



ACEC-NH/NHDOT Highway Design Sub-Committee



NHDOT
7 Hazen Drive Concord NH
September 10, 2019
Room 112/113 8:00 am – 9:30 am

Meeting Minutes

Attendees:

Jim Marshall, NHDOT (Chair)	Brian Colburn, MJ (Vice Chair)
Tobey Reynolds, NHDOT	Ben Martin, VHB
Leah Savage, NHDOT	Jen Mercer, GM2
Corey Spetelunas, NHDOT	Travis Wolfel, Kleinfelder
Maggie Baldwin, NHDOT (scribe)	Clinton Mercer, Jacobs
Ron Grandmaison, NHDOT (absent)	Linda Greer, Fuss & O'Neill (absent)

These meeting minutes are from the September 10, 2019 ACEC-NH/NHDOT Highway Design Sub-Committee Meeting.

1. Introductory Remarks

Maggie volunteered to be the scribe for the meeting.

2. Review and approve minutes – for August 13, 2019 meeting

The meeting minutes from the August 13, 2019 meeting were formally accepted as final. Jim acknowledged that there has been a delay in posting the meeting minutes online. All final meeting minutes as well as the Charter will be posted later in the week.

3. Reporting Back

a. Bluebeam Session Checklist Update

Tobey noted that a Bluebeam session including submission deliverables and checklists was created and sent to the subcommittee for review and/or comment. He elaborated that the document was extensive, 115 pages, and that few comments had been made to date. He proposed creating a smaller working group (WG), with representatives both internal and external to the DOT, to participate in the submission review process. The WG would review one phase submission through Bluebeam over the course of 1-2 weeks, with an in-person meeting to conclude the comment period and finalize the submission requirements for that phase. Final approval of the updated submission deliverables and checklists prior to making them available for use will need to be determined. The first phase submission is anticipated for review by 10/01/19.

Brian indicated that it would be beneficial to have clarification on the type of deliverables for certain design expectations, and not just on the expectation themselves. For example, a sightline study may need to be complete in the pre-preliminary phase, but also how the sightline study be captured in the

deliverables should be communicated in the checklist. Brian also added that often times, assembling this information into a “package” or deliverable often takes a significant amount of time. Tobey acknowledged that there has been internal discussion about issues similar to this, including how 3D modeling ties into the submission deliverables. Brian stated that consistent expectations would help avoid comments. Maggie asked if the focus should be on the submission deliverables versus the submission checklist, the former being the design support documentation while the latter is more cadd-centric. Tobey reiterated that the current focus of the review is on submissions associated with final design, where the primary focus is the plans. Brian indicated that clarifications as simple as when the roadway select “constants” should be included would be helpful. Jim followed up stating that the checklists had previously been intended as part of the Highway Design Manual (HDM) Volume 2, but the current hope is to keep them separate to reduce lead time (related to the FHWA approval process) when revisions are needed.

b. Bluebeam Club

Leah stated that the Club has only met a few times, during which other state manuals relating to Bluebeam review processes were evaluated. She noted the Club found that MassDOT seemed to align with their vision. She indicated that certain projects will start to implement Bluebeam review to start working out issues. She specified that ideas for the toolset review included assignment of different colors and/or callouts to identify the different users and/or type of review statement. She also noted that Curtis Morrill, a Club representative who formerly worked for the Construction Bureau and has much more exposure to Bluebeam Reviews, has shared standards that Construction developed to help streamline the process.

c. Consultant Notification Email Services

Jim indicated that he had been working with Bill Oldenburg to address glitches in the notification process, all of which have been resolved.

d. Review MaineDOT Design Requirements Checklist – Comments

A brief discussion regarding MaineDOT’s web page and structure of their online resources occurred. No other comments were noted. This item should be placed on the next agenda for further discussion.

e. FHWA Highway Design Manual (HDM) Approval Requirement

Jim confirmed that approval from FHWA is required for the Highway Design Manual (HDM). He stated that drafts of both the HDM Volume 2 Typical and Sample Layouts have been posted for use, but will not become final until FHWA approval. The intent of the release of draft Volume 2 plans was to “democratize” the current plans, not necessarily for solicitation of comments, but qualified that comments are always welcome. He also noted that he will be working to post HDM Volume 1 Chapter 8 (Quantity Computation) in the next week or so, also as draft while being reviewed by FHWA. On deck for review and comment to ACEC are drafts of both Chapter 3 (Design Considerations and Criteria) and Chapter 11 (Special Plan Elements).

f. Estimating Process Update – Future Meeting

Discussion from the previous Subcommittee meeting included how to streamline and standardize estimating across the various phases of a project. Recent bids seem to be coming in well over the PSE estimates, improvements to the estimating process may help close the gap. Jim reiterated that coordinated efforts between the Subcommittee and NHDOT Estimating Task Force may be the most efficient way to establish a standardized estimating process. Jim and Wendy Johnson, Chairperson of

the NHDOT Estimating Task Force, will arrange for an informational presentation of the purpose and goals of the Estimating Task Force to the Subcommittee, to identify potential tasks for the Subcommittees to support the effort.

4. Cadd Deliverables

Jim stated that an internal meeting was held to discuss CAD/D deliverables and CAD/D standards. The discussion can be broken down into three categories:

- a. Contract adherence to the CAD/D standards.
 - i. Jim queried whether projects that do not involve survey, ie. resurfacing or guardrail contracts, really need to be done in MicroStation. He stated that there may be other programs out there that could be used to complete this type of work that may be more cost effective. He mentioned whether there should be “tiers” identifying which projects need to adhere to the CAD/D standards, and which do not.
 - ii. One issue identified was if a consultant contract ends, and the design work needs to be completed in house. While the Consultant may have saved money upfront by not needing to purchase a specific CAD/D program, it would cost the Department time/money to convert the work into something that can be finalized.
 - iii. Corey indicated that plans developed for guardrail projects are set using aerial/real time information, and are no longer just shown as straight-line diagrams. He indicated that the critical data required to put the guardrail into the GIS for asset management references the state plane coordinate system.
- b. Potential Department requirement for all Consultants to use OpenRoads.
 - i. The 2017 CAD/D Procedures and Requirements document sets the standard for all deliverables to conform to certain expectations. This document allows for the use of 3D modeling software other than OpenRoads, and specifies the deliverables associated with such. Discussion at a recent internal meeting with the CAD/D staff included whether Consultants should be required to use OpenRoads only. Jim was unsure what the impetus was for considering sunseting the use of other 3D modeling software. He acknowledged that this might put a financial burden on Consultants to acquire OpenRoads and train their staff, particularly smaller consulting firms.
 - ii. It is known that there are issues going both to and from Bentley and other products. Clint added that if the decision is made to require modeling be done in OpenRoads, the Department should establish and share working libraries (linestyles, levels, etc) to make the process more efficient for the Consultants. Jim noted that there have been issues with the OpenRoads Connect version maintaining line properties when a linestyle is applied. The Department is currently working through this issue with Bentley.
- c. Other miscellaneous CAD/D deliverable discussion points.

- i. Ben noted there was a recent conflict between the expectations for contract plans versus ROW registry plans. The linestyles required for each did not align and created a substantial amount of work for his group.
- ii. Tobey identified that the Department should establish minimum criteria for 3D model development, including the lateral extent to which the model should be developed (ie. edge of pavement to edge of pavement, slope line to slope line, etc). He underlined that this expectation should be worked into Consultant contracts during contract negotiations.

It was acknowledged that the development of standards for 3D model deliverables was ranked #6 in the survey sent out through ACEC. To conclude this discussion, Jim proposed a follow up meeting with the CAD/D staff, with a potential to establish a working group of CAD/D users and surveyors from both large and small firms to evaluate the current CAD/D protocol and proposed changes. He also noted the potential to reach out through ACEC to solicit feedback from Consultants on current and proposed CAD/D standards.

5. Other Items

A brief discussion regarding the use of “design directives” was had, primarily in regards to potential changes to FHWA approved documents, including the HDM. Jim was unsure whether FHWA approval was required for design directives. He also acknowledged that it is fairly cumbersome to locate some design information, including current design directives, on the NHDOT website. Travis noted that Maine’s website has links to design directives within their manuals to easily address this concern. Jim will coordinate an effort to make the website more user-friendly.

6. Next Steps:

- a. Assemble the working group to review the submission checklists, with an intended production of one phase submission every 1-2 weeks. (Tobey)
- b. Coordinate posting of draft HDM Volume 1 Chapter 8, as well as Chapter 3 and 11, as completed. (Jim)
- c. Continued coordination with the NHDOT Estimating Task Force to arrange for an informational session and potential partnering to establish project estimating protocols. (Jim)
- d. Schedule a follow up meeting the NHDOT CAD/D staff for further discussion about potential changes to the CAD/D standards. Establish a working group, if determined appropriate, to further review and evaluate potential changes and implications between NHDOT and the Consultant community. (Jim)
- e. Review MaineDOT Design Requirements Checklist – Comments
- f. **Next Meeting – October 8, 2019**