

MOTION NO. M2014-35

Master Implementation Agreement Amendment with the University of Washington for Mitigation of Magnetic Field and Vibration Impacts on Campus Research Facilities

MEETING:	DATE:	TYPE OF ACTION:	STAFF CONTACT:
Capital Committee	05/08/2014	Recommend to the Board	Ahmad Fazel, DECM Executive Director Joe Gildner, Executive Project Director – U-Link
Board	05/22/2014	Final Action	Tracy Reed, Rail Activation Manager

PROPOSED ACTION

Authorizes the chief executive officer to execute an amendment to the Master Implementation Agreement with the University of Washington to establish new vibration and magnetic field level thresholds that Sound Transit will meet during operation of light rail transit under University property, confirms the University's approval of the University Link and Northgate Link Extensions final design, mitigation plan, and monitoring plan, and includes compensation to the University of Washington in the amount of \$43,300,000 to relocate or otherwise mitigate anticipated impacts to sensitive research labs and activities.

KEY FEATURES SUMMARY

- Under this amendment, the Parties agree to thresholds for operational vibration and magnetic field levels higher than originally defined in the Master Implementation Agreement (MIA) for some sensitive buildings near the light rail line under the University of Washington (UW) campus, substantially reducing Sound Transit's risk of not achieving or maintaining these levels during operations.
- Sound Transit agrees to operate light rail transit service at or below the newly established thresholds for all sensitive receiver buildings identified in the Agreement.
- The UW accepts responsibility for relocating or otherwise mitigating all impacts to sensitive research facilities that would be affected by light rail operations consistent with the newly established thresholds.
- This amendment to the MIA eliminates the possibility that the UW would exercise its right to prevent the commencement of revenue operations under campus due to magnetic field interference and vibration impacts on its research facilities, so long as Sound Transit meets the new operating thresholds.
- This amendment to the MIA also eliminates Sound Transit's obligation to provide continuous and long-term magnetic field monitoring in remote locations across the UW's Seattle campus.
- The payment called for in the amendment satisfies Sound Transit's obligations to reimburse UW for all costs of relocating the sensitive research facilities encompassed within the MIA.
- This amendment confirms the University's approval of the University Link and Northgate Link Extensions final design, mitigation, and monitoring plan, such that light rail construction can be completed and revenue service can commence per the adopted project schedule.

BACKGROUND

University Link Extension is a 3.15-mile light rail extension located entirely underground with tunnels traveling east from Pine Street, under the I-5 freeway to an underground station at Capitol Hill, continuing north beneath SR 520 and the Lake Washington Ship Canal to an underground station on the University of Washington campus, located near Husky Stadium. Northgate Link Extension is a 4.3-mile extension of the light rail tunnels north under UW's Seattle campus and

continuing on to two underground stations (U District Station and Roosevelt Station) and one elevated station spanning NE 103rd Street (Northgate Station).

In 2007, the Board authorized the chief executive officer to execute the MIA with UW establishing terms and conditions to acquire access to and use of UW property for purposes of constructing, operating, monitoring and maintaining the light rail transit (LRT) system. In negotiating the MIA with Sound Transit, UW officials were intensely focused on protecting their sensitive research facilities from potential impacts from magnetic fields and vibration created by light rail operations under campus. In the MIA, "University Requested Thresholds" were set for both magnetic fields and vibration levels at twenty-six University buildings containing sensitive research equipment in proximity to future light rail transit underground facilities. A process to determine the need for additional mitigation was anticipated to begin once final design was complete.

The MIA requires Sound Transit to mitigate the impact of magnetic fields and vibration on selected sensitive research facilities prior to revenue service. This mitigation is accomplished through a variety of means including: a) "source-based mitigation" (e.g. modifications to the light rail system design or operations), or, b) "receiver-based mitigation" (e.g. modifications to or relocation of sensitive facilities and activities). Under the MIA, the UW has the sole discretion to approve or disapprove any proposed receiver-end mitigation measures.

For both the University Link and Northgate Link Extensions, Sound Transit has investigated and tested state of the art mitigation measures to assess potential source-based mitigation for magnetic field interference and vibration impacts on the UW's sensitive research facilities. Moreover, Sound Transit has tested the Agency's light rail vehicles in the operating segments of Central Link to determine their unique operating characteristics. Final design of the tunnels and mitigation features under the Seattle campus for both extension projects was complete and submitted to the UW in September 2013.

For the purposes of establishing thresholds, the MIA established two groups of buildings. Group 1 buildings are buildings with vibration or magnetic field sensitive activities for which maximum, not-to-exceed thresholds were set. Group 2 buildings are sensitive receiver buildings with baseline predictions and requested limits, where additional work by the Parties was required before determining maximum, not-to-exceed thresholds. Despite all the extensive measures incorporated into the design of our LRT system to mitigate the impact of magnetic field interference and vibration, Sound Transit's current predictions and vehicle testing indicates that light rail operations under the central campus will exceed magnetic field thresholds for some Group 2 research facilities. In addition, the predicted magnetic field levels are within ten percent of violating a threshold for one of the Group 1 buildings. Under the terms of the MIA, any threshold exceedance predicted for Group 1 buildings entitles the UW to require any change in the LRT system necessary to maintain predicted levels below established thresholds. Exceedances at Group 2 buildings must be mitigated by additional design changes or relocating impacted facilities within the subject building. The UW may further prevent the commencement of revenue operations if the actual measured magnetic fields or vibration level experienced during pre-revenue service testing do not comply with Group 1 building thresholds. The risk of discovering a problem immediately prior to revenue service leaves Sound Transit insufficient time to relocate UW facilities or to develop and implement other mitigation measures to protect in place the sensitive research facilities.

Sound Transit has negotiated this amendment to the MIA to eliminate the possibility that the UW would exercise its right to prevent the start of revenue service as long as the newly established magnetic field and vibration thresholds are not exceeded. In this proposed amendment, Sound Transit agrees to compensate the UW for anticipated impacts to Group 2 buildings and one Group

1 building. Sound Transit also agrees to: a) operational thresholds for magnetic field and vibration levels that are higher than those allowed by the MIA; and b) operate light rail at or below newly established Group 2 thresholds. The UW accepts the responsibility for relocating or otherwise mitigating impacts to all sensitive research facilities at the receiver end that would be impacted by LRT operations generating vibration or magnetic field levels equal to or less than the newly established thresholds. The UW also accepts the responsibility for designing, implementing, and maintaining a continuous and long-term magnetic field monitoring system. The lump sum payment authorized by this Amendment would compensate for and fund the University's implementation of lab relocation or other additional receiver-based mitigation measures and the University's implementation of the magnetic field monitoring.

This amendment to the MIA will constitute the complete fulfillment of Sound Transit's magnetic field and vibration relocation obligations due to light rail transit operation under the Seattle campus and eliminates the risk that the UW could prevent or delay the start of LRT operations for any research-related reasons, as long as the new thresholds are not exceeded.

FISCAL INFORMATION

The 2014 TIP for the University Link Extension is \$1.756 billion. Within that amount, \$45,000,000 has been set aside for UW Mitigation in the Construction phase. To date \$121,150 from this line item has been committed. The proposed action would increase commitments for this line item by \$43,300,000 to a revised total of \$43,421,150 and leave a remaining budget balance of \$1,578,850. Use of unallocated contingency funds is not required for this action.

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

University Link Extension

	2014 TIP	Board Approvals	This Action	Board Approved Plus Action	Uncommitted / (Shortfall)
Agency Administration	113,554	64,132		64,132	49,422
Preliminary Engineering	24,261	24,261		24,261	-
Final Design	89,308	85,382		85,382	3,926
Right of Way	152,332	125,630		125,630	26,702
Construction	1,158,183	969,835	43,300	1,013,135	145,048
Construction Services	95,814	84,367		84,367	11,447
Third Party Agreements	18,646	11,785		11,785	6,861
Vehicles	103,909	99,185		99,185	4,724
Total Current Budget	1,756,007	1,464,577	43,300	1,507,877	248,130

Phase Detail

Construction

UW Mitigation	45,000	121	43,300	43,421	1,579
Other Construction	976,391	969,714		969,714	6,677
Construction Unallocated Contingency	136,792	-		-	136,792
Total Phase	1,158,183	969,835	43,300	1,013,135	145,048

Contract Detail

Forma Construction Company	Board Approvals to Date	Current Approved Contract Status	Proposed Action	Proposed Total for Board Approval
Contract Amount	-	-	43,300	43,300
Contingency	-	-	-	-
Total	-	-	43,300	43,300
Percent Contingency	0%	0%	0%	0%

Notes:

Amounts are expressed in Year of Expenditure \$000s.

Board Approvals = Committed To-Date + Contingency, and includes pending Board actions.

2014 TIP = Project budget located on page 34 of the 2014 Transit Improvement Plan (TIP).

SMALL BUSINESS/DBE PARTICIPATION AND APPRENTICESHIP UTILIZATION

Not applicable to this action.

PUBLIC INVOLVEMENT

Not applicable to this action.

TIME CONSTRAINTS

The University of Washington Board of Regents is scheduled to consider this agreement at its May 2014 meeting. A delay in Sound Transit Board consideration may impact final execution of the agreement.

PRIOR BOARD/COMMITTEE ACTIONS

Motion No. M2007-62: Authorized the chief executive officer to execute a Master Implementation Agreement with the University of Washington establishing terms and conditions to acquire access to and use of University of Washington property for purposes of design, construction, operation, monitoring, and maintenance of Link light rail transit system for a total authorized agreement amount of \$35,200,000.

Resolution No. R2000-08: Approved a Memorandum of Agreement with the University of Washington related to the purchase of University of Washington property to build a portion of the Central Link Light Rail line on and adjacent to University of Washington owned property.

ENVIRONMENTAL REVIEW

JI 5/1/2014

LEGAL REVIEW

JEN, 5/7/2014

MOTION NO. M2014-35

A motion of the Board of the Central Puget Sound Regional Transit Authority authorizing the chief executive officer to execute an amendment to the Master Implementation Agreement with the University of Washington to establish new vibration and magnetic field level thresholds that Sound Transit will meet during operation of light rail transit under University property, confirming the University's approval of the University Link and Northgate Link Extensions final design, mitigation plan, and monitoring plan, and including compensation to the University of Washington in the amount of \$43,300,000 to relocate or otherwise mitigate anticipated impacts to sensitive research labs and activities.

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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 an amendment to the Master Implementation Agreement with the University of Washington to establish new vibration and magnetic field level thresholds that Sound Transit will meet during operation of light rail transit under University property, confirming the University's approval of the University Link and Northgate Link Extensions final design, mitigation plan, and monitoring plan, and including compensation to the University of Washington in the amount of \$43,300,000 to relocate or otherwise mitigate anticipated impacts to sensitive research labs and activities.

APPROVED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on May 22, 2014.



Paul Roberts
Board Vice Chair

ATTEST:



Marcia Walker
Board Administrator