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|  | FDOT Traffic Engineering Research Laboratory (TERL)  Wireless Magnetometer Detection System (WMDS) Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Sections 660 and 995 of the FDOT *Standard Specifications for Road and Bridge Construction* and all implemented modifications. The requirements listed on this matrix are derived from Sections 660 and 995, 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** |
| --- | --- | --- | --- | --- | --- |
| The following compliance matrix criteria are for all WMDS. | | | | | |
| 1 | 995-1.1 | 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 | 995-2.1 | All parts are made of corrosion-resistant materials, such as UV stabilized or UV resistant plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. |  | *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.* |
| 3 |  | All fasteners exposed to the elements are Type 304 or 316 passivated stainless steel. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| 4 |  | If the assembly includes a cabinet, it meets the requirements of Section 676. |  | *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.* |
| 5 |  | Detector meets the environmental requirements of NEMA TS-2-2021. |  | *Provide a third party test report that demonstrates the device performs all required functions during and after being subjected to the environmental testing as described in NEMA TS2-2021 section 2.2.7, 2.2.8, and 2.2.9. The test report must be less than 5 years old and meet the requirements of FDOT Product Certification Handbook, section 7.2.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 6 | 995-2.5.1 | WMDS is provided with software that allows local and remote configuration and monitoring. |  | *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 |  | WMDS allows a user to edit previously defined configuration parameters. |  | *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 |  | WMDS retains its programming in nonvolatile memory. |  | *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 |  | Detection system configuration data can be saved to a computer and restored from a saved file. |  | *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 |  | All communication addresses are user programmable. |  | *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 |  | Detection system software offers an open Application Programming Interface (API) and software development kit available to the Department at no cost for integration with third party software and systems. |  | *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.* |
| 12 | 995-2.5.2 | Components of the detection system (such as sensors, access points, and contact closure cards) include a minimum of one serial or Ethernet communications interface. |  | *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.* |
| The following compliance matrix criteria are for WMDS with serial interface. | | | | | |
| 13 |  | Interface and connector conform to Telecommunications Industry Association (TIA)-232 standards. |  | *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.* |
| 14 |  | Serial ports support data rates up to 115200 bps; error detection utilizing parity bits (i.e., none, even, and odd); and stop bits (1 or 2). |  | *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.* |
| The following compliance matrix criteria are for WMDS with Ethernet interface. | | | | | |
| 15 |  | Ethernet interface provides a 10/100 Base TX connection. |  | *Applicant may provide comments in this field.* | Functional Inspection |
| 16 |  | All unshielded twisted pair/shielded twisted pair network cables and connectors comply with TIA 568. |  | *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.* |
| The following compliance matrix criteria are for WMDS with wireless communications. | | | | | |
| 17 |  | WMDS wireless communications are secure and FCC certified.  The FCC identification number is displayed on an external label and all WWVDS devices operate within their FCC frequency allocation. |  | *Provide FCC certificate that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for WWVDS with cellular communications. | | | | | |
| 18 |  | Cellular communication devices are compatible with the cellular carrier used by the agency responsible for system operation and maintenance. |  | *Provide product literature, specifications, user manual, or similar information that describes any cellular devices that are part of the system and indicates carrier(s) supported.* | Document Review |
| *Indicate location of requested information in submittal.* |
| 19 |  | System can be configured and monitored via one or more communications interface. |  | *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.* |
| The following compliance matrix criteria are for all WMDS. | | | | | |
| 20 | 995-2.5.3 | Outputs meet the requirements of NEMA TS2-2021, 6.5.2.26. |  | *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.* |
| 21 | 995-2.5.4 | WMDS will operate with a nominal input voltage of 120 VAC. |  | *Applicant may provide comments in this field.* | Functional Inspection |
| 22 |  | If any system device requires an operating voltage other than 120 VAC, a voltage converter is supplied. |  | *Environmental test reports must demonstrate that voltage converters required for 120V*AC *operation were subjected to NEMA TS2 environmental testing as part of the functional system.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| The following compliance matrix criteria are for WMDS to be used as presence detectors. | | | | | |
| 23 | 995-2.9 | Detector provides a minimum detection accuracy of 98% when calculated in accordance with all criteria detailed in 995-2.9 and all subsections therein. |  | *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.* |
| 24 |  | Detector meets the requirements for modes of operation in NEMA TS2-2021, 6.5.2.17. |  | *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.* |
| The following compliance matrix criteria are for all WMDS. | | | | | |
| 25 | 660-5 | The detection system has a manufacturer’s warranty covering defects for a minimum of 1 year from the date of final acceptance by the Engineer in accordance with 5-11 and Section 608. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| 26 |  | 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:**

**Wireless Magnetometer Detection System Compliance Matrix**

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| Rev | Description | Authored and Checked | Reviewed | Approved | Approval Date | Rev More Stringent? |
| 1.0 | Conversion to word and update matrix for new 660 detection spec. | D. Bremer | J. Morgan | J. Morgan | 02/14/2013 | No |
| 2.0 | Edited for consistency with other matrices for spec 660. | D. Bremer | J. Morgan | J. Morgan | 03/07/2013 | No |
| 3.0 | 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 | 12/19/2013 | No |
| 4.0 | Updated to reflect latest FHWA approved specification (FA 6-4-15). | D. Bremer | J. Morgan | J. Morgan | 10/01/2015 | No |
| 5.0 | Updated with cabinet requirements. Updated to FA date of 7-2-20. | W. Geitz | C. Raimer  M. DeWitt | D. Vollmer | 12/18/2020 | No |
| 6.0 | Corrected CM identifier. Added warranty information. | A. Burleson | W. Geitz | M. DeWitt | 02/01/2022 | No |
| 7.0 | Update to the latest FA Date 10-24-22. | W. Geitz | P. Blaiklock M. DeWitt | D. Vollmer | 03/30/2023 | No |
| 8.0 | Updated to latest FA date of 10-6-23 for specs 660 and 995. | W. Geitz | L. Audisio | D. Vollmer | 12/11/2023 | No |