

## Appendix J Conceptual Modeling Exercise

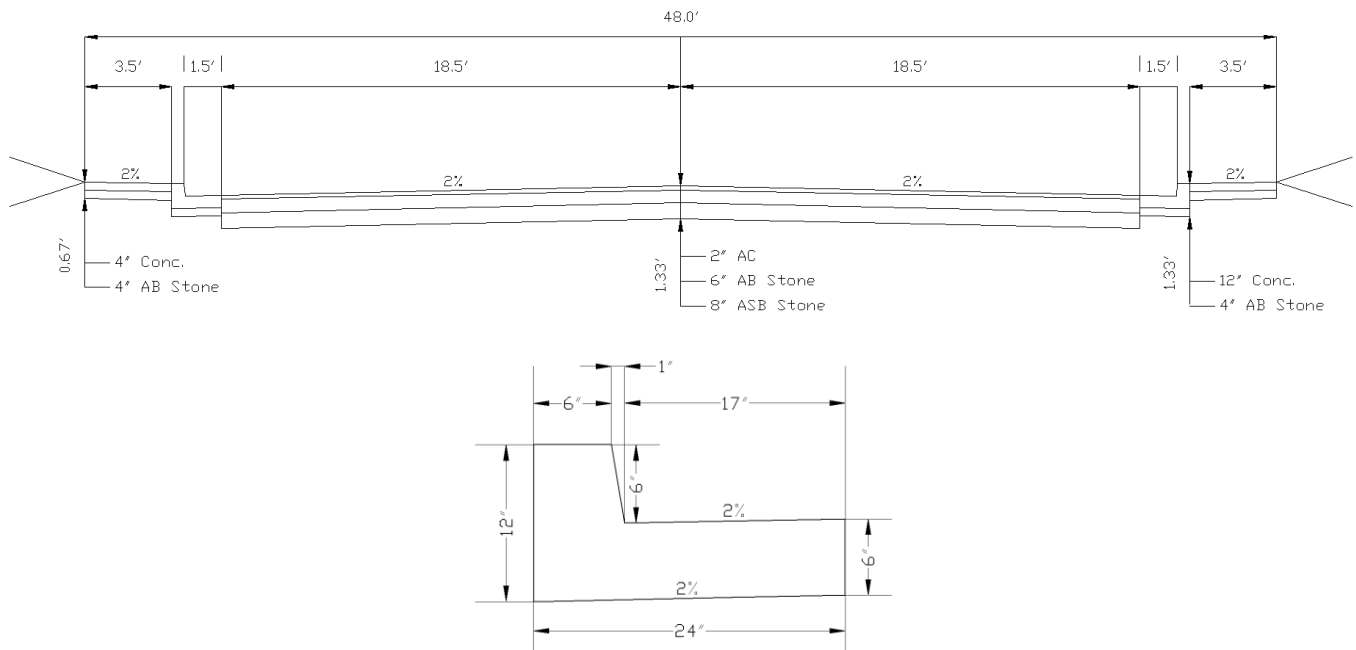
AGTEK's earthwork software is optimized so users can quickly model and quantify work indicated on a designer's grading plans (ideally, by importing all existing and design line work from CAD and/or vector PDF files furnished by the designer). But what can we do with AGTEK when we need to model and quantify earthwork for somebody's "concept" with no associated grading design provided?

AGTEK's focus on quickly modeling the designer's grading plan avoids the functional complexity found in dedicated civil-CADD applications but, that being said, AGTEK's robust modeling toolbox can be applied to conceptual earthwork modeling and takeoff scenarios as needed.

The exercise in this appendix applies a broad range of AGTEK tools to the evaluation of an undeveloped six-acre parcel that's being considered for a small residential development consisting of 11 single-family-detached home lots with a cul-de-sac street and storm-water basin. Starting only with a boundary map and existing topo (see next page), we'll develop a conceptual grading model for the lots, street and storm basin. We'll finish the exercise by applying an iterative grade-adjustment procedure that (with a few assumptions) results in balanced earthwork volumes.

The boundary and topo data are already entered in the ***draftingtools.esw*** file, which we'll open in Step 1 (this file can be downloaded from the Earthwork Software Services website per [Appendix C](#)).

We'll also reference the following typical street section and curb/gutter detail for this exercise:



**Note:** Users that do any conceptual site planning and analysis (for their own developments or as a value-add courtesy to favored clients) may be interested in the resources linked at [www.earthworksoftwareservices.com/resourcesa.htm](http://www.earthworksoftwareservices.com/resourcesa.htm). The resources include some interesting **analytic add-ons for Google Earth** (we don't use Google Earth in this example but see pages 69-76 and 305-307 for the basics of using Google Earth with AGTEK).