

City of Portland, BES



WSCSO Project

Impregilo/Healy J.V. Interim Audit Report

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January 7, 2005

Mr. David Gooley
City of Portland
Environmental Services
1120 SW 5th Ave. Rm 1000
Portland, OR 97204-1912

Dear Mr. Gooley:

This letter transmits the Final Report of the interim audit for the Impregilo Healy Joint Venture (IHJV) work on the West Side Combined Sewer Overflow (WSCSO) project. Our report covers the scope of work, a description of the testing and verification performed, and findings with recommendations. As of the time of the audit, the project was roughly 50% complete with approximately \$175 million billed.

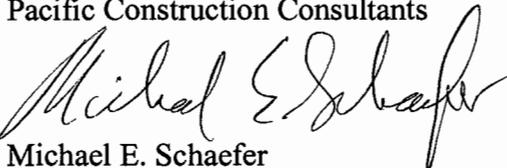
Our company has over 24 years of experience performing job cost audits of nearly 500 projects for Owners. The WSCSO project is one of the larger projects that we have audited in terms of dollars of construction cost but by far not the largest. Due to the high volume of tunneling involved, we consider the project high risk in terms of cost, schedule and quality of construction. Since a significant portion of the job costs are being reimbursed on an actual cost incurred basis, from our past experience with similar projects, we expected to uncover major audit findings. We applied our best effort to uncover any significant issue by concentrating our resources on the highest risk areas based on our experience. We found no significant issues. The audit exceptions, described within this report, are extremely minor in relation to the size and complexity of the project.

In my 30 years of experience in the construction industry, I have not seen a better managed project from a cost control perspective. The IHJV cost control team is performing in an outstanding manner. There remains a significant amount of tunneling work to complete. Therefore the risk of schedule delay and/or a cost over-run still exists. However, if this was my project, I couldn't feel more comfortable than having this IHJV team managing it. The City of Portland is the beneficiary of IHJV's outstanding performance.

Notwithstanding any of the above, the IHJV team was excellent to work with. They responded to our requests in a timely fashion and were completely "up-front" with us in every respect. The working relationship between BES and IHJV is excellent. This is no doubt due to the bold use of a type of contract that promotes a partnership with common objectives for Owner and Contractor.

If you have need of any further information, please do not hesitate to call me.

Sincerely yours,
Pacific Construction Consultants



Michael E. Schaefer
Principal

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

INTRODUCTION:

The Bureau Environmental Services of the City of Portland contracted with Impregilo/Healy Joint Venture (IHJV) for the construction of the West Side CSO Tunnel, Shafts, Pump Station, & Pipelines Project. The contractor was to perform the Work, including the provision of labor, materials, transportation, equipment, and services for and incidental to the completion of all construction work in connection with the project.

The Original Budget Price of \$293,060,874 is the sum of the Estimated Reimbursable Cost (ERC) of \$234,358,874 and the Impregilo/Healy Fee of \$58,702,000. The ERC portion of the contract consists of labor costs, subcontractor costs, costs for materials and equipment, and miscellaneous costs. Reimbursable costs do not include the contractor fixed fee or any costs incurred by the contractor that are, or should have been included in that fee.

Reimbursable costs include the following:

- Wages of construction workers directly employed by the contractor to perform the Work at the site or, with the Owner's agreement, at off-site workshops and should, at a minimum, be in conformance with the State of Oregon's prevailing wage law.
- Wages of salaried employees that are not included in the Fixed Fee and approved by the Owner.
- Cost actually paid or incurred for taxes, insurance, contributions, assessments, and fringe benefits required by law, or similar costs required to be paid as a result of collective bargaining agreements. For personnel not covered by collective bargaining agreements, the costs of labor include the reasonable cost of customary benefits typically provided to such personnel such as sick leave, medical and health benefits, holidays, vacations, and pensions when such benefits reasonably are related to the wages and salaries included in the Cost of the Work.
- Subcontractor amounts established in legally binding subcontracts and are priced on lump sum or unit price basis or a combination of the two methods.
- Materials, equipment, and supplies reimbursed at actual cost. All trade discounts and salvage value were to be passed to the owner.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

- Sales taxes imposed by government that are related to the Work and for which the contractor is liable.
- Other costs such as plan check, building permit and fees for other permits, licenses and inspections for which the Contractor is required by the Contract Documents to pay; testing laboratories fees, costs of removal of debris from the site, and other costs incurred in the performance of the Work to the extent approved in advance by the Owner's Representative.

Contractor Fixed Fee consists of the following elements:

- Profit.
- Home office overhead including all company costs for the salaries and other compensation of the Contractors' personnel stationed at the Contractor's principal office or branch offices, or other locations agreed to in advance that are not directly attributable to the Work; or which benefit more than one project of the Contractor including items such as rent, equipment, and home office support staff.
- Field office overhead costs that cannot be directly attributed to a discrete portion of the project. These costs include contract administration, on-site project management, field office costs, support clerical staff, utilities, postage, telephone, preparation and revision of schedules, and the like.
- Costs for the use of money, preparation of the Contractor's response to the Bureau of Environmental Services (BES) Request for Proposals; all costs related to the performance of Warranty work, Owner Controlled Insurance Program deductibles; all costs associated with Contractor-provided insurance and bonding costs.
- All costs associated with the Contractor personnel identified by the Owner as non-reimbursable costs.

The Bureau of Environmental Services of the City of Portland engaged Pacific Construction Consultants to perform an interim audit of construction costs charged to the WSCSO Project for two months. The four IHJV Payment Applications #27, #28, #36, and #37 for the months of November 2003 and March 2004 were selected for audit. In addition, the November 2003 and March 2004 project costs of *Malcolm Drilling CO., Inc.* and *Bencor- Petrifond- Pacchiosi, Joint Venture* IHJV subcontractors, were also selected for audit. The following are the results of that audit along with our recommendations or conclusions where applicable.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

OBJECTIVES:

The objectives of the interim audit were to:

- Determine whether costs charged to the WSCSO Project were in compliance with terms of the contract agreement between City of Portland Bureau of Environmental Services and Impregilo/Healy Joint Venture.
 - Determine whether amounts charged were reflective of the contractor's/subcontractors' actual cost incurred, unit prices, or of negotiated amounts or rates stipulated in the contract, and were adequately supported by the contractor's accounting records and source documents.
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SCOPE:

The scope of work to be performed included:

- Verification of the mathematical accuracy of IHJV billing records.
- Verification of compliance with terms of the contract including verification that non-reimbursable costs were not included in job reimbursable costs.
- Verification whether amounts charged to the project reflected actual costs incurred by the contractor or rates stipulated in the contract agreement.
- Verification whether labor costs charged were in accordance with terms of the contract and reflected actual cost incurred.
- Verification whether materials, equipment and other costs charged to the project were in accordance with terms of the contract agreement and reflected actual costs incurred.
- Verification whether *Malcolm Drilling CO., Inc.* costs charged to the project were in accordance with the terms of the subcontract agreement between IHJV and Malcolm Drilling CO., Inc. and reflected subcontract unit prices.
- Verification whether *Bencor-Petrifond-Pacchiosi Joint Venture* costs charged to the project were in accordance with the terms of the subcontract agreement and reflected subcontract unit prices.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

- Assessment of overall accuracy and reliability of project cost records and testing of the current program cost audit trail.
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SUMMARY OF WORK PERFORMED:

We performed an audit of approximately \$14,000,000 worth of construction costs incurred by IHJV that were billed through four Payment Applications for the months of November 2003 and March 2004. We audited labor, materials, equipment, subcontracts and other costs charged to the project.

LABOR COST

The four Payment Applications submitted by IHJV included over \$3,000,000 worth of labor cost for the months of November 2003 and March 2004. We verified that these costs represent actual costs incurred for the performance of the work and were in accordance with terms of the contract agreement between BES and IHJV. The details of the labor cost audit are presented below.

Field Unburdened Labor Cost - We selected a sample from the Certified Payroll reports for each of the week-ending periods for the months of November 2003 and March 2004. We verified regular, overtime, and double time hours charged on the Certified Payroll reports reflected hours recorded on time sheets for each of the selected employees. We tied Certified Payroll hourly wages to Payroll Register wages. We traced union employee hourly wages to the applicable union base rates and to prevailing wages where applicable. We also tied Certified Payroll report net employee earnings to the Payroll Registers and to cancelled checks or to bank statements. We found no exceptions related to project cost charges.

Field labor Burden - We verified that charged amounts for labor burden related to the selected field employee wages such as payroll taxes and fringe benefits reflected actual cost incurred. We verified that payroll taxes charged to the project reflected actual costs incurred for FICA and Federal and State Unemployment Insurance. We tied fringe benefits charged to the job to the applicable union rates. We also verified benefits charged to the jobs reflected actual amounts paid. Costs charged to the project were in accordance with terms of the contract agreement. We found no exceptions.

Reimbursable Salaried Unburdened Labor Cost - We also selected a sample of salaried employees included in the reimbursable costs from the Certified Payroll reports. The sample covered each of the pay ending periods for the months of November 2003 and March 2004. We tied hours posted on the Certified Payroll reports to time sheet hours of each of the selected employees. We traced Certified Payroll hourly wages to Payroll Register wages. We also tied Certified Payroll report net employee earnings to the Payroll Registers and to cancelled checks or to bank statements. We found no exceptions.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

Staff Reimbursable Labor Burden Cost - We verified that charged amounts for labor burden related to the selected staff employee wages such as payroll taxes, fringe benefits reflected actual cost incurred. We verified that payroll taxes charged to the project reflected actual costs incurred for FICA and Federal and State Unemployment Insurance. We also verified that benefits charged to the project reflected actual amounts paid and were in accordance with terms of the contract agreement.

Field and Staff Labor Burdened Costs for the month of March 2004 – In addition to the selected labor charges, we reviewed total labor costs incurred for the month of March 2004. We tied 100% of charged hourly rates to the applicable union rates, prevailing wages, and to the Payroll Register reports to reassure that labor costs charged are actually incurred by the contractor. We verified payroll tax rates, benefits, and insurance. We found no exceptions.

MATERIALS, EQUIPMENT, SUBCONTRACTS, AND OTHER COSTS

Materials and Subcontracts - We verified approximately \$11,000,000 worth of costs for materials, equipment, subcontracts, and other costs charged to the project within the four Payment Applications subject to audit. We verified that invoices charged were for the proper project and amounts charged reflected invoice amounts as well as cancelled check amounts except in the cases where cash discounts were taken by IHJV. In addition to audited payment applications for November 2003 and March 2004, we ran a “duplicates” test on approximately 65% of all third party invoices charged direct to the project for materials, equipment, and other costs. We found minor exceptions for four duplicate invoices for the total amount of \$17,863 described in detail in the body of this report (Item #1)

COST ELEMENTS THAT ARE INCLUDED IN FIXED FEE

During our audit, we verified that cost elements included in the Fixed Fee were not charged direct to the project. We verified that certain types of costs, expected to be included in the Fixed Fee, were directly charged due to specific approval by BES Project Management. We also verified that no home office overhead costs were included in the reimbursable costs. We found no exceptions.

MALCOLM DRILLING CO., INC. COSTS

The IHJV / Malcolm Drilling subcontract agreement was based on unit prices with some lump sum bid items. The original subcontract value was \$8,401,110. The revised subcontract value after change order #6 dated 07/28/04 was \$7,657,269. We audited the amounts charged through four Malcolm Drilling payment applications 12, 13, 20, and 21 in the amount of \$1,914,094, which is approximately 25% of the total revised subcontract value. The following are details of that audit.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

We verified that unburdened hourly rates paid to Malcolm Drilling employees reflected rates per applicable union agreements or the prevailing wage law. We tied net wages of selected employees from the Malcolm Drilling Certified Payroll Reports to cancelled checks.

Overall, the Malcolm Drilling Co., Inc. project billings appeared to be in accordance with terms of the subcontract agreement. We found that Malcolm drilling has paid union rates or prevailing wages for field labor. Malcolm Drilling progress invoices appeared to be mathematically accurate and free of material misstatements.

BENCOR-PETRIFOND-PACCHIOSI JOINT VENTURE COSTS

The IHJV / Bencor-Petrifond-Pacchiosi Joint Venture (BPPJV) subcontract agreement was based on unit prices with some lump sum bid items. The original subcontract value was \$55,633,803. We audited the BPPJV payment applications 24, 25, 32, and 33 in the amount of \$3,141,124. This represents approximately 5.6% of the total subcontract value. The following are details of that audit.

We verified that unburdened hourly rates paid to BPPJV employees reflected rates per applicable union agreements or the prevailing wage law. We tied net wages of selected employees from the BPPJV Certified Payroll Reports to cancelled checks.

Overall, the BPPJV project billings appeared to be in accordance with terms of the subcontract agreement. We found that BPPJV has paid union rates or prevailing wages for field labor. BPPJV invoices appeared to be mathematically accurate and free of material misstatements.

AUDITOR'S OVERALL COMMENTS AND RECOMMENDATIONS:

Record keeping - The project cost records we needed to complete the audit that are generated and maintained by IHJV are accurate and complete. We verified the cost audit trail for four payment applications by testing costs charged by IHJV to the project and detailed auditing of labor, materials, subcontracts and other costs. The project cost records maintained on Constructw@re were very helpful in completing our work. IHJV project management fully substantiated its costs on a contemporaneous basis per BES requirements. We strongly support this requirement and recommend it to our clients that are involved in any cost-reimbursable type of contract.

Cooperation and responsiveness - During an audit on a project of this magnitude, the interactions between auditor and auditee are numerous and occasionally complex. IHJV extended the highest level of cooperation and promptness in response to our questions and requests for information. The Joint Venture employees went out of their way to educate and inform us as to the meaning and intent of their job cost accounting activities as well as supplied

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

us the additional documentation, support, or explanations required to complete our work. Pacific Consultants has been in the construction job cost auditing business for over 24 years. Never have we experienced such a high level of cooperation.

Labor costs - The IHJV labor charges were so accurate that we practically found zero errors. The accuracy of the direct labor costs charged to the job is unprecedented for a job of this magnitude. The only concern we have that at the completion of the project, total labor costs charged to the project should be reconciled to total labor cost per Certified Payroll reports to reassure that accrued labor costs, included in the billings due to pay ending period cutoffs (which is normal payroll accounting procedure), are reversed.

Materials, subcontracts, & other costs - As mentioned before, the BES Project Management's adoption of Constructw@re enhanced the efficiency of IHJV job cost substantiation. Every vendor, subcontractor, and miscellaneous cost charged to the Cost of the Work was supported by an e-copy of that vendor's invoice or progress payment application. In addition, after the first few payment applications, IHJV added summary sheets of all materials, subcontracts, and other costs charged to the Cost of the Work. As a result, we were able to review 100% of materials, subcontracts and other costs for the two months of payment applications and were able to fully audit a significantly larger amount of materials costs than we otherwise would have. Only a few errors were found in the materials costs charged. On a project of this magnitude, we would categorize the IHJV cost accounting for materials and subcontracts as outstanding.

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

ITEM #1

TITLE:

Credit for duplicate invoices charged to the project.

SITUATION:

During our audit of materials, equipment, and other costs charged to the WCSO project, we noted that IHJV billed several invoices twice. The following invoices appeared to be duplicate charges:

<u>Vendor</u>	<u>Invoice</u>	<u>Amount</u>	<u>Duplicate Amt</u>	<u>Pay App#</u>
Rapid Transfer & Storage Co.	66433	\$ 1,250.00		28
Rapid Transfer & Storage Co.	66433	\$ 1,250.00	\$ 1,250.00	29
Listen Acoustics	1	\$ 7,670.50		28
Listen Acoustics, Inc	1	\$ 7,670.50	\$ 7,670.50	29
Crane America Services	2603429	\$ 8,800.50		28
Crane America Services	2603429	\$ 8,800.50	\$ 8,800.50	29
A Royal Wolf Portable Storage, Royal Wolf	R119252 R119252	\$ 142.09 \$ 142.09	\$ 142.09	29 26
Grand Total			<u>\$ 17,863.09</u>	

CONCERN:

Materials, equipment, and other costs may be overstated due to the duplication of charges in the amount of \$17,863.

RECOMMENDATION:

We recommend IHJV review those invoices and make the necessary adjustment.

CONTRACTOR'S COMMENTS:

The four invoices found are effectively duplicated (total value \$17,863)
Our procedure for preparing the payment application is as follows:

**WEST SIDE COMBINED SEWER OVERFLOW (WSCSO) PROGRAM
IMPREGILO/HEALY JOINT VENTURE**

INTERIM AUDIT REPORT

- The Accounting Department reviews all purchase orders, material receipt, etc. and records the invoices into the accounting system.
- Daily those recorded invoices are copied and provided to the Controls Department with journal entry numbers.
- Controls Department then prepares the payment applications.

We exercise great care and caution in preparing our Payment Applications; however some inadvertent errors may creep in the Payment Application. Clearly, the only error possible is in duplicating invoices, as omitted invoices were never submitted.

While statistics are not really applicable, for reference only we note that pay applications object of the review and that are related to the 4 duplicated invoices (#25, 26, 28, 29, 37, and 38) included 3490 invoices for a total of \$20,168,363. The error would be therefore in the range of 0.1%.

Since September 2004, we have implemented an automated double check mechanism with which we review the completed payment applications with accounting records to ensure reconciliation with accounting records and eliminate inadvertent errors. Any new payment application should therefore be error-proof. We are now in the process of reconciling each and every payment applications from the beginning of the project, with the accounting records.

After completion of such reconciliation, we expect some discrepancies of omitted invoices and duplicates as mentioned above to come up. We will prepare a reconciliation report and update the payment applications by crediting the City for all the duplications and debiting for the unbilled items.

AUDITOR'S COMMENTS:

We agree with the contractor that the IHJV internal cost controls are working effectively. The duplicate invoices we found during our audit are very minor in comparison with the quantity of invoices and the amounts of the related costs that have been processed by the IHJV accounting department. Moreover, we are impressed with the openness, responsiveness and cooperation we received from the management of IHJV. It was a pleasure auditing the IHJV construction costs for the WSCSO project, which is unusual owing to the nature of cost auditing work.