



## Board Report

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### CONSTRUCTION COMMITTEE APRIL 12, 2018

**SUBJECT: SYSTEMS ENGINEERING AND SUPPORT SERVICES**

**ACTION: AWARD PROFESSIONAL SERVICES CONTRACT**

#### **RECOMMENDATION**

AUTHORIZE:

A. the Chief Executive Officer to award a Task Order (TO) based seven-year cost plus fixed fee contract plus three one-year options, Contract No. AE47810E0128, to SECOTrans (Joint Venture of LTK Engineering Services, NBA Engineering Inc., Pacific Railway Enterprises Inc., and Ramos Consulting Services, Inc) for systems engineering and support services for design of rail and transit projects;

B. an initial two year not-to-exceed amount of \$28,932,000 for Task Orders issued through Fiscal Year 2020; and

C. the Chief Executive Officer to execute individual Task Orders and changes within the Board approved not-to-exceed amount for the contract.

#### **ISSUE**

Staff seeks to award a Systems Engineering and Support Services contract to assist Metro in the delivery of voter approved Measures R, M, and other Board approved Capital Improvement projects. The recommended action will provide contracting authority for Task Orders issued during the initial two years, FY's 2019 and 2020. Staff intends to return to the Board every two years to request additional contract funding as conditions and project requirements warrant.

#### **DISCUSSION**

With the approval of Measure M, the Twenty-Eight by '28 Plan, the ongoing implementation of the Measure R program, and required State of Good Repair initiatives, staff is seeking to engage a Systems Engineering Consultant (SEC) to provide a broad range of systems engineering design and related support services to supplement current Systems Engineering department resources.

### Term

Due to the intensive system integration requirements and length of time needed to deliver major capital improvement projects, it is very inefficient and disruptive to change a systems engineering consultant during project delivery. The recommended Systems Engineering and Support Services term will provide greater continuity, consistency and less disruption by implementing a base seven (7) year contract with three (3) one-year options.

### Scope

An experienced SEC provides a singular systems engineering team, and associated sub-specialties, with the necessary resources to assist in the planning, development, and delivery of Metro's aggressive schedule of projects for the next decade. The SEC will be capable of applying and withdrawing resources as the workload of projects fluctuates over time. The SEC has the extensive experience and capability to support the complete project lifecycle; from the conceptual phase to final design and construction.

### Other Considerations

The challenge presented by the simultaneous implementation of numerous projects is to ensure the integration and standardization of the systems elements within and across the current Metro system. Consistent development and design is necessary to ensure that the required integration is achieved with respect to civil and electrical infrastructure, vehicles, control systems, communications, operations, maintenance, security, training, etc.

With a singular SEC design team supporting Metro, the standardization of design, construction and functionality of systems elements will keep Metro's long term interest of system interoperability and safety at the forefront. A fully-integrated network requires a consistency of systems design and not a collection of potentially incompatible independent designs arising from separate projects. This approach has been implemented successfully in other transit agencies nationwide and the benefits of full systems standardization include:

- Interoperability and efficient maintainability
- Improved commercial viability
- Reduced spares requirements
- Reduced training requirements
- Flexibility to adapt to changing circumstances

The SEC will provide some or all of the systems engineering services for current/future rail and bus transit projects, and other capital improvement projects, including, but not limited to, the following:

- East San Fernando Valley Transit Corridor
- Gold Line Eastside Phase 2 Extension
- Green Line South Bay Rail Extension
- West Santa Ana Transit Corridor

- Sepulveda Pass Transit Corridor
- Vermont Transit Corridor
- Orange Line BRT Improvements
- Westside Purple Line Extension Section 2 & 3
- Metro Blue Line (MBL) Re-signaling Project
- Metro Blue Line (MBL) Systems Upgrades
- Metro Green Line (MGL) Systems Upgrades
- Operations Control Center
- Gold Line Foothill Extension 2B

### **DETERMINATION OF SAFETY IMPACT**

The use of a consistent systems design process has a positive benefit during the construction and subsequent operations of Metro's Rail and Bus transit network.

### **FINANCIAL IMPACT**

Task Orders (TO) with a detailed scope of work shall be issued for each project or system element that requires systems engineering support. The vast majority of funds will be provided by the respective individual project life of project (LOP) funds for which the support work is required. A portion of the proposed contract workscope will require an annual budget allotment for conceptual and preliminary work to be funded through an annual overhead fund. The FY19 and FY20 allotment under recommendation B will initially require a not to exceed amount of \$1,500,000 dollars. Annual overhead allotments beyond FY20 shall not exceed 5% of actual task orders issued for future fiscal years. Aside from the annual allotment, the recommendations for this item have no financial impacts beyond what the Board authorizes through the annual budget adoption and/or LOP budget approval. Upon approval of Recommendation B, the FY19 budget will be amended to allow for up to \$1,000,000 in overhead funds and engineering support activities.

Staff will return to the Board every two years to request additional contract authorization as project needs arise in order to accurately estimate the anticipated level of required resources. On an annual basis, the Project Managers, Cost Center Managers, and Chief Program Management Officer will be responsible for budgeting costs in future years.

### **Impact to Budget**

Upon approval of this action, up to \$1,000,000 will be funded in FY19 to initiate project support efforts. Any additional funding for TOs issued under this action will be provided by the specific project requiring the services. The source for these funds are projects' funding plans and may consist of federal and/or state grants as well as local funds. Many state-of-good repair and capital improvement projects are funded with local funding sources that are eligible for rail and bus operations.

## **ALTERNATIVES CONSIDERED**

The Board may reject the recommendation, proposed duration, or initial funding authorization. Staff does not recommend these alternatives. The use of a qualified SEC allows the agency to secure highly technical expertise without the necessary increase in Metro long term labor costs. Further, by providing for an overall term of seven years plus up to three additional option years, an integrated and consistent network design serves Metro's interests. Finally, by limiting the initial funding to two years, greater accuracy of project scope and cost requirements can be provided to the Board on a two year basis.

## **NEXT STEPS**

Upon Board approval, staff will complete the process to award and execute the contract. Specific task orders will be subsequently issued on an as needed basis.

## **ATTACHMENTS**

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Prepared by:

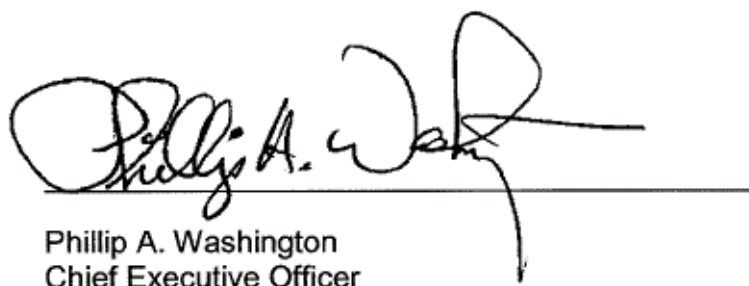
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Phillip A. Washington  
Chief Executive Officer

## PROCUREMENT SUMMARY

SYSTEMS ENGINEERING AND SUPPORT SERVICES  
AE47810E0128

1.	<b>Contract Number:</b> AE47810E0128	
2.	<b>Recommended Vendor:</b> SECOTrans (Joint Venture of LTK Engineering Services, NBA Engineering Inc., Pacific Railway Enterprises Inc., and Ramos Consulting Services, Inc.).	
3.	<b>Type of Procurement (check one):</b> <input type="checkbox"/> IFB <input type="checkbox"/> RFP <input checked="" type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	<b>Procurement Dates:</b>	
	<b>A. Issued:</b> November 14, 2017	
	<b>B. Advertised/Publicized:</b> November 16, 2017	
	<b>C. Pre-Proposal Conference:</b> December 7, 2017	
	<b>D. Proposals Due:</b> January 5, 2018	
	<b>E. Pre-Qualification Completed:</b> March 27, 2018	
	<b>F. Organizational Conflict of Interest Review Completed by Ethics:</b> March 27, 2018	
	<b>G. Protest Period End Date:</b> April 23, 2018	
5.	<b>Solicitations Picked up/Downloaded:</b> 120	<b>Proposals Received:</b> 3
6.	<b>Contract Administrator:</b> Diana Sogomonyan	<b>Telephone Number:</b> 213.922.7243
7.	<b>Project Manager:</b> Ron Tien	<b>Telephone Number:</b> 213.922.7263

**A. Procurement Background**

This Board Action is to approve Contract No. AE47810E0128 Systems Engineering and Support Services, to supplement Metro's Engineering Department resources in providing engineering services for projects in varying stages of conceptual design, preliminary engineering, final design, bidding for construction, and design support during construction (DSDC), including the following: program management, quality, and computer aided design and drafting (CADD); design services concerning train control, communications systems, traction power, and overhead catenary systems (OCS); operational runtime simulation and modeling, corrosion control, system integration, facilities and system-wide electrical, facilities mechanical, facilities plumbing, and facilities fire protection. The consultant will furnish all of the labor, materials, and other related items required to perform the services on a Contract Work Order basis for a project, under which specific Task Orders will be issued for

specific Scopes of Services and Period of Performance. Board approval of contract awards are subject to resolution of any properly submitted protest.

The Request for Proposals (RFP) was an Architectural & Engineering (A&E) qualifications based procurement process performed in accordance with Los Angeles County Metropolitan Transportation Authority (Metro) Procurement Policies and Procedures, and California Government Code §4525-4529.5 for Architectural and Engineering (A&E) services. The contract type is a Cost Plus Fixed Fee (CPFF). The Contract is for a term of seven (7) years with three (3) one-year options.

Three amendments were issued during the solicitation phase of the RFP:

- Amendment No. 1, issued on November 22, 2017, clarified the Submittal Requirements and Evaluation Criteria;
- Amendment No. 2, issued on December 5, 2017, clarified the Cost Reimbursable Contract Scope of Services, Special Provisions, and Labor Compliance Manual;
- Amendment No. 3, issued on December 22, 2017, clarified the Cost Reimbursable Contract Special Provisions, General Conditions, Compensation & Payment Provisions, Scope of Services, Submittal Requirements, and Evaluation Criteria.

A total of three (3) proposals were received on January 5, 2018.

## **B. Evaluation of Proposals**

A Proposal Evaluation Team (PET) consisting of staff from Metro Executive Office, Transit Project Delivery, Systems Engineering, Facilities Engineering Operations, Safety, and Light Rail Wayside Systems was convened and conducted a comprehensive evaluation of the proposals received.

The proposals were evaluated based on the following evaluation criteria and the associated weightings:

- Experience and Capabilities of the Firms on the Consultant’s Project Team.....(30%)
- Key Personnel’s Skills and Experience.....(30%)
- Effectiveness of Management Plan.....(15%)
- Understanding of Work and Appropriateness of Approach for Implementation.....(25%)

The evaluation criteria were appropriate and consistent with criteria developed for other, similar Architect and Engineers (A&E) procurements. Several factors were considered when developing the weightings, giving the greatest importance to the Experience and Capabilities of the Firms on the Consultant's Project Team and Key Personnel's Skills and Experience. Since this is an A&E, qualifications based procurement price could not and cannot be used as an evaluation factor pursuant to state and federal law.

All three proposals received were determined to be within the competitive range and are listed below in alphabetical order:

1. Metro Systems + Partners, a Joint Venture, consisting of Hatch Associates Consultants, Inc. and SENER.
2. SECOTrans, a Joint Venture, consisting of LTK Engineering Services, NBA Engineering Inc., Pacific Railway Enterprises Inc., and Ramos Consulting Services, Inc.
3. Systems Delivery Partners, a Joint Venture, consisting of WSP USA Inc., Mott MacDonald LLC and Auriga Corporation.

During the months of January and February of 2018, the PET reviewed the three written qualification proposals. On January 24, 2018, the PET met with all three Proposers for oral presentations. The firms were given the opportunity to present on 1) Effectiveness of Management Plan, and 2) Understanding of Work and Appropriateness of Approach for Implementation.

The proposing firms' had the opportunity to present their proposed project managers, key personnel and some of their key members, as well as respond to the PET's questions. In general each proposer's presentation addressed the requirements of the RFP, experience with all aspects of the required and anticipated tasks, and stressed each proposer's commitment to the success of the contract. Each proposing team was asked questions relative to each firm's previous experience performing work of a similar nature to the Scope of Services presented in the RFP. Sealed cost proposals were received at the time of oral presentations.

After the recommendation of the most qualified proposer was approved by the Executive Officer of Vendor/Contract Management V/CM, the recommended most qualified proposer's cost proposal was opened. V/CM completed its cost analysis and engaged in negotiations with the recommended proposer.

### **Qualifications Summary of Recommended Firm:**

The Proposal Evaluation Team (PET) ranked the proposals and assessed major strengths, weaknesses and associated risks of each of the Proposers to determine the most qualified firm. The final scoring was based on evaluation of the written proposals as supported by oral presentations and clarifications received from the Proposers. The results of the final scoring are shown below:

1	Firm/Evaluation Factor	Average Score	Factor Weight	Weighted Average Score	Rank
2	<b>SECOTrans, JV</b>				
3	Experience and Capabilities of the Firms on the Consultant's Project Team	95.33	30%	28.60	
4	Key Personnel's Skills and Experience	90.00	30%	27.00	
5	Effectiveness of Management Plan	92.00	15%	13.80	
6	Understanding of Work and Appropriateness of Approach for Implementation	92.80	25%	23.20	
7	<b>Total</b>		<b>100.00%</b>	<b>92.60</b>	<b>1</b>
8	<b>Systems Delivery Partners, JV</b>				
9	Experience and Capabilities of the Firms on the Consultant's Project Team	89.33	30%	26.80	
10	Key Personnel's Skills and Experience	87.33	30%	26.20	
11	Effectiveness of Management Plan	78.67	15%	11.80	
12	Understanding of Work and Appropriateness of Approach for Implementation	83.20	25%	20.80	
13	<b>Total</b>		<b>100.00%</b>	<b>85.60</b>	<b>2</b>
14	<b>Metro Systems + Partners, JV</b>				
15	Experience and Capabilities of the Firms on the Consultant's Project Team	73.33	30%	22.00	
16	Key Personnel's Skills and Experience	63.33	30%	19.00	
17	Effectiveness of Management Plan	77.33	15%	11.60	
18	Understanding of Work and Appropriateness of Approach for Implementation	84.00	25%	21.00	
19	<b>Total</b>		<b>100.00%</b>	<b>73.60</b>	<b>3</b>

Weighted Scores are rounded up to the nearest second decimal point.

The evaluation performed by the PET determined SECOTrans as the most qualified firm and team to provide Systems Engineering and Support Services, as provided in the RFP Scope of Services. What distinguished SECOTrans was they demonstrated, through their written proposal and oral presentation, their extensive technical experience performing Systems Engineering design and significant



expertise in each of the specialty areas identified in the Scope of Services. SECOTrans has also demonstrated an exceptionally thorough and comprehensive understanding in many areas concerning Systems Engineering services. Focus of SECOTrans on the four key elements for success: Safety, Engineering, Construction, and Operations, or “SECO,” showed a clear understanding of construction and Operations. The team is highly experienced in delivering similar task order based contracts; with an excellent record in client satisfaction on Metro projects and similar projects around the U.S.

Members of the team providing services to Metro under other contracts may not be eligible to perform certain tasks under this contract if, in accordance with Metro’s Organizational Conflict of Interest policy, their performance would result in an organizational conflict of interest.

**C. Cost/Price Analysis**

The recommended price has been determined to be fair and reasonable based upon a cost analysis of labor rates, indirect rates and other direct costs completed in accordance with Metro’s Procurement Policies and Procedures. The analysis includes, among other things, a comparison with similar firms; an analysis of rates and factors for labor, and other direct costs upon which the consultant will base its billings. Metro negotiated and established provisional indirect (overhead) rates, plus a fixed fee based on the total estimated cost for task orders during the contract term to compensate the consultant.

Audits will be completed, where required, for those firms without a current applicable audit of their indirect cost rates, other factors, and exclusion of unallowable costs, in accordance with Federal Acquisition Regulation (FAR) Part 31. In order to prevent any unnecessary delay in contract award, provisional overhead rates have been established subject to Contract adjustments. In accordance with FTA Circular 4220.1.f, if an audit has been performed by any other cognizant agency within the last twelve month period, Metro will receive and accept that audit report for the above purposes rather than perform another audit.

<b>Proposer Name</b>	<b>Proposal Estimate</b>	<b>Metro ICE</b>	<b>Recommended NTE amount</b>
SECOTrans, Joint Venture	N/A <sup>(1)</sup>	\$28,932,000 <sup>(2), (3)</sup>	\$28,932,000 <sup>(2), (4)</sup>

- (1) A proposal amount was not applicable. This is a Cost Plus Fixed Fee (CPFF) Task Order Contract with no definable level of effort for the Scope of Work. Hourly labor rates, overhead and fee were negotiated and determined to be fair and reasonable.
- (2) FY '19 starts from July 1, 2018 thru June 30, 2019  
FY '20 starts from July 1, 2019 thru June 30, 2020
- (3) The amount \$28,932,000 is V/CM's extraction from the Independent Cost Estimate (ICE) for the first two fiscal year contract base period.

(4) The amount of \$28,932,000 is the Not to Exceed amount for the FY '19 –FY '20 period. Future work will be funded according to an Annual Work Program, on a two year basis. The total contract amount will be the aggregate value of all task orders negotiated with the Consultant through the term of the contract.

The Systems Engineering Services Independent Cost Estimate was developed using the current master schedule and construction estimates available from the Program Management Project Controls department. An estimated cost was determined for each project using past project costs, systems to civil project percentages along with historical rates. Depending on the type of transit project and the complexity, the percentages were derived from the overall construction costs to determine the systems construction and engineering costs. Once the systems engineering costs were estimated, they were distributed across each fiscal year according to the master schedule. Other costs for Maintenance of Way (MOW) support, State of Good Repair and Transit Asset Management, were independently developed with each department.

#### **D. Background on Recommended Contractor**

SECOTrans is a Joint Venture of LTK Engineering Services and three Disadvantaged Business Enterprise (DBE) firms, NBA Engineering Inc., Pacific Railway Enterprises Inc., and Ramos Consulting Services, Inc.

The team members have provided systems engineering efforts in North America, including Los Angeles, Denver, Seattle and Portland, as well as internationally. Collectively, SECOTrans brings extensive capabilities in various systems disciplines and deep experience in their associated light rail, heavy rail, and bus rapid transit (BRT) applications, involving a broad range of project delivery methods. The Program Manager holds a Bachelor of Science in Electrical/Electronic Engineering. Offering 17-years of Systems Engineering experience, he has been employed with LTK Engineering Services since 1998. The Program Manager's experience highlights include: Project Manager for Metro's current Supplemental Engineering Services (SES) Contract (for Rail Systems Engineering); Systems Manager for Denver Regional Transportation District (RTD) T-REX and FasTracks projects; and Deputy Systems Project Manager for Seattle East Link Light Rail Project.

LTK Engineering Services (LTK) is a rail consulting firm with more than 80 years of experience in rail systems and vehicle design. LTK's staff of over 400 includes more than 290 professionals with expertise in all areas of rail systems and rail vehicle planning, engineering, and economic analysis. LTK has provided systems engineering efforts on a current Metro Supplemental Engineering Services (SES) contract and other recent major systems engineering assignments undertaken on behalf of agencies in Denver, Seattle, Minneapolis and Portland.

NBA Engineering, Inc. (NBA) is a certified DBE firm and has been in operations since 1994. The firm provides MEP services including electrical and emergency power, lighting, LEED and sustainability, HVAC (dry and wet sites), plumbing and

fire protection design. NBA developed the system-wide raceway design and construction cost estimate for BART's 8.2-mile extension to San Francisco International Airport, and provided plumbing, fire protection, electrical power, lighting distribution, fire alarm, cost estimating and construction staging services for BART's Concord, CA, maintenance shop extension. In LA, they are providing mechanical and systems design, and tunnel ventilation for two underground stations for the Purple Line Section 2, as well as MEP for train control and communications rooms at four above ground stations on the Crenshaw Line.

Pacific Railway Enterprises, Inc. (PRE) is a certified DBE and has been in operations since 1994. The firm specializes in train control and communications systems. Headquartered in Riverside, CA, PRE's staff of 30 provides comprehensive services at all project stages from design to commissioning. PRE completed the final design package for Metro's microwave radio replacement project, developed train control loop designs for the Gold, Blue and Green Lines, and developed drawings and specifications for the Gold Line UPS system upgrade.

Ramos Consulting Services, Inc. (Ramos CS) is a certified DBE firm. The firm provides project controls, third-party engineering and construction support. Ramos CS has worked on various projects in the LA region including the current Metro projects Advanced Utility Relocation for the Expo Line Phase 2 and Purple Line Section 1.

## DEOD SUMMARY

**SYSTEMS ENGINEERING AND SUPPORT SERVICES/  
AE47810E0128**

**A. Small Business Participation**

The Diversity and Economic Opportunity Department (DEOD) established a 15% Disadvantaged Business Enterprise (DBE) goal for this solicitation. SECOTrans, a joint venture of LTK Engineering Services, NBA Engineering, Inc., Pacific Railway Enterprises, Inc., and Ramos Consulting Services, Inc. formed a team that included DBE firms without schedules or specific dollar commitments prior to the establishment of this on-call Contract. SECOTrans committed to meeting the 15% DBE goal through the joint venture partnership, which includes three DBE joint venture partners, as well as utilization of eight additional DBE subcontractors. Overall DBE participation for the on-call Contract will be determined based on the aggregate of all Task Orders awarded.

SMALL BUSINESS GOAL		15% DBE	SMALL BUSINESS COMMITMENT		15% DBE
	DBE Contractors	Scope of Work	NAICS Codes	Ethnicity	% Committed
1.	NBA Engineering, Inc. (JV Partner / DBE Prime)	MEP Engineering	541330 - Engineering Services	Caucasian Female	TBD
2.	Pacific Railway Enterprises, Inc. (JV Partner / DBE Prime)	Railroad Signal and Communications System Design and Engineering	541330 - Engineering Services 541340 - Drafting Service 541512 - Computer System Design Services	Caucasian Female	TBD
3.	Ramos Consulting Services (JV Partner / DBE Prime)	Systems Engineering and Support Services	541330 - Engineering Services 541611 - Administrative Management and General Management Consulting Services	Hispanic American	TBD
4.	Arakelyan Drafting Services, Inc.	Computer Aided Drafting and Design	541340 - Drafting Services	Other Female	TBD
5.	Destination Enterprises, Inc.	Systems Construction Management, Project	236220 - Commercial and Institutional Building Construction	Caucasian Female	TBD

		Management, Inspection Estimating and Scheduling	237990 - Other Heavy and Civil Engineering Construction 541990 - All Other Professional, Scientific, and Technical Services 541611 - Administrative Management and General Management Consulting Services		
6.	Enabled Enterprises LLC	IT Infrastructure Systems and Network Architecture, Design, Engineering, and Project Management, Application Development	541511 - Custom Computer Programming Services 541512 - Computer Systems Design Services 541519 - Other Computer Related Services	Asian Pacific American	TBD
7.	Fariba Nation Consulting	Systems Engineering Design	541614 - Process, Physical Distribution, and Logistics Consulting Services 541611 - Administrative Management and General Management Consulting Services	Other Female	TBD
8.	Intueor Consulting, Inc.	Systems Engineering CM/DSDC	541614 - Process, Physical Distribution, and Logistics Consulting Services 541611 - Administrative Management and General Management Consulting Services	Asian Sub-continent American	TBD
9.	PK Electrical Inc.	Electrical Engineering	541330 - Engineering Services	Caucasian Female	TBD
10.	ROMAR7 LLC	Computer Aided Drafting and Design	541340 - Drafting Services 541512 - Computer System Design Services 561110 - Office Admin Services	Asian Pacific Female	TBD

11.	Triunity Engineering and Management, Inc.	Communications Design, System Integration and Analysis	541330 - Engineering Services	African American	TBD
<b>Total Commitment</b>					<b>15%</b>

**B. Contracting Outreach and Mentoring Plan (COMP)**

To be responsive, Proposers were required to submit a Contracting Outreach and Mentoring Plan (COMP) including strategies to mentor four (4) firms for protégé development. SECOTrans selected to mentor the following DBE firms: 1) Fariba Nation Consulting, 2) NBA Engineering, Inc., 3) Pacific Railway Enterprises, Inc. and 4) Ramos Consulting Services, Inc.

**C. Living Wage and Service Contract Worker Retention Policy Applicability**

The Living Wage and Service Contract Worker Retention Policy (LW/SCWRP) is not applicable on this Contract.

**D. Prevailing Wage Applicability**

Prevailing wage is not applicable to this Contract.

**E. Project Labor Agreement/Construction Careers Policy**

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract.