Arizona Department of Transportation
Multimodal Planning Division

Request for Project Quote
DBE Goal 0%: Race Neutral Participation Encouraged
CFDA: 20.205 Highway Planning and Construction, FHWA 80%

MPD0062-21 - Product Evaluation Tables

Distributed 02/05/2021 under Discipline 7: Product Evaluation Program to:

Procurement Contract Number	Contractor	Email Address
ADOT16-147805	ASU - Arizona State University	Heather.Christina.Clark@asu.edu, ASU.awards@asu.edu, limited.submissions@asu.edu, Ram.Pendyala@asu.edu, David.Winkel@asu.edu
ADOT16-147803	CivTech	dcartier@civtech.com
ADOT16-147809	Transcore ITS	michael.mauritz@transcore.com, david.chambers@transcore.com

STATEMENT OF NEED

The Arizona Department of Transportation (ADOT) Multimodal Planning Division (MPD) is seeking a Project Quote for Product Evaluation Program services.

PROJECT OBJECTIVES OR BACKGROUND OR INTRODUCTION

The Product Evaluation Program (PEP) is seeking services for the development of tables used in the evaluation process for products to be placed on the Approved Product List (APL).

PROJECT MANAGER

The PEP supervisor will serve as ADOT project manager and will be the Contractor's primary point of contact for the duration of the project. The Contractor will confer with the project manager to address concerns and to provide updates at intervals mutually agreed upon.

WORK TASKS

Task 1: Prepare 90 tables for use in the evaluation of applications for products in the Approved Product List (APL) subcategories and categories.

The Contractor shall complete the ADOT standard work in Exhibit 1 for the development of 90 evaluation tables. The contractor will receive initial training on how to prepare the evaluation tables. Examples of tables are provided in Exhibit 2.

Deliverable: Evaluation Tables
Performance Metric: The Contractor shall deliver all completed evaluation tables to the PEP Supervisor within 120 days of Notice to Proceed. **All deliverables are subject to revisions as**

determined by the PEP supervisor, and all deliverables will be considered complete only upon the approval of the PEP supervisor.

Task 2: MPD reserves the right to add additional quantities to the resulting award, and to revise the standard work, as necessary to meet Department Needs. Modifications must be requested in writing via email by the MPD Project Manager, with responding quote(s) for additional work, submitted using the budget form, to be approved by the MPD Budget Owner, verified by MPD Contracts, and accepted by ADOT Procurement in its approval process. A revised or modification-specific purchase order must be issued prior to engaging in the work.

DEADLINES for Quote Submission

Questions and **Not-Responding Notices** related to the task assignment shall be submitted to MPDContracts@azdot.gov no later than 11:00 AM Arizona Time on Wednesday, 02/17/21.

Responses must be received at MPDContracts@azdot.gov no later than 11:00 AM Arizona Time on Tuesday, 03/09/21.

Quote Submission Content

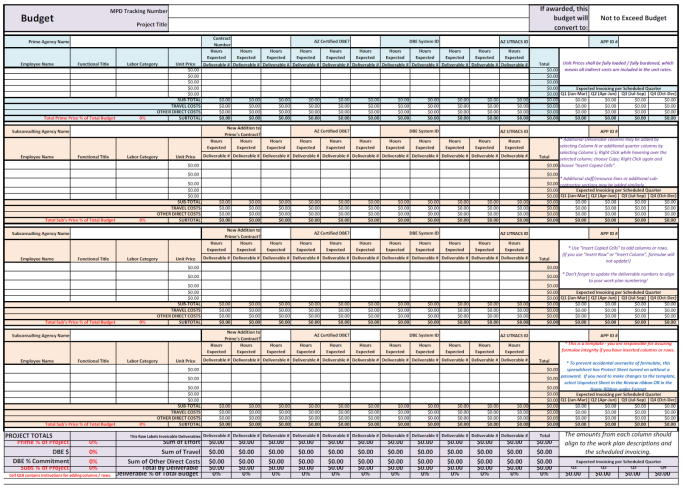
Each quote should provide the following information:

Project Summary / Information: Provide a summary to show you understand the Project requirements, and any other relevant Project information. Include a Per Table Pricing summary that will be invoiced no more than monthly for any tables approved by the Department in the preceding month.

Team Members: Provide a team roster that shows which staff and/or sub-contractor staff will be performing this Project. Indicate who will be the primary contacts and contact information.

Budget Requirements: Use the provided Excel spreadsheet budget template form and attach the spreadsheet to your response as a separate attachment. The Budget form will provide the total pricing for the entirety of the project (90 tables). All the information requested on the form must be provided. The Excel attachment will be excluded from the mandated page count, and is for use in the Responsiveness Review. If you are unfamiliar with Excel, please contact MPDContracts@azdot.gov for assistance.

Fair and Reasonable Pricing: By submitting a Quote, the Contractor acknowledges that this submission and any resulting award do not automatically represent a time and materials contract. The task assignment and response delineates the basis of the price within which the Contractor expects to perform the project. The budget must be based on the not-to-exceed rates as awarded in the Prime's procurement contract under which this Project was distributed. The pricing submitted shall be reviewed to determine if the pricing is both fair and reasonable for the project. This means the budget reflects a realistic price for services to be performed, maximizes cost efficiencies, and presents reasonable allocations to tasks and activities. The pricing may be negotiated or accepted as provided in the Quote. The final negotiated budget shall be converted to a fixed fee by task, except that direct costs shall be reimbursed at actual price requiring submission of original receipts and proof of payment. Travel will not be authorized for this project.



Budget

MPD Tracking Number

Project Title

If awarded, this budget will convert to:

Not to Exceed Budget

Prime Agency Name

Contract Number

APP ID #

Employee Name	Functional Title	Labor Category	Unit Price	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Total
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
SUB-TOTAL				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
OTHER DIRECT COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Indir Costs % of Labor Budget	0%	SUBTOTAL		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

Unit Prices shall be fully loaded / fully burdened, which means all indirect costs are included in the unit rates.

Expected Invoicing per Scheduled Quarter

Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00

Subconsulting Agency Name

New Addition to Prime's Contract?

APP ID #

Employee Name	Functional Title	Labor Category	Unit Price	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Hours Expected Deliverable #	Total
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
SUB-TOTAL				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
OTHER DIRECT COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Indir Costs % of Labor Budget	0%	SUBTOTAL		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

* Use "Insert Copied Cells" to add columns or rows. [If you use "Insert Row" or "Insert Column", formulae will not update.]

* Don't forget to update the deliverable numbers to align to your work plan numbering!

Expected Invoicing per Scheduled Quarter

Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00

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			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
			$0.00													$0.00
SUB-TOTAL				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TRAVEL COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
OTHER DIRECT COSTS				$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total Indir Costs % of Labor Budget	0%	SUBTOTAL		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

* This is a template - you are responsible for ensuring formulae integrity if you have inserted columns or rows.

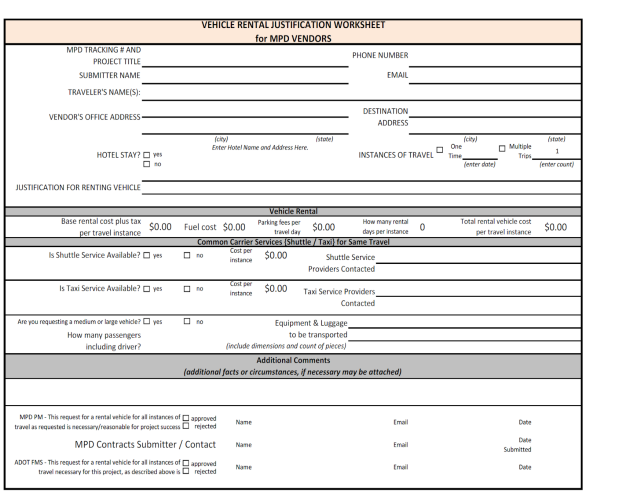
* To prevent accidental overwrite of formulae, this spreadsheet has Protect Sheet turned on without a password. If you need to make changes to the template, select Unprotect Sheet in the Review ribbon OR in the Home Ribbon under Format

Expected Invoicing per Scheduled Quarter

Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul-Sep)	Q4 (Oct-Dec)
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00
$0.00	$0.00	$0.00	$0.00

PROJECT TOTALS		This Row Labels Invocable Deliverables	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Deliverable #	Total
TOTAL % of PROJECT	0%	SUM OF TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DBE $	0%	Sum of Travel	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
DBE % Commitment	0%	Sum of Other Direct Costs	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL % of PROJECT	0%	TOTAL BY DELIVERABLE	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Grid Q&A contains instructions for adding columns / rows		deliverables % of total budget	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

The amounts from each column should align to the work plan descriptions and the scheduled invoicing.



VEHICLE RENTAL JUSTIFICATION WORKSHEET
for MPD VENDORS

MPD TRACKING # AND PROJECT TITLE

SUBMITTER NAME

PHONE NUMBER

EMAIL

TRAVELER'S NAME(S):

VENDOR'S OFFICE ADDRESS

DESTINATION ADDRESS

(city) (state)

HOTEL STAY? ☐ yes ☐ no

Enter Hotel Name and Address Here.

INSTANCES OF TRAVEL ☐ One Time (enter date) ☐ Multiple Trips (enter count) 1

JUSTIFICATION FOR RENTING VEHICLE

Vehicle Rental

Base rental cost plus tax per travel instance $0.00 | Fuel cost $0.00 | Parking fees per travel day $0.00 | How many rental days per instance 0 | Total rental vehicle cost per travel instance $0.00

Common Carrier Services (Shuttle / Taxi) for Same Travel

Is Shuttle Service Available? ☐ yes ☐ no | Cost per instance $0.00 | Shuttle Service Providers Contacted

Is Taxi Service Available? ☐ yes ☐ no | Cost per instance $0.00 | Taxi Service Providers Contacted

Are you requesting a medium or large vehicle? ☐ yes ☐ no | Equipment & Luggage to be transported (include dimensions and count of pieces)

How many passengers including driver?

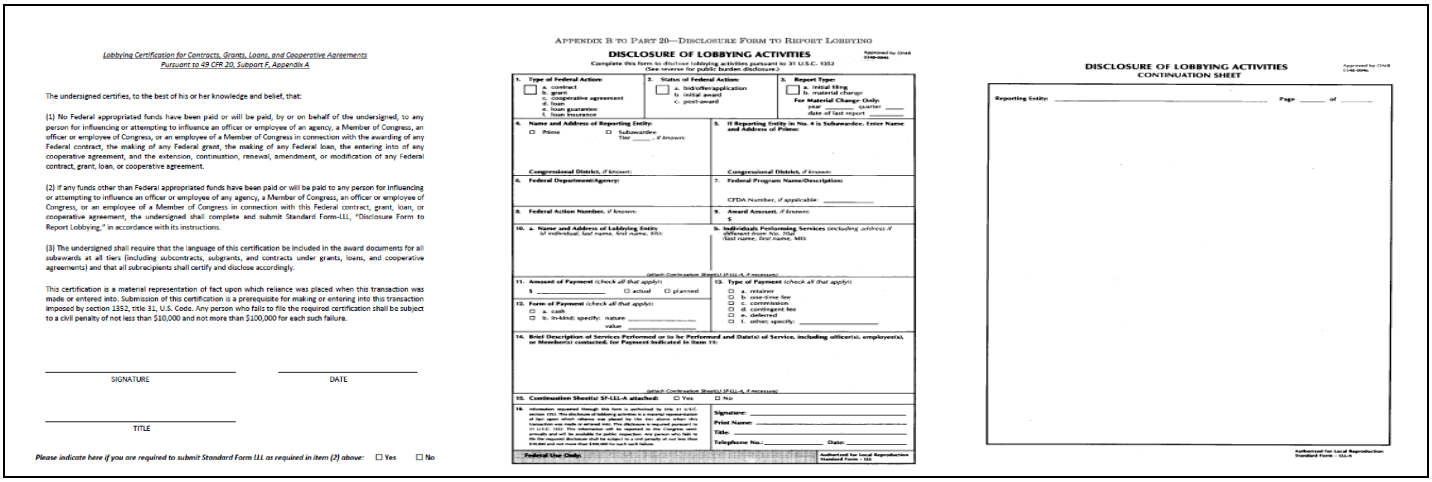
Additional Comments
(additional facts or circumstances, if necessary may be attached)

MPD PM - This request for a rental vehicle for all instances of travel as requested is necessary/reasonable for project success ☐ approved ☐ rejected | Name | Email | Date

MPD Contracts Submitter / Contact | Name | Email | Date Submitted

ADOT FMS - This request for a rental vehicle for all instances of travel necessary for this project, as described above is ☐ approved ☐ rejected | Name | Email | Date

Disclosure of Lobbying Activities: If the response budget is greater than or equal to (>=) $100,000 the Contractor and its Subcontractors and lower-tier Subcontractors must complete the provided Lobbying Certification form. If applicable (you marked "Yes'' at the bottom of the certification form), also provide the Standard Form LLL available at: https://www.gsa.gov/forms-library/disclosure-lobbying-activities and submit the completed and signed forms with Quote on the date the response is due. The Contractor and each Sub-Contractors and lower-tier Subcontractors shall file revised disclosure forms at the end of each calendar quarter in which events occur that materially affect the accuracy of any previously filed disclosure form. All Disclosure forms shall be submitted by the Department to the federal funding agency.



Lobbying Certification for Contracts, Grants, Loans, and Cooperative Agreements
Pursuant to 49 CFR 20, Subpart F, Appendix A

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

SIGNATURE

DATE

TITLE

Please indicate here if you are required to submit Standard Form LLL as required in item (2) above: ☐ Yes ☐ No

APPENDIX B TO PART 20—DISCLOSURE FORM TO REPORT LOBBYING

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB 0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of Federal Action: ☐ a. contract ☐ b. grant ☐ c. cooperative agreement ☐ d. loan guarantee ☐ e. loan insurance

2. Status of Federal Action: ☐ a. bid/offer/application ☐ b. initial award ☐ c. post-award

3. Report Type: ☐ a. initial filing ☐ b. material change
For Material Change Only: year _____ quarter _____ date of last report _____

4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier _____, if known:
Congressional District, if known:

5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime:
Congressional District, if known:

6. Federal Department/Agency:

7. Federal Program Name/Description:
CFDA Number, if applicable:

8. Federal Action Number, if known:

9. Award Amount, if known:
$

10. a. Name and Address of Lobbying Entity (if individual, last name, first name, MI):

b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

11. Amount of Payment (check all that apply):
$ _____ ☐ actual ☐ planned

12. Form of Payment (check all that apply):
☐ a. cash
☐ b. in-kind; specify: nature _____ value _____

13. Type of Payment (check all that apply):
☐ a. retainer
☐ b. one-time fee
☐ c. commission
☐ d. contingent fee
☐ e. deferred
☐ f. other; specify: _____

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

15. Continuation Sheet(s) SF-LLL-A attached: ☐ Yes ☐ No

16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Signature: _____
Print Name: _____
Title: _____
Telephone No.: _____ Date: _____

Federal Use Only

Authorized for Local Reproduction
Standard Form - LLL-A

DISCLOSURE OF LOBBYING ACTIVITIES
CONTINUATION SHEET

Approved by OMB 0348-0046

Reporting Entity: _____ Page: _____ of _____

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Standard Form - LLL-A

Exhibit 1

Standard Work: Creation of Evaluation Tables

What is an APL? APL is the Approved Product List, which contains products that meet ADOT Standards and Specifications for department use

What is an Evaluation Table?

- Includes criteria from ADOT Standards and Specifications for products approved on the APL
- PEP Evaluator uses this criteria to evaluate products for potential inclusion on the APL

- Before creating a table with the template provided in this standard work, determine whether an evaluation table already exists for the product in the assigned category list found in file explorer.
  - In the MPD Research Product Evaluation Program folder in the shared drive, navigate to the Product Evaluation Program "Categories" folder.
  - Navigate to the product category that contains the evaluation table required for the product.
  - If there is not an evaluation table for the product then one will have to be created.

If you need to create a table, use the template .

- Fill in the template fields for the APL category, product type and applicable ADOT specification or drawing as shown in the current APL.
- Using information in the latest specifications and/or drawings for the product type, import all relevant evaluation criteria into the evaluation table.
  - Ensure that the criteria described in the specification or drawing is documented in the evaluation table, if necessary describe any cross referenced path.
  - When importing relevant evaluation criteria do not include any criteria that would occur in the field on the construction site.
- Save the completed evaluation table in the Categories folder in the MPD Research Product Evaluation Program folder in the shared drive.

If a table was previously created for the product category:

- Review the table content for accuracy according to the current ADOT specification or drawing, and revise, if necessary. ADOT Standards Specifications and stored Specifications can be accessed here: https://azdot.gov/business/contracts-and-specifications/specifications-pay-items-list
- Review the table format for compliance with the template and revise, if necessary.

Evaluation Table Template

Product ID:	**XXXXX**
Manufacturer:	**Name of the Manufacturer or Distributor.**
Product Name:	**Trade Name of the Product.**

Standard Specification and the Stored Specification information, last edited Date
Subcategory Information

Material Property	**Test Method**	**ADOT Test Requirement**	**Product Test Results**	**PASS or FAIL**

Add additional[1] row(s) for each material property.

[1] Last Edited 01/27/21

Exhibit 2
Table Examples

Example 1: Evaluation Table

PEP ID:	**Generic 40L LED Review Table**
Manufacturer:	
Product Name:	

736V– Luminaire – Horizontal Mount (LED Type 40L),
ADOT Specification: 736 and the Stored Specification 736LED

Product Property	Specification/ Test Method	Requirement	Results	Pass/Fail
Highway Lighting Materials:	736-2.01	Highway lighting materials shall be Light Emitting Diode (LED), conforming to the requirements of this section and be the type and size specified. The LED shall have a nominal Correlated Color Temperature (CCT) equal to 3,000 degrees K ± 300 degrees K.	3000 K ??	
	736-2.01	LED Luminaires shall be listed by a National Recognized Laboratory (NTRL), as defined by the US Department of Labor. The testing laboratory must be listed by OSHA. A list of the recognized testing labs may be found on the US Department of Labor website at; http://www.osha.gov	UL Listed ???	
Highway Lighting Materials: Requirements:	736-2.01(A)(1)	Each luminaire shall be listed by NRTL as being in compliance with UL 1598 and suitable for use in wet locations.	??? Listed as UL 1598 for wet locations??	
Highway Lighting Materials: Requirements:	736-2.01(A)(2)	Each luminaire shall have an (IEC)* 529, Ingress Protection (IP) of 65 or greater for the optical assemblies of the luminaire.	IP Rating of 66	
Highway Lighting Materials: Requirements:	736-2.01(A)(3)	Each Luminaire shall comply with the Electro Magnetic Interference (EMI), as defined by FCC47 Sub Part 15; CISPR15, CISPR22 Class A (120 volt minimum), EN61000-3-2, -3-3, -4-4, -4-5.	Meets the spec requirements from the Technical Data Sheet	

Highway Lighting Materials: Requirements:	736-2.01(A)(4)	Each luminaire shall be tested according to the latest version of IESNA** LM-79. (Provide the LM-79 test results).	LM-79 test results were provided	
Highway Lighting Materials: Requirements:	736-2.01(A)(5)	Each luminaire shall have Lumen maintenance measured per the most current version of IESNA** LM-80. (Provide the LM-80 test results).	L90 hrs. = ??,??? hrs.	
Highway Lighting Materials: Requirements:	736-2.01(A)(6)	Each luminaire shall have long term maintenance documented according to IESNA** TM-21; per the Latest Version. (Provide the TM-21 Test results).	Were LM-21 Test Results provided??	
Highway Lighting Materials: Requirements:	736-2.01(A)(7)	Each luminaire shall have LM-79, LM-80, and in-situ temperature testing conducted per the US Department of Energy, Lighting Facts Program, per an Approved LED Lighting Facts, Testing Lab. (Provide the in-situ Temperature Test results).	Were In-situ temp. test results provided??	
Highway Lighting Materials: Luminaire Housing:	736-2.01(B)	Each luminaire shall be made of Cast Aluminum, Grade A383, A380, or A360.	What Grade Al?	
	736-2.01(B)	Each luminaire shall be painted gray, unless otherwise specified.	Was the Luminaire Painted Gray?	
Highway Lighting Materials: Luminaire Housing:	736-2.01(B)(1)	The luminaire shall be tested for 1000 hours of salt spray fog exposure per ASTM B117.	?,??? hr. testing provided?	
	736-2.01(B)(2)	The luminaire housing shall have corrosion resistance performance testing per ASTM D1654.	Provided	
Highway Lighting Materials: Luminaire Housing:	736-2.01(B)	The luminaire housing shall be compliant with (ANSI) IEEE C136.31, Table 2, Roadway Lighting Equipment-Luminaire Vibration, for both normal and bridge/overpass applications.	WAS Independent 3G vibration testing provided ??	
Highway Lighting Materials: Luminaire Housing:	736-2.01(B)	The luminaire housing shall have a (NEMA)*** standard decal with black lettering, that is visible inside the housing that states; operating voltage, wattage, current range (in milliamps), light type & be compliant with ANSI C136.15-2015.	WAS A copy of the NEMA Decal was provided ???	

Highway Lighting Materials: Electrical Requirements:	736-2.01(C)	The luminaire shall fully operate from –40 degrees C to 40 degrees C (-40 degrees F to 104 degrees F).	Operates at -40 C to + 40 C???	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)	LED engine is composed of the LED modules, the optical system, the electronic driver, & heat sink, shall have a minimum expected life of 100,000 hrs. at 25 degrees C and 70% of initial lumen output (L70) as calculated per TM21-11.	L90 hrs. = ??,??? hrs. @ ??.??%	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)	The Luminaire shall have an Integral Dimming Electronic Driver that will operate over the following Voltages as specified in the project plans:		
Highway Lighting Materials; Electrical Requirements:	736-2.01(C)(1)	The luminaire shall operate over the of 120 to 240 VAC (rms) ± 10 % at 60 Hz or the voltage option of 480 VAC (rms) ± 10 % at 60 Hz.	120 to 277 VAC input??	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(a)	The Electronic Driver shall have a power factor of .90 at full load.	???? % at full load	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(b)	The Electronic Driver shall have a total harmonic distortion of 20 % or less at full load per ANSI C82.77, Harmonic Emission Limits.	?? % distortion	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(c)	The Electronic Driver shall have thermal overload protection.	Built-in thermal protection	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(d)	The Electronic Driver shall have 10 KA overload/overcurrent protection.	Has overload/ over current protection	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(e)	The Electronic Driver shall have a shielded and replaceable 20 KV surge protective device, that is compliant with ANSI C62.41 Category C.	Has 20KV-10KA surge protection	
Highway Lighting Materials: Electrical Requirements:	736-2.01(C)(2)(f)	The Electronic Driver shall have an NRTL certified dimming driver that is terminated with quick disconnect wire harnesses. Wire nut termination is not acceptable.	Has cert dimming driver w/quick disconnect cables	
Highway Lighting Materials: LED Performance Requirements:	736-2.01(D)	The luminaire shall have a minimum luminaire efficacy of 115 lumens/watt at 3,000 degrees K CCT. The luminaire shall meet the chromaticity requirement as follows:	Has an efficacy of ??? Lumens/ Watt	

Highway Lighting Materials: LED Performance Requirements:	736-2.01(D)(1)	The luminaire LED colors shall conform to the following color regions based on the 1931 CIE chromaticity diagram.	Colors conform or do not conform	
Highway Lighting Materials: LED Performance Requirements:	736-2.01(D)(2)	The luminaire shall have a minimum Color Rendering Index (CRI) of 70. The Chromaticity as stated above must be confirmed by an independent test lab or as shown on the LM 79 test report.	LED's have a minimum of ?? CRI	
Highway Lighting Materials: Optical Requirements:	736-2.01(E)	The luminaire shall have a completely sealed optical system with an IEC* (Ingress Protection) IP rating of 65 or better.	IP=??	
Highway Lighting Materials: Warranty:	736-2.01(F)	The entire LED unit, including auxiliary equipment shall have a factory warranty of 5 years against defects in workmanship or materials. The warranty shall cover repair or complete replacement of the entire LED unit.	?? Yr. Warranty	
Horizontally Mounted LED Luminaires:	736-2.02	The luminaires shall be, LED type 15L, 25L, or 40L; as specified in subsection 2.01 based on Type V optical distribution & CCT of 3000 K:	40L	
Horizontally Mounted LED Luminaires:	736-2.02	15L ≥ 13,000 lumens but < 25L (Delivered Lumens)	NA$^{\alpha}$	___
Horizontally Mounted LED Luminaires:	736-2.02	25L ≥ 21,000 lumens but < 40L (Delivered Lumens)	NA$^{\alpha}$	___
Horizontally Mounted LED Luminaires:	736-2.02	40L ≥ 29,000 lumens (Delivered Lumens)	????? Lumens	
Horizontally Mounted LED Luminaires: Luminaire Housing:	736-2.02(A)	The luminaire housing shall have a slip fitter type mounting on normal 1-1/2" (1-2/3" OD) to 2"(2-3/8" OD) by minimum of 4" pipe (Tenon); with stainless or zinc plated clamps fixed with four, 2" by 3/8"zinc plated hexagonal bolts with spring washers .		
Horizontally Mounted LED Luminaires: Luminaire Housing:	736-2.02(A)	The luminaire shall include an integral bubble level. The luminaire shall have tilt adjustments of ± 5 degrees, in 2.5 degree increments.		
Horizontally Mounted LED Luminaires:	736-2.02(A)	The luminaire housing shall allow tool less entry with a hinged,		

Luminaire Housing:		removable door that opens downward to allow access to the electronic components and terminal block. The door shall be secured to prevent accidental opening or dropping.		
Horizontally Mounted LED Luminaires: **Luminaire Housing:**	736-2.02(A)	The maximum weight for each type when fully assembled shall be as follows: 15L shall not weigh more than 30 lbs. 25L shall not weigh more than 40 lbs. 40L shall not weigh more than 45 lbs.	?? lbs.	
Horizontally Mounted LED Luminaires: **Luminaire Housing:**	736-2.02(A)	The luminaire housing shall have an Effective Projected Area (EPA) of no more than 1.5 square feet when viewed from either side or either end.	EPA = ?.?? / sq. ft.	
Horizontally Mounted LED Luminaires: **Luminaire Housing:**	736-2.02(A)	The luminaire housing shall be equipped with a seven pin photo-electric control receptacle (PECR) conforming to ANSI Standard C136.10 and shall be provided with a shorting cap.		
Horizontally Mounted LED Luminaires: **Electrical Requirements:**	736-2.02(B)	The terminal block shall be a three-station, tunnel lug terminal board that will accommodate American Wire Gauge (AWG) #6 thru #12 wires.		
Horizontally Mounted LED Luminaires **Optical Requirements:**	736-2.02(C)	The luminaire shall have an IESNA** Backlight, Up light, and Glare rating as follows:		
Horizontally Mounted LED Luminaires **Optical Requirements:**	736-2.02(C)(1)	1. Backlight rating shall not exceed 3.	B=?	
Horizontally Mounted LED Luminaires **Optical Requirements:**	736-2.02(C)(1)	2. Up light rating shall not exceed zero.	U=?	
Horizontally Mounted LED Luminaires **Optical Requirements:**	736-2.02(C)(1)	3. Glare rating shall not exceed: (a) 3 for type 15L and 25L (b) 4 for type 40L	G=?	

***International Electro-Technical Commission (IEC)
****Illuminating Engineering Society of North America (IESNA)
*****National Electrical Manufacturers Association (NEMA)
(NA$^{\alpha}$) = Not Applicable

Example 2: Evaluation Table:

PEP ID:	**#**
Manufacturer:	
Product Name:	

1006-2 Type E – Water Reducing & Accelerating
ADOT Specifications: 1006-2.04(C), Stored Specification 1006PCC

Material Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Water Content, % of control, max	ASTM C494	95		
Time of setting, allowable deviation from control, h:min:	ASTM C494	Initial Set Time: -1:00 to -1:30		
		Final Set Time: -1:00 and later		
Compressive Strength, % of control, minimum	ASTM C494	125 @ 3 days		
		110 @ 7 days		
		110 @ 28 days		
		100 @ 6 months		
		100 @ 1 year		
Flexural Strength, % of control, minimum	ASTM C494	110 @ 3 days		
		100 @ 7 days		
		100 @ 28 days		
Length Change, (maximum shrinkage / percent increase vs. control), maximum	ASTM C494	135 if control length change >0.030, 0.010 if control length change <0.030		
Relative Durability Factor, min	ASTM C494	80		
Chloride Concentration	Arizona Test Method 738	Equal to or Less than 1% or 10,000 parts per million		