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|  | FDOT Traffic Engineering Research Laboratory (TERL)  2070 Traffic Controller Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Sections 671 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 671 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** |
| --- | --- | --- | --- | --- | --- |
| 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 | 995-10 | Controller provides functionality meeting or exceeding operational characteristics, including NTCIP support, as described in NEMA Standards Publication TS 2-2021. |  | *Indicate which sections of the NEMA Standards Publication TS 2-2021 are met.* | Document Review and Functional Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 3 |  | Model 2070 Traffic Controller meets the CALTRANS TEES 2020 |  | *Indicate which sections of the CALTRANS TEES 2020 Standard are met.* | Document Review and Physical Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 4 |  | Controller meets AASHTO/ITE/NEMA ATC 5201, v06.25. |  | *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 |  | The controller captures all mandatory event-based data elements listed in supplemental requirement SR-671-2, Supplemental Traffic Controller High Resolution Data Logging Requirements. |  | *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 |  | The controller provides and makes Management Information Bases (MIBs) available for Traffic Signal Controller Broadcast Messages (TSCBM) to local agencies and FDOT that are compatible with Society of Automotive Engineer (SAE) J2735. |  | *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 |  | The controller supports programming of destination Internet Protocol (IP) addresses via controller front panel for interface with Roadside Units (RSU) and other devices or 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.* |  |
| 8 | 671-2 | Optional: controller can deactivate the dimming circuit of LED street lighting during pedestrian activations. Pedestrian detector diagnostics must be activated when this feature is used. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement. Support of this feature will be documented on the APL website.* | Document Review and  Functional Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| The following compliance matrix criteria are derived from the requirements for MODEL 2070 controllers contained in the CALTRANS TEES 2020 Standard. | | | | | |
| 9 | TEES 2020  Chapter 1,  Section 2 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 2, GENERAL. |  | *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.* |  |
| 10 | TEES 2020  Chapter 1,  Section 3 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 3, COMPONENTS. |  | *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.* |  |
| 11 | TEES 2020 Chapter 1,  Section 4 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 4, MECHANICAL. |  | *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.* |  |
| 12 | TEES 2020  Chapter 1,  Section 5 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 5, ENGINEERING. |  | *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.* |  |
| 13 | TEES 2020  Chapter 1,  Section 6 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 6, PRINTED CIRCUIT BOARDS. |  | *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.* |  |
| 14 | TEES 2020 Chapter 1,  Section 7 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 7, QUALITY CONTROL. |  | *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.* |  |
| 15 | TEES 2020  Chapter 1,  Section 8 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 8, ELECTRICAL, ENVIRONMENTAL AND TESTING REQUIREMENTS. |  | *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 Product Certification Handbook, section 7.2.* | Document Review |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 16 | TEES 2020  Chapter 1,  Section 9 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 1, Section 9, CONNECTOR DETAILS. |  | *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.* |  |
| 17 | TEES 2020  Chapter 9,  Section 1 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 1, GENERAL. |  | *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 | TEES 2020  Chapter 9,  Section 2 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 2, MODEL 2070-1 CPU MODULE. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review, Physical Inspection, and Functional Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 19 | TEES 2020  Chapter 9,  Section 3 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 3, MODEL 2070-2 FIELD I/O MODULE (FI/O). |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review, Physical Inspection, and Functional Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 20 | TEES 2020  Chapter 9,  Section 4 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 4, MODEL 2070-3 FRONT PANEL ASSEMBLY (FPA). |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review, Physical Inspection, and Functional Inspection |
|  |  |  |  | *Indicate location of requested information in submittal.* |  |
| 21 | TEES 2020  Chapter 9,  Section 5 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 5, MODEL 2070-4 POWER SUPPLY MODULE. |  | *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.* |  |
| 22 | TEES 2020  Chapter 9,  Section 6 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 6, UNIT CHASSIS |  | *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.* |  |
| 23 | TEES 2020  Chapter 9,  Section 7 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 7, MODEL 2070LX + UNIT CHASSIS. |  | *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 | TEES 2020  Chapter 9,  Section 8 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 9, Section 8, MODEL 2070 UNIT DETAILS. |  | *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.* |  |
| 25 | TEES 2020  Chapter 10,  Section 1 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 1, MODEL 2070-6 A&B, AE&BE ASYNC/MODEM SERIAL COMMUNICATIONS MODULES. |  | *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.* |  |
| 26 | TEES 2020  Chapter 10,  Section 2 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 2, MODEL 2070-7A & 7B ASYNC/SYNC SERIAL COMM MODULES. |  | *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.* |  |
| 27 | TEES 2020  Chapter 10,  Section 3 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 3, MODEL 2070-6D FIBER OPTIC MODULE. |  | *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.* |  |
| 28 | TEES 2020 Chapter 10,  Section 4 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 4, MODEL 2070-FX NETWORK COMMUNICATIONS MODULE. |  | *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.* |  |
| 29 | TEES 2020  Chapter 10,  Section 5 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 5, MODEL 2070-6W WIRELESS MODEM COMM MODULE. |  | *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.* |  |
| 30 | TEES 2020  Chapter 10,  Section 6 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 6, MODEL 2070-9A, B & E FSK/DIAL-UP MODEM COMM MODULE. |  | *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.* |  |
| 31 | TEES 2020  Chapter 10,  Section 7 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 7, MODEL 2070-6E SERIAL 2 NETWORK COMM MODULE. |  | *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.* |  |
| 32 | TEES 2020  Chapter 10,  Section 8 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 8, MODEL 2070-9D DIAL-UP MODEM COMM MODULE. |  | *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.* |  |
| 33 | TEES 2020  Chapter 10,  Section 9 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 9, MODEL 2070-7G UNIVERSAL TIME BASE MODULE. |  | *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.* |  |
| 34 | TEES 2020  Chapter 10,  Section 10 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 10, MODEL 2070-EX NETWORK SWITCH MODULE. |  | *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.* |  |
| 35 | TEES 2020  Chapter 10,  Section 11 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 11, MODEL 2070-WE WIRELESS ETHERNET COMM MODULE. |  | *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.* |  |
| 36 | TEES 2020  Chapter 10,  Section 12 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 12, MODEL 2070-J ETHERNET JACK MODULE |  | *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.* |  |
| 37 | TEES 2020  Chapter 10,  Section 13 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 13, MODEL 2070-LAN MODULE |  | *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.* |  |
| 38 | TEES 2020  Chapter 10,  Section 14 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 14, MODEL 2070-CELL CELLULAR COMM MODULE |  | *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.* |  |
| 39 | TEES 2020  Chapter 10,  Section 15 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 10, Section 15, 2070 COMM MODULE DETAILS |  | *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.* |  |
| 40 | TEES 2020  Chapter 11,  Section 1 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 11, Section 1, NEMA 2070. |  | *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.* |  |
| 41 | TEES 2020  Chapter 11,  Section 2 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 11, Section 2, 2N FIELD IO MODULE. |  | *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.* |  |
| 42 | TEES 2020  Chapter 11,  Section 3 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 11, Section 3, 4N (A) POWER SUPPLY MODULE. |  | *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.* |  |
| 43 | TEES 2020  Chapter 11,  Section 4 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 11, Section 4, MODEL 2070-8 FIELD I/O MODULE. |  | *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.* |  |
| 44 | TEES 2020  Chapter 11,  Section 5 | The controller meets the requirements of the CALTRANS TEES 2020 Standard, Chapter 11, Section 5, 2070N1 DETAILS. |  | *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 derived from operational characteristics described in the NEMA TS-2-2021 Standard and considered applicable to 2070 controllers by FDOT-TERL. | | | | | |
| 45 | TS2,  Section 3.3.6 | The controller meets the requirements of NEMA Standards Publication TS2-2021 v03.08, Section 3.3.6 describing NTCIP functionality. |  | *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.* |  |
| 46 | TS2,  Section 3.4 | The controller meets the requirements of NEMA Standards Publication TS2-2021 v03.08, Section 3.4 describing Pretimed Control functionality. |  | *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.* |  |
| 47 | TS2,  Section 3.5 | The controller meets the requirements of NEMA Standards Publication TS2-2021 v03.08, Section 3.5 describing Actuated Control functionality. |  | *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.* |  |
| 48 | TS2,  Section 3.6 | The controller meets the requirements of NEMA Standards Publication TS2-2021 v03.08, Section 3.6 describing Actuated Coordination functionality. |  | *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.* |  |
| 49 | TS2,  Section 3.7 | The controller meets the requirements of NEMA Standards Publication TS2-2021 v03.08, Section 3.7 describing Preemption functionality. |  | *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.* |  |
| 50 | TS2,  Section 3.8 | The controller meets the requirements of NEMA Standards Publication TS2-2021v03.08, Section 3.8 describing Time Base functionality. |  | *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.* |  |
| 51 | TS2,  Section 3.9 | The controller meets the requirements of NEMA Standards Publication TS2-2021v03.08, Section 3.9 describing Miscellaneous functionality. |  | *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.* |  |

**2070 Traffic Controller Compliance Matrix**

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| --- | --- | --- | --- | --- | --- | --- |
| Rev | Description | Authored and Checked | Reviewed | Approved | Approval Date | Rev More Stringent? |
| 1.0 | New CM | M. DeWitt | C. Morse  J. Morgan | J. Morgan | 10/15/2015 | N/A |
| 2.0 | Expanded requirements for the CALTRANS TEES 2020 Standard. | M. DeWitt | C. Morse  J. Morgan | J. Morgan | 02/03/2021 | No |
| 3.0 | Updated to FA date of 1-30-18. | W. Geitz | M. DeWitt  J. Morgan | D. Vollmer | 10/10/2019 | No |
| 4.0 | Update NEMA and CALTRANS standards. Moved from 671 to 995 (FA 10-24-22). | W. Geitz | I. Sing P. Blaiklock  M. DeWitt | D. Vollmer | 03/30/2023 | No |
| 5.0 | Updated to latest FA date of 10-6-23 for spec 995. | W. Geitz | P. Blaiklock | D. Vollmer | 01/19/2024 | No |