#### **STAFF REPORT**

#### SOUND TRANSIT MOTION NO. M2001-77

#### **Deloitte & Touche LLP Contract Amendment for Audit Services**

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Board	7/26/01	Discussion/Possible Action	Hugh Simpson, Chief Financial Officer	(206) 398-5082

#### **PROPOSED ACTION**

Approval of Motion No. M2001-77 would authorize the Executive Director to execute an amendment to the contract with Deloitte & Touche LLP in the amount of \$475,000, increasing the current authorized contract amount of \$1,058,618, for a new contract amount not to exceed \$1,533,618 to provide audit services for the Link Light Rail (LLR) cost estimates.

#### **KEY FEATURES**

#### **Highlights of Proposed Action:**

- ◆ Authorizes the Executive Director to execute a contract amendment with Deloitte & Touche LLP in the amount of \$475,000 for Audit Services to provide a LLR Cost Estimate Audit, for a new contract amount not to exceed \$1,533,618.
- ◆ The contract amendment amount of \$475,000 is split between \$400,000 for scope and \$75,000 for other direct costs, i.e., travel, lodging, and per diem.
- ◆ Compensation to Deloitte & Touche LLP for this scope of work will be based on composite hourly rates.
- Scope includes:
  - 1) Assessment of reasonableness and accuracy of the 1999 LPA budget
  - 2) Identification of reasons for cost growth between FFGA budget and current budget for LPA
  - Review development of current cost estimate for "revised" MOS 1
  - 4) Review of Sound Transit estimating systems for the project.

#### **Discussion of Proposed Action**

On May 24, 2001, the Board directed staff to have an independent audit of the LLR cost estimate performed. This scope of work was not anticipated and the funds are not included in the existing Audit Services contract or 2001 budget. Attached in a separate document is the proposal from Deloitte & Touche LLP (D&T) to complete this work. Staff from D&T spent two

days with Sound Transit staff conducting intake interviews and developing a scope of work. Included below is the detailed scope of work:

#### Assessment of Reasonableness and Accuracy of the 1999 LPA Budget

In order to assess the reasonableness and accuracy of the 1999 LPA budget, D&T will begin a review of the estimating standards, policies, and procedures utilized in developing the LPA budget. Based on this review, D&T will assess the appropriateness of the estimating methodology utilized and compliance with policies and procedures. The assessment will also include a review of backup documents to determine the accuracy of the details provided. Assuming sufficient details are present, a sampling of unit costs, compiled unit costs, and quantities will be reviewed in an effort to determine the accuracy of the 1999 LPA budget estimate. D&T will assess the reasonableness of the Project's construction contingency for design and construction, as well as the overall Project reserve funds.

#### Identification of Reasons for Cost Growth Between FFGA Budget and Current Budget for LPA

In order to identify the specific reasons for cost growth between the development of the FFGA budget (\$2.5 billion) and the current budget for the LPA (\$3.6 billion), D&T will analyze the cost growth associated with the following major Project categories:

- Agency
- Right of Way (ROW)
- Construction Packages
- Third-Party Agreements
- Construction Management
- Design

In analyzing the major Project categories, as opposed to conducting a complete Project audit, time and costs can be saved as an analysis of these categories will likely result in identification of the major items contributing to the cost growth. D&T will analyze Project schedules for the 2006 and 2009 revenue operating dates in an effort to determine whether, and to what extent, schedule delays are contributing to the additional cost growth.

#### Review Development of Current Cost Estimate for MOS 1

In reviewing the development of the current cost estimate for MOS 1, D&T will focus on 5 or 6 high-risk areas. The review of the current cost estimate will focus upon Agency, ROW, Construction Packages, Third-Party Agreements, Construction Management, and Design costs. In addition, D&T will conduct an analysis of the design status of each segment and analyze the Project contingency with respect to design, construction, and the overall Project reserve. To complete the review of the current estimate, D&T will also review the MOS 1 Project schedule and analyze the Project's funding and affordability.

#### Review of Sound Transit Estimating Systems for the Project

D&T proposes to complete a review of the estimating systems utilized on the Project. In this case, D&T will first conduct a benchmarking analysis to compare the estimating systems utilized on this project with those on other Light Rail Projects. As part of the review

of the Project's estimating systems, D&T will review and assess how Sound Transit updates the Project budget and schedule, tracks cost and schedule growth/changes, and manages change orders to maintain current Project costs and schedule. These are the main components in any successful system utilized for project control.

D&T will prepare a report(s) consisting of the following deliverables:

- Overall Assessment of the 1999 LPA Budget
- Identification of Cost Growth: FFGA Budget vs. Current LPA Budget
- Findings and Recommendations Regarding Current Cost Estimate for MOS 1
- Findings and Recommendations for Current Project Estimating and Scheduling Systems

In January 1998, the Finance Committee passed Motion No. M98-8 for Audit Services that authorized executing a contract with Deloitte & Touche LLP for a three-year period through 2001. The purpose of this contract is to provide comprehensive audit services to Sound Transit on an annual basis, to include financial statement audits that have federal compliance elements, subarea reports, performance audits, contract auditing, business process redesign support, bond issuance support and general auditing support. The contract amendment for auditing LLR cost estimates falls within performance auditing.

The original three-year contract was approved for \$300,000, which was an estimate until the audit program for Sound Transit could be developed. Once the scope of work was defined and expenses forecasted, an additional \$758,618 was added to the contract to cover expenses through March 2001, for a new contract amount not to exceed \$1,058,618. In February 2001, staff exercised the first of two, one-year extensions, but no additional funds were added at that time. Later this year, after Audit and Reporting Subcommittee review, staff will request an additional contract amendment for 2002 audit services.

#### **BUDGET**

There were no funds budgeted in the 2001 budget for this scope of work. Currently staff believes there is additional capacity included in the 2001 Operating Budget due to underspending in the LLR program. However, if spending increases during the second half of 2001, a budget amendment for this work would be requested.

Total Project Budget	Budget for this Task (A)	Expenditures to Date (B)	Total Amount Requested (C)	Shortfall* or Surplus (A-[B+C])
			\$475,000	(\$475,000)
*Amount of Shortfall	Potential Revenues	Funding Sources		
(\$475,000)				

#### **ALTERNATIVES**

Potential options for the Board are as follows: (1) Direct staff to procure cost estimating audit services separately; (2) modify the scope of the audit to any of the four main scope topics; or (3) delay or cancel the audit.

#### **CONSEQUENCES OF DELAY**

Delay in approving this contract amendment will result in information about the potential MOS cost estimate audit not being completed in September for inclusion into the Board decision-making process.

#### **LEGAL REVIEW**

MBL 7/18/01

#### **SOUND TRANSIT**

#### **MOTION NO. M2001-77**

A Motion of the Board of the Central Puget Sound Regional Transit Authority that would authorize the Executive Director to execute an amendment to the contract with Deloitte & Touche LLP in the amount of \$100,000, increasing the current authorized contract amount of \$1,058,618, for a new contract amount not to exceed \$1,158,618 to provide audit services for reviewing the Sound Transit estimating systems for the Link Light Rail cost estimates.

#### **Background:**

In January 1998, the Finance Committee passed Motion No. M98-8 for Audit Services that authorized executing a contract with Deloitte & Touche LLP for a three-year period through 2001. The purpose of this contract is to provide comprehensive audit services to Sound Transit on an annual basis, to include financial statement audits that have federal compliance elements, subarea reports, performance audits, contract auditing, business process redesign support, bond issuance support and general auditing support. The contract amendment for auditing Link cost estimates falls within performance auditing.

The original three-year contract was approved for \$300,000, which was an estimate until the audit program for Sound Transit could be developed. Once the scope of work was defined and expenses forecasted, an additional \$758,618 was added to the contract to cover expenses through March of 2001, for a new contract amount not to exceed \$1,058,618. In February of 2001, staff exercised the first of two, one-year extensions but no additional funds were added at that time. Later this year, after Audit and Reporting Subcommittee review, staff will request an additional contract amendment for 2002 audit services.

On May 24, 2001, the Board directed staff to have an independent audit of the Link cost estimate performed. This scope of work was not anticipated and the funds are not included in the existing Audit Services contract or 2001 budget.

#### Motion:

It is hereby moved by the Board of the Central Puget Sound Regional Transit Authority that the Executive Director is authorized to execute a contract amendment for auditing Link cost estimates with Deloitte & Touche LLP in the amount of \$100,000, increasing the current authorized contract amount of \$1,058,618, for a new contract amount not to exceed \$1,158,618 to provide audit services for reviewing the Sound Transit estimating systems for the Link Light Rail cost estimates.

APPROVED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on the 26th day of July 2001.

David Earling Board Chair

ATTEST:

Marcia Walker Board Administrator

marcia Walker

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Twenty-Second Floor
1700 Market Street
Philadelphia, Pennsylvania

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# Deloitte & Touche

July 17, 2001

Hugh L. Simpson
Director Finance & Administration
Central Puget Sound
Regional Transit Authority
Union Station
401 S. Jackson Street
Seattle, WA 98104-2826

Via Electronic-Mail (simpsonh@soundtransit.org)

Re: Seattle Central Link Light Rail Project Deloitte & Touche LLP Proposal and Workplan

Dear Mr. Simpson:

It was a pleasure meeting with you and your associates to discuss Central Puget Sound Regional Transit Authority's ("Sound Transit" or "Authority") Seattle Central Link Light Rail Project ("Project") in your offices on July 9 and 10, 2001. Based upon the documents reviewed and the meetings and interviews held during our visit as well as subsequent discussions, Sound Transit has requested that Deloitte & Touche LLP ("D&T") submit a proposal and workplan to review and assess the reasonableness and accuracy of the cost and schedule for the Project. As such, D&T is pleased to submit this proposal and workplan to assist Sound Transit in reviewing and assessing the cost and schedule issues so that the Project may move toward a successful outcome. D&T recognizes the importance of this project to the Seattle area and we believe you will find our firm well qualified to assist in this important effort. In developing our proposal, we have assembled a highly qualified project team who is familiar with the many and varied aspects of the design and construction process.

Our proposal and workplan are organized into the following sections:

- Background and D&T's Understanding of the Situation
- D&T's Prior Experience
- Workplan and Approach
- D&T Engagement Team
- Estimated Budget and Schedule



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We appreciate the opportunity to provide Sound Transit with these important services involving the implementation of the Regional Transit Plan. It is our objective to assist Sound Transit in reaching the Authority's planning and construction goals.

#### I. Background and D&T's Understanding of the Situation

The Seattle Central Link Light Rail Project was developed as a concept sometime in 1995 with conceptual design conducted through 1996. Thereafter, preliminary design was started in 1997 and continued through 1999. In November 1999, a cost estimate for the preliminary Local Preferred Alternative ("LPA") was developed. The preliminary LPA was projected to cost approximately \$2.5 billion and was approximately 24 miles in length and consisted of 6 aerial sections, 4 at-grade sections, 2 tunnel sections, 1 existing section and 10 transition sections. Subsequently, a Full Funding Grant Agreement ("FFGA") was entered into with the Federal Transit Administration ("FTA") in early 2001. However, the most recent engineer's estimate has projected the cost of the project to be approximately \$3.6 billion.

As a result, Sound Transit is seeking assistance in conducting a review and assessment of the various cost and schedule issues that need to be addressed over the next few months. D&T has developed a workplan based upon the documents reviewed and the meetings and interviews held during D&T's visit to Sound Transit's offices in early July. The focus of our workplan includes areas and/or subjects that appear to be of primary concern to Sound Transit and should be addressed when reviewing and assessing the various cost and schedule issues for the Project. The tasks are the following: (1) Assessment of reasonableness and accuracy of the 1999 LPA budget; (2) Identification of reasons for cost growth between FFGA budget (\$2.5 billion) and current budget for LPA (\$3.6 billion); (3) Review development of current cost estimate for Minimum Operating Segment ("MOS") 1 and (4) review of Sound Transit estimating systems for the Project (For a more detailed description of these tasks, see Section III, Workplan and Approach).

#### II. D&T's Prior Experience

The proposed service team includes members with experience in providing management consulting on large domestic and international construction projects similar to the services requested on this Project. Providing professional consulting services to today's construction environment demands focused industry expertise and commitment. At Deloitte & Touche, we regularly perform construction audits, project planning, project monitoring, market analysis, operations improvement, systems implementation, cost engineering, estimating, project reviews, claim preparation and analysis for owners, architects, engineers, and construction firms across the country. Deloitte & Touche's Construction Practice is comprised of dedicated professionals from the Firm's Construction Consulting, Audit, Fraud and Forensic, Tax, Engineering/Valuation, Real Estate Consulting and other Deloitte & Touche Consulting specialty groups backed by the resources and critical mass of our national support groups. Our National Construction Industry Network consists of over 200 practitioners, many of whom are degreed professional engineers with practical industry consulting experience, advanced degrees in engineering, architecture, business, accounting and law. Below is a sample listing and brief description of related projects with which our core construction consulting group has recent experience:

#### Boston's "Big Dig"

D&T was retained by the Commonwealth of Massachusetts to audit the cost and schedule status of the Central Artery / Tunnel Project ("Big Dig"). The project had recently announced a \$1.4 billion increase to the current \$10.8 billion project budget. The review included an assessment of all active construction contracts to determine the actual costs incurred, anticipated costs for completion and potential further cost increases due to claims by the contractors. In addition, D&T reviewed the costs for design and construction management services, the costs for future construction contracts, the costs for time and material work performed by third parties and the cost for real estate acquisition for the project right of way. D&T also reviewed the project schedule and the impact of schedule delays on the project cost.

Our report is available on the Big Dig's web site at <a href="www.bigdig.com">www.bigdig.com</a> (click on "Features – Finances," scroll down to "Deloitte & Touche – Central Artery Project – Project Assessment").

Presently, D&T is assisting the Commonwealth of Massachusetts in performing a Project Assessment of the Central Artery Tunnel Project. The purpose of this year's assessment is to review the approach and methodology being utilized by the Central Artery Tunnel Project management in connection with the Annual Update of the Project Financial Plan. Our review has included an assessment of the process utilized by the Central Artery Tunnel Project in developing costs for active, substantially complete and unawarded construction contracts, schedule, design, construction and project management services, force accounts and real estate acquisitions.

#### Channel Tunnel Project

Deloitte and Touche was retained to provide consulting services to Eurotunnel Plc, to assess the cost and schedule status of the Channel Tunnel project. The engagement required an overall assessment of the uniquely complex project, which was, at the time of engagement, behind schedule, over budget, and in breach of covenants with the financing banks. The services included a review of all outstanding change orders and claims to assess the overall budget status, assessment of the management tools being utilized to track project cost and schedule, and a review of the policies and procedures being utilized to manage the project. As a consequence of our review and findings, the engagement was expanded to include a fulltime staff in the U.K. to implement improvements to management systems of the project and provide assistance in negotiating change orders and claims filed by the contractors.

#### U.S. Department of Energy

The U.S. Department of Energy engaged Deloitte & Touche to perform an External Independent Review for the Fernald Environmental Management Project, located outside of Cincinnati, Ohio. Fernald, a former uranium metals fabrication site that supported the U.S. defense program, suspended production in 1989 and is now a CERCLA "superfund" site with a 10-year environmental remediation budget of \$4.3 billion. The site employs 1,600 prime and subcontractor personnel.

The goal of the project was to determine whether the project scope, underlying technology and management assumptions, cost and schedule baselines and contingency provisions were valid and credible within budgetary and administrative constraints. The project involved two major phases, the first of which was the preparation of a Task A Readiness Review Report, which identified 16 high priority lines of inquiry relating to funding, project management, project integration, cost and schedule baselines, performance standards, fostering of innovation, and contracting and

incentives. These were subsequently assessed in detail during the Task B Phase of the project, with the primary objective of advising the Department of Energy as to whether the site would be remediated on schedule and on budget, which required assessing the critical path of the project, planning assumptions and project risks.

#### Boston Harbor Clean Up Project, Massachusetts Water Resource Authority

Deloitte & Touche provided financial audits and reviews for contractor change orders and claims on behalf of the Massachusetts Water Resources Authority on the \$3.2 billion Boston Harbor Clean Up Project. These change order reviews involved some of the same contractors currently on the Central Artery Project and included the North System Headworks, Secondary Clarifier Batteries, and the Secondary Reactor Batteries.

#### Princeton University

Princeton University engaged our firm to perform an organizational assessment of the Facility Department, which is responsible for a five-year, \$500 million capital improvement program. This assessment includes evaluation and suggested modifications of the systems in place to control the cost and schedule of large capital projects. We are also assisting Princeton in evaluating its current policies and procedures within the Facilities Department.

#### Saudi Aramco, Saudi Arabia

Saudi Aramco retained us on the \$1.5 billion Ras Tanura Refinery upgrade project. On this project, major contractors were responsible for engineering, procurement, and construction of various parts of the refinery. Our responsibilities included the analysis and evaluation of the contract claims submitted by the contractors. The findings resulting from these analyses were provided to Saudi Aramco management as well as counsel. The nature of the contractors' claims includes design-related problems, change orders, and differing site conditions such as underground obstructions.

#### Metropolitan Pier and Exposition Authority

We reported to the Board on the construction of the \$1 billion, five-year McCormick Place South Building project in Chicago, overseeing the Owner's Representative. Our firm observed the management of the construction process and reported on schedule, budget, and quality issues, including testing actual expenditures from suppliers and reviewing the internal controls related to the construction reporting and budget process.

#### Golden Gate Bridge & Highway Transportation District

We were retained to assist the District with change orders reviews and a cost analysis of contractor expenditures on the seismic retrofit of the Golden Gate Bridge in San Francisco. The cost review included an analysis of labor, equipment, and disposal fees for a major cleanup of contaminated soil. In addition, we provided an analysis of contractor overheads and indirect cost for the contaminated soil cleanup as well as a major change order for the fabrication of structural steel.

#### III. Workplan and Approach

The following outlines the services that we propose to provide within the scope of this project. The following workplan has been developed based upon the documents reviewed and the meetings and interviews held with Project personnel during D&T's visit to Sound Transit's offices on July 9 and 10, 2001. These are areas and/or subjects that appear to be of primary concern to Sound Transit and should be addressed when reviewing and assessing the various cost and schedule issues for the Project. As mentioned above in Section I, the 4 major tasks included in our workplan are the following: (1) Assessment of reasonableness and accuracy of the 1999 LPA budget; (2) Identification of reasons for cost growth between FFGA budget (\$2.5 billion) and current budget for LPA (\$3.6 billion); (3) Review development of current cost estimate for MOS 1 and (4) Review of Sound Transit estimating systems for the Project.

#### Assessment Of Reasonableness And Accuracy Of The 1999 LPA Budget

First, in order to assess the reasonableness and accuracy of the 1999 LPA budget, D&T will begin a review of the estimating standards, policies and procedures utilized in developing the LPA budget. Based on this review, D&T will assess the appropriateness of the estimating methodology utilized and compliance with policies and procedures. Our assessment will also include a review of backup documents to determine the adequacy of the details provided. Assuming sufficient details are present, a sampling of unit costs, compiled unit costs and quantities will be reviewed in an effort to determine the accuracy of the 1999 LPA budget estimate. Furthermore, D&T will assess the reasonableness of the Project's construction contingency for design and construction as well as the overall Project reserve funds.

#### Identification Of Reasons For Cost Growth Between FFGA Budget And Current Budget For LPA

Second, in order to identify the specific reasons for cost growth between the development of the FFGA budget (\$2.5 billion) and the current budget for the LPA (3.6 billion), D&T will analyze the cost growth associated with the following major Project categories:

- Agency
- Right of Way (ROW)
- Construction Packages
- Third-Party Agreements
- Construction Management
- Design

In analyzing the major Project categories as opposed to conducting a complete Project audit, time and costs can be saved as an analysis of these categories will likely result in the identification of the major items contributing to the cost growth. In addition, D&T will analyze Project schedules for the 2006 and 2009 revenue operating dates in effort to determine whether and to what extent schedule delays are contributing to the additional cost growth.

#### • Review Development Of Current Cost Estimate For MOS 1

Third, in conducting a review of the development of the current cost estimate for MOS 1, D&T will again focus on 5 or 6 high risk areas. The review of the current cost estimate will focus upon Agency, ROW, Construction Packages, Third Party Agreements, Construction Management, and Design costs. In addition, D&T will conduct an analysis of the design status of each segment and analyze the Project contingency with respect to design, construction and the overall Project reserve. To complete the review of the current estimate, D&T will also review the MOS 1 Project schedule and analyze the Project's funding and affordability.

#### • Review Of Sound Transit Estimating Systems For The Project

Fourth, D&T proposes to complete a review of the estimating systems utilized on the Project. In this case, D&T will first conduct a benchmarking analysis to compare the estimating systems utilized on this project with those on other Light Rail Projects. As part of our review of the Project's estimating systems, D&T will review and assess how Sound Transit updates the Project budget and schedule, tracks cost and schedule growth/changes and manages change orders in order to maintain current Project costs and schedule as these are the main components in any successful system utilized for project controls.

Lastly, D&T will prepare a report(s) consisting of the following deliverables:

- Overall Assessment of the 1999 LPA Budget;
- Identification of Cost Growth: FFGA Budget vs. Current LPA Budget
- Findings and Recommendations Regarding Current Cost Estimate for MOS 1
- Findings and Recommendations for Current Project Estimating and Scheduling Systems

#### IV. D&T Engagement Team

As you can see in the following engagement team descriptions, our team contains a wealth of experience in both the public sector and construction project engagements. We have included individuals with experience in providing audit services in general as well as audit services to support major construction projects, design and construction services, management of architect/engineers, construction management, facilities management, review and preparation of project controls and schedule review and analysis to name a few. We expect that the expertise of this team will ensure a high quality of service and value to Sound Transit. However, our team can be flexible should the need arise.

The team's four primary personnel for this engagement are Peter Shimer, Laurie Tish, Peter Wallace and Jay Pandya. Members of our construction and audit staff in executing this assignment will support these four members of our team. Selected resumes of some of the team members are enclosed at Appendix A.

**Pete Shimer** will serve as the <u>Lead Client Service Partner</u> for this engagement. Part of his role will include serving as a local resource for this project and providing quality assurance to ensure client satisfaction.

**Laurie Tish** will serve as <u>Audit Director</u> for this engagement. Laurie will use her audit expertise in order to conform D&T's Project assessment to GAO Performance Audit Standards.

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Peter Wallace will serve as Engagement Partner for this engagement. Peter is our firm's National Construction Consulting Services Partner. Peter will use his expertise in construction management and analyses to oversee all construction issues, which arise during our work on the project. Peter will be responsible for the overall review and assessment of the Project cost and schedule issues. Peter's expertise will allow him to provide key insight into determining opportunities for savings and efficiencies on the project while evaluating the Project's current budgets and estimates. Mr. Wallace has over 20 years of experience in the construction industry and has served numerous clients on operations reviews, assessments of contractor performance, and assessment of project controls.

**Jay Pandya** will serve as <u>Lead Project Director</u> for this engagement. Jay will be responsible for all work performed by Deloitte & Touche on this project, including directing the activities of the project team and providing quality control reviews. Mr. Pandya's role will include analysis of the project cost and schedules. Mr. Pandya has over 28 years of experience on major projects, including project planning and controls, and is skilled in the application of project management systems.

#### V. Estimated Budget and Schedule

The goal of our client service strategy is to exceed the expectations of Sound Transit by consistently performing high value, high quality work and providing truly superior service. Central to this commitment is providing high quality professional services at fair and competitive rates. Although it is difficult to accurately predict all specific issues that may arise, we have applied our experience on similar engagements to provide our fee estimates for the Deloitte & Touche involvement in this project.

We understand your desire to have a partner that will have passion to add value to your organization. This can only be accomplished by using seasoned professionals who are experienced in performing construction consulting services and internal and construction audits. To this end, our proposed fees are substantially discounted from standard billing rates and reflect our total client service commitment.

To assist you with the budget process for these audits, our fees are based on a discounted hourly rate plus all out—of—pocket and administrative expenses, including travel costs.

Level	Per Hour Rate
Partner	\$350
Senior Manager/Director	\$325
Manager	\$250
Sr. Consultant	\$200
Consultant	\$180

Our professional fees for this engagement will be based on the estimated time required by personnel assigned to the engagement, the project description, time table, and resources that we have defined in this

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proposal. As such, it is estimated that our professional fees for this project will fall within the range of \$380,000 to \$420,000. These fees are based upon our current understanding of the project requirements, the proposed scope and approach outlined above, our estimate of the level of effort, and our defined responsibility. Our actual charges may be less than our estimates, and we assure you that we will make every effort, consistent with our standards, to hold our charges to the estimated budget. If we should encounter unforeseen problems or changes in the project's scope that may cause our fees to exceed these estimates, we will bring them to your attention immediately and obtain your approval before proceeding.

Our assumption in estimating fees includes availability of your personnel throughout this project, as and when needed, and assignment of a project manager from Sound Transit to coordinate all activities with Sound Transit personnel.

In addition to professional fees, we will invoice you for expenses such as travel, lodging, meals, graphics, secretarial services and photocopying incurred by us in performing our services on this engagement. The foregoing proposed services to be provided are subject to the General Business Terms of our engagement as provided in Appendix B. Our professional fees and expenses will be billed monthly.

It is expected that Task 3 on our proposed workplan, "Review development of current cost estimate for MOS 1," will be completed by the middle of September 2001. While conducting the review of the current cost estimate for MOS 1, it is expected that Tasks 1, 2 and 4 on our proposed workplan will be performed in parallel with Task 3. However, Tasks 1, 2 and 4 will not be fully completed until the end of October 2001.

We are prepared to begin the project immediately upon your approval of this proposal and workplan. Please advise if the services described above are in accordance with your wishes. You may do so by indicating your approval in the space provided on the enclosed copy of this letter and returning it to us.

We look forward to performing this review and addressing these important planning and construction cost and schedule issues. If you have any questions about our proposal and workplan, please contact me at (215) 299-5240.

Very truly yours,	
Peter J Wallace	
Acknowledged and Agreed to by:	
Central Puget Sound Regional Transit Authority	
Signature	Date
PJW/JSP/MWK	

## <u>Appendix A</u>

SELECTED RESUMES OF TEAM MEMBERS

## Deloitte & Touche

### PETER J. WALLACE Philadelphia, Pennsylvania

Peter Wallace is the National Director of Construction Dispute Consulting Services for Deloitte & Touche LLP and is located in the Philadelphia office. He possesses over twenty years of experience in the preparation, arbitration and litigation of complex engineering and constructions claims on a wide variety of assignments.

#### PREVIOUS EXPERIENCE

#### Power

Directed work for General Electric Company in defense of claims brought by utilities on the Zimmer Nuclear Power Station, Hanford Unit 1, Shoreham, Nine Mile Point, Hope Creek and Cooper Nuclear Station. These claims assignments involved complex engineering, regulatory, scheduling and damages evaluations. In several cases, assignments extended from the discovery phase through assistance at trial and expert witness testimony. Also, provided construction litigation support on several fossil, co-generation and waste-to-energy projects.

#### Commercial

Assisted a major midwest construction company in the preparation and negotiation of claims for delays and cost overruns on two major pavilions of the *EPCOT* center in Orlando, Florida. Served as Project Director managing a claims team on behalf of the owner of the Tropicana Hotel and Casino in Atlantic City, New Jersey. The claims involved delay disruption and increased scope. One of the major claims involved the life safety systems. Also, provided claims consulting services on other hotel casinos including Caesar's, Boardwalk Regency and Showboat. Mr. Wallace is also currently engaged in other casino projects in Las Vegas.

#### Transportation

Directed a team of professionals providing claims management services to Eurotunnel PLC on the *English Channel Tunnel* Project while resident in the United Kingdom. This assignment involved the analysis of claims exceeding one billion pounds sterling on a broad spectrum of technical areas including tunneling, geotechnical, power systems, control and communications systems, manufacture of rolling stock and general civil construction. In addition to the technical evaluation of the claims issues, this work has involved sophisticated scheduling and delay analysis and damage calculations.

Currently, Mr. Wallace is assisting the Commonwealth of Massachusetts with a review and analysis of this year's cost and schedule update for the \$14.2 billion Central Arterial / Tunnel Project ("Big Dig") in Boston, Massachusetts. The review includes an analysis of active, substantially complete and unawarded contracts, design costs and schedule as well as an analysis of force

account and real estate acquisition costs. The primary focus of the review is to identify areas of potential risk that could negatively impact the project schedule and budget.

Infrastructure Provided claims consulting services to the General Contractor for the new Palm Beach Airport Terminal. This claim involved the analysis of design deficiencies, changes, and a complex scheduling and damages analysis. Mr. Wallace has also been involved with numerous highway, bridge and rail projects involving claims analyses services.

Government

Mr. Wallace directed a team of professionals in assisting a major defense contractor in defending a substantive delay damages claim from the subcontractor on TITAN IV project at Vandenburg Air Force Base. In order to defend this claim, the team established an as-planned schedule and developed an as-built schedule. A Time Impact Analysis was performed to determine critical delays and concurrent delays impacting the project completion. The analysis was instrumental in the settlement reached between both parties.

Petrochemical

Preparation of a substantial delay and disruption claim on behalf of an international engineering and construction firm on a seawater supply project in the Middle East. The project involved an assessment of engineering deficiencies, a detailed schedule delay analysis and calculation damages. Mr. Wallace has also provided claims and litigation support to a U.S. Fortune 500 company involved in a business interruption claim concerning the reconstruction of a synthetic crude oil facility in Alberta, Canada. He has also been involved with numerous other refining, pipeline, and gas processing facilities.

Industrial

Experienced with major claims involving industrial facilities. One such project was a semi-conductor facility in Eagan, Minnesota. This project involved contractor claims for delay and errors and omissions in the design of the plant, and substantial losses incurred by the facility owner due to delayed completion of the project.

Public Works

Provided claims and litigation support services to a contractor on a \$500 million, 300 MGD waste treatment facility in Newark, New Jersey. In addition, provided assistance to public owners involved in substantial construction disputes on treatment facilities in Indianapolis, Indiana; Rochester, New York; Hampton Roads, Virginia; and Newark, New Jersey.

**EDUCATION** 

J.D., Rutgers - Camden School of Law B.A. – Economics, Northeastern University

## PROFESSIONAL AFFILIATIONS

Member American Bar Association
Member New Jersey and Pennsylvania Bar
Certified Mediator, American Arbitration Association
New Jersey State Bar Association
Panel of Arbitrators of the American Arbitration
Association

## PUBLICATIONS AND SPEAKING ENGAGEMENTS

Columbia University, Controlling Change Order Costs

Federal Bar Association, Building and Demolishing the Damage Claim

Forbes Rebuilding America Conference, Lecturer: Disputes Review Boards

Primavera Users Conference, Lecturer: Use of Time Impact Analysis for Measuring Project Delays

Construction Failures, co-authored chapter title Construction Failures from Latent Environmental Hazards, published by John Wiley & Sons, Inc., May 1989.

Construction Litigation Superconference, Lecturer: Reviving A Troubled Project

Construction Failures and Disasters Superconference, Lecturer: Special Problems in Completing a Construction Project Where There Has Been a Major Failure

General Electric Company, Schnectady, In-house Training Seminars on Claims Management and Avoidance

# Deloitte & Touche

### JAY S. PANDYA, P.E. Philadelphia, Pennsylvania

Jay S. Pandya has over 30 years of experience on major projects including rail transit facilities, fiber optic cable installation, industrial facilities, petroleum plants, office buildings, commercial facilities, and heavy equipment manufacturing projects. He has extensive experience in project planning and control and claims management, is skilled in the application of automated project management systems and has testified on numerous occasions as an expert witness in delay and productivity analysis utilizing CPM and measured mile techniques.

#### PREVIOUS EXPERIENCE

- Mr. Pandya has been involved in developing and monitoring Critical Path Method (CPM) Schedules for multibillion dollar projects. He has also used CPM to perform delay analysis on major projects including the use of Time Impact Analysis (TIA) methodology.
- Currently, Mr. Pandya is assisting the Commonwealth of Massachusetts with a review and analysis of this year's cost and schedule update for the \$14.2 billion Central Arterial / Tunnel Project ("Big Dig") in Boston, Massachusetts. The review includes a review of active, substantially complete and unawarded contracts, design costs and schedule as well as a review of force account and real estate acquisition costs. The primary focus of the review is to identify areas of potential risk that could negatively impact the project schedule and budget.
- Mr. Pandya performed delay analysis for various issues including signaling and differing site conditions on the Channel Tunnel project between the United Kingdom and France.
- Mr. Pandya had been involved in the project management oversight of the Los Angeles Metro (\$3 billion), Sacramento Light Rail project and the Frankford Elevated Rail project, Philadelphia overseeing the project control function which includes scheduling and delay analysis, cost control and financial control.
- Mr. Pandya's experience also includes analysis of delay claims involving the construction of three stations and

- associated facilities for the Metropolitan Transit Authority in Washington D.C.
- Mr. Pandya directed major assignments including claims resolution and associated schedule delay analyses for a major railroad car manufacturer, construction of a rail facility.
- Mr. Pandya assisted a major rail car manufacturer on a claim against a Japanese subcontractor who designed and manufactured car bodies to be fitted out in the USA.
- Mr. Pandya assisted the contractor responsible for design and construction of an upgrade to the electrification of a section of the Broad Street Subway. On this assignment, Mr. Pandya prepared a delay analysis and presented his conclusions in mediation.
- Mr. Pandya assisted a contractor installing an 800-mile fiber optic cable from Jacksonville, Florida to Crystal City, Virginia. The owner of the project was U.S. Telecom. The services provided included schedule and cost analysis of contract overruns due to delays and differing site conditions encountered during the installation of the cable.
- Mr. Pandya has used his experience as a tool for seminars and other speaking engagements. In 1982, Mr. Pandya was a guest speaker at the American Public Transit Association (APTA) Eastern Conference where he spoke on "Evaluating Delays on Capital Projects", and has also spoken before the American Association of Cost Engineers.
- Mr. Pandya has significant experience with the planning, project management and dispute consulting on Airport Facilities. His projects include: San Antonio International Airport, Douglas International Airport (Charlotte NC) and Philadelphia International Airport.
- Mr. Pandya recently provided expert witness testimony in a
  jury trial in a dispute between a major oil refinery and the
  contractor on a gas processing plant. Issues involved contract
  termination, costs for completion of the facility, delays to the
  project and the quality of the work performed by the
  contractor.
- Mr. Pandya assisted a major international contractor in developing a Request for Equitable Adjustment (REA) for a \$600 million refinery project in Singapore. Mr. Pandya was also involved in developing negotiation strategy with the contractor against the major oil company. The dispute was

- successfully resolved between both parties.
- Mr. Pandya assisted a law firm in Canada in a litigation-related fire in the oil refinery. Issues involved in this \$1 billion claim were to evaluate the time taken by the owner due to changes, improvements and execution errors during the replacement of the burnt portion of the refinery.
- Mr. Pandya assisted an international Japanese contractor in preparing a request for an equitable adjustment for a hydroelectric power plant located in Columbia, South America. The project involved approximately three miles of water tunnel through the mountains and underground turbine building and other facilities. The issues were related to differing site conditions and changes in contract documents resulting in delay damages to the contractor. Mr. Pandya prepared a detailed delay analysis in support of the contractors claim.
- He assisted the U.S. Army Corps of Engineers, Al Batin District, Saudi Arabia, in resolving major claims on the King Khalid Military City project. Mr. Pandya also assisted an Indonesian contractor on a number of projects in Saudi Arabia related to delay claims and damages.
- Mr. Pandya assisted a contractor in developing a Request for Equitable Adjustment (REA) for an ECM Electronic Combat Trainer System (AN/FSQ-T22). He was responsible for performing delay analysis and assisted in damage calculations, which were based on modified total cost approach.
- Mr. Pandya assisted a major defense contractor in defending a substantive delay damages claim from the subcontractor on TITAN IV project at Vandenburg Air Force Base. In order to defend this claim, Mr. Pandya established an as-planned schedule and developed an as-built schedule. He performed Time Impact Analysis to determine critical delays and concurrent delays impacting the project completion. His analysis was instrumental in the settlement reached between both parties.
- Mr. Pandya also assisted NASA in evaluating delay damages claims related to space shuttle facilities which included:
  - Orbitter Processing Facility (OPF)
  - Modifications in Vertical Assembly Building (VAB)

- Modifications to Mobile Launching Pad (MLP)
- Mr. Pandya testified in claims court against U.S. Department of Justice as an expert witness on a \$45 million manufacturing claim. Mr. Pandya represented the chemical warfare suits manufacturer whose contract was terminated for default by the U.S. Government. The assignment included evaluation of delays and disruption due to the changes in specifications, tolerance problems, inspection problems and other issues.
- Mr. Pandya was involved on behalf of the U.S. Department of Justice and Bureau of Reclamation in analyzing claims submitted by the contractor on Nambe Falls Dam (Arch Dam) in New Mexico.
- Mr. Pandya also assisted the U.S. Department of Justice and Bureau of Reclamation in reviewing and analyzing claims submitted by the contractor on an Open Channel Storm Water Drainage project in Arizona. The claim was settled amicably based on his analysis.
- He also assisted the U.S. Army Corps of Engineers in developing and monitoring Project Control Systems including the schedule and cost control for a major flood control project in Richmond, Virginia. The project involved a levee system and flood gates.
- Mr. Pandya assisted a major shipbuilding company in developing a Request for Equitable Adjustment (REA) against the City of New York for a Floating Prison project. The issues involved delays disruption caused by a change in design code from the United States Coast Guard to New York City Building Codes.
- Mr. Pandya was involved on behalf of the U.S Army Corps of Engineers in analyzing claims on the construction of one of the largest lock and dam projects on the Mississippi River, Melvin Price Lock and Dam in Alton, Illinois. The project also involved extensive flood control system utilizing levies.
- He has provided expert witness testimony in the area of delay analysis for the U.S. Army Corps of Engineers, Huntington District, West Virginia, on the R.D. Bailey Dam Project.
- Mr. Pandya has been involved in analyzing claims, from the delay analysis point of view, for a large nuclear power plant, a geothermal power plant, installation of optical fiber cable, and renovation of streets for the City of San Antonio. His

depositions were instrumental to the City and the contractor arriving at a settlement.

- Mr. Pandya was Vice President of the construction claims of a large Project Management and Consulting Firm. In this capacity, he was involved in reviewing, analyzing and evaluating large construction and manufacturing claim from the delay, disruption and productivity point of view. He was also involved in settlement negotiations and testified as an expert witness on numerous occasions. He was involved in the Project Management oversight on large multibillion dollar projects from the view point of schedule and cost control.
- He also analyzed claims totaling more than \$35 million involving an office and courthouse project in Montgomery County, Maryland; and analyzed claims in defense of more than \$15 million in claims involving a hospital project for the Medical College of Virginia.
- Prior to coming to the United States, Mr. Pandya held lead scheduling engineer positions with Engineers India Ltd. and Humphreys & Glasgow Ltd. His assignments involved chemical and petrochemical plants for ATIC, IPCL and GSFC.
- Mr. Pandya provided schedule control and management for the installation of a 220 kv high voltage transmission line in Northern India. The transmission line extended over 200 miles. Mr. Pandya's work included the development of a project schedule and management of the schedule during the course of construction.

Education

B.S. - Civil Engineering, Indian Institute of Technology

M.B.A. - Indian Institute of Management

Credits towards M.S. - Management Sciences, John Hopkins University

Professional Registration

Professional Engineer, Pennsylvania

Panel of Construction Arbitrators - American Arbitration Association

Listed in the ABA Register of Expert Witnesses in the Construction Industry, December, 1983

Professional Affiliations

American Association of Cost Engineers

Construction Management Association of America

## **Deloitte** & Touche

#### MICHAEL W. KLING, P.E. Philadelphia, Pennsylvania

Michael Kling is a Manager in the Construction Industry Dispute Consulting Services Group in the Philadelphia office of Deloitte & Touche LLP. He is a professional engineer and licensed attorney in both Pennsylvania and New Jersey. Mr. Kling has over 10 years of experience in civil engineering design and construction, project management, and construction claims as well as representing and advising design professionals and others involved in construction and commercial litigation. He has been responsible for various aspects of project management oversight services and has provided litigation support and assisted in the mitigation and evaluation of constructionrelated claims prior to and during formal litigation.

#### PREVIOUS EXPERIENCE

Institutional/Educational: Mr. Kling is currently providing Project Management Oversight services to an owner for building renovations in two separate buildings. This project requires coordination during design and construction between the owner, architect and contractors to ensure that the project is prudently managed, accounted for, and under financial control with respect to cost, schedule, and any potential claims.

> Mr. Kling prepared and analyzed contract claim defenses for a school rehabilitation project as part of claims services provided to an owner during construction. This analysis included a detailed review of the contract as well as the contractor's claims in order to informally respond to the claims so that construction could proceed as scheduled.

#### Transportation:

Presently, Mr. Kling is providing the Commonwealth of Massachusetts with assistance in reviewing and analyzing the costs and schedule update for the \$14.2 billion Central Arterial / Tunnel Project ("Big Dig") in Boston, Massachusetts. The review includes a review of active, substantially complete and unawarded contracts, design costs and schedule. The primary focus of the review is to identify areas of potential risk that could negatively impact the project schedule and budget.

Prepared and analyzed contract claim defenses for the New Jersey Turnpike Authority by evaluating the liability and damage issues presented by various contractors involved in the multi-billion dollar turnpike widening program. This project involved complex

engineering, scheduling, and issue and damage evaluations.

Provided structural and general civil engineering design services and gained extensive experience in bridge and highway design, construction, and site development while working for an international A/E firm. While employed at the A/E firm, his responsibilities included structural and general civil design on various projects, which included the design and inspection of steel and concrete bridge components and highway/roadway components. In addition, as a design engineer, Mr. Kling assisted with the maintenance of the construction services contract during the initial construction of a portion of Interstate 476 (Blue Route).

Commercial:

Presently, Mr. Kling is assisting the owner of a large office building in Wilmington, Delaware in calculating the damage caused by fire. The calculation of damages on this project is complicated as the fire damage includes the interior wall systems and a significant portion of the building's mechanical and electrical equipment.

Power:

Currently assisting large international engineering and construction firm conduct a purchase accounting review of various power plant projects. This project involves an extensive review and assessment of various project issues related to past, present and future cost growth during construction.

Industrial Facilities:

Involved in the evaluation and analysis of a large industrial facility preparing expert construction cost estimate report for property tax litigation. Assisted other engineers and attorneys with discovery requests and affidavits, review of discovery produced documents, deposition preparation, analysis of deposition testimony, document searches, and preparation of cost database for adjustments due to escalation and depreciation.

Housing:

Conducted inspections and prepared facility assessment reports estimating the cost of capital improvements required to repair/renovate various residential rental facilities. This project required inspections of each property in order to evaluate potential costs of future repairs and/or renovations.

Education:

J.D. - Widener University School of Law B.S. - Civil Engineering, Drexel University

B.S. - Architectural Engineering, Drexel University

Professional
Registrations &
Certifications:

Member of New Jersey and Pennsylvania Bar Professional Engineer in New Jersey and Pennsylvania Certified Bridge Safety Inspector – PennDOT & FHWA OSHA Certified – Hazardous Materials Site Safety

Professional Affiliations:

Pennsylvania Bar Association, Philadelphia Bar Association, American Bar Association

Publications:

- Co-authored three chapters of the 2000 and 2001 Supplement to the *Construction Claims Deskbook: Management, Documentation, and Presentation of Claims* (Wiley Law, 1996).
- Authored article entitled Time Requirements of the New Jersey Construction Lien Law and Their Effect on Residential Construction Liens, NJ State Bar Association: Construction & Public Contract Law Section Newsletter, Vol. V, No. 1 (March 1998).
- Assisted in researching and writing three chapters of 1998 and 1999 Supplements to the Construction Claims Deskbook: Management, Documentation, and Presentation of Claims (Wiley Law 1996).

## **Deloitte** & Touche

#### PHILIP LEMBACH, P.E. Philadelphia, Pennsylvania

Philip "Guy" Lembach is a Senior Consultant in the Construction Dispute Consulting Services Group in the Philadelphia office of Deloitte & Touche LLP. He is a licensed professional engineer in Pennsylvania and a licensed attorney in Pennsylvania and New Jersey. Mr. Lembach has 10 years of experience in civil engineering, construction, project management, and construction claims. Furthermore, he has been responsible for various aspects of project management and construction management services and has provide litigation support and assisted in the evaluation and mitigation of construction-related claims in preparation of formal litigation. Mr. Lembach has also represented and advised engineers, architects and others involved in construction, commercial, and design professional malpractice litigation.

#### PREVIOUS EXPERIENCE

Institutional/Educational: Mr. Lembach is currently providing bid and proposal analysis, review, and support for the \$80 million Suffolk County Courthouse historic renovation and rehabilitation project in The project includes the renovation of the mechanical, electrical and communications systems, and the restoration of the exterior and the interior corridors, courtrooms, and great hall ceiling art.

> Mr. Lembach is currently providing schedule review and analysis for the construction of a new performance hall located under the existing main stage at the Carnegie Hall in New York City. The project is complicated by the extensive rock excavation and noise and work hour restrictions imposed by the owner.

#### Transportation:

Mr. Lembach is assisting in the review and analysis of the schedule and budget for the \$14.2 billion Central Artery / Tunnel Project ("Big Dig") in Boston, Massachusetts. includes both active and future projects. The primary focus of the review is to identify areas of potential risk that could negatively impact the project schedule and budget.

While employed by a state Department of Transportation, Mr. Lembach, negotiated, drafted and reviewed contracts and modification of contracts for both design and construction projects. He further assisted in the planning, monitoring and

direction of work activities necessary to complete project timely and within budget. Furthermore, he assisted in developing, maintaining, and monitoring budgets, schedules and quality control.

Mr. Lembach has acted as both a Resident Engineer and field engineer for various types of civil construction projects including county, state, and interstate roadways, bridges and railroad bridges. His responsibilities included: insuring contractor compliance with plans and specifications; reviewing, analyzing, and settling construction claims and change orders; and preparing and analyzing schedules.

Commercial:

Mr. Lembach is presently assisting the owner of a large office building in Wilmington, Delaware in calculating the extensive damage caused by smoke and fire. The building's interior walls, electrical and mechanical systems experienced significant damage, thus complicating the damage calculations.

Industrial Facilities:

Mr. Lembach is involved in the evaluation and analysis of a property damage claim of a large Alabama industrial building. Responsibilities include preparing expert construction cost estimate report for litigation. Assisted other engineers and attorneys with discovery requests and affidavits, review of discovery produced documents, deposition preparation, analysis of deposition testimony, and document searches.

Education:

J.D. - Widener University School of Law B.S. - Civil Engineering, Drexel University

B.S. - Architectural Engineering, Drexel University

Professional Registrations & Certifications: Professional Engineer in Pennsylvania Member of New Jersey and Pennsylvania Bar

Professional Affiliations: Pennsylvania Bar Association, American Bar Association

#### Kling, Michael (US - Philadelphia)

From:

Kling, Michael (US - Philadelphia)

Sent:

Thursday, July 19, 2001 1:45 PM

To:

'simpsonh@soundtransit.org'

Seatt

Wallace, Peter (US - Philadelphia); Pandya, Jayant (US - Philadelphia); Tish, Laurie (US -

Seattle)

Subject:

Sound Transit - Breakdown of Budget by Task

#### Dear Mr. Simpson:

Pursuant to your discussion with Jay Pandya yesterday, July 19, 2001, listed below is a breakdown of our estimate for each of the proposed tasks based upon the assumption that each task would be completed independent of the other tasks. As you can see, it is estimated that our professional fees would fall within the range of \$460,000 to \$510,000 based upon the independent performance of each task.

The breakdown of the budget by task is shown on the following table:

BREAKDO	OWN OF BUDGET BY PROPOSED TASK			
Task No.	Description	Budge	Budget Range (\$)	
-		Low	to	High
1	Assessment Of Reasonableness And Accuracy Of The 1999 LPA Budget	160,000		180,000
2	Identification Of Reasons For Cost Growth Between FFGA Budget And Current Budget For LPA	70,000		75,000
3	Review Development Of Current Cost Estimate For MOS 1	160,000	7	180,000
4	Review Of Sound Transit Estimating Systems For The Project	70,000		75,000
	Total	460,000		510,000

Since Jay is not in the office today, he asked me to send you this message. If you need something more formal with respect to the above information, please let us know. If you have any questions regarding the estimated breakdown above, please leave Jay Pandya a message at 215-299-4622. If you encounter any problems receiving this message, please let me know.

#### Mike Kling

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