

## DB Section 190 – Pricing and Measurement of Pay Quantities

**DB190.00 Pricing and Payment Terms** - This Section 190 describes the pricing and payment terms and specifies the means of determining the value of Work performed (Work progress). The Parties, upon mutual agreement, may modify individual Price Item Values shown in the Schedule of Prices (Form SP) without modifying the Contract Amount. The Parties shall use a detailed breakdown of pricing and measurement of pay quantities to determine the value of Work performed. This detailed breakdown shall be determined prior to first Pay Request processing for design-related Price Items, and prior to the first Pay Request processing for construction-related Price Items, and shall be used throughout the term of the Contract as the basis for payment. The detailed breakdown must be reconciled to the Contract's Schedule of Prices for each month's payment cycle.

**(a) Pricing Concept** - The pricing concept is summarized as follows:

- Price Centers (PCs) are established by Agency for major Work activities, representing either an entire Work Location or a grouping of inter-related Work within a Work Location
- Price Items are identified by Agency to reflect particular groupings of tasks (e.g., Design Units or construction Work packages) within each Price Center
- Price Item Values are assigned by Design-Builder to each Price Item to facilitate the determination of the value of Work performed (Work progress)

**(b) Breakdown of Price Centers, Price Items; Price Item Values**

**(1) Identification of Price Centers** - Form PCD identifies each Price Center and Price Item by title, description, and identification number.

If Design-Builder plans to request payment as advance allowance for Materials on hand, it must show delivery of the Material as a separate Price Item in the associated PC. Payment shall be subject to the terms and conditions of **DB General Provisions**, Subsection 195.60.

**(2) Identification of Price Items** - Price Centers are divided into the following Price Items (*breakdown shown for Price Center "A"*):

- Price Item A1: Design
- Price Item A3: Quality Management
- Price Item A3: Safety (including temporary traffic control)
- Price Item A4: Environmental mitigation and monitoring
- Price Item A5: Mobilization
- Price Items A6 and beyond are identified in Forms SP and PCD

For each Price Item, Design-Builder shall describe on Form PCD, in bulleted or narrative form, all of the Work encompassed within the Price Item, and shall cross-

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reference items of a similar nature that are included in other Price Items. Design-Builder may include a list of the key components shown on Form SP in each Price Item description.

**(3) Assignment of Price Item Breakdown** - Design-Builder shall assign Price Item breakdowns for each Price Item as a means to quantify the value of Work performed, per Subsection 190.10.

**DB190.10 Measurement / Determining Progress**

**(a) Fixed-Price Work** - For all fixed-price Work, the Parties will conduct a pre-design meeting for the purpose of establishing the level of detail to be required for measuring progress with regard to Price Items 1 through 4.

The Parties will conduct a pre-construction meeting for the purpose of establishing the level of detail to be required for measuring progress with regard to Price Items 6 and beyond. In the event the Parties cannot agree on the level of detail to be required, Agency shall establish the requirements, which decision shall be final. Price Item 5 progress measurement is established in Subsection 190.10(a)(3) below.

Design-Builder shall include the basis for progress measurement and Price Item breakdown in the Quality Plan, which must be Accepted by Agency prior Agency's processing of Design-Builder's first Pay Request.

For all Work paid on a fixed-price basis, progress and payment shall be determined as follows:

**(1) Price Item 1** - Progress shall be determined on a cumulative percent of Work complete basis, consistent with the measurement established in the written Design Unit report required pursuant to **DB General Provisions**, Subsection 155.06.

The breakdown of Design Price Items for each PC is based on the Design Units identified in Form DU, in relation to the three (3) major Milestones associated with design: Definitive Design, Readiness-for-Construction, and As-Constructed Plans and Specifications. The breakdown consists of the following:

<b>Design Milestone/Event for each Design Unit</b>	<b>Earns</b>
Start Design	<b>15%</b> of the value of Price Item "1" for a particular PC
Submit Definitive Design	<b>25%</b> of the value of Price Item "1" for a particular PC
Submit Readiness-for-Construction	<b>50%</b> of the value of Price Item "1" for a particular PC*
Submit As-Constructed	<b>10%</b> of the value of Price Item "1" for a particular PC
Total	<b>100%</b> of the value of Price Item "1" for a particular PC

\*Readiness-for-Construction (RFC) submittals may be further broken down into component construction Work packages, such as:

Traffic staging and detour	equivalent to 5% of the RFC Price Item
Demolition (Bridge removal)	equivalent to 10% of the RFC Price Item

Substructure construction	equivalent to 25% of the RFC Price Item
Superstructure construction	equivalent to 25% of the RFC Price item
Earthwork construction	equivalent to 15% of the RFC Price Item
Roadway construction	equivalent to 20% of the RFC Price Item

Alternatively, Design-Builder may elect to measure progress of RFC Work in relation to the percent of the associated construction Work (Price Items F and beyond). RFC Work progress will then be calculated for payment as the Price Item Value multiplied by the percentage of associated Construction Work planned.

**(2) Price Items 2 through 4** - Progress shall be measured as follows:

- Price Item 2, Quality Management, will earn:
  - 5% of all Quality Management Price Items on Project at Acceptance of the Partial Quality Plan
  - 15% of all Quality Management Price Items on Project at Acceptance of the Complete Quality Plan
  - 80% of the PC value will be pro-rated each month based on construction progress of the specific PC (e.g., Work Location)
- Price Item 3, Safety, will earn:
  - 10% of all Safety Price Items on Project at submittal of Safety Plan
  - 15% or an amount agreed upon by Agency and Design-Builder of all Safety Price Items on Project upon confirmed delivery of safety Materials and Equipment on-site or at designated Project storage yard
  - 75% or the balance of the amount agreed upon above of the PC value will be pro-rated each month based on construction progress of the specific PC (e.g., Work Location)
- Price Item 4, Environmental, will earn:
  - 10% of all Environmental Price Items on Project at submittal of Environmental Compliance Plan (part of the Quality Plan)
  - 15% or an amount agreed upon by Agency and Design-Builder of all Environmental Price Items on Project upon confirmed delivery of environmental Materials and Equipment on-site or at designated Project storage yard
  - 75% or the balance of the amount agreed upon above of the PC value will be pro-rated each month on construction progress of the specific PC (e.g., Work Location)

**(3) Price Item 5** - Mobilization is divided into two (2) separate payment values; design mobilization and construction mobilization as follows:

- Design Mobilization shall include cost of bonds, insurance and design mobilization. It is limited to 10% of all Design Price Items on Project, earned at Contract Award, and paid as part of the first pay request.
- Construction Mobilization shall be measured and paid pursuant to **DB Standard Specifications**, Part 00210.90 for sum of all construction components of a PC (i.e. Work Location), not including advances on Materials, as follows:

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- When 5% is earned, 50% of the amount for construction mobilization is paid for the PC
- When 10% is earned, 100% of the amount for construction mobilization is paid for the PC
- When all Work is completed, the amount of construction mobilization exceeding 10% of the original sum of all construction components of a PC (i.e. Work Location) is paid.

**(4) Price Centers Associated with Construction** - Progress shall be determined on a cumulative percent of Work complete basis. Price Items 5 and beyond shall be measured based on completed actual quantities against the estimated quantities provided with the Readiness-for-Construction submittal. Design-Builder shall provide the pay estimate breakdown by measurable quantities prior to construction commencing on the first Work Location. In addition to the other remedies provided in the Contract, and regardless of the actual Work completed, Design-Builder will not be considered to have progressed the Work for any Price Center under any of the following circumstances:

- The Quality Plan has not been followed or documentation has not been provided
- The Baseline Project Schedule is not being followed
- The Safety Plan is not being followed
- The Traffic Control Plans are not being followed
- Environmental requirements have not been met

**(b) Unit Priced Work** - In computing amounts of Work done under Unit Prices, all Pay Requests, including the final, will be made for actual quantities of Work performed and Material placed in accordance with Contract requirements (except as provided under **DB General Provisions**, Subsection 195.60), as determined per **DB General Provisions**, Subsection 195.55. The resulting quantities involved in the Contract shall be accepted as final, conclusive, and binding upon Design-Builder.

#### **DB190.20 Design-Builder to Provide Vehicle Weigh Scales**

**(a) General** – If the Contract requires measurement by weighing on vehicle weigh scales, Design-Builder shall provide vehicle weigh scales and shall transport Materials to the scales. Subject to Agency’s approval, masses (weights) may be determined by plant or hopper scales according to Subsection 190.30.

Design-Builder provided scales shall be furnished, installed and maintained by the Design-Builder or its supplier, or, subject to Agency’s approval, may use commercial scales located in the vicinity of the Project.

Unless otherwise provided in the Contract, Materials to be measured by mass (weight) shall include all Design-Builder costs for providing, maintaining, inspecting, and testing scales; for furnishing appropriate weigh tickets; for self-printing scales; and for transporting Materials to the scales or to check weighing.

**(b) Requirements** - The scales shall conform to ORS Chapter 618, or the laws of the state in which they are located, and NIST Handbook 44, and shall be:

- Licensed by the Oregon Department of Agriculture, or by the analogous regulatory body for scales located outside the State
- Technically suitable for weighing the Materials
- Properly installed and maintained
- Accurate to the required tolerances

The Project Quality Manager and/or the Construction Quality Manager shall perform check weighing on the mass (weight) of any Materials weighed by Design-Builder. Agency PM may require additional check weighing.

**(c) Approaches** – Vehicle scale approaches shall be:

- At each end of the scale platform
- Straight and in line with the platform
- Long enough to accommodate combination vehicles longer than the scale platform so that they are level and allow release of brakes before weighing

**(d) Inspections** – Design-Builder shall have all scales certified, that is, inspected and their accuracy tested, by the Oregon Department of Agriculture, an analogous regulatory body for scales located outside the State, or a scale service company as follows:

- Before use if installed at a new site
- 60 Calendar Days after initial inspection
- Every six (6) months thereafter
- When Project Quality Manager, Construction Quality Manager, or Agency PM directs additional inspections

No Materials weighed on scales without current certifications in accordance with this Subsection will be accepted. Design-Builder shall provide a copy of all required certifications to Agency PM.

Testing by a scale service company within the State of Oregon shall comply with ORS Chapter 618.

If additional inspections directed by Agency PM confirm that the scale accuracy is within the required tolerances, Agency will pay the cost for inspecting and testing the scales. If the scale accuracy is not within these tolerances, Design-Builder shall pay the cost for inspecting and testing the scales.

**(e) Inspection Results** – If an inspection indicates the scales have been under-weighing (indicating less than the true mass (weight)), Design-Builder shall notify Agency PM in writing of such discrepancy. Agency will make no additional payment to Design-Builder for Materials previously weighed.

If an inspection indicates the scales have been over-weighing (indicating more than the true mass (weight)), the masses (weights) will be reduced for Materials received after the time Agency determines the overweighing began or, if that is not possible, after the last acceptable certification of the scales. The reduction will be the amount of error in excess of the 0.2% maintenance tolerance allowed in the Contract.

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**(f) Design-Builder provided Weigh Technician** – Design-Builder shall provide a technician to operate Design-Builder provided weigh scales. Agency PM may observe procedures and may require check weighing. Construction Quality Manager shall observe procedures and require check weighing in accordance with the following:

**(1) Scale with Automatic Printer** – If the scales have an automatic weigh memo printer that does not require manual entry of gross mass (weight) information, Construction Quality Manager and/or Agency may periodically have a representative at the scales to observe the weighing procedures. In addition, Construction Quality Manager and/or Agency may periodically check the mass (weight) for a load of Materials by directing the haul vehicle to reweigh on a different scale that has been inspected and certified in accordance with Subsections 190.20(b) and 190.20(d).

If a different scale is not available within a 30 mile round trip from the regular haul route, Agency will allow check weighing on an approved alternate basis. Check masses (weights) within 0.4% of the Design-Builder provided mass (weight) are acceptable.

Agency will resolve discrepancies found by check weighing. Agency employee costs for check weighing will be paid by Agency. Design-Builder shall pay all other costs resulting from the check weighing ordered by Agency PM, Project Quality Manager, or Construction Quality Manager, including, without limitation, the use of other scales.

If more than 50 tons per day of all types of Materials are received from a scale, Design-Builder shall make random check weighings at least every tenth day on which more than 50 tons is received or at each interval that 10,000 tons has been weighed, whichever occurs first, or as directed by Agency. Design-Builder shall make at least one (1) check weighing on projects where more than 2,000 tons of all types of Materials are received from a scale. Design-Builder shall provide Agency PM and Construction Quality Manager with the results of the check weighing.

**(2) Scale without Automatic Printer** – If the scales require manual entry of gross mass (weight) information, Construction Quality Manager and Agency may periodically have a representative weigh witness at the scales to observe the weighing procedures. Design-Builder shall inform both Construction Quality Manager and Agency PM of his intent to use a scale without an automatic printer at least three (3) working days before weighing begins or before Design-Builder changes to a scale that does not have an automatic printer. Design-Builder shall pay costs for the weigh witness from either the Construction Quality Manager or Agency. The hourly cost of an Agency weigh witness will be as stated in the **DB Special Provisions**, SP190.20(f). In addition, Construction Quality Manager and Agency may periodically check the mass (weight) for a load of Materials by directing the haul vehicle to reweigh on a different scale that has been inspected and certified in accordance with Subsections 190.20(b) and 190.20(d).

If a different scale is not available within a 30 mile round trip from the regular haul route, Agency will allow the check weighing on an approved alternate basis. Check masses (weights) within 0.4% of the Design-Builder-provided mass (weight) are acceptable.

Agency will resolve discrepancies found by check weighing. Agency employee costs for check weighing will be paid by Agency. Design-Builder shall pay all other costs

resulting from the check weighing ordered by Agency PM, Project Quality Manager, or Construction Quality Manager, including, without limitation, the use of other scales.

If more than 50 tons per day of all types of Materials are received from a scale, Design-Builder shall make random check weighings at least every tenth day on which more than 50 tons is received, or at each interval that 10,000 tons has been weighed, whichever occurs first, or as directed by Construction Quality Manager or Agency. Design-Builder shall make at least one (1) check weighing on all projects where Materials are received from a scale without an automatic printer. Design-Builder shall provide Construction Quality Manager and Agency PM with the results of the check weighing.

**(3) Duties of Weigh Technician** – Design-Builder’s weigh technician shall:

- Determine twice a day, or as otherwise directed by Agency, the empty haul masses (weights) (tare masses (weights)) of hauling vehicles, unless vehicles are tared each load
- Furnish daily a listing of tare masses (weights) if ten or more loads are hauled during that day
- Furnish a note listing the net masses (weight) for each consecutive ten loads with the following load
- Furnish a daily listing of net masses (weights) and total mass (weight) for each type of Material hauled during that day
- Furnish a legible, serially numbered weigh memo for each load of Materials to the Materials receiver at the point of delivery, or as directed by Agency. The memo shall identify the Project, the Materials, the date, net mass (weight) (gross and tare as appropriate), and identification of the vehicle, driver and weigh technician.

**(g) Agency-provided Weigh Technician** – If the Design-Builder provides vehicle weigh scales without a weigh technician meeting the requirements of this Subsection, Agency will provide a weigh technician at Design-Builder’s expense. The hourly cost for the weigh technician will be as stated in the **DB Special Provisions**, SP190.20(g). Design-Builder shall provide a weighhouse for the weigh technician in accordance with DB Standard Specification, Section 00205. Agency’s weigh technician will:

- Determine tare masses (weights)
- Prepare weigh memos for each load
- Compile the weigh records
- Not participate in the production of Materials or the loading of haul vehicles

**DB190.30 Plant Scales** – Design-Builder may weigh plant-mixed Materials on scales that have either:

- An automatic mass (weight) batching and mixing control printer system, or
- A weigh hopper printer system

Any additional costs resulting from the use of these scales shall be borne by Design-Builder. Check weighing will be done in accordance with Subsection 190.20(f).

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Except for Subsection 190.20(c) regarding approaches, Design-Builder's use of plant scales shall comply with all provisions of Subsection 190.20.

Agency's approval for Design-Builder's use of plant scales to determine pay masses (weights) will be rescinded if check weighing or scale inspections indicate the scales do not consistently determine masses (weights) within the tolerances allowed by state law.