

New Provisions

Aggregate Subgrade
Select Granular Material

When

- March Letting

Aggregate Embankment Why?

- Old “Shallow Undercut” provision pay item was “Undercut” and the quantity was included in the production undercut quantity. This caused problems, particularly with Comprehensive Grading projects.

Select Granular Material Why?

- Quantity of “Select Granular Material” was difficult to manage when borrow and Select Granular were hauled from the same pit. Comprehensive grading item increased difficulty in bidding and managing.

Aggregate Subgrade

- Replaces Shallow Undercut Special Provision
 - Shallow Undercut Provision included
 - Undercut Excavation
 - Fabric for Soil Stabilization
 - Class IV Subgrade Stabilization

Aggregate Subgrade

- Adds “Aggregate Subgrade” Provision
 - “Aggregate Subgrade” Provision Pay Items:
 - **Shallow Undercut** (remember the current provision is shallow undercut but paid as “undercut”)
 - **Fabric for Soil Stabilization**
 - **Class IV Subgrade Stabilization**

Aggregate Subgrade

What did new SP affect

- Renamed and revised the Shallow Undercut Provision to be applicable to both cut and fill areas.
- With old Shallow UC provision, UC and CI 4 should have matched. Now they could be different if CI 4 is required above the limits of the shallow UC.

Aggregate Subgrade

What did new SP affect

- Changes payment for shallow undercut from either Sections 225 or 226 to a new pay item, "Shallow Undercut".
- "Shallow Undercut" is defined by the use of Select CI 4.

Example

Typical Grading – Current Spec

- Urban widening
- Utility encountered
- Undercut 18" (Shallow UC)
- Place soil stabilization fabric
- Place Class IV Select Material (ABC)
- Compact – 92% or highest reasonable density
- Pay for
 - Undercut (CY – Section 225)
 - Fabric for Soil Stabilization (SY – Section 270-4)
 - Class IV Subgrade Stabilization (Ton – Section 106-7)

Example

Typical Grading – New Spec

- Urban widening
- Utility encountered
- Undercut 18”
- Place soil stabilization fabric
- Place Class IV Select Material (ABC)
- Compact – 92% or highest reasonable density
- Pay for
 - Shallow Undercut (CY – Measure accord. w/ section 225-7)
 - Fabric for Soil Stabilization (SY – Section 270-4)
 - Class IV Subgrade Stabilization (Ton – Section 106-7)

Example

Comp Grading – Current Spec

- Urban widening
- Utility encountered
- Undercut 18” (shallow UC)
- Place soil stabilization fabric
- Place Class IV Select Material (ABC)
- Compact – 92% or highest reasonable density
- Pay for
 - Undercut (CY – Section 226/except we pay for Cl. 4)
 - Fabric for Soil Stabilization (SY – Section 270-4)
 - Class IV Subgrade Stabilization (Ton – Section 106-7)

So what happens on Comp. Grading when you undercut 18" and use good quality borrow from the pit?

Contractor sees CI 4 select and notes that the quantity matches the amount of undercut so they bid the price of performing the UC and a separate price for CI 4.

Example

Comp Grading – New Spec

- Urban widening
- Utility encountered
- Undercut 18”
- Place soil stabilization fabric
- Place Class IV Select Material (ABC)
- Compact – 92% or highest reasonable density
- Pay for
 - Shallow Undercut (CY – Section 225-7)
 - Fabric for Soil Stabilization (SY – Section 270-4)
 - Class IV Subgrade Stabilization (Ton – Section 106-7)

Example

Use of fabric and Select CI 4
for shallow embankment

- Poor soil but no undercut needed
- Place Fabric for Soil Stabilization
- Place Class IV Select Material
- Compact to 92% or highest reasonable density
- Pay for
 - Fabric for Soil Stabilization
 - Class IV Subgrade Stabilization

Select Granular Material

- Current provision requires payment at “Select Granular Material” price when the project borrow material meets the “Select Granular Material” specifications and the material is used as Select Granular Material.

Select Granular Material

- All projects will have Select Granular
 - Either a contingency quantity
 - OR**
 - A plan quantity if the need for select granular is recognized during planning

Select Granular Material

- Comprehensive Grading projects will have
 - A contingency quantity
 - OR**
 - A plan quantity **
 - And a plan quantity for borrow **
- ** If the need for select granular is recognized during planning ****

Select Granular Material

- New provision generally pays for material hauled from a “borrow” pit as “borrow”, even when used as select

What did the revised Select Granular Material affect

- Replaces current Section 265.
- Permits only Class III Select Material in water.

What did the revised Select Granular Material affect

- Measurement and payment has been rewritten. Discourages use of truck measurement.
- There will either be a contingency pay item for select granular material for lump sum grading projects or a plan quantity for Select + Plan Quan for Borrow.

What did the revised Select Granular Material affect

- When select granular is a contingency quantity, pay items for comp. grading projects will remain as they are.

Pay for undercut per 226

Pay for Select by c.y., if required, per SP.

What did the revised Select Granular Material affect

- If select granular is required during design, then select and borrow will be separate pay items

Pay for UC and Select per 225 & SP

Example

Typical Grading

- New location project with multiple pits adjacent to the R/W
- Undercut is required in box section and Select CI 3 is specified in special prov.
- Some pits meet select criteria / Some pits meet only borrow criteria
 - a. Material is hauled to roadway and undercut from the same select pit continuously
Pay for all as borrow
 - b. Only material where select is needed is hauled from select pit until the need for select ends
Pay for material as select until a mixed use begins

Example - Comprehensive Grading

Select and Borrow are broken out

- Undercut is required into ground water
- Also, Undercut is required, not into water, and fabric is specified
- In both cases, Select Granular Cl. 2 or Cl. 3 is required 3' above fabric and only Cl 3 is permitted where there is water
- Pay for Select by pit cross section or by weighing in trucks with conversion factor to CY unless it comes from borrow pit.
- Pay for Borrow
- Truck count is still permitted but only with the Engineer's discretion

Example - Comprehensive Grading

Select is Contingency Quantity

- Undercut is required and ground water encountered
- Also, Undercut is required, not into water, and fabric is specified
- In both cases, Select Granular Cl. 2 or Cl. 3 is required 3' above fabric and only Cl 3 is permitted where there is water
- Pay for Select by pit cross section or by weighing in trucks with conversion factor to CY
- Truck count is still permitted but only with the Engineer's discretion
- How about paying by the volume of the undercut hole?

Example

Comp.Grading and UC 5'

- Comp Grading
 - Undercut a total of 5' and groundwater is encountered
 - Place 3' of Select CI 3
 - The remaining 2' are common borrow or unclassified
 - Pay for
 - Undercut
 - 3' of select CI 3 (if select and borrow are not broken out)
 - Nothing for additional backfill for the final 2' (use common borrow or unclassified)
- » OR**
- Undercut
 - 3' of select CI 3 in accordance with 225 (if borrow was broken out of the Comp. Grading item)
 - Final 2' as common borrow or unclassified

Questions