsel

FINDINGS

Both Metro and USDOT are being asked as a part of the Clean Air Act Amendment, the Intermodal Surface Transportation Efficiency Act (now the Transportation Equity Act for the 21st Century -- TEA-21), and the policies that are specific to Metro and Oregon, to carry out analyses for which current forecasting models are inadequate. This is a part of a multi-year USDOT program (in its fourth year) to improve these models.

For Metro, it gives us the opportunity to carry out the objectives of our model improvement with consultant help we could not otherwise afford. It also pays us for significant staff time carrying out, in large part, many of the tasks already in our program for which we would have had to find other funds, including match. There is a coincidence between the goals of this USDOT project and our own needs.

Not Substantially Diminish Competition

This is a continuation of a unique body of work already started at LANL. The consultants being sought started this work when it was new (and hence not yet unique) under a normal competitive process. They have made significant progress and have gained experience, which is currently unique. It would not be practical to engage in an open proposal process since the work scope is a continuation of the scope initiated in connection with the Dallas project.

Provides Cost Savings

This saves Metro money as the grant funds are specific to this project, do not affect our current and normal federal funds and, in fact, frees up our usual funding sources for other uses, and do not require local match. Many of the objectives Metro will meet in this project would have been funded from our usual sources, which do require match.

Unique Characteristics and Technical Complexities

The primary objective of the new visual display of model output is to aid in both analysis and evaluation of alternatives and to improve the communication of results to both decision-makers and the public.

TRANSPORTATION PLANNING COMMITTEE REPORT
CONSIDERATION OF RESOLUTION NO. 2672 FOR THE PURPOSE OF
APPROVING A SOLE SOURCE AGREEMENT WITH MUSE TECHNOLOGIES
INCORPORATED (MTI).

Date: August 11, 1998

Presented by: Councilor McLain

Committee Action: At its August 4, 1998 meeting, the Transportation Planning Committee voted 2-0 to recommend Council adoption of Resolution No. 98-2672. Voting in favor: Councilors Kvistad and McLain.

Council Issues/Discussion: Kieth Lawton, Assistant Director of Technical Services, Transportation Department, made the staff presentation. He explained that this contract is related to the Transims grant under the direction of the US Department of Transportation and the Los Alamos National Laboratories. This effort will give Metro the opportunity to participate in development of drastically improved its travel forecasting capabilities. MuSE is contracted with the Los Alamos Laboratories and has developed technology necessary for completion of Metro's work. Los Alamos is requesting that Metro contract with MuSE for further development of specific graphical animator technologies.

Approval of Resolution 98-2672 authorizes the Executive Officer to enter into a sole-source agreement with MuSE Technology Incorporated, in the amount of \$200,000.

STAFF REPORT

CONSIDERATION OF RESOLUTION NO. 98-2672 FOR THE PURPOSE OF APPROVING A SOLE SOURCE AGREEMENT WITH MUSE TECHNOLOGIES INCORPORATED (MTI)

Date: July 17, 1998

Presented by: T. Keith Lawton

PROPOSED ACTION

This resolution would approve entering into a sole source agreement with MuSE to further develop and expand the tools originally developed in Dallas for the Transims project.

FACTUAL BACKGROUND AND ANALYSIS

The U.S. Department of Transportation (USDOT) has a Travel Model Improvement Program to drastically improve travel forecasting models for use in the USA. As a part of this, Los Alamos National Laboratory (LANL) is carrying out a demonstration model improvement in Portland with the cooperation of Metro modeling staff. This is a second demonstration of Interim Operating Capability (IOC2); the first was in Dallas, Texas. USDOT has made available to Metro \$1.6 million in grants to cover its costs and to employ needed consultants for specific tasks. The Metro Council approved receipt of those grants. These grants do not require a Metro match.

A decision has been made by LANL and USDOT to continue the development of an animated graphical output program to use for analysis, evaluation and dissemination of model results and output. This program was initially developed during the Dallas Fort Worth Study (IOC1), recently completed. Sandia National Laboratory in Albuquerque, New Mexico originally developed the graphical animator. Known as the MuSE system (multi-dimensional, user oriented, synthetic environment), it is now licensed to MuSE Technology Inc., a spin-off company from Sandia, which developed the Dallas application, which dealt only with highways.

For this (Portland) project, LANL needs to develop this tool further to include trucks, transit and pedestrians and to improve the tool generally for ease in understanding and use. They have requested that we retain MuSE Technology Inc. to continue their work and have estimated a cost of \$200,000. A Personal Services Agreement with MuSE Technologies Incorporated is Attachment 1 to the Staff Report.

FINDINGS

Both Metro and USDOT are being asked as a part of the Clean Air Act Amendment, the Intermodal Surface Transportation Efficiency Act (now the Transportation Equity Act for the 21st Century --

TEA-21), and the policies that are specific to Metro and Oregon, to carry out analyses for which current forecasting models are inadequate. This is a part of a multi-year USDOT program (in its fourth year) to improve these models.

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Unique Characteristics and Technical Complexities

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The statement of work is attached.

EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends approval of Resolution No. 98-2672.

PERSONAL SERVICES AGREEMENT

THIS AGREEMENT is between Metro, a metropolitan service district organized under the laws of the State of Oregon and the 1992 Metro Charter, located at 600 N.E. Grand Avenue, Portland, Oregon 97232-2736 and, MuSE Technologies Incorporated referred to herein as "Contractor," located at 1601 Randolph SE, Suite 210, Albuquerque, NM 87106, Federal ID number 85043700.

In exchange for the promises and other consideration set forth below, the parties agree as follows:

1. Duration. This Personal Services Agreement shall be effective July 1, 1998, and shall remain in effect until and including June 30, 2000, unless terminated or extended as provided in this Agreement.
2. Scope of Work. Contractor shall provide all services and materials specified in the attached "Exhibit A -- Scope of Work," which is incorporated into this Agreement by reference. All services and materials shall be provided by Contractor in accordance with the Scope of Work, in a competent and professional manner. The Contractor shall perform such additional work as may be necessary to correct errors in the work required under this Agreement without undue delays and without additional cost. To the extent that the Scope of Work contains additional contract provisions or waives any provision in the body of this Agreement, the Scope of Work shall control.
3. Payment. Metro shall pay Contractor for services performed and materials delivered in the amount(s), manner and at the time(s) specified in the Scope of Work for a maximum sum not to exceed Two Hundred Thousand Dollars AND 00/100THS DOLLARS (\$200,000.00).
4. Insurance.
 - a. Contractor shall purchase and maintain at the Contractor's expense, the following types of insurances, covering the Contractor, its employees and agents:
 - (1) Broad form comprehensive general liability insurance covering bodily injury and property damage, with automatic coverage for premises, operations and product liability. The policy must be endorsed with contractual liability coverage; and
 - (2) Automobile bodily injury and property damage liability insurance.
 - b. Insurance coverage shall be a minimum of \$500,000 per occurrence. If coverage is written with an annual aggregate limit, the aggregate limit shall not be less than \$1,000,000.
 - c. *Metro, its elected officials, departments, employees and agents shall be named as **ADDITIONAL INSURED***. Notice of any material change or policy cancellation shall be provided to Metro thirty (30) days prior to the change or cancellation.

- d. Contractor, its subcontractors, if any, and all employers working under this Agreement that are subject employers under the Oregon Workers' Compensation Law shall comply with ORS 656.017, which requires them to provide Workers' Compensation coverage for all their subject workers. Contractor shall provide Metro with certification of Workers' Compensation insurance including employer's liability. If Contractor has no employees and will perform the work without the assistance of others, a certificate to that effect may be attached, as "Exhibit B," in lieu of the certificate showing current Workers' Compensation.
- e. If required by the Scope of Work, Contractor shall maintain, for the duration of this Agreement, professional liability insurance covering personal injury and property damage arising from errors, omissions or malpractice. Coverage shall be in the minimum amount of \$500,000.
- f. Contractor shall provide to Metro a certificate of this insurance and thirty (30) days advance notice of material change or cancellation. The Contractor shall furnish acceptable insurance certificates to Metro at the time Contractor returns signed contracts. The certificate will specify all of the parties who are Additional Insured and will include the 30-day cancellation clause. Insuring companies or entities are subject to Metro acceptance. If requested, complete policy copies shall be provided to Metro. The Contractor shall be financially responsible for all-pertinent deductibles, self-insured retention, and/or self-insurance.

5. Indemnification. Contractor shall indemnify and hold Metro, its agents, employees and elected officials harmless from any and all claims, demands, damages, actions, losses and expenses including attorney's fees, arising out of or in any way connected with its performance of this Agreement, or with any patent infringement or copyright claims arising out of the use of Contractor's designs or other materials by Metro and for any claims or disputes involving subcontractors.

6. Maintenance of Records. Contractor shall maintain all of its records relating to the Scope of Work on a generally recognized accounting basis and allow Metro the opportunity to inspect and/or copy such records at a convenient place during normal business hours. All required records shall be maintained by Contractor for three years after Metro makes final payment and all other pending matters are closed.

7. Ownership of Documents. All documents of any nature including, but not limited to, reports, drawings, works of art and photographs, produced by Contractor pursuant to this Agreement are the property of Metro, and it is agreed by the parties that such documents are works made for hire. Contractor hereby conveys, transfers and grants to Metro all rights of reproduction and the copyright to all such documents.

8. Project Information. Contractor shall share all project information and fully cooperate with Metro, informing Metro of all aspects of the project including actual or potential problems or defects. Contractor shall abstain from releasing any information or project news without the prior and specific written approval of Metro.

9. Independent Contractor Status. Contractor shall be an independent contractor for all purposes and shall be entitled only to the compensation provided for in this Agreement. Under no circumstances shall Contractor be considered an employee of Metro. Contractor shall

provide all tools or equipment necessary to carry out this Agreement, and shall exercise complete control in achieving the results specified in the Scope of Work. Contractor is solely responsible for its performance under this Agreement and the quality of its work; for obtaining and maintaining all licenses and certifications necessary to carry out this Agreement; for payment of any fees, taxes, royalties or other expenses necessary to complete the work except as otherwise specified in the Scope of Work; and, for meeting all other requirements of law in carrying out this Agreement. Contractor shall identify and certify tax status and identification number through execution of IRS Form W-9 prior to submitting any request for payment to Metro.

10. Right to Withhold Payments. Metro shall have the right to withhold from payments due to Contractor such sums as necessary, in Metro's sole opinion, to protect Metro against loss, damage or claim which may result from Contractor's performance or failure to perform under this Agreement or failure of Contractor to make proper payment to any suppliers or subcontractors.

11. State and Federal Law Constraints. Both parties shall comply with the public contracting provision of ORS Chapter 279, and the recycling provisions of ORS 279.545 - 279.650, to the extent those provisions apply to this Agreement. All such provisions required to be included in this Agreement are incorporated herein by reference. Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations including those of the Americans with Disabilities Act.

12. Federal Funds Provisions.

- a. If this payment is to be charged against federal funds, the Contractor certified that it is not employed currently by the federal government. Contractor further certifies that it is not employed currently by the State of Oregon.
- b. If federal funds are involved in this Agreement, Exhibit "B," Certificate of Consultant, and Exhibit "C" Federal Provisions, including Certification of Involvement in Any Debarment and Suspension, are incorporated into this Agreement by reference.
- c. Contractor shall not be compensated for work performed under this Agreement by any other federal, state or local agency.
- d. This Agreement may be terminated by Metro upon 30 days notice, in writing and delivered by certified mail or in person, if funding from federal, state or other sources is not obtained and continued at levels sufficient to allow for the purchase of the indicated quantity of services. The Agreement may be modified to accommodate a reduction in funds.

13. Situs. The situs of this Agreement is Portland, Oregon. Any litigation over this Agreement shall be governed by the laws of the State of Oregon and shall be conducted in the Circuit Court of the State of Oregon, for Multnomah County, or, if jurisdiction is proper, in the U.S. District Court for the District of Oregon.

14. Assignment. This Agreement is binding on each party, its successors, assigns and legal representatives, and may not, under any circumstance, be assigned or transferred by either party.

15. Termination. This Agreement may be terminated by mutual consent of the parties. In addition, Metro may terminate this Agreement by giving Contractor ten days prior written notice of intent to terminate, without waiving any claims or remedies it may have against Contractor. Termination shall not excuse payment for expenses properly incurred prior to notice of termination, but neither party shall be liable for indirect or consequential damages arising from termination under this section.

16. No Waiver of Claims. The failure to enforce any provision of this Agreement shall not constitute a waiver by Metro of that or any other provision.

17. Severability. The parties agree that if any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular term or provision held to be invalid.

18. Modification. Notwithstanding and succeeding any and all prior agreement(s) or practice(s), this Agreement constitutes the entire Agreement between the parties, and may only be expressly modified in writing(s), signed by both parties.

MUSE Technologies Incorporated

METRO

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

EXHIBITS A, B AND C
TO PERSONAL SERVICES AGREEMENT
WITH MUSE TECHNOLOGIES INCORPORATED

MuSE Technologies Incorporated
1601 Randolph SE, Suite 210
Albuquerque, NM 87106
505-843-6873
Fax: 505-766-9123
Contacts:
General: Creve Maples
Technical: Jeff Mauldin

STATEMENT OF WORK
(MuSE Technologies Incorporated)
(Estimated Cost: \$200K)

The MuSE system (multi-dimensional, user-oriented, synthetic, environment) is a virtual environment graphics display, presentation, and analysis capability developed by Sandia National Laboratory and licensed to MuSE Technology Incorporated (MTI). This analysis environment incorporates voice recognition, sound, three-dimensional visual presentation, animation, and a virtual environment to give the audience a sense of immersion within the technical problem being studied. The environment accepts data from various and different technologies quite easily and readily represents the data in animated display objects for presentations and analysis.

MuSE has been used by the Los Alamos TRANSIMS Project to communicate the technical results of the TRANSIMS Dallas-Fort Worth case study to senior-level management at the Department of Transportation, to the transportation research community at the Transportation Research Board annual meeting, and to the President of the United States during a recent visit to Los Alamos. These presentations required computer code development to read and dynamically display various TRANSIMS databases including networks, trip plans, and second-by-second vehicle locations and speeds.

MuSE will be the primary visualization environment for demonstration of the TRANSIMS case study in Portland. The case study results will be demonstrated using two sets of data derived from the TRANSIMS simulation environment: these are input and output data.

Most of the displays will include perspectives of the Portland intermodal transportation networks and the traffic and travelers on these networks; some of the displays will be aggregate summaries of traffic not necessarily geo-located on the network in all cases (for example, plots of average flow density versus time for a set of links over many test runs):

User interactive displays will be capable of zooming into user chosen areas. Rotation and "flying" around the simulated networks will be provided for all three dimensional views of the Portland area.

To speed development and maintain complete familiarity with all aspects of the resulting software, Los Alamos National Laboratory (LANL) staff will participate in the software development of the MuSE TRANSIMS presentation system.

The following are specific tasks related to this statement of work.

TASK 1

Collate and allow for the display of input data which includes the transportation network complete with bus routes, the population, the activities, the land use and the routes of individuals across the network. This task includes, but is not limited to:

- a. Display a multi-modal network of ~125,000 links. (In the short term the network will be smaller.) Show network attributes such as traffic signals, transit stops, mode change points, etc. Ensure and demonstrate the network database standards developed as part of the Portland demonstration are compatible across applications (e.g., the National Transportation System Simulation and TRANSIMS).
- b. Display individual households on the transportation network. Distinguish households based on user selected activity attributes (i.e. start time, end time, activity type, activity location, etc.) and demographics of the individuals in the households. Generate histograms centered on a census tract which can be used to verify activity data. Aggregate activities on the network. Show locations of travelers at a given time of day.
- c. Show aggregate and individual plans overlaid on the transportation network. Distinguish mode changes in the plans. Have capability to sample large plan sets and display results of the sampling. Use plan set to display comparisons and differences between summaries of individual travel plans and network link attributes (i.e., link capacity).
- d. Allow the user to mark a geographical area or select a set of attributes and filter the plans by the marked area and/or attribute. Display results of filtering. Compute differences between plan sets based on a defined attribute and display the differences on the transportation network.

TASK 2

Dynamically display the results of the microsimulation. This includes, but is not limited to:

- a. Dynamically display microsimulation traveler data including vehicles (cars, buses, trucks), and trains. Display information about individual travelers' locations on a second by second basis. Display vehicle time traveled and vehicle distance traveled data.
- b. Display microsimulation summary data including link densities, link travel times totals, based on turning movement, and computed per lane.

- c. Generate flow/density, land occupancy fractions, diagrams from microsimulation calibration runs.
- d. Show differences between plans (data in plan set) and results of plans (microsimulation output).

TASK 3

Visualization/Presentation support for research and development of TRANSIMS. This task requires the development of intermediate visualization products to support TRANSIMS researchers as they develop data for the Portland case study. The resulting visualization products of this task may or may not be incorporated into the final product. This task includes:

- a. Interacting with researchers to determine their short and long term needs for examining their data.
- b. Developing presentation products to meet those specific needs.
- c. Installing these presentation products at LANL and instructing and aiding the researchers in using these products to examine their data.

TASK 4

Instruct LANL staff in the use and coding of the MuSE software. At the end of the instruction, LANL staff should be able to generate MuSE software independent of help from MuSE.

TASK 5

At mutually agreed upon times, Muse Technologies, Inc. will assist LANL staff in making promotional presentations and videos. This includes a video which highlights the results of the Portland and Dallas-Ft. Worth case studies.

TASK 6

Ensure that all software developed is compatible with the long term goals of the TRANSIMS project; that is, for those users who obtain a copy of the MuSE runtime or development environment, that they will be capable of using all software developed for this project to provide similar displays using their own data relevant to their particular regions. User systems, in general, are expected to be low cost PC or workstation computers which meet minimum requirements of processor power, RAM, long term storage, and graphics capability.

Software developed in task 3 is not subject to this requirement, since task 3 software is potentially written for research and development work only.

TASK 7

Documentation. Reference documentation will be produced so that end users will be able to obtain desired displays of their data assuming that they have been given initial training on using the MuSE TRANSIMS presentation system. More comprehensive documentation will be a high priority task once the presentation system is approaching a state where it will be made available to a large number of entities.

Sole Source Justification

MTI has developed and extended the MuSE system as a multimedia (animation, sound, virtual reality) analysis and presentation tool for examining scientific results. The MuSE system has been applied in technology domains such as space exploration, transportation analysis, explosive charges, planetary motion, etc. The system allows the input of various data types and animated display of the data objects. It can use voice recognition to issue commands, a joystick to maneuver the view point, and a virtual reality headset to set the viewing direction, though these accessories are not necessary to use some parts of the MuSE package. A patented pointer of converging lines maintains the viewer's baseline while maneuvering a virtual spaceship or platform through the displayed data or objects. Sidewalls within the virtual platform provide a surface for displaying two-dimensional plots, a necessity for the TRANSIMS project. The pointer can be fixed to an object so that as the object moves, the observer views the environment as if attached to the object. Thus, we can analyze complex, dynamic situations such as vehicle behavior in traffic.

In the fall of 1996, Los Alamos National Laboratory contracted with MuSE Technologies Incorporated to provide the necessary state-of-the-art, virtual reality display and analysis of the TRANSIMS case study results for the October 21 and 22, 1996 presentation to senior officials at the Department of Transportation. To achieve this, MTI developed methods within the MuSE framework to receive TRANSIMS network, trip plan, and microsimulation databases and to display them dynamically using various three-dimensional and coloring techniques in virtual transportation technology environment.

The methods included:

- reading in the network data,
- displaying the roadways (lanes colored by direction of travel),
- displaying the intersections, including signs (shapes and colors) and signals (colored boxes),
- reading in trip plans,
- showing single plans on the network denoted by both color (direction) and height,
- showing superimposed plans (additional height for each plan) on the network,
- showing spatial concentration (by color and height) of destinations,
- picking out plans and displaying them by origin and destination,
- reading in vehicle second-by-second histories,
- showing individual vehicles moving on the network,
- showing vehicle speeds by color or height,
- selecting and coloring individual vehicles by origin and destination,
- picking one vehicle and following it through the network, and
- showing vehicle densities on the roadway by colored histogram.

This information then was displayed dynamically from different viewpoints within the MuSE environment. The network displays were subsequently updated to show different elevations for roadway segments as exists at overpasses. The vehicle icons were extended

to three dimensions for better visibility when seen from the side. These latter improvements were at MTI's own expense.

MuSE presentations of the TRANSIMS technology have been video taped and shown to transportation researchers and others throughout the country. These video presentations have been extremely well received and very effective in communicating the TRANSIMS capabilities to audiences. The MuSE-TRANSIMS video presentation to President Clinton resulted in a Presidential request to consider analyzing transportation issues affecting the Washington DC Beltway.

This previous MTI effort of about 500 manhours has resulted in several thousand lines of code specific to TRANSIMS display, presentation, and analysis. This current statement of work is to enhance the existing software to display the results of the Portland case study. The study will emphasize activity demand, intermodal trip planning and intermodal microsimulation, each of which will require MuSE-TRANSIMS display development. If another visual environment were to be used for the Portland displays, the existing work would have to be redone, which could cause six or more months of delay and additional expense.

The capabilities and resources that MTI possesses include the technology to readily accept TRANSIMS data in many forms (databases, geographic information, aerial photographs, etc.) and to display and analyze them as animated objects. MTI personnel are familiar with TRANSIMS data and issues. The MuSE animated analysis includes state-of-the-art data displays allowing real-time dynamic viewing of the data objects from arbitrary perspectives and dynamic disaggregation of the data objects into constituent objects to illustrate particular features within the data. The technology is capable of displaying two-dimensional plots commonly used within TRANSIMS diagnostics and calibrations. The technology is portable to TRANSIMS project computer resources (Sun or SGI workstations).

In summary, MTI, with its MuSE system, can provide the necessary state-of-the-art, virtual reality display and analysis of the Portland TRANSIMS case study results without repeating work that has been done previously. MTI has personnel who are familiar with the TRANSIMS databases and their display. Finally, MTI qualifies for special consideration afforded small businesses.

EXHIBIT B

CONTRACTOR CERTIFICATION

Contractor certifies by signing this contract that Contractor has not:

- a. Employed or retained for a commission, percentage, brokerage, contingency fee or other consideration, any firm or person (other than a bona fide employee working solely for me or the above consultant) to solicit or secure this contract,
- b. Agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or
- c. Paid, or agreed to pay, to any firm, organization or person (other than a bona fide employee working solely for me or the above consultant), any fee, contribution, donation or consideration of any kind for, or in connection with, procuring or carrying out the contract, except as here expressly stated (if any):

Contractor further acknowledges that this certificate is to be furnished to the Federal Highway Administration, and is subject to applicable State and Federal laws, both criminal and civil.

AGENCY OFFICIAL CERTIFICATION (METRO)

Metro official likewise certifies by signing this contract that Contractor or his/her representative has not been required directly or indirectly as an expression of implied condition in connection with obtaining or carrying out this contract to:

- a. Employ, retain or agree to employ or retain, any firm or person, or
- b. Pay, or agree to pay, to any firm, person or organization, any fee, contribution, donation or consideration of any kind except as here expressly stated (if any):

Metro official further acknowledges this certificate is to be furnished to the Federal Highway Administration, and is subject to applicable State and Federal laws, both criminal and civil.

EXHIBIT C

FEDERAL PROVISIONS METRO

I. Certification of Noninvolvement in Any Debarment and Suspension

Contractor certifies by signing this contract that to the best of its knowledge and belief, it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal Department or agency;
 2. Have not within a three-year period preceding this proposal been
- convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust

statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property.

3. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
4. Have not within a three-year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.

Where the Contractor is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

List exceptions. For each exception noted, indicate to whom the exception applies, initiating agency and dates of action. If addition space is required, attach another page with the following heading:

Certification *Exceptions continued,*
Contract Insert.

Exceptions:

Exceptions will not necessarily result in denial of award, but will be considered in determining Contractor responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

The Contractor is advised that by signing this contract, the Contractor be deemed to have signed this certification.

II. Instructions for Certification Regarding Debarment, Suspension and Other Responsibility Matters -- Primary Covered Transactions

1. By signing this contract, the Contractor is providing the certification set out below.
2. The inability to provide the certification required below will not necessarily result in denial of

participation in this covered transaction. The Contractor shall explain why he/she cannot provide the certification set out below. This explanation will be considered in connection with Metro's determination to enter into this transaction. Failure to furnish an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when Metro determined to enter into this transaction. If it is later determined that the Contractor knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government or Metro may terminate this transaction for cause of default.
4. The Contractor shall provide immediate written notice to Metro to whom this proposal is submitted if at any time the Contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal" and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the Oregon Department of Transportation's Program Section (telephone: 503/986-3400) to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The Contractor agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transactions with a person who is debarred, suspended, declared ineligible or voluntarily excluded from

participation in this covered transaction, unless authorized by Metro entering into this transaction.

7. The Contractor further agrees by submitting this proposal that it will include the Addendum to Form FHWA-1273 titled "Appendix B -- Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transactions," provided by Metro entering into this covered transaction without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List published by the U.S. General Services Administration.
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Exception for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government or Metro may terminate this transaction for cause or default.

III. Addendum to Form FHWA-1273, Required Contract Provisions

This certification applies to subcontractors, material suppliers, vendors and other lower tier participants.

A Appendix B of 49 CFR Part 29 -

Appendix B -- Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transactions

Instructions for Certification

1. By signing and submitting this Contract, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, Metro with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this Contract is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal" and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this Contract that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible or voluntarily excluded from

participation in this covered transaction, unless authorized by Metro with which this transaction originated.

6. The prospective lower tier participant further agreed by submitting this Contract that it will include this clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement list.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government or Metro with which this transaction originated may pursue available remedies, including suspension and/or debarment.

Certification Regarding Debarment,

Suspension, Ineligibility and Voluntary Exclusion -- Lower Tier Covered Transactions

- a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal department or agency.
- b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

IV. Employment

1. Contractor warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for Contractor, to solicit or secure this Contract and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for Contractors, any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranting, Metro shall have the right to annul this Contract without liability, or in its discretion to deduct from the contract price or consideration or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.
2. Contractor shall not engage, on a full or part-time basis, or other basis, during the period of the Contract, any professional or technical personnel who are, or have been at any time during the period of this Contract, in the employ of Metro, except regularly retired employees, without written consent of the public employer of such person.

3. Contractor agrees to perform consulting services with that standard of care, skill and diligence normally provided by a professional in the performance of such consulting services on work similar to that hereunder. Metro shall be entitled to rely on the accuracy, competence and completeness of Contractor's services.

V. Nondiscrimination

During the performance of this Contract, Contractor, for himself, his assignees and successors in interest, hereinafter referred to as Contractor, agrees as follows:

1. Compliance with Regulations. Contractor agrees to comply with Title VI of the Civil Rights Act of 1964, and Section 162(a) of the Federal-Aid Highway Act of 1973 and the Civil Rights Restoration Act of 1987. Contractor shall comply with the regulations of the Department of Transportation relative to nondiscrimination in Federally assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are incorporated by reference and made a part of this Contract. Contractor, with regard to the work performed after award and prior to completion of the contract work, shall not discriminate on grounds of race, creed, color, sex or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contract covers a program set forth in Appendix B of the Regulations.
2. Solicitation for Subcontractors, including Procurement of Materials and Equipment. In all solicitations, either by competitive bidding or negotiations made by Contractor for work to be performed under a

subcontract, including procurement of materials and equipment, each potential subcontractor or supplier shall be notified by Contractor of Contractor's obligations under this Contract and regulations relative to nondiscrimination on the grounds of race, creed, color, sex or national origin.

3. Nondiscrimination in Employment (title VII of the 1964 Civil Rights Act).

During the performance of this Contract, Contractor agrees as follows:

a. Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice setting forth the provisions of this nondiscrimination clause.

b. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin.

4. Information and Reports. Contractor will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to his books, records, accounts, other sources of

information and his facilities as may be determined by Metro, Oregon Department of Transportation or FHWA as appropriate, and shall set forth what efforts he has made to obtain the information.

5. Sanctions for Noncompliance. In the event of Contractor's noncompliance with the nondiscrimination provisions of the Contract, Metro shall impose such agreement sanctions as it or the FHWA may determine to be appropriate, including but not limited to:

a. Withholding of payments to Contractor under the agreement until Contractor complies; and/or

b. Cancellation, termination or suspension of the agreement in whole or in part.

6. Incorporation of Provisions. Contractor will include the provisions of paragraphs 1 through 6 of this section in every subcontract, including procurement of materials and leases of equipment unless exempt from Regulations, orders or instructions issued pursuant thereto. Contractor shall take such action with respect to any subcontractor or procurement as Metro or FHWA may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event Contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, Metro may, at its option, enter into such litigation to protect the interests of Metro, and, in addition, Contractor may request Metro to enter into such litigation to protect the interests of the State of Oregon.

VI. Disadvantaged Business Enterprise (DBE) Policy

In accordance with Title 49, Code of Federal Regulations, Part 23, or as may be amended (49 CFR 23), Contractor shall agree to abide by and take all necessary and reasonable steps to comply with the

following statement:

DBE Policy Statement

DBE Policy. It is the policy of the Metro that Disadvantaged Business Enterprises as defined in 49 CFR 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with federal funds. Consequently, the DBE requirements of 49 CFR 23 apply to this Contract.

DBE Obligations. Contractor agrees to ensure that Disadvantaged Business Enterprises as defined in 49 CFR 23 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. In this regard, Contractor shall take all necessary and reasonable steps in accordance with 49 CFR 23 to ensure that Disadvantaged Business Enterprises have the maximum opportunity to compete for and perform contracts. Contractors shall not discriminate on the basis of race, color, national origin or sex in the award and performance of federally-assisted contracts.

The DBE Policy Statement shall be included in all subcontracts entered into under this Contract.

Records and Reports. Contractor shall provide monthly documentation to Metro that it is subcontracting with or purchasing materials from the DBEs identified to meet contract goals. Contractor shall notify Metro and obtain its written approval before replacing a DBE or making any change in the DBE participation listed. If a DBE is unable to fulfill the original obligation to the contract, Contractor must demonstrate to Metro the Affirmative Action steps taken to replace the DBE with another DBE. Failure to do so will result in withholding payment on those items. The monthly documentation will not be required after the DBE goal commitment is satisfactory to Metro. Any DBE participation attained after the DBE goal has been satisfied should be reported to Metro.

DBE Definition. Only firms certified by the Office of Minority, Women, & Emerging

Small Business (OMWESB) Department of Consumer & Business Services (DCBS) as DBE Firms may be utilized to satisfy this obligation. To verify certification status of a DBE firm, contact OMWESB at (503) 947-7976 or by internet access to OMWESB's web site:

<http://www.cbs.state.or.us/external/omwesb/index/btml>

Contractor's DBE Contract Goal

DBE Goal _ Percent

By signing this Contract, Contractor assures that good faith efforts have been made to meet the goal for the DBE participation specified in the Request for Proposal/Qualification for this project for this project as required by ORS 200.045.

VII. Lobbying

The Contractor certifies, by signing this agreement to the best of his/her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress in connection with this agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor also agrees by signing this agreement that he/she shall require that the language of this certification be included in all lower tier subagreements, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

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