Florida's Turnpike Enterprise Quality Assurance Review (QAR) Lessons Learned

QAR Report Date	QAR Evaluation Period	Department	Program Area	Evaluation Description	Key Words	Summary of Issues & Opportunities	Lessons Learned
7/21/2017	FY 2016-17	Transportation Development	Production Support - CADD	3D design deliverables to be used by contractors for Automated Machine Guidance (AMG)	3D Design	Project CADD files prepared at project completion and posted with the Bid Letting documents did not consistently include the 3D deliverable files necessary for construction as described in the FDOT CADD Manual.	Designers should utilize the FDOT 3D Design Deliverables Staff Hour Task List to help plan and estimate modeling efforts.
3/14/2018	FY 2017-18	Transportation Development	Production Support - CADD	3D design deliverables to be used by contractors for Automated Machine Guidance (AMG)	3D Design	Several opportunities were identified to improve the process for generating 3D deliverables to be used by contractors for AMG.	Designers should develop a quality control checklist for 3D deliverables, using the FDOT sample 3D Design Deliverables Project Review Check List as a starting point. Designers should verify that projects are ready to be used by the contractor for AMG by reviewing the created XML surfaces in Trimble, or equivalent software that a contractor would use.
7/10/2018	FY 2017-18	Transportation Development	Roadway Design - Drainage	Pond siting reports consistency with recommended guidelines	Pond Siting Reports	Documentation for the Environmental Look-Arounds (ELAs) was noted, but backup information supporting the evaluation and definition of evaluation criteria was minimal and lacked the detail to support the preferred pond sites.	Designers should provide better definition of evaluation criteria and how they are applied in the evaluation of pond site alternatives.
12/23/2019	FY 2018-19	Transportation Development	Roadway Design - Quality Assurance	Design variation submittal package compliance with required content	Design Variations	Variation for superelevation (SE) provided AASHTO and FDOT design criteria values, but only provided an average existing SE through the entire length of the curve.	Designers should ensure existing SE values are provided in accordance with FDM 114.2.2.1 (Minimum Levels of Survey Effort), at a minimum. This is necessary to fully understand the transition of SE into the curve, location and magnitude of full SE, and transition back to normal cross slope.
						Variation limited the discussion to the use/applicability of curb on a freeway (high speed roadway), but neglected to evaluate the impacts of the shoulder width deficiencies associated with the curb, which could result in a Design Exception.	Designers should evaluate all related cross section elements when a roadway width reduction occurs on or approaching a bridge. Shoulder and bridge width are separate criteria, and shoulders on rural roadways should be carried across bridges. As a result, bridge width evaluations often accompany shoulder width evaluations with documentation on the bridge and approach.
						AASHTO criteria values were sometimes missing or not adequately presented.	Designers should ensure that Design Variations provide the appropriate FDOT and AASHTO criteria values to clarify that a Design Exception is not required.
1/24/2019	FY 2018-19	Transportation Development	Production Support - CADD	3D design deliverables to be used by contractors for Automated Machine Guidance (AMG) Use and delivery of corridor models	3D Design	Extraneous files included in the 3D Deliverables folder that are neither required nor optional.	Designers should only submit these files inside the Roadway folder
					3D Design	Extraneous elements included on survey levels in the MODL files.	Designers should include these existing features in a reference file (i.e., survrd or topord), not in the MODL or DSGN files as these elements interfere with review of the 3D models.
					3D Design	Several opportunities were identified to improve the quality of 3D deliverables and compliance with CADD manual requirements.	Designers should be sure to reference the latest version of the CADD manual before project submittal. Designers should ensure that corridor models, including templates or assemblies, are left intact and provided with the submitted CADD files so reviewers can verify the quality of the 3D model. Cross sections generated by corridor modeling should not be modified by hand, but the corridor model should be modified instead to correct issues. This will ensure that the model updates if any changes are made, and that a 3D surface can be generated for AMG.
12/16/2021	FY 2021-22	Transportation Development	Roadway Design - Pavement Design	Use of open graded friction course consistent with guidance in the FDOT Flexible Pavement Design Manual	Friction Course	Initial review identified use of FC-5 on low speed ramps, but further discussion revealed the detailed friction course review process employed by the Turnpike for all ramps on all projects (ultimately recognized as a best practice).	In order to place all pavement-related decisions into a single location, the documentation of the friction course selection process (e.g., meeting minutes or e-mail correspondence) should be included in the Pavement Design Package.