

SOUND TRANSIT

MOTION NO. M2000-21

Contract for professional engineering services BACKGROUND AND COMMENTS

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	2/17/00	Discussion/Possible Action to Recommend Board Approval	Paul Bay	398-5134
Board	2/24/00	Action	Bill Houppermans Joe Gildner	398-5125 689-3350

ACTION:

Approval of Motion No. M2000-21 would authorize the Executive Director to execute a sole source contract with ILF Consultants, Inc., for professional engineering services for in an amount not to exceed \$2,309,417.

ILF Consultants, Inc., (ILF) is currently a subconsultant to Puget Sound Transit Consultants (PSTC), the joint venture of Parsons/Brinckerhoff, Kaiser Engineers and BRW, retained by Sound Transit to perform conceptual and preliminary engineering for the Link Light Rail Project. ILF's role to date has been to perform preliminary engineering related to tunnel and station construction, particularly the Sequential Excavation Method ("SEM") of underground construction. It is a method of sequentially excavating and then supporting the mining of the deep tunnel stations and crossover in soft ground conditions. It is the proposed method by which we will mine underground cavities (as opposed to boring with TBMs or cut-and-cover from the surface) for the three deep tunnel stations and the crossover structure in the North Segment (DSTT to NE 45th Street). Originally, staff intended to require the LB 235 Design/Build Contractor to complete the final SEM design. However, after further investigation staff has determined that it is in Sound Transit's best interests to have the owner advance this design and provide it to the Design/Build Contractor. As a result, staff is requesting approval to enter into a sole source contract with ILF to advance this design.

BACKGROUND:

In December 1997, a contract was awarded to PSTC for conceptual and preliminary engineering for all of the civil facilities associated with the Link Light Rail Project. ILF Consultants, Inc., was included as a subcontractor to PSTC for purposes of performing preliminary engineering related to tunnel and station construction, particularly the Sequential Excavation Method ("SEM") of underground construction. This has been determined to be the only cost effective means of mining the kind of large, deep caverns in soft ground that will be built as part of the Central Link Light Rail Line. SEM is used frequently in Europe but extremely infrequently in the United States. ILF, an Austrian firm, has particular expertise with SEM because of their extensive work in Europe. This is why they were chosen by PSTC for the preliminary engineering phase.

As a result of the decision to use a design/build procurement for the heavy civil underground work in the North Corridor, staff investigated other similar soft ground design/build tunnel projects, where the SEM is being utilized. The owner of two other projects, the German Railway, has advised staff that the most prudent course of action is to advance the design of the SEM to establish ground support types and associated quantities and give this to the Design/Build Contractors for bidding. This will ensure that the

prospective Design/Build Contractors, who submit proposals for the North Corridor heavy civil work, start with a design for the SEM work that they may rely upon for accuracy and adequacy. This will give Sound Transit a reliable final design product and save the prospective bidders time in developing their proposals. The German Railway, and contractors with whom staff has discussed this issue, do not believe that prospective bidders will be able to produce the design for the SEM work in the time allotted unless they are given advanced design information during the proposal process. Staff has concluded that the quality of the designs that Sound Transit will receive from the bidders will be better if they are given advanced design information. For the reasons stated above, staff recommends that Sound Transit develop the SEM design to establish ground support types and make this information available to the prospective Design/Build Contractors.

ILF Consultants, Inc., is the only firm that can do this work within the very short time allotted by Sound Transit's procurement schedule, since the firm's personnel already have experience and knowledge of Sound Transit's preliminary design. The nature of the SEM work is that it is subject to interpretations and professional judgment of particular design support requirements for different soil types. Interjecting another SEM designer into the process after ILF has performed the preliminary design might introduce different interpretations and judgements. For these reasons, ILF Consultants, Inc. is the only firm that can complete development of the SEM ground support types and support staff during bid review, design review and the construction process.

Staff recommends that Sound Transit engage ILF as a prime contractor, rather than continue them as a subcontractor to PSTC. This approach will save Sound Transit approximately four percent in costs, since PSTC's administrative costs and business and occupation tax burden will not have to be paid.

RELEVANT BOARD POLICIES AND PREVIOUS ACTIONS TAKEN:

- ◆ Adoption of Sound Move, The Ten-Year Regional Transit System Plan (May 31, 1996)
Sound Move calls for light rail service to be implemented ten years after voter approval.
- ◆ Motion No. 98-3, authorizing a contract with the Joint Venture Partnership of Parsons Brinckerhoff, Quade, Douglas, ICF Kaiser and BRW dba PSTC consultants to provide Conceptual and Preliminary Engineering for the Link Light Rail Project.
- ◆ Resolution No. R99-33, adopting the 2000 Budget.
- ◆ Resolution No. R99-34, selecting the alignment and profiles, station locations, and vehicle maintenance base site to be built for the Central Link Light Rail Project on November 18, 1999.
- ◆ Federal Transit Administration signed the "Record of Decision" (ROD) on the Central Link Light Rail Project Final Environmental Impact Statement (FEIS) on January 5, 2000. This approval documents the completion of the federal environmental process and Sound Transit submitted application for formal federal approval to enter the final design stage for the Central Link light rail project.

EXECUTIVE SUMMARY:

Scope

The scope of services to be provided by ILF Consultants, Inc., includes the following for the North Corridor:

- Advance the design of the SEM work to establish ground support types and quantities necessary to determine acceptability of the LB 235 Design/Build Proposals ground types and quantities.
- Assist Sound Transit during the design-build proposal process to review the prospective bidder's design approach.
- Provide design review during the LB 235 Design/Build Contractor's design process.
- Provide inspection services during construction of the SEM work.

Procurement and Selection Process

- ILF is presently a subcontractor to PSTC which was selected through a competitive process.
- A sole source contract, direct to Sound Transit would be authorized with this action.

M/W/DBE Participation

In accordance with Sound Transit's Guiding Principles, ILF commits to a minimum of 18 percent DBE utilization in connection with this project. Specific, meaningful and resume building opportunities for such firms have been identified and outreach towards such firms has begun. ILF will implement an aggressive Diversity Program, managed by a Diversity Manager, who as a member of the team will report directly to the Project Manager. The Diversity Program Manager will assure that the team provides outreach, mentoring, monitoring, ongoing team communications, technology transfer and other components aimed at maximizing opportunities for local, small and M/WDBE firms. ILF will make specific technology transfer efforts to assist local firms in understanding the unique tunneling technology, which it possesses.

Cost

Funding for this Scope of Work is included in Sound Move Plan and in the FY'2000 Capital Budget. The budget for completion of these tasks is identified in Sound Transit's 2000 Budget under Construction. With the budget developed for the Central Link configuration as adopted by the Board on November 18, 1999, there is sufficient funding to complete the remaining work.

LINK LIGHT RAIL Expenditures and Budget

	2000 Approved Ten-year Budget ² A	Life to Date Expenditures and Outstanding Commitment s ³ B	Pending Board and Finance Committee Decisions ⁴ C	Budget Available A-(B+C)	Proposed Board Action E
Construction¹	\$1,751,630,000	\$ 0	\$ 9,620,247	\$1,742,009,753	\$ 2,309,417

1. All figures for Central Link only
2. Budget figures for Central Link, as developed for configuration adopted by Board action on Nov. 18, 1999.
3. Commitments as of January 18, 2000 and expenditures as of November 31, 1999.
4. Includes PSTC and LTK Amendments

Alternatives

Two alternative approaches to completing this work are possible; however, neither have the advantages to Sound Transit of the recommended sole source contract:

- PSTC's contract could be amended to include these services by ILF as a subcontractor. This would raise the costs of the work to Sound Transit by approximately 4 percent to cover the additional administrative burden and added tax obligations.
- Sound Transit could initiate a new procurement for these services. This would result in a delay of approximately six months in the bidding, award and construction process for the LB 235 Design/Build Contract. Since this contract is the critical path, the start of Central Line revenue service would be delayed by a similar period and overall project costs would escalate. In addition, as discussed in the background section, there are very few firms with the required SEM design expertise and bringing in a new team risks major changes in direction that are potentially undesirable.

CONSEQUENCES OF DELAY:

See discussion under Alternatives above.

LEGAL REVIEW:

MBL 2/7/00.

SOUND TRANSIT

MOTION NO. M2000-21

A Motion of the Board of the Central Puget Sound Regional Transit Authority authorizing the Executive Director to execute a sole source contract with ILF Consultants, Inc., for engineering design services associated with the Sequential Excavation Method of underground construction associated with the Link Light Rail Project, in an amount not to exceed \$2,309,417.

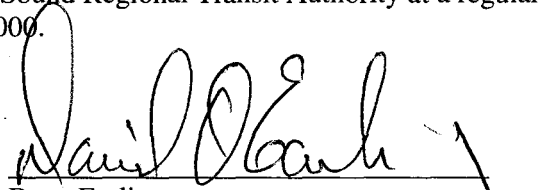
Background:

By Resolution No. 98-3, dated January 22, 1998, the Sound Transit Board authorized Contract No. RTA/LR 26-97 with Puget Sound Transit Consultants (PSTC), for conceptual and preliminary engineering of all civil facilities associated with the Link Light Rail Project. The PSTC contract included the firm of ILF Consultants, Inc. (ILF) as a subcontractor to perform preliminary engineering related to tunnel and subway station construction; particularly, the Sequential Excavation Method (SEM) of underground construction. At the time that Work Order No. 1 was approved, it was anticipated that the contract would need to be extended beyond January 2000, to provide final design management and oversight services. The majority of PSTC's and ILF's work under Work Order No. 1 of this contract has now been completed, and a procurement process has been started for a Design/Build Contractor to provide final design and construction of the heavy civil works associated with the North Corridor. Staff has determined that ILF Consultants, Inc., is the only firm capable of performing this work within the schedule set by the procurement process for the LB 235 Design/Build Contractor. In addition, staff has determined that it is in Sound Transit's best interests to advance the design for the SEM underground construction by a designer under contract to Sound Transit, and then provide this design to the Design/Build Contractor. As a result, Staff is requesting approval to enter into a sole source contract with ILF to advance this design.


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 sole source contract for engineering services associated with the design and construction of the deep excavations in the North Corridor of the Central Link Light Rail Line with ILF Consultants, Inc., in an amount not to exceed \$2,309,417.

Approved by the Board Committee of the Central Puget Sound Regional Transit Authority at a regular meeting thereof on the 24th day of February, 2000.


Dave Earling
Board Chair

ATTEST:


Marcia Walker
Board Administrator