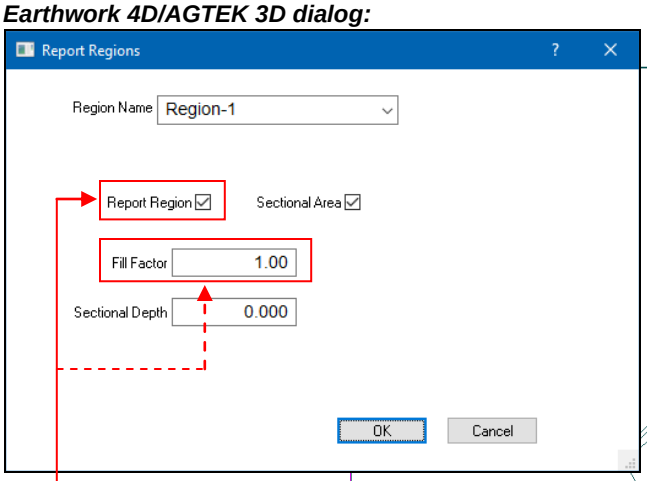
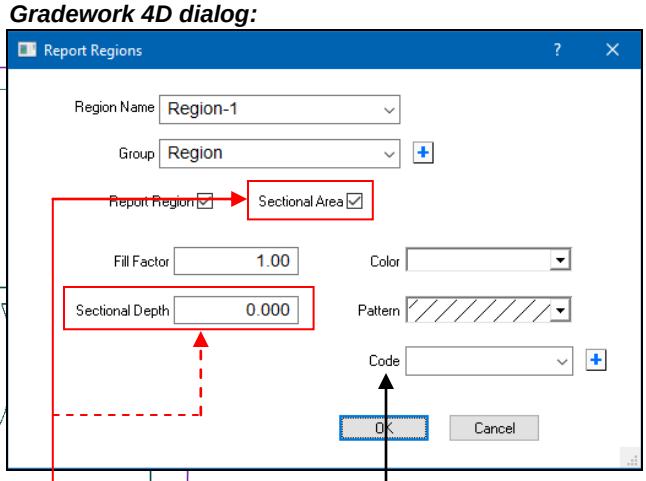
Earthwork Modeling Step-by-Step
Report Regions and Sectional Areas Defined

Report Regions and **Sectional Areas** share a common entry dialog and both objects can be created at the same time with a single combined entry. But these two objects are stored on separate *Layers* in the AGTEK job file, they serve completely different purposes, and one can be entered without the other via the dialog's *Report Region* and *Sectional Area* checkboxes . . .

Earthwork 4D/AGTEK 3D dialog:



Gradework 4D dialog:



Note: Assignment of a cost/pricing ***Code*** (optional), sort ***Group*** and custom hatching ***Color***/***Pattern*** in the *Report Regions/ Sectional Areas* dialog are available only in ***Gradework 4D***. For more on these reporting/ display functions see ***Group***/***Code Notes*** on pages 180, 182, 196, 197, 227 and the related AGTEK videos at ***https://bit.ly/3yQbDnO***, ***https://bit.ly/41X9Jxy*** and ***https://bit.ly/3Plc660***.

Check the *Report Region* checkbox to:

(1) Define a horizontal breakout area for cut/fill quantity subtotals (pavement, landscape, phase, etc.). Report Regions are listed as line items on *Part 1* of the Volume Report (see page 227).

(2) Apply an optional area-specific ***Fill Factor*** to adjust for shrink/swell***** from bank cut to compacted fill. The default ***1.00*** *Fill Factor* implies no change in density from bank cut to compacted fill (no shrink or swell from bank cut to compacted fill*****). A *Fill Factor* ***less than 1.00*** (e.g., 0.90) implies bank cut density is greater than compacted fill density (swell from cut to fill); a *Fill Factor* ***greater than 1.00*** (e.g., 1.10) implies bank cut density is less than compacted fill density (shrink from cut to fill).

***** *See pages 231-240 for a detailed discussion on shrink/swell adjustments and corresponding AGTEK Fill Factors.*

Check the *Sectional Area* checkbox to:

Create a Subgrade surface by defining horizontal areas where a specified vertical offset (***Sectional Depth***) is applied to the Design surface model (reflecting deductions****** for thickness of pavements, slabs, re-spread topsoil, etc.—materials that close the gap between design finish grade and "bare dirt" subgrade). Sectional Areas are listed as line items on *Part 3* of the Volume Report (see page 227).

****** *The resulting Subgrade surface will be lower than the corresponding Design surface in almost all cases; however, if needed, the Subgrade surface could be made higher by entering a negative Sectional Depth value. Also, modifying a Sectional Depth is an easy way to model different design "lifts" for machine control (e.g., sub-base, base and finish courses at paved areas).*