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|  | FDOT Traffic Engineering Research Laboratory (TERL)  In-Roadway Light Assembly Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Sections 995 and 654 of the FDOT *Standard Specifications for Road and Bridge Construction* and all implemented modifications. The requirements listed on this matrix are derived from Sections 995 and 654, and are the basis for determining a product’s compliance and its acceptability for use on Florida’s roads. |

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| --- | --- | --- | --- |
| Date: | Click here to enter a date. | Applicant’s  Name (print): |  |
| Manufacturer: |  |  |  |
| Item, Model No.: |  | Signature: |  |

| **ID No** | **Section** | **Requirement** | **Item Comply? (Yes/No/NA)** | **Comments (Applicant must provide information as indicated)** | **TERL Evaluation Method** |
| --- | --- | --- | --- | --- | --- |
| 1 | 995-1.1 | All equipment is permanently marked with manufacturer name or trademark, part number, and date of manufacture or serial number. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| 2 | 995-6.2 | In-roadway light assembly meets the physical and operational requirements of the latest edition of the Federal Highway Administration’s (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), Chapter 4N. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| 3 |  | In-roadway light can include a passive detector in addition to a pedestrian push*b*utton. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 4 |  | In-roadway light assembly is normally dark until activated. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 5 |  | In-roadway light assembly initiates operation through pedestrian actuation via a pedestrian push-button or, if used, a passive detector. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 6 |  | In-roadway light assembly ceases operation at a predetermined time after pedestrian actuation. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 7 |  | If a passive detector is used, the in-roadway light assembly may cease operation after the pedestrian clears the crosswalk. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 8 |  | The duration of the predetermined active period is programmable and capable of matching the pedestrian clearance time for pedestrian signals as determined by MUTCD procedures. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 9 |  | The timer controlling the flashing automatically resets each time a pedestrian call is received. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 10 |  | In-roadway light assemblies have a minimum luminance of 101 candelas and a minimum viewing angle of 20 degrees. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 11 | 995-6.4 | Cabinet meets the applicable criteria of Specification 676 or is listed on the Approved Product List (APL). |  | *Provide the applicable compliance matrix from Specification 676 along with all supporting documentation, that shows the product meets this requirement. Alternately, provide the Approved Product List (APL) number if the cabinet is APL listed.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 12 |  | Housing, unless an approved cabinet, is powder coat painted dull black per SAE AMS-STD-595A with a reflectance value of 25 percent, or less, as measured by America Society for Testing and Material (ASTM) E1347. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 13 |  | Cabinet and/or housing prevents unauthorized access. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 14 |  | If pole-mount, assembly allows installation on a 4.5-inch outer diameter post. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 15 |  | All assembly hardware including screws, nuts, bolts, and locking washers less than 5/8 inch in diameter, is constructed of passivated stainless-steel Type 304 or Type 316. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 16 |  | Stainless steel bolts, screws, and studs meet ASTM F593. Stainless steel nuts meet ASTM F594. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 17 |  | All assembly hardware greater than or equal to 5/8 inch in diameter is galvanized. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 18 |  | Carbon steel hardware meets the requirements of ASTM A307. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 19 |  | Structural bolts meet the requirements of ASTM F3125, Grade A325. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 20 | 995-6.5 | Assembly operates on solar power or nominal voltage of 120 VAC. If assembly operates on voltage less than 120 VAC, an appropriate voltage converter is supplied. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 21 |  | If the device is solar powered, it is designed to operate for minimum of 100 activations per day and provide 10 days of operation without sunlight. Each activation must be 30 seconds in duration. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 22 |  | Solar powered system automatically charges batteries and prevents overcharging or over-discharging. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and  Functional Inspection |
| *Indicate location of requested information in submittal.* |
| 23 |  | Solar powered system includes a charge indicator. |  | *Provide product literature, specifications, user manual,or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 24 | 995-6.6 | Electronic assembly operates as specified during and after being subjected to the transients, temperature, voltage, humidity, vibration, and shock tests described in NEMA TS2-2021, 2.2.7, 2.2.8, and 2.2.9. |  | *Provide a third party test report that demonstrates compliance with this requirement. The test report must be less than 5 years old and meet the requirements of the FDOT Product Certification Handbook (PCH), section 7.2.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 25 |  | Electronics meet Federal Communications Commission (FCC), Title 47 Subpart B Section 15. |  | *Provide a third party test report that demonstrates compliance with this requirement. The test report must be less than 5 years old and meet the requirements of FDOT PCH, section 7.2.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 26 |  | The optical portion of the housing is sealed to provide an IP 67 rating. |  | *Provide a third party test report that demonstrates compliance with this requirement. The test report must be less than 5 years old and meet the requirements of FDOT PCH, section 7.2.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 27 | 654-4 | Midblock crosswalk enhancement assembly has a manufacturer’s warranty covering defects for two years from the date of final acceptance in accordance with 5-11 and Section 608. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| 28 |  | The warranty includes providing replacements within 10 calendar days of notification for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |

**Document History for:**

**In-Roadway Light Assembly Compliance Matrix**

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| --- | --- | --- | --- | --- | --- | --- |
| Rev | Description | Authored and Checked | Reviewed | Approved | Approval Date | Rev More Stringent? |
| 1.0 | Converting CM from Excel to Word and adding evaluation criteria. Updating to draft A654 as of 12-27-2012. | D. Bremer | C. Morse  J. Morgan | J. Morgan | 01/25/2013 | No |
| 2.0 | Modified disclaimer to indicate compliance matrix is governing document and referencing PCH section 7.2 in place of A601-3. | A. Burleson | J. Morgan | J. Morgan | 02/28/2013 | No |
| 3.0 | Remove warranty language. | D. Bremer | J. Morgan | J. Morgan | 03/29/2013 | No |
| 4.0 | Updated header to reflect latest effective date for spec A654. Since spec changes do not affect in-roadway light assemblies, no other change is needed. | A. Burleson | J. Morgan | J. Morgan | 05/09/2013 | No |
| 5.0 | Modifying to Spec 654 from A654 | D. Bremer | M. DeWitt  J. Morgan | J. Morgan | 09/11/2013 | No |
| 6.0 | Replaced FDOT logo with latest approved one and added CM ID # to header. Revised document approver title. | D. Bremer  K. Moser | J. Morgan | J. Morgan | 10/27/2014 | No |
| 7.0 | Update to latest FA (6-30-15). No content changes. | D. Bremer | J. Morgan | J. Morgan | 09/09/2015 | No |
| 8.0 | Updated to reflect latest FA approval date 08/20/2018. Included luminance and angle requirements. | R. Brooks | J. Morgan | D. Vollmer | 12/19/2018 | Yes |
| 9.0 | Minor revision to reflect FA 7-9-20 with no changes to this CM. | W. Geitz | M. DeWitt | D. Vollmer | 09/14/2020 | No |
| 10.0 | Updated to reflect latest FA date of 8-5-21. Added the option for passive detection. Removed requirement for AC/DC battery charger and added warranty information. | W. Geitz | M. DeWitt  C. Raimer | D. Vollmer | 12/28/2021 | No |
| 11.0 | Separate Division 2 and Division 3 specifications. Moved to Section 995-6. | W. Geitz | M. DeWitt  C. Raimer | M. DeWitt | 06/03/2022 | No |
| 12.0 | Updated to latest FA Date 10-24-22. | W. Geitz | P. Blaiklock  M. DeWitt  D. Vollmer | D. Vollmer | 06/01/2023 | No |
| 13.0 | Updated to latest FA date of 10-6-23 for spec 995. | W. Geitz | P. Blaiklock  D. Vollmer | D. Vollmer | 11/21/2023 | No |