



MODULE 04 - SCHEDULE OF VALUES

Part A – Definitions

1. A Schedule of Values (SOV) provides a detailed break-down that defines various scopes of work and their associated costs. These costs sum to equal the total contract value of a project. We use this tool to estimate the total value of the project.
2. Bid Tally – Estimators and project managers use bid tallies to evaluate subcontractor bids.

Part B – Directions

Our SOV is almost complete, but there are still a few trades that are missing estimated contract values! Please review all subcontractor bids, complete the bid tally provided and input the final contract values you determine into the SOV. For each trade, identify which scopes the subcontractor has included or excluded in their proposal via the bid tally. Use this information to assist in the selection of subcontractors. Please make sure to note any additional or missing scopes on each subcontractor's bid tally, along with an associated cost.

1. Bid Tally
 - a. Inclusions Section: Use the inclusions listed in the subcontractors' proposals to generate your list of inclusions in your bid tally. Also make sure to complete a personal review of the drawings to make sure they have included all scope required. Don't solely rely on the contractor's word!
 - b. Cost to Complete Section: This section is used to identify scopes that a subcontractor may not have priced, but that you know will be needed to complete the work. For example, if the painting subcontractor did not include a cost for touch-up paint in their price, and you know that touch-up paint will be required, make sure to include a line item under Cost to Complete with a lump sum cost for this missed scope. For the sake of this project, it is safe to assume that not all scopes, under any specific trade, need to be completed by the same contractor.
2. Self-Perform concrete Take-off & Estimate: Follow the step-by-step instructions in **Part C** on the following pages to complete your concrete take-off in Bluebeam or On-Screen take-off. Using the Excel estimate template and provided unit costs, determine the total cost of the concrete scope. Include this cost in your SOV.
3. Schedule of Values: Once your bid tally is complete, select a subcontractor for each scope. Input their final number into your SOV. The cost that you input into the SOV should include the subcontractors cost plus any cost to completes you have identified. Include a detailed explanation of why this contractor was selected. Your jobsite management and site requirements total should align



with your GCs. Don't forget to set percentage rates for your insurance, fee and contingencies. Feel free to explain the reasoning behind the percentage rates you choose.

Part C – SPW Structural Concrete Take-Off How-To

DPR Construction is a company built on a mission; 'To Build Great Things'. One of the ways we are able to ensure this happens is through our ability to self-perform critical trades. By executing fundamental scopes of work, such as foundations, drywall and carpentry we are able to offer greater control and set the tone and pace for each project.

The self-performed group at DPR specializes in specific trades, where we can bid, manage, and perform the work associated with our own team. Concrete, drywall, surveying and layout, Unistrut, ACT, and insulation can all be performed by our in-house craft teams, and that's just to name a few! Our SPW group sets DPR apart from our competition and provides a competitive advantage when pursuing projects.

There are many benefits to having SPW on a project including schedule enhancements, budget improvements, superior level of quality and increased safety. Overall, hiring a contractor who self performs their own scopes of work creates a bigger benefit to the Owner.

Therefore, in this section we will test your estimating and concrete knowledge by having you create your own budget for the SPW Concrete scope; from performing a take-off to selecting unit prices for the specific types of work to create an overall estimate for the concrete. *(Hint – The concrete unit cost spreadsheet has more unit costs than you will need.)*

1. Quantity Take-Off

- a. Begin by reviewing the 'Concrete Estimate Spreadsheet', this template will be used to build your estimate as well as provide you with unit costs. In On-Screen Takeoff (OST) or Bluebeam provide a complete take-off of the footings (continuous and spread), grade beams, anchor bolt assemblies, slab on grade, and concrete fill on metal deck.



GENE-THEORY
SPW STRUCTURAL CONCRETE ESTIMATE

ITEM #	TYPE	Description (Length, Width, Depth)	QUANTITY	UOM	UNIT PRICE	TOTAL COST	TOTAL CY
1	GRADE BEAMS			CY			
1.1				CY			
1.2				CY			
1.3				CY			
1.4				CY			
1.5				CY			
1.6				CY			
1.7				CY			
1.8				CY			
1.9				CY			
1.10				CY			
1.11				CY			
2	FOOTINGS			CY			
2.1				CY			
2.2				CY			
2.3				CY			
2.4				CY			
2.5				CY			
2.6				CY			
2.7				CY			
2.8				CY			
3	SLAB-ON-GRADE			SF			
3.1				SF			
3.2				SF			

2. After completing the take-off of the concrete items, enter your quantities into the 'Concrete Estimate' spreadsheet.

GENE-THEORY
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ITEM #	TYPE	Description (Length, Width, Depth)	QUANTITY	UOM	UNIT PRICE	TOTAL COST	TOTAL CY
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1.1				CY			
1.2				CY			
1.3				CY			
1.4				CY			
1.5				CY			
1.6				CY			
1.7				CY			
1.8				CY			
1.9				CY			
1.10				CY			
1.11				CY			
2	FOOTINGS			CY			
2.1				CY			
2.2				CY			
2.3				CY			
2.4				CY			
2.5				CY			
2.6				CY			
2.7				CY			
2.8				CY			
3	SLAB-ON-GRADE			SF			
3.1				SF			
3.2				SF			

3. Determining the Cost of Work
 a. Use the 'Unit Cost' spreadsheet to determine a total cost for the concrete assemblies.



GENE-THEORY

STRUCTURAL CONCRETE ESTIMATE

UNIT COST SPREADSHEET

ITEM #	DESCRIPTION	UOM	UNIT PRICE
1	Slab on Grade 4"	SF	\$ 12.00
2	Footing F10.0	CY	\$ 390.00
3	Grade Beam GB-5	CY	\$ 250.00
4	Column AB Template	EA	\$ 900.00
5	Footing F7.0	LF	\$ 390.00
6	Slab on Grade 8"	SF	\$ 16.00
7	Grade Beam GB-1	CY	\$ 225.00
8	LWC on Metal Deck 1-1/2" deck with 3-1/4"-4-3/4" fill	SF	\$ 8.00
9	Footing F5.0	CY	\$ 390.00
10	Footing F12.0	CY	\$ 425.00
11	LWC on Metal Deck 2" deck with 2-1/4" fill	SF	\$ 9.00
12	Footing F8.0	EA	\$ 390.00
13	NWC on Metal Deck 4" deck with 5-1/2" fill	SF	\$ 7.00
14	Grade Beam GB-4	CY	\$ 225.00
15	LWC on Metal Deck 3" deck with 3-1/4" fill	SF	\$ 10.00
16	Footing F11.0	CY	\$ 425.00
17	Footing F6.0	EA	\$ 390.00
18	Grade Beam GB-2	CY	\$ 225.00
19	Footing F13.0	CY	\$ 425.00
20	NWC on Metal Deck 3" deck with 4-1/2" fill	SF	\$ 6.00

4. Once you have determined the unit cost of work of the concrete line item, **INPUT** this cost into the designated line in your Structural Concrete Estimate.

GENE-THEORY							
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1	GRADE BEAMS			CY			
1.1				CY			
1.2				CY			
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2.2				CY			
2.3				CY			
2.4				CY			
2.5				CY			
2.6				CY			
2.7				CY			
2.8				CY			
3	SLAB-ON-GRADE			SF			
3.1				SF			
3.2				SF			

5. For each element, calculate the total cost using the quantity taken off and the unit price for that element. Don't forget to input your final concrete estimate into your SOV module!



GENE-THEORY
SPW STRUCTURAL CONCRETE ESTIMATE

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1	GRADE BEAMS			CY			
1.1				CY			
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2.2				CY			
2.3				CY			
2.4				CY			
2.5				CY			
2.6				CY			
2.7				CY			
2.8				CY			
3	SLAB-ON-GRADE			SF			
3.1				SF			
3.2				SF			

Part D – References

- Self-Perform Work (SPW):** a scope of work which is performed inhouse by the General Contractor.
- Cement:** a powdery substance made up of lime, iron, silica, and aluminum; mixed with water, fine aggregate and coarse aggregates to make concrete.
- Concrete:** the chemical reaction of when water is added to cement with a mixture of coarse and/or fine aggregates.
- Admixture:** an ingredient sometimes added to the concrete mix design during batching to modify one or more of the properties of the concrete.
- Water-to-Cement Ratio (w/cm):** The is the ratio of the amount of water to cement within a concrete mix. The maximum amount is usually determined by the Structural Engineer.
- Grade Beam (GB):** a grade beam is used to support loads that have minimal bending. They help transfer the load of a shear wall equally among the pile caps and/or caisson footings (bearing points) below.
- Spread Footings (SF):** a spread footing typically carries a single column and helps to spread this load of the building laterally into the soils. Also known as an isolated footing.
- Continuous Footings (CF):** a continuous footing typically to constructed to provide a stable base around the perimeter of the building. Most commonly used where spread footings support the center of the building.
- Pile Caps (PC):** pile caps are masses of concrete connecting a group of previously constructed on piles driven into the ground. These typically form part of the foundations of the building.
- Mat Slab:** also known as a raft foundation, it is used to distribute heavier building loads across an entire section of the foundation.
- Slab-on-Grade (SOG):** slab-on-grades are also known as *floating slabs*, are typically a single layer of concrete, where it is thickened at the edges to create an integral footing.



Required Deliverables:

1. Complete bid tallies and submit in PDF **and** excel format
2. SPW Take-Off & Estimate:
 - a. Take-off for Concrete Assemblies in PDF format
 - b. Completed 'Concrete Estimate' spreadsheet in PDF **and** excel format
3. Complete Schedule of Values in PDF **and** excel format