

MOTION NO. M2018-153

**Contract Amendment with International Electronic Machines Corporation to Provide Vibration and Wheel Flat Detection and Monitoring for the Northgate Link Extension**

MEETING:	DATE:	TYPE OF ACTION:	STAFF CONTACT:
Capital Committee	11/08/2018	Recommend to Board	Ron Lewis, Acting DECM Executive Director
Board	11/15/2018	Final Action	Don Davis, Executive Project Director – Northgate Link Extension <b>Gina Lawrance, Systems Construction Manager</b>

**PROPOSED ACTION**

Authorizes the chief executive officer to execute a contract amendment with International Electronic Machines Corporation to provide vibration and wheel flat detection and monitoring for the Northgate Link Extension in the amount of \$3,370,036, with a 10% contingency of \$337,004 totaling \$3,707,040, for a new total authorized contract amount not to exceed \$9,206,380.

**KEY FEATURES SUMMARY**

- In 2013, the Board authorized Motion No. M2013-98, to provide wheel flat, vibration and magnetic field monitoring and detection systems for the University Link Extension and included an option for similar activities on the Northgate Link Extension (NGLE).
- The proposed action approves a contract modification to provide vibration and wheel flat detection and monitoring system for the NGLE. The scope of work includes installation of 31 vibration sensors under the University of Washington (UW) and two additional wheel flat detectors on the light rail alignment.
- The proposed action also modifies the contract with International Electronic Machines Corporation (IEM) to incorporate lessons learned from the University Link Extension into the scope, including a variety of software upgrades, and automation of key reports.
- The contract includes an option for technical field support for a period of five years following completion of the NGLE installation.
- The work will commence in the later part of fourth quarter 2018 and be completed in early 2021.

**BACKGROUND**

Northgate Link extends light rail 4.3-miles from the University of Washington Station north under the campus via twin bored tunnels to an underground University District Station along Brooklyn Avenue NE between NE 43rd and NE 45th Streets, an underground Roosevelt Station along 12th Avenue NE between NE 65th Street and NE 67th Street, and continuing to an elevated station in Northgate along 1st Avenue NE spanning NE 103rd Street. The Northgate Link Extension is scheduled to be completed in September 2021 and will provide an interim terminus for Link at Northgate until the Lynnwood Link Extension is in service, currently anticipated in 2024.

In 2007, the Master Implementation Agreement (MIA) for Sound Transit Entry to the University of Washington Seattle Campus established the magnetic field and vibration monitoring program. Key goals outlined therein for the monitoring and detection system are:

- Measurement, recording and analysis and transmission of vibration data collected at the UW campus in the vicinity of the University Link rail alignment.
- Detecting trains exceeding vibration thresholds as agreed by Sound Transit and UW prior to entry under the UW campus.
- Continuous and long-term monitoring to ensure that vibration levels remain within specified thresholds as agreed by Sound Transit and UW.
- Real time data analysis.
- Alarm reporting at Link Control Center (LCC) and UW Campus

In 2014, the MIA was amended, and removed the requirement for Sound Transit to install an electro-magnetic interference (EMI) monitoring system and the scope was deleted from the IEM contract.

IEM successfully designed, furnished, installed, tested and commissioned the vibration system to include 12 vibration sensors and three wheel flat detectors. The system has been operating since November 2016 and IEM are currently under contract to provide technical support for a 5 year period.

#### PROJECT STATUS

Project Identification	Alternatives Identification	Conceptual Engineering / Draft EIS	Preliminary Engineering / Final EIS	Final Design	Construction
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Projected Completion Date: Q1 2021

Project scope, schedule, and budget summary for Northgate Link Extension located on page 9 of the August 2018 Link Light Rail Program Progress Report.

#### FISCAL INFORMATION

The authorized project allocation to date for Northgate Link Extension project is \$1,899,755,500. Within that amount, \$1,343,022,559 has been allocated to the construction phase. Of this amount, \$6,026,000 is allocated to the EMI/Vibration monitoring line. This proposed action will commit \$3,707,040 to this line, leaving a remaining uncommitted budget balance of \$167,358.

This contract is shared between two projects, the University Link Extension project and the Northgate Link Extension project. The original contract was initiated by the University Link project, which amounted to \$5,499,340. Today's action is funded by the Northgate Link Extension project for \$3,707,040. The total value of this contract is \$9,206,380.

This action is within the adopted project allocation and sufficient monies remain after the approval of this action to fund the remaining work in the construction phase as contained in the current cost estimates.

## Northgate Link Extension

(in thousands)

	Baselined Budget	Board Approvals	This Action	Board Approved Plus Action	Uncommitted / (Shortfall)
Agency Administration	\$144,879	\$63,026	\$	\$63,026	\$81,853
Preliminary Engineering	15,077	15,077		15,077	
Final Design	132,167	125,397		125,397	6,770
Right of Way	112,300	100,440		100,440	11,860
Construction	1,343,023	1,264,594	3,707	1,268,301	74,721
Construction Services	118,310	105,096		105,096	13,213
Third Party	11,800	9,840		9,840	1,960
Vehicles					
Contingency	22,200				22,200
<b>Total Current Budget</b>	<b>\$1,899,756</b>	<b>\$1,683,471</b>	<b>\$3,707</b>	<b>\$1,687,178</b>	<b>\$212,578</b>

### Phase Detail

#### Construction

EMV/Vibration Monitoring	\$6,026	\$2,152	\$3,707	\$5,859	\$167
Other Construction Phase	1,336,997	1,262,443		1,262,443	74,554
<b>Total Phase</b>	<b>\$1,343,023</b>	<b>\$1,264,594</b>	<b>\$3,707</b>	<b>\$1,268,301</b>	<b>\$74,721</b>

### Contract Detail

#### International Electronic Machines Corp.

	Board Approvals to Date	Current Approved Contract Status	Proposed Action	Proposed Total for Board Approval
Contract Amount		\$	\$3,370	\$3,370
Original University Link Contract	\$5,386	5,386		5,386
Original Ulink Contingency	\$113	113		113
Contingency			337	337
<b>Total</b>	<b>\$5,499</b>	<b>\$5,499</b>	<b>\$3,707</b>	<b>\$9,206</b>
Percent Contingency	0%	0%	10%	5%
<b>Total NorthGate Link Extension</b>	<b>\$5,499</b>	<b>\$5,499</b>	<b>\$3,707</b>	<b>\$9,206</b>

### Notes:

Amounts are expressed in Year of Expenditure

Board Approvals = Committed To-Date + Contingency as of Sep 2018 and includes pending Board actions.

For detailed project information, see page 22 of the Adopted 2018 Transit Improvement Plan, as amended by resolution of the ST Board in May 2018 (R2018-16, adopted 05/24/18).

## SMALL BUSINESS/DBE PARTICIPATION AND APPRENTICESHIP UTILIZATION

Sound Transit promotes and encourages small business participation, which also includes Disadvantaged Business Enterprises (DBEs). Consistent with Sound Transit Policies and Federal Regulations, Sound Transit has established Small Business/DBE goals for this contract. These goals are based upon an examination of subcontracting opportunities contained in the work of this contract and the number of Small Businesses/DBEs available to perform such subcontracting work.

For this specific contract, the following goals were set and the successful Bidder/Proposer has committed to the following Small Business/DBE Participation:

### Small Business and Disadvantaged Business Enterprise Goals

#### Sound Transit Goal:

Small Business: 3.5%

DBE: 3.5%

#### Commitment:

Small Business: 3.5%

DBE: 3.5%

IEM (Prime Contractor) is a registered small business and to date the SBE participation is 93.7% and DBE participation 2.9%

## PUBLIC INVOLVEMENT

Not applicable to this action.

## TIME CONSTRAINTS

The timely execution of this option is required to support early software development and ensure that the vibration monitoring is captured in the Systems Integration Process to support SCADA development early 2019.

## PRIOR BOARD/COMMITTEE ACTIONS

Motion No. M2013-98: Authorized the chief executive officer to execute a contract with International Electronic Machines Corporation to provide wheel flat, vibration and magnetic field monitoring and detection systems for the University Link Extension in the amount of \$4,999,400, with a 10% contingency of \$499,940, for a total authorized contract amount not to exceed \$5,499,340.

## ENVIRONMENTAL REVIEW

KH 10/31/18

## LEGAL REVIEW

AJP 11/2/18

## MOTION NO. M2018-153

A motion of the Board of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute a contract amendment with International Electronic Machines Corporation to provide vibration and wheel flat detection and monitoring for the Northgate Link Extension in the amount of \$3,370,036, with a 10% contingency of \$337,004 totaling \$3,707,040, for a new total authorized contract amount not to exceed \$9,206,380.

## BACKGROUND:

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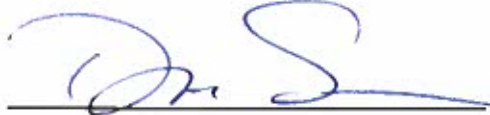
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**MOTION:**

It is hereby moved by the Board of the Central Puget Sound Regional Transit Authority that the chief executive officer is authorized to execute a contract amendment with International Electronic Machines Corporation to provide vibration and wheel flat detection and monitoring for the Northgate Link Extension in the amount of \$3,370,036, with a 10% contingency of \$337,004 totaling \$3,707,040, for a new total authorized contract amount not to exceed \$9,206,380.

APPROVED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on November 15, 2018.



Dave Somers  
Board Chair

ATTEST:



Kathryn Flores  
Board Administrator