

**Metro**Los Angeles County  
Metropolitan Transportation AuthorityOne Gateway Plaza  
Los Angeles, CA 90012-2952213.922.2000 Tel  
metro.net**CONSTRUCTION COMMITTEE  
APRIL 16, 2015****SUBJECT: TUNNEL ADVISORY PANEL****ACTION: AUTHORIZE THE CHIEF EXECUTIVE OFFICER (CEO) TO EXECUTE  
CONTRACT MODIFICATIONS****RECOMMENDATION**

- A. Authorize the CEO to execute Contract Modification No. 6 to Contract No. PS-2020-1055 with Geoffrey R. Martin for the continuation of Tunnel Advisory Panel Services, in an amount not-to-exceed \$1,039,000, increasing the total contract value from \$1,201,000 to \$2,240,000 and extend the contract from July 1, 2015 to June 30, 2020;
- B. Authorize the CEO to execute Contract Modification No. 4 to Contract No. PS-8510-2416 with Harvey Parker and Associates, Inc. for the continuation of Tunnel Advisory Panel Services, in an amount not-to-exceed \$1,142,900, increasing the total contract value from \$1,525,000 to \$2,667,900 and extend the contract from July 1, 2015 to June 30, 2020; and
- C. Authorize the CEO to execute Contract Modification No. 2 to Contract No. PS-8510-2493 with Cording, Dr. Edward J. for the continuation of Tunnel Advisory Panel Services, in an amount not-to-exceed \$1,142,900, increasing the total contract value from \$1,225,000 to \$2,367,900 and extend the contract from July 1, 2015 to June 30, 2020.

**ISSUE**

LACMTA is currently planning, designing or constructing rail transit and highway projects with extensive underground engineering and construction that involve complex geotechnical and tunneling issues. These include the Crenshaw/LAX Transit Project, the Regional Connector Transit Corridor Project, the Westside Purple Line Extension Section 1 and Section 2 Projects, and the SR-710 North Gap Closure Project. Los Angeles County has challenging geologic and tunneling conditions and deep underground station construction, with some through tar impregnated soil, toxic

gasses, and high concentration of methane. While LACMTA has extensive expertise and experience from both staff and engineering consultants, there is the need for a Tunnel Advisory Panel to provide expert advice and review of this engineering work. The Tunnel Advisory Panel comprised of Dr. Geoffrey Martin, Dr. Harvey Parker, and Dr. Edward Cording, are recognized in the industry and throughout the world as engineering/construction experts in the areas of geotechnical analyses, tunneling, deep excavation, earthquake engineering and building settlements.

Board approval of the recommendations will allow the continuation of services of the Tunnel Advisory Panel to support LACMTA on the Crenshaw/LAX Transit Project, the Regional Connector Transit Corridor Project, the Westside Purple Line Extension Section 1 and Section 2 Projects, and the SR-710 North Gap Closure Project.

## **DISCUSSION**

The Tunnel Advisory Panel convened in August 1995 in response to questions posed by the Board of Directors regarding feasibility of tunneling in Los Angeles ground conditions. LACMTA contracted with Drs. Dan Eisenstein, Geoffrey Martin and Harvey Parker to determine the feasibility of tunneling in Los Angeles, to assess the effectiveness of LACMTA's construction program to date, and to recommend any modifications to the current construction program deemed appropriate.

In June 2001, the Board approved two five-year contracts to the members of the Tunnel Advisory Panel in the amount not-to-exceed \$1,167,826, and directed staff to return each year for funding approval. Since that time, the Board has approved funding and extensions to the Tunnel Advisory Panel contracts. Due to Dr. Eisenstein's untimely death in April 2009, LACMTA management staff decided to procure two additional members for the Tunnel Advisory Panel, Dr. Harvey Parker and Dr. Edward Cording, to provide expert technical services.

The three Tunnel Advisory Panel members, Drs. Martin, Parker and Cording, have been providing advice to the Crenshaw/LAX Transit Project, the Regional Connector Transit Corridor Project, the Westside Purple Line Extension Section 1 and Section 2 Projects, and the SR-710 North Gap Closure Project. All of these projects include extensive underground engineering and construction that involve complex geotechnical and tunneling issues for which the Tunnel Advisory Panel members are uniquely qualified.

In particular, they have been involved with the Crenshaw/LAX Transit Project, the Regional Connector Transit Corridor Project, the Westside Purple Line Extension Section 1 and Section 2 Projects from planning studies, preliminary and advanced preliminary engineering and development of procurement documents for construction contracts. They will continue to support these projects during active underground excavation and tunneling.

The Tunnel Advisory Panel has also been involved with the SR-710 North Gap Closure Project beginning with the feasibility of tunneling in the SR-710 corridor. Since the



Board approval of a contract to conduct environmental studies, the Panel has provided critical input into the preparation of the Alternatives Analysis Report and the Draft Environmental Report document. It is anticipated that the Panel's expert services will be needed through the preparation of the Final Environmental Report document, design, and construction phases of the project.

Tunnel Advisory Panel members are involved with on-going support relating to third party and project stakeholders' issues, which will require continuation of their services for the future. They have unique knowledge and background on Los Angeles County's underground conditions and intimate knowledge of Metro's past and current engineering and construction projects. Board approval and execution of the Contract Modifications will allow continuation of these services.

### **DETERMINATION OF SAFETY IMPACT**

The Board actions will not have an impact on established safety standards for Metro's engineering and construction projects.

### **FINANCIAL IMPACT**

Funds are included in the FY15 budget for the actions under 865512 - Crenshaw/LAX Transit Project, 860228 - Regional Connector Transit Corridor Project, and 865518 and 865522 - Westside Purple Line Extension Section 1 and Section 2 Projects, respectively, in Cost Center 8510 (Construction Project Management) and under Account No. 50316 (Professional and Technical Services). Also, funds are included in the FY15 budget for the action under Project 460315 - SR-710 North Gap Closure, in Cost Center 4720 (Highway Programs A) and under Account No. 50316 (Professional and Technical Services). Since this is a multi-year contract, the Executive Director of Engineering and Construction and the Project Managers will be responsible for cost budgeting in future years.

#### **Impact to Budget**

The source of funds for these actions are a combination of Measure R 35%, Measure R Highway Funds (20%), Federal Section 5309 New Starts, Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan proceeds, Federal STP, CMAQ, State Proposition IB, Proposition A 35%, and Proposition C25%. No other funds were considered for the actions, because these were approved in the capital projects funding plan.

### **ALTERNATIVES CONSIDERED**

Staff has considered the alternative of allowing the current contracts with Dr. Martin, Dr. Parker, and Dr. Cording to expire. The Tunnel Advisory Panel institutional knowledge of

Metro and technical understanding of specific tunnel related issues would require significant investment in time and resources to replicate if others were used in this role, which would not only incur cost, but would significantly reduce the benefit and validity of their advice, while this knowledge and understanding were obtained. This is not recommended as it will leave LACMTA without the benefit of their knowledge and expertise and create a void in receiving required tunneling expertise for a period of time, thereby creating the potential for delays and additional costs to ongoing LACMTA projects.

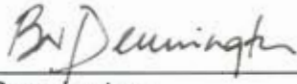
### **NEXT STEPS**

After Board approval and execution of the Contract Modifications, staff will direct the Tunnel Advisory Panel to provide tunnel engineering advice to LACMTA including supporting the aforementioned projects.

### **ATTACHMENTS**

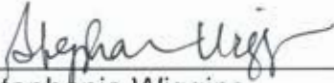
- A. Procurement Summary
- B. Contract Modification Authority (CMA) Summary

Prepared by: Dennis Mori, Executive Officer, Project Management (213) 922-7221  
Rick Wilson, Director Project Control (213) 922-3627  
Timothy Clark, Interim Director, Contract Administration (213) 922-7246



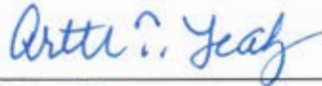
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Bryan Pennington  
Executive Director, Engineering and Construction



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Stephanie Wiggins  
Executive Director, Vendor Contract Management



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Arthur T. Leahy  
Chief Executive Officer

## PROCUREMENT SUMMARY

## TUNNEL ADVISORY PANEL

## Geoffrey Martin/PS-2020-1055

1.	<b>Contract Number:</b> PS-2020-1055		
2.	<b>Contractor:</b> Geoffrey Martin		
3.	<b>Mod. Work Description:</b> Continued Tunnel Advisory Panel support		
4.	<b>Contract Work Description:</b> Tunnel Advisory Panel		
5.	<b>The following data is current as of:</b> 3/18/15		
6.	<b>Contract Completion Status</b>		<b>Financial Status</b>
	<b>Contract Awarded:</b>	5/1/2001	<b>Contract Award Amount:</b> \$326,000
	<b>Notice to Proceed (NTP):</b>	5/1/2001	<b>Total of Modifications Approved:</b> \$875,000
	<b>Original Complete Date:</b>	1/28/2015	<b>Pending Modifications (including this action):</b> \$1,039,000
	<b>Current Est. Complete Date:</b>	6/30/2015	<b>Current Contract Value (with this action):</b> \$2,240,000
7.	<b>Contract Administrator:</b> Sonia Gomez		<b>Telephone Number:</b> (213)922-7247
8.	<b>Project Manager:</b> Dennis Mori		<b>Telephone Number:</b> (213)922-7221

## Harvey Parker/PS-8510-2416

1.	<b>Contract Number:</b> PS-8510-2416		
2.	<b>Contractor:</b> Harvey Parker & Associates, Inc.		
3.	<b>Mod. Work Description:</b> Continued Tunnel Advisory Panel support		
4.	<b>Contract Work Description:</b> Tunnel Advisory Panel		
5.	<b>The following data is current as of:</b> 3/18/15		
6.	<b>Contract Completion Status</b>		<b>Financial Status</b>
	<b>Contract Awarded:</b>	1/29/2010	<b>Contract Award Amount:</b> \$1,225,000
	<b>Notice to Proceed (NTP):</b>	1/29/2010	<b>Total of Modifications Approved:</b> \$300,000
	<b>Original Complete Date:</b>	1/28/2015	<b>Pending Modifications (including this action):</b> \$1,142,900
	<b>Current Est. Complete Date:</b>	6/30/2015	<b>Current Contract Value (with this action):</b> \$2,667,900
7.	<b>Contract Administrator:</b> Sonia Gomez		<b>Telephone Number:</b> (213)922-7247
8.	<b>Project Manager:</b> Dennis Mori		<b>Telephone Number:</b> (213)922-7221



**Edward Cording/PS-8510-2493**

1.	<b>Contract Number:</b> PS-8510-2493		
2.	<b>Contractor:</b> Edward Cording		
3.	<b>Mod. Work Description:</b> Continued Tunnel Advisory Panel support		
4.	<b>Contract Work Description:</b> Tunnel Advisory Panel		
5.	<b>The following data is current as of:</b> 3/18/15		
6.	<b>Contract Completion Status</b>		<b>Financial Status</b>
	<b>Contract Awarded:</b>	1/29/2010	<b>Contract Award Amount:</b> \$1,225,000
	<b>Notice to Proceed (NTP):</b>	1/29/2010	<b>Total of Modifications Approved:</b> \$0
	<b>Original Complete Date:</b>	1/28/2015	<b>Pending Modifications (including this action):</b> \$1,142,900
	<b>Current Est. Complete Date:</b>	6/30/2015	<b>Current Contract Value (with this action):</b> \$2,367,900
7.	<b>Contract Administrator:</b> Sonia Gomez		<b>Telephone Number:</b> (213)922-7247
8.	<b>Project Manager:</b> Dennis Mori		<b>Telephone Number:</b> (213)922-7221

**A. Procurement Background**

This Board Action is to approve modifications in support of continued tunnel advisory panel support.

The proposed contract modifications will be processed in accordance with Metro's Acquisition Policy and the contract type for each contract is a Labor Hour Contract.

On January 28, 2010, Contract No. PS-8510-2416 and PS-8510-2493 were awarded to Harvey Parker and Edward Cording, respectively each in the amount of \$1,225,000. The Board also authorized Modification No. 5 to Contract No. PS-2020-1055 with Geoffrey Martin in the amount of \$875,000 increasing his contract value to \$1,201,000 for Tunnel Advisory Panel services.

This Board Action is to approve the continuation of services of the Tunnel Advisory Panel in support of LACMTA on the Crenshaw/LAX Transit Project, the Regional Connector Transit Corridor Project, the Westside Purple Line Extension Section 1 and Section 2 Projects, and the SR-710 North Gap Closure Project. Los Angeles County has challenging geologic and tunneling conditions and deep underground station construction, with some through tar impregnated soil, toxic gasses, and high concentration of methane. The Tunnel Advisory Panel comprised of Dr. Geoffrey Martin, Dr. Harvey Parker, and Dr. Edward Cording, are recognized in the industry and throughout the world as engineering/construction experts in the

areas of geotechnical analyses, tunneling, deep excavation, earthquake engineering and building settlements.

Refer to Attachment B – Contract Modification/Change Order Log.

**B. Cost/Price Analysis**

These individual Labor Hour contracts contain a fixed, negotiated labor rate. Negotiations have resulted in the individual hourly rates for each contract remaining unchanged since being negotiated in January 2010; therefore, an audit of the fixed labor rate is not necessary. The negotiated amounts comply with all requirements of Metro Procurement policies and procedures and were determined fair and reasonable through fact-finding, clarifications, technical evaluation and cost analysis. An independent cost estimate (ICE) was obtained as part of the cost analysis before negotiation. The difference between the ICE and the negotiated amount is because project management’s technical evaluation for the level of effort necessitated increasing the hours which were included in the negotiated amount.

**Harvey Parker/PS-8510-2416**

<b>Proposed Amount</b>	<b>Metro ICE</b>	<b>Negotiated Amount</b>
<b>\$1,151,150</b>	<b>\$681,121</b>	<b>\$1,142,900</b>

**Edward Cording/PS-8510-2493**

<b>Proposed Amount</b>	<b>Metro ICE</b>	<b>Negotiated Amount</b>
<b>\$1,151,150</b>	<b>\$706,338</b>	<b>\$1,142,900</b>

**Geoffrey Martin/PS-2020-1055**

<b>Proposed Amount</b>	<b>Metro ICE</b>	<b>Negotiated Amount</b>
<b>\$1,046,500</b>	<b>\$585,815</b>	<b>\$1,039,000</b>

**C. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) did not establish a Disadvantaged Business Enterprise Anticipated Level of Participation (DALP) for Tunnel Advisory Panel Services based on the lack of subcontracting opportunities. The work performed by the panel involved providing specialized technical services and expertise in the areas of geotechnical analyses, tunneling, deep excavations, earthquake engineering, and building settlements. The three consultants, Dr. Geoffrey Martin, Dr. Harvey Parker, and Dr. Edward Cording are currently performing work utilizing their own workforce.



## CONTRACT MODIFICATION/CHANGE LOG

## TUNNEL ADVISORY PANEL

## Geoffrey Martin/PS-2020-1055

<b>Mod. no.</b>	Original Contract	9/1/2001	\$326,000
1-4	Increase unit rate and extend period of performance	09/06/02-05/11/09	\$0
5	Increase unit rate and extend period of performance	1/29/10	\$875,000
6	<b>Pending Board Approval</b>		<b>\$1,039,000</b>
	<b>Total:</b>		<b>\$2,240,000</b>

## Harvey Parker/PS-8510-2416

<b>Mod. no.</b>	Original Contract	1/29/10	\$1,225,000
1	Increase contract value	2/20/14	\$100,000
2	Increase contract value	8/6/14	\$100,000
3	Increase contract value and extend period of performance	1/9/15	\$100,000
4	<b>Pending Board Approval</b>		<b>\$1,142,900</b>
	<b>Total:</b>		<b>\$2,667,900</b>

## Edward Cording/PS-8510-2493

<b>Mod. no.</b>	Original Contract	1/29/10	\$1,225,000
1	Extend period of performance	1/9/15	\$0
2	<b>Pending Board Approval</b>		<b>\$1,142,900</b>
	<b>Total:</b>		<b>\$2,367,900</b>