

## SOUND TRANSIT

### MOTION NO. M2000-20

#### Contract for Systems Engineering Final Design, Systems Construction Management and Services during Construction

LR 52-97

#### BACKGROUND AND COMMENTS

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Finance Committee	2/17/2000	Discussion/Possible Action to Recommend Board Approval	Paul Bay, Director, Link	206-398-5127
Board	2/24/2000	Deferred	Bill Houppermans, Chief Engineer	206-398-5125
Finance Committee	3/2/2000	Action to Recommend Board Approval	Charles Joseph, Acting Systems Engineering	206-398-5200
Board	3/9/2000	Action	Manager	

#### ACTION:

Authorizing the Executive Director to execute a contract amendment with LTK Engineering Services for Systems Engineering Final Design for Central Link, and Systems Construction Management and Services during Construction and Start-up for Tacoma Link Light Rail Project, in the amount of \$20,516,347 with a 10 percent contingency of \$2,051,635 for a total amount not to exceed \$22,567,982.

#### BACKGROUND:

On December 15, 1997, Sound Transit advertised and issued a Request for Proposals (RFP) for Systems Engineering Preliminary Engineering Design Services for Phase I of the Central Link light rail project. The RFP provided notice that this contract may be amended in the future to include final design. The selection committee recommended that Sound Transit pursue negotiations with LTK Engineering Services and by Resolution No. R98-17, the Board approved award of the contract to LTK in the amount of \$5,856,500 with an additional \$1,171,300 authorized for contingency reserve (to cover changes in the work) and \$200,000 for limited tasks. Since that time, LTK has successfully completed conceptual and preliminary engineering.

This motion is to allow LTK Engineering Services to proceed with systems engineering final design for Central Link, and to provide construction management and services during construction and start-up for Tacoma Link. Final design includes preparation of specifications, drawings and assistance with procurement for Central Link systems engineering contracts. Working with Sound Transit staff, LTK Engineering would also provide construction management, design support for procured systems engineering contracts, vendor drawing and submittal review during construction, as well as support to the startup and operations group during pre-operational testing for Tacoma Link. The estimate for this scope of work is \$20,516,347, plus a 10 percent contingency of \$2,051,635 for a total of \$22,567,982.

#### 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.

- Resolution No. R99-33, adopting Fiscal Year 2000 Budget (November 18, 1999). The adopted 2000 budget includes a programmatic budget for the entire Link project through 2006.
- Resolution No. R98-17, awarding a Systems Engineering Consulting contract for conceptual and preliminary engineering to LTK Engineering Services on April 23, 1998.
- 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.
- Record of Decision granted by the Federal Transit Authority on January 5, 2000. Authorization to enter final design is pending.

### **EXECUTIVE SUMMARY:**

Board approval is requested to amend the contract with LTK Engineering Services for systems engineering final design for the Central Link light rail transit line and to provide construction management and services during construction and start-up for Tacoma. The scope of work will include all systems engineering services project-wide.

### **Scope of Work**

The scope of work for this contract includes preparing plans, reports, specifications, procurement packages and estimates for Systems Engineering Design (Final Design phase), management of the installation of the procurement packages and engineering services during construction for the Tacoma line. Specific services will include the following:

- |  |  |
|--|--|
| • Project Management, Technical Support & Administration | • Systemwide Electrical & 26kV Feeder Design               |
| • Light Rail Vehicle Design & Specification              | • Operations & Maintenance Planning                        |
| • Operations & Maintenance Facility Design               | • Project Control for all project phases                   |
| • Traction Power System Design & Specification           | • Construction Management of Systems Contractors in Tacoma |
| • Signal System Design & Specification                   | • Operational Graphics                                     |
| • Communications System Design & Specification           | • Engineering Services during Construction in Tacoma       |
| • Fare Collection Integration                            |  |

### **Procurement and Selection Process**

Because of the importance of systems integration during the design process, Sound Transit provided notice during the RFP process for Conceptual and Preliminary Engineering that this contract may be amended to include final design. Based upon the performance by LTK Engineering to date, Sound Transit has now completed negotiations with LTK for final design and for Tacoma Link construction management and engineering support during construction and start-up.

**M/W/DBE Participation**

Sound Transit promotes and encourages Minority, Women, and Disadvantage Business Enterprise participation on its contracts and has a federal Disadvantage Business Enterprises goal of 18 percent. Based on the availability of firms for architecture and engineering professional consulting services a 15.5 percent and 9 percent goals were established for Minority Business Enterprises and Women Business Enterprises, respectively. For work performed to date, LTK has achieved over 20 percent DBE participation and commits to a 24 percent small business and M/W/DBE participation for this scope of work.

**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 Final Design, Construction, and Vehicles for Central Link and Construction for Tacoma Link. With the budget developed for the Central Link configuration as adopted by the Board on November 18, 1999, and the budget for Tacoma Link, there is sufficient funding in these phases to complete the remaining work.

**LINK LIGHT RAIL  
Expenditures and Budget**

	2000 Approved Ten-year Budget <sup>1</sup>	Life to Date Expenditures and Outstanding Commitments <sup>2</sup>	Pending Board and Finance Committee Decisions <sup>3</sup>	Budget Available	Proposed Board Action
	A	B	C	A-(B+C)	E
<b>Central Link</b>					
Final Design	\$200,620,000	\$ 16,884,965	\$ 26,568,977	\$157,166,058	\$15,400,900
Vehicles	\$231,530,000	\$ 0	\$ 0	\$231,530,000	\$ 6,291,139
<b>Tacoma Link</b>					
Construction	\$49,238,000	\$ 0	\$ 0	\$49,238,000	\$ 875,943
<b>Total</b>					\$22,567,982

1. Budget figures for Central Link, as developed for configuration adopted by Board action on Nov. 18, 1999
2. Commitments as of January 18, 2000 and expenditures as of November 31, 1999. These figures also include the full commitments for Architectural packages 1-7, Link portion of Signage Plan and Design Build Honorarium (Board Motion 99-70)
3. Includes PSTC and Shannon & Wilson Amendments and ILF Consultants contract

The contract includes:

- A savings of over \$1,000,000 in overhead charges due to consultant being co-located in Sound Transit offices. This estimated savings is based on the negotiated overhead rate of 125.5 percent.
- A \$100,000 limitation on costs associated with termination for convenience.
- Negotiated overhead rate fixed for two years periods versus annually adjusted provisional rates, subject to audits.

- As part of the negotiation of Change Order 15 has agreed to a “blended” project/home office overhead rate of 125.5 percent.

**ALTERNATIVES:**

- Sound Transit may resolicit for any or all elements of the scope of work.
- Hire additional Sound Transit staff to perform the roles proposed in this scope of work.

Neither of these choices are desirable. Both alternatives would result in substantial delay, and therefore, added costs for the project. Significant time would be lost with a new procurement or recruiting qualified staff. In addition, the difficulty in finding qualified personnel in light rail engineering and relocating them to Seattle makes the second alternative especially problematic.

**CONSEQUENCES OF DELAY:**

An approval of this motion is essential to begin final design on the Central Light Rail System and to maintain the Tacoma Link implementation schedule. It is important that a Systems Engineering team be in place in order to coordinate with the Civil Engineering final design teams and LRT station Architects. The ability to transition seamlessly from preliminary engineering to final design allows Sound Transit to meet the aggressive schedule adopted by the Board.

**LEGAL REVIEW:**

MBL 2/7/00.

**SOUND TRANSIT**

**MOTION NO. M2000-20**

A Motion of the Board of the Central Puget Sound Regional Transit Authority authorizing the Executive Director to execute a contract amendment with LTK Engineering Services for systems engineering final design for Central and Tacoma Link, and systems construction management and services during construction and start-up for Tacoma Link Light Rail Project in the amount of \$20,516,347 with a 10 percent contingency of \$2,051,635 for a total amount not to exceed \$22,567,982.

**Background:**

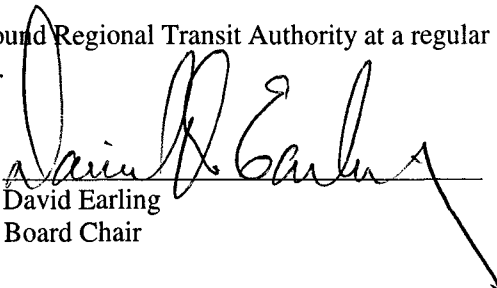
On December 15, 1997, Sound Transit advertised and issued a Request for Proposals (RFP) for Systems Engineering Preliminary Engineering Design Services for the Phase I of the Central Link Light Rail Transit. The RFP provided notice that this contract may be amended in the future to include final design. The selection committee recommended that Sound Transit pursue negotiations with LTK Engineering Services and by Resolution 98-17, the Board approved award of the contract to LTK in the amount of \$5,856,500 with an additional \$1,171,300 authorized for contingency reserve (to cover changes in the work) and \$200,000 for limited tasks. Since that time, LTK has successfully completed conceptual and preliminary engineering.

This motion is to allow LTK Engineering Services to proceed with light rail systems engineering final design for Central Link, and to provide construction management and services during construction and start-up for Tacoma Link. Final design includes preparation of specifications, drawings and assistance with procurement for Central Link systems engineering contracts. Working with Sound Transit staff, LTK Engineering would also provide construction management, design support for procured systems engineering contracts, vendor drawing and submittal review during construction, as well as provide support to the start-up and operations group during pre-operational testing for Tacoma Link. The estimate for this scope of work is \$20,516,347, plus a 10 percent contingency of \$2,051,635 for a total of \$22,567,982.


**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 change order with LTK Engineering for systems engineering final design for Central Link, and to provide systems construction management and services during construction and start-up for the Tacoma Link Light Rail Transit line. The change order extends the contract date to December 31, 2006, increases the contract amount by \$20,516,347, with a 10 percent contingency of \$2,051,635 for a total amount not to exceed \$22,567,982.

Approved by the Board of Directors of the Central Puget Sound Regional Transit Authority at a regular meeting thereof on the 9<sup>th</sup> day of March 2000.

  
David Earling  
Board Chair

ATTEST:

  
Marcia Walker  
Board Administrator