SECTION 01 42 16 – DEFINITIONS

1.01 [A17]**INTRODUCTION**: The definitions in this Section apply to all Contract documents and are in addition to those found in the Conditions of Contract.

A. Identification of Defined Terms: The terms defined in this Section are capitalized when used in their defined sense in this Contract. In the event of any ambiguity or discrepancy, the precise meaning will be determined by the Employer's Representative.

B. Organization of Definitions: In keeping with the basic structure used for definitions in the Conditions of Contract, the terms defined herein are grouped by subject matter, with an alphabetical index of all terms at the beginning (in 1.02 A) to facilitate their location within their respective groups. The subject-matter groupings are design, construction, and contractual matters (1.02 B); general matters (1.02 C); lockages and maritime operations (1.02 D); and structures and appurtenances (1.02 E).

1.02 DEFINITIONS:

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B. Design, Construction, and Contractual Matters:

1. The "**Cost Breakdown Structure**" or **CBS** is a hierarchical cost structure that is provided by the Employer in a basic format and developed and submitted by the Contractor in a detailed version.

   a. The "**Employer CBS**," provided as Attachment B to Section 01 31 00, establishes cost categories for project accounting purposes by dividing the Works into seven levels of increasing detail.

   b. The "**Contractor CBS**" is developed and submitted by the Contractor to extend the Employer CBS beyond the seven levels of detail as appropriate to match the detail of the Contractor's programmes. The Contractor CBS will be integral to the structure of the Contractor's cost-loaded programmes for execution of the Works.

2. "**Over-the-Shoulder Reviews**" mean the informal working meetings during which members of the Employer's staff will meet with the Contractor's design team to discuss the designs, drawings, and other relevant Contractor's Documents. The objective is to facilitate the exchange of information between the Employer's Personnel and the Contractor's Personnel during the design-development process and to provide an opportunity for dialogue about compliance with the relevant Employer's Requirements. The Contractor's Project Management Plan shall indicate at what stages these working meetings should occur, but the Employer reserves the right to request additional meetings if required. Responsibility for the design and performance of the Works shall remain with the Contractor. The Employer shall assume no liability for, and the Contractor may not make any claims with respect to, any comment, action, discussion, suggestion, or other result that may arise out of or during the Over-the-Shoulder Review process.

3. The "**Project Management Plan**" or **PMP** shall be the operative instrument for planning, implementing, and controlling performance of the Works. The PMP is required to address all of the Contractor's management activities.

4. The "**Splash Zones**" are the areas on waterfront surfaces where moisture droplets and water films accumulate. In the context of the Contract, they are located above the mean high-water level and the atmospheric zone, which is typically dry. The distance they cover varies depending on location, wind, wave action, and tides.

5. The term "**Unclassified Dredging**" is used to describe the removal of any combination of submerged topsoil, soil, hard material, rock, and muck. Unclassified Dredging shall be carried out to the lines and grades required for the Works, as shown on plans, without regard to the type of material found. Large rocks or boulders shall not deliberately be moved in any way into the channel. In the event of an accidental shifting of rocks into the channel, soundings shall be made immediately to determine if a shoal could develop and, if so, the Employer's Representative shall be notified at once.

6. The term "**Unclassified Excavation**" is used to describe the removal of any combination of topsoil, soil, hard material, rock, muck, and mud. Unclassified Excavation shall be carried out to the lines and grades required for the Works, as shown on plans, without regard to percentage of moisture or type of material found between the surface and final depth.

7. The "**Work Breakdown Structure**" or **WBS** is a hierarchical programming structure provided by the Employer in a basic format and developed and submitted by the Contractor in a detailed version.

    a. The "**Employer WBS**," provided as Attachment A to Section 01 31 00, establishes activity categories for all work elements of the Contract by dividing the Works into seven levels of increasing detail.

    b. The "**Contractor WBS**" is developed and submitted by the Contractor to extend the Employer WBS beyond the seven levels of detail as appropriate to match the detail of the Contractor's programmes. The Contractor WBS will be integral to the structure of the Contractor's programmes for execution of the Works.

C. **General Matters**:

1. "**ACP**" means the Panama Canal Authority, or Autoridad del Canal de Panamá as it is officially known in Spanish. It is referred to in this Contract as the "Employer".

2. The "**PLD**" or **Precise Level Datum** is the zero-point surface-control datum to which all elevations for vertical-control surveying are referred at the Canal. It was established at mean sea level in Cristobal (on the Atlantic side of the Isthmus) during the construction of the waterway (in 1910). Atlantic mean low water (MLW) equals -0.12 meter (-0.38 foot) PLD, Pacific mean low water

springs (MLWS) equals -2.32 meters (–7.62 feet) PLD, mean lake level (MLL) for Gatun equals 25.91 meters (85 feet) PLD, and the mean level of Miraflores Lake equals 16.46 meters (54 feet) PLD.

3. The "**Third Set of Locks Project**" is the principal component of the Panama Canal Expansion Program and the object of this Contract. Throughout the Conditions of Contract and the other Contract documents, the term "Works" (as defined in the Conditions of Contract) is used to describe the the Third Set of Locks Project.

D. Lockages and Maritime Operations:

1. In lock operations, a "**Contingency**" is system trouble or another unexpected event that can be fixed in 2 hours or less (as compared with a Disaster).

2. "**Cycle Time**" is the amount of time it takes to receive one vessel and then be ready to receive the next one. It begins when the first vessel passes the Knuckle to enter the locks and ends when the bow of the next vessel passes the Knucke to enter. Cycle Time shall be less than Lockage Time when Relay Lockages are used.

3. The "**Design Vessel**" is a 12,000 TEU containership (19 containers across the deck) with the following nominal dimensions:

   a. A beam of 49 m.

   b. A length overall (LOA) of 366 m.

   c. A Tropical Freshwater Draft of 15.2 m.

   d. Displacement: 160,000 metric tons.

4. In lock operations, a "**Disaster**" is system trouble or another unexpected event that cannot be fixed within 2 hours (as compared with a Contingency).

5. A "**Down Lockage**" is one in which the vessel moves from a higher to a lower level.

6. In lock operations, **"Dry-Docking"** refers to an undesired water level condition that causes a vessel keel to be in contact with the lock chamber floor. It should not be confused with the dry chamber condition that is created intentionally when a lock chamber is dewatered for maintenance during an Overhaul.

7. The process of "**Equalization**" brings the water in one chamber to the level of another or to the level of the adjoining lake or ocean.

8. The "**Gaillard Cut**" is the narrowest section of the Panama Canal channel (outside the locks). It includes the Continental Divide. The area was dry-excavated as part of the original construction work on the waterway.

9. A vessel's "**Lockage Time**" begins when it passes the Knuckle to enter the lock complex and ends when it passes the Knuckle at the other end to exit. During Relay Lockages, Cycle Time shall be less than Lockage Time.

10. A "**Nested Lockage**" is one in which several (typically smaller) vessels are tied together and handled as a unit.

11. The term "**Northbound**" is used to refer to any vessel Transit through the Canal from the Pacific Ocean to the Atlantic Ocean.

12. In lock-maintenance terminology, an "**Overhaul**" refers to the process through which underwater machinery and equipment are maintained or replaced. Because a dry chamber, culvert, or valve pit is required, special provisions must be made in order to minimize the effect on Canal traffic.

13. A "**Panamax**" vessel is a ship in the largest class of vessels that can currently be accommodated at the Panama Canal. The Employer defines these vessels as those with beams of 100 feet or more, as breadth is often the limiting factor. The Canal cannot normally accommodate vessels exceeding 294.13 meters (965 feet) in length, 32.3 meters (106 feet) in width, or 12.04 meters (39.5 feet) draft.

14. A "**Post-Panamax**" vessel is one that cannot be currently accommodated at the Panama Canal. For example, vessels whose beams exceed 32.3 m (106 feet) or lengths exceed 294.13 m (965 feet) are considered in this class.

15. "**Relay Lockages**" involve the simultaneous handling of different vessels in different chambers within the same lock complex.

16. The term "**Southbound"** is used to refer to any vessel Transit through the Canal from the Atlantic Ocean to the Pacific Ocean.

17. In a "**Tandem Lockage**", two vessels are accommodated simultaneously in the same chamber.

18. A "**Transit**" is a complete passage of a single vessel through the Canal.

19. References to "**Tropical Freshwater Draft**" or **TFW Draft** are related to Gatun Lake, with a density 0.9954 gms/cm^3 at 85ºF (29.4ºC). By comparison, salt water might have a density of 1.025 gms/cm^3. Transition from salt water to freshwater frequently alters the trim of large vessels by 3 to 4 inches (7.5 to 10 centimeters) by the head and increases their overall draft by about 7 inches.

20. An "**Up Lockage**" is one in which the vessel moves from a lower to a higher level.

E. Structures and Appurtenances:

1. A "**Crossunder**" is a dry tunnel that crosses under lock chambers from one wall to the opposite one, with space for utilities, such as cable trays and/or ducts for

communications, controls, electric power, water lines, and occasional pedestrians**.**

2. The "**Knuckle**" in the existing locks is the point on each end of the side wall from which the angle of the wing wall projects. The imaginary lines between each Knuckle and the point directly opposite it on the center wall define the lock entrances. With respect to the new lock complexes, there shall be Knuckles at both ends of the walls on both sides of the chambers. The Knuckles are the points adjacent to the exterior lock gates where the walls shall angle out. (Each wall shall then angles out one more time, creating additional navigating space for vessels that are approaching and departing from the respective lock complex.)

3. The term "**Recess**" means a structure located perpendicular to the lock chamber into which the rolling gates shall enter when opened. Recesses shall be transformable into dry docks that allow for on-site maintenance without the need for removing gates and, thus, without significant interruption to lock operations. Non-capitalized uses of the word indicate it is being used in commonly understood senses.

4. A "**Resolver**" is an analog rotary position sensor that measures absolute position in reference to a fixed home position over a single turn or fixed maximum number of turns, with or without power. A Resolver has onboard electronic features to "resolve" the measurement signal into the desired conditioned output signal. While the sensor measures degrees of rotation, the output signal is typically proportional to the machine actuator position. A Resolver typically has an analog signal between 4 to 20 mA in the current loop, where 4 mA refers to the "home position" and 20 mA refers to the end position after the maximum number of turns. The sensor is typically powered from the current loop itself.

5. A "**Water-Saving Basin"** or **WSB** is a water-reutilization structure based on pool technology. As part of the Works, these water-storage structures shall be located adjacent to the new lock chambers and connected to them through valve-controlled culverts.[A17]

END OF SECTION