Asphalt Experiment Lab
revised October 18, 2010

In addition to General Lab Requirements

Report Requirements

After completing the lab work, you must submit a report summarizing what you learned. The data collected by your group as well as others should be included in the report. The report should be in Lab Summary Report format and include the following sections in the body (about 3 pages, single-spaced):

- Summary of results from lab work (recommended asphalt content with expected VTM, VMA, VFA, Gmm @ N_{initial}, and D/B.)
- Compare the results of the volumetric analysis with the target values given in Table A-1 in Part A. For each specified parameter, state whether or not the proposed mix design satisfies that specified target criteria.

In the appendix, include the following:

- Data (raw data from your group’s work, end results, i.e. G_{mm}, G_{mb} from the other groups’ results.)
- Sample calculations for aggregate gradation, specific gravity and mix volumetrics. Use the Superpave Volumetrics Worksheet as a guide.
- Plot the blended aggregate gradation on top of the IDOT gradation standard plot to show how well your mix fits the IDOT gradation standard.
- Plotted 0.45 power chart (use Figure App-1) for the combined aggregate gradation.
- Plot the following curves in separate charts aligned vertically on one page showing Asphalt Content (AC) percentage on the x-axis vs. Draw and label the projection lines you use to find the following coordinates:
  1. Percent Voids in Total Mix (VTM). Draw line from VTM axis to find the optimum AC at 4% VTM.
  2. Percent Voids in Mineral Aggregate (VMA). Show a line at the required VMA minimum and indicate the point on the VFA curve corresponding to optimum AC.
  3. Percent Voids Filled with Asphalt (VFA). Show lines at minimum and maximum limits of VFA and indicate the point on the VFA curve corresponding to optimum AC.
  4. Percent Gmm @ N_{initial}. Show a line on the Gmm curve corresponding to the optimum AC.
  5. Dust ratio (D/B). Show a line on the D/B curve corresponding to the optimum AC.