

**MaineDOT/ACEC Highway Design Subcommittee
MEETING SUMMARY**

**May 29, 2014, 11:00 AM – 12:30 PM
MaineDOT, Conference Room 421A/B**

Attendees:

Brad Foley	MaineDOT
Heath Cowan	MaineDOT
Andy MacDonald	MaineDOT
Brian Keezer	MaineDOT
Atlee Mousseau	MaineDOT
Dale Mitchell	HNTB
Kevin Ducharme	T.Y. Lin International
Don Ettinger	Gorrill-Palmer
Tony Grande	VHB

Notes Taken By: Tony Grande

1) Highway Program Update (Brad Foley)

- General MaineDOT and Highway Program Information:
 - ✓ Wayne Frankhauser is MaineDOT's new Bridge Engineer; Jeff Folsom is the new Assistant Bridge Engineer
 - ✓ Multi-Modal is looking to reorganize similar to the Highway Program and Brian Keezer will be attending Highway Subcommittee meetings
 - ✓ Brad mentioned several staff changes in the Highway Program and handed out the current (see attached) 5-page org charts to the group.
 - ✓ Currently using AASHTOWARE plus the older DARWIN pavement design software for comparison purposes in design. Finding variations of 2"-3" between the two. Starting to look at establishing MaineDOT specific default input values for the AASHTOWARE program (this has taken some other states several years to come up with these values).
 - ✓ Brad will be attending the AASHTO Subcommittee on Design 2014 Annual Meeting from June 1-5, in Savannah, GA. MaineDOT is also working on various tri-state initiatives with NH and VT, which will be discussed at the meeting. Topics of discussion will include Practical Design, Performance Measures, Utilities, and Risk Management.
 - ✓ MaineDOT's Complete Streets Policy is now in its final internal review and approval stage and should be available very soon. This document will also identify which types of projects need to consider accommodation as part of the design.

2) Updates on Design Guidance (Brad Foley/Heath Cowan)

- New Engineering Instruction coming out soon regarding barrier layout.
 - ✓ Will generally follow AASHTO methodology
 - ✓ Can still go for Design Exceptions when needed
 - ✓ Brad will send out for review by ACEC Highway Subcommittee
- Developing a pavement treatment type summary for use by designers. A guide/manual will likely be available next year.

3) 3D Modeling

- Recent project has been released as a 3D model for use pre-bid (River Road, Windham).
- MaineDOT is looking to develop a Policy listing 3D Model requirements based on the type of project and what type of information should be provided including how much detail needs to be provided, for example:
 - ✓ Curb to curb only (*likely for intersection projects*)
 - ✓ Overall cut/fill limits (*likely for reconstruction/rehab projects w/ROW*)
 - ✓ Other features like driveways, etc. may or may not be included

4) Design Review/Check Review process

- MaineDOT provided a copy of the New Revised PDR Form (see attached) and reviewed some of the basic changes
 - ✓ ADA Compliance included
 - ✓ Taming process (traffic control/phasing during construction) will provide constructability review and input early on, beginning at the project kickoff meeting and progressing through the project.
 - ✓ *****All Driveways need to be designed and included with the PDR submission*****
 - ✓ The PDR submission is creeping closer towards the PIC submission from a level of design.
 - MaineDOT looking to minimize rework later on in the contract therefore looking to make sure issues are dealt with early on in the design process.
 - It was noted that the designer needs to account for this shift of work effort from Phase 2 into Phase 1 and identify this during the scope and fee development process.

5) Design Exceptions (DE's)

- MaineDOT looking for more of a tabular format, a more consistent standardized format for presentation of information.
- Send in DE's as soon as possible, preferably with each submission:
 - ✓ Alignment (Horizontal or Vertical design, or other design issues that are included under this submission)
 - ✓ PDR (Other design issues, beyond those that should have been covered under the Alignment Submission)
 - ✓ Include other useful information (photo, google street view, etc.) to help the reviewer
 - ✓ Consider submitting a DE for an entire area if there are several DE's within one are (i.e., historic district)

6) Environmental Update – Bats

- MaineDOT is working towards developing a programmatic approach to address the bat issue.
- Although June-July are the real critical months, the current proposed window for clearing is April through November, although no formal statement has been developed yet.

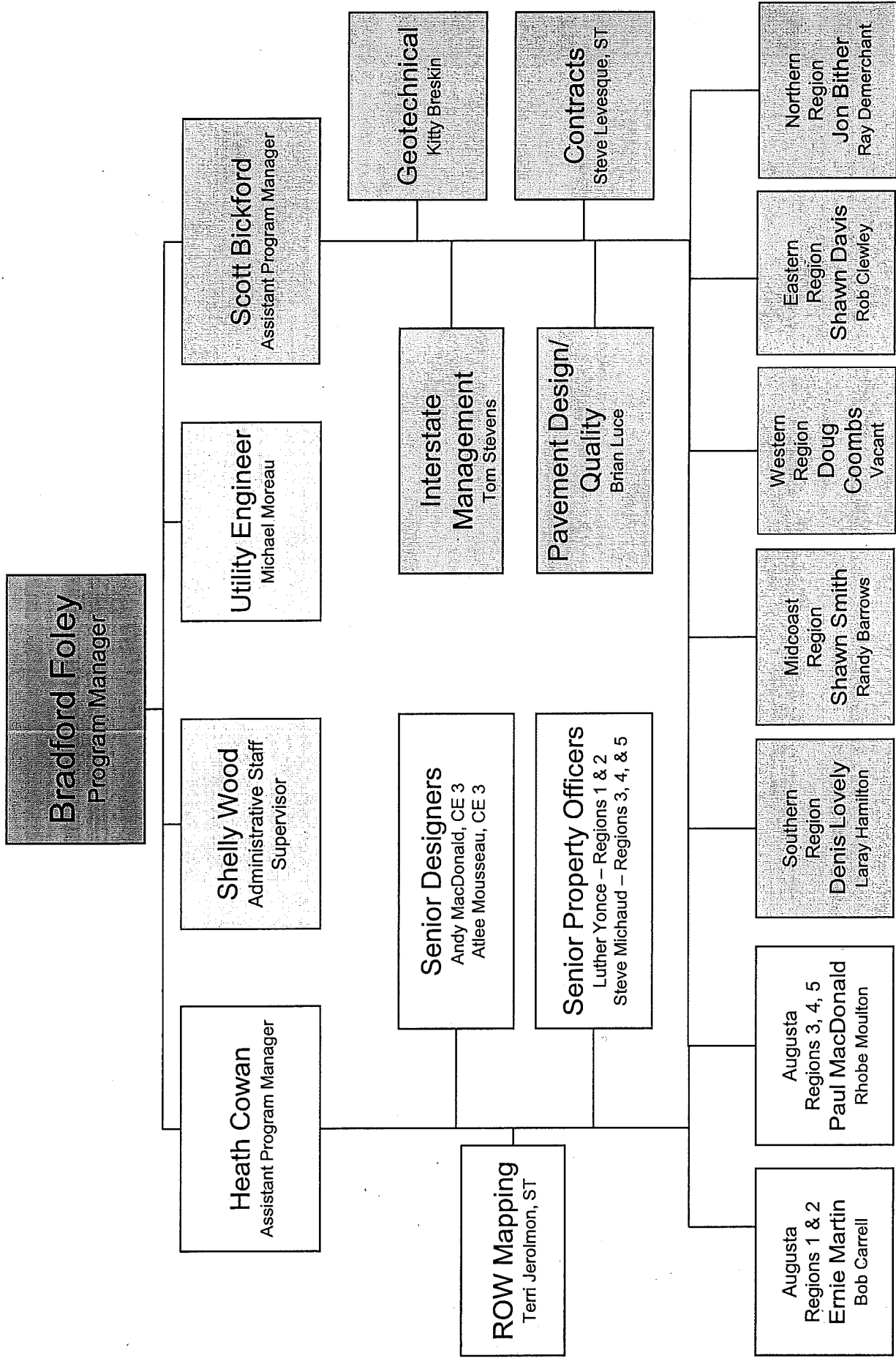
7) Upcoming Goals for the ACEC Highway Design Subcommittee

- Progression of Sample Plans and Checklists through PS&E.
- Develop Design Guidance for Pavement Rehabilitation projects.
- Develop Design Guidance on 3D Modeling deliverables.
- Centralization of Engineering Information provided on MaineDOT's website.
- Roundabout Design – Discussion of design and maintenance issues/concerns.
- On-going MaineDOT and Highway Program updates.

NEXT MEETING: The next meeting will likely be in August.

I have attempted to summarize discussions held during this meeting as accurately as possible. If you believe that any of the items discussed herein are misrepresented in any way, please contact me within ten working days. In the absence of any corrections or clarifications, it will be understood that these minutes accurately summarize our discussions.

Respectfully Submitted,
Tony Grande



Administrative Staff

Shelly Wood, C 4
Lisa Porter, OA 2
Darlene Banks, OA 2

Property, Regions 3,4, & 5

Steve Michaud, APP 3
Berta Estes, ST
Tom Hayden, AT
Denver Small, APP 1
Tim O'Brien, APP 2
Ricky McKenna, APP 2

Pavement Design/Quality

Brian Luce, PM 2
Derek Nener-Plante, CE 2
Karen Gross, AE

Utilities

Mike Moreau, CE 3
Mike Barden, ST
Terry Blair, Jr., ST
Dave Lycette, CE 2
Rick Paraschak, ST
Derrick Carleton, ST

Interstate

Tom Stevens, PM1
Mike Lenko, ST
Brian Cooley, T

Property, Regions 1 & 2

Luther Yonce, APP 3
Melody Bowden, APP 1
Ralph Palmer, APP 1
Brian Sanderson, APP 2
Ron Blaisdell, APP 1

Geotechnical

Kitty Breskin, CE 3
Meredith Kirkmann, CE 2
Scott Hayden, SRS
Terry White, T

Augusta, Regions 1 & 2

Ernie Martin, PM 2
Bob Carrell, PM 1
Ethan Flynn, CE 2
Natasha Collins, AE
Nicholas Mathon, AE
Judy Harden, T

Augusta, Regions 3, 4, & 5

Paul MacDonald, PM 2
Rhobe Moulton, PM 1
Jonathan French, CE 2
Sterling Paul, CE 2
Brian Mousseau, ST
Cory Helmick, AE
Bach-Tuyet Tran, T

Southern Region

Denis Lovely, PM 2
Laray Hamilton, PM 1
Ryan Hodgman, SPCS
Eytayo Adande-Kinti, AE
Clem Baxter, ST
Rob Betz, CE 2
John Coombs, T
Katherine Gray, AE
Rick Hambleton, AT
Randy Illian, ST
Ben Johnson, ST
Wyatt Johnson, T
Tim Kelley, AE
John McDonough, CE 2
Ken Silver, CE 2
Michael Smith, T
Stephen Spear, Jr., AE
Tim Storer, ST
Jessica Ware, AE
Vacant, AT
John MacLaine, ES 3

Midcoast Region

Shawn Smith, PM 2
Randy Barrows, PM 1
Michelle Boone, SPCS
Nick Bell, AT
Barry Breton, AT
Dee Giggey, T
Dennis Gravel, T
Nick Hartley, AE
Anthony Jacques, AE
John Kelley, T
Karen Libby, T
Anne Lowe, T
Cindy Perez, AT
Robin Robinson, AT
Dean Rowlands, T
Matthew Swindells, T
Beecher Whitcomb, ST
Seth Wills, AE
John Wood, T
Vacant, AT
Valerie Derosier, ES 3

Western Region

Doug Coombs, PM 2
Vacant, PM 1
Vacant, SPCS
Scott Cook, T
Rachel Damon, T
Joyce Farrington, TA
Frank Longley, T
Kitty Pinkham, AT
Mark Shibles, CE 2
Jeff Wallace, ST
Shane Kelly, AE
Tim Adams, ES 3

Eastern Region

Shawn Davis, PM 2
Rob Clewley, PM 1
Jared Stanley, SPCS
Mark Austin, T
Bill Brown, T
Rob Chester, AE
Jeff Coffin, CE 2
Mathew Connor, AT
Carmen Forzetting, AE
Joe Graham, T
Scott Harmon, AT
Mike Ireland, T
Bill Lucas, T
Josh Mailman, AT
Dale Mayo, CE 2
Tony Picard, T
Cindy Raymond, AT
Chris Smith, ST
Lucas Soo, AE
Mike Thomas, T
Galen Hale, ES 3

Northern Region

Jon Bither, PM 2
Ray Demerchant, PM 1
Roger Soucy, SPCS
Roger Barnes, T
Chris Belyea, AT
Martine Burnham, ST
Carl Dodge, Jr., T
Chris Helstrom, AE
Peter Ouellette, T
Jason Peterson, T
Joe Stewart, T
Ryan Sullivan, T
Vacant, ES 3

DESIGN SUBMITTAL FORM CHECKLIST

Preliminary Design Report (PDR)

Project Name: _____

WIN: _____

Preliminary Design Report Checked:

Checker Initials: _____ **Date:** _____

Designer Responses Returned:

Designer Initials: _____ **Date:** _____

This completed checklist, including designer responses, becomes the record that this project has been checked. It is submitted with supporting documentation to the Project Manager and Senior Designer along with the Design Submittal Form.

Y = Yes N = No When No is checked, a comment is required. Comments should be inserted within the body of the checklist.

Y N General

- ☐ ☐ Have all incomplete / unresolved items on the HVAC checklist been completed / resolved?
- ☐ ☐ Have all required Design Exceptions to Controlling Criteria been requested and approved?
- ☐ ☐ Has a pavement design been reviewed and approved by both the Project Team and the Pavement Design/Quality Team?

Y N Traffic

- ☐ ☐ Has the appropriate Design Vehicle been selected for the design of turning radii?
- ☐ ☐ Can the Design Vehicle make all turns without encroachment?
- ☐ ☐ Are turning lanes included if they are warranted? Discuss with the Design Team and/or Traffic as needed.
- ☐ ☐ Are all turning lanes designed with the correct storage and deceleration length? Discuss with the Design Team and/or Traffic as needed. ☐ N/A
- ☐ ☐ Are all turning lane tapers and through lane shifts designed with the correct length? ☐ N/A
- ☐ ☐ Are traffic islands used appropriately? Consider the use of striped, flush, or raised traffic islands.
- ☐ ☐ Has Traffic provided input on signal warrants/design and/or the lane configuration of major intersections? ☐ N/A

Y N ADA Compliance (Non-Controlling Criteria)

☐ N/A

DESIGN SUBMITTAL FORM CHECKLIST
Preliminary Design Report (PDR)

Project Name:

WIN:

-
- ☐ ☐ Is the proposed sidewalk design ADA compliant? Consider width, cross slope, and profile grade.
 - ☐ ☐ Do existing and/or proposed sidewalks provide a continuous pedestrian path, beginning and ending at existing sidewalks or other logical termination points?
 - ☐ ☐ Are existing, non-compliant sidewalks, ramps, and pedestrian signals being upgraded to ADA compliance to the maximum extent feasible in accordance with the ADA Engineering Instruction?
 - ☐ ☐ Are crosswalks proposed where warranted? Consider the Crosswalk Engineering Instruction.
 - ☐ ☐ Have required Design Exceptions been identified and requested?

Y N Guardrail (Non-Controlling Criteria) ☐ N/A

- ☐ ☐ Has guardrail been proposed where warranted? Consider obstacles and non-traversable side slopes.
- ☐ ☐ Does the proposed guardrail extend to the Point of Need? Check the Length of Need calculations.
- ☐ ☐ Does the proposed guardrail offset account for shy line requirements, snow plow width requirements, and the desirable two additional feet from edge of shoulder?
- ☐ ☐ Is the fill slope break three feet behind the face of guardrail? Longer posts are required if three feet cannot be provided.
- ☐ ☐ Has consideration been given to eliminating the need for guardrail where possible?
- ☐ ☐ Have required Design Exceptions been identified and requested?

Y N Drainage

- ☐ ☐ Have open and closed drainage areas been identified and applied correctly? Consider the urban/rural nature of a project, consistency along a project, and impacts to properties.
- ☐ ☐ Does the general preliminary layout for catch basins seem appropriate? Consider low points, entrances, cross walks, etc. Check spread calculations if they have been completed.
- ☐ ☐ Is underdrain proposed where the subgrade does not drain to a ditch or slope?
- ☐ ☐ Are culverts proposed at appropriate locations? Consider areas where existing culverts are being eliminated, areas that trap water, ditches with potentially high flows, and impacts to properties.
- ☐ ☐ Have the appropriate Project Team members provided input on the design of box culverts and other significant drainage features?

Y N Clear Zone (Non-Controlling Criteria)

DESIGN SUBMITTAL FORM CHECKLIST

Preliminary Design Report (PDR)

Project Name:

WIN:

-
-
- ☐ ☐ Have all obstacles been removed from the clear zone, shielded with guardrail, or made breakaway?
 - ☐ ☐ Have all non-traversable slopes within the clear zone been flattened or shielded with guardrail?
 - ☐ ☐ Has adequate run-out area been provided at the toe of non-recoverable slopes? Consider the Clear Zone Engineering Instruction.
 - ☐ ☐ Have required Design Exceptions been identified and requested?

Y N Entrances (Non-Controlling Criteria)

- ☐ ☐ Have all entrances been designed within limits provided by the Standard Details and the Entrance Engineering Instruction?
- ☐ ☐ Has Access Management been considered if appropriate? Consider entrance proximity to sideroads, closing duplicate entrances, splitting up wide entrances with islands, etc.
- ☐ ☐ Have entrance bumps been included where appropriate?
- ☐ ☐ Have sags been eliminated from entrances where possible? Consider the possibility of an entrance sag trapping water in winter conditions.
- ☐ ☐ Do entrances grades transition smoothly to match existing grades?
- ☐ ☐ Has consideration been given to entrances where proposed sight distance may be less than existing sight distance? Consider grade changes, retaining walls, etc.
- ☐ ☐ Have required Design Exceptions been identified and requested?

Y N Retaining Walls ☐ N/A

- ☐ ☐ Have the limits of the proposed retaining walls been established adequately? Consider the interface with proposed slopes at each end of the wall.
- ☐ ☐ Is the height of the proposed retaining wall adequate? Consider slopes at the top and the bottom of the wall.
- ☐ ☐ Is the offset of the proposed retaining wall appropriate? Consider clear zone, horizontal sight distance, intersection sight distance, and entrance sight distance.
- ☐ ☐ Have the appropriate Project Team members provided input on the design of proposed retaining walls?

Y N Typical Sections

DESIGN SUBMITTAL FORM CHECKLIST

Preliminary Design Report (PDR)

Project Name:

WIN:

-
-
- ☐ ☐ Are all appropriate sections (guardrail, curb, ditch, sidewalk, etc.) represented correctly on the typical sections?
 - ☐ ☐ Are asphalt and aggregate type and depth noted on the typical sections and consistent with the approved pavement design?
 - ☐ ☐ Has the profile grade, construction centerline, baseline, or control edge been identified?
 - ☐ ☐ Has the location and depth of loam been identified?
 - ☐ ☐ Are backslopes at the appropriate slope and have backslope rounding locations been identified?

Y N Plans/Profiles/Cross Sections

- ☐ ☐ Do travelway and shoulder widths, cross slopes, side slopes, and ditches transition appropriately to match existing conditions at the start and end of the project?
- ☐ ☐ Have curb sections and ditch sections been designated on the plans and cross sections?
- ☐ ☐ Have entrance limits been shown on the plans and cross sections?
- ☐ ☐ Are preliminary catch basin, underdrain, and culvert locations shown on the plans?
- ☐ ☐ Are the locations of all drainage outlets shown on the plans?
- ☐ ☐ Are guardrail limits shown on the plans?
- ☐ ☐ Are clearing limit lines shown on the plans?

Y N PDR Engineer's Estimate

- ☐ ☐ Are all major items accounted for in the schedule of items?
- ☐ ☐ Have all major item quantity calculations been spot checked for accuracy?
- ☐ ☐ Have appropriate unit prices been applied to the major items?
- ☐ ☐ Has an appropriate contingency percentage been added to the cost estimate, if appropriate? The percentage should be based on the level of completeness of the estimate.

Y N Constructability

- ☐ ☐ Have the PDR plans been checked for constructability concerns? Any issues identified should be noted on this checklist. If a check has not been completed, one should be requested.