

**3CP 3– SITE BOULDERS – ADDITIVE BID NO. 3 AND NO. 4 ONLY****PART 1 GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General Conditions and Special Provisions, and other Technical Specification Sections apply to this Section.

**1.02 SUMMARY**

- A. This Section includes the following for work in the project:
  - 1. Supply skilled experienced labor, materials, and equipment required to install boulders as specified.
  - 2. Purchasing and transporting Site Boulders and placing them throughout site areas noted on Plans.
- B. Related Sections include the following: Section "Site Furnishings"

**1.03 DEFINITIONS**

- A. Owner refers to the Contra Costa County Flood Control and Water Conservation District, which is the lead agency. Owner or Owner's Representative (O.R.) for the project refers to the district engineer, associates, or agents.
- B. Site Boulders (or Boulders): New, boulders transported to the site and placed as noted on Plans and directed by O.R. in field.

**1.04 SUBMITTALS**

- A. Submittal Package: All submittals in this specification section (excluding re-submittals) shall be compiled together and submitted to O.R. as one package.
- B. Provide on-site Mock-ups for the following, for review and approval prior to installation. Successfully approved Mock-up elements can be incorporated into the final site product if approved by O.R.:
  - 1. Site Boulder placements
- C. Note that all boulder placements shall be executed by the Contractor under direct observation by O.R. in field.

**1.05 INSPECTION**

- A. The Contractor shall obtain approval from O.R. of the following prior to proceeding with construction:
  - 1. Site Boulder submittal
  - 2. Mock-up approval
  - 3. Preparation of the sub-grade and prior to placement of all boulders.
  - 4. Scheduling of O.R. supervision for all boulder placements.

**1.06 QUALITY ASSURANCE**

- A. Pre-construction Meeting: Conduct with O.R. meeting at Project Site to comply with specified requirements.
- B. Ensure all boulder placement equipment and personnel meet the requirements of the specifications for type and experience level.

**PART 2 PRODUCTS****2.01 SITE BOULDERS: INCLUDES BOULDERS FOR ADD ALTERNATE 1 BOULDERS**

- A. Site Boulders shall be selected to match the Boulders installed as part of the preceding "Civil Set" work. Boulders shall be hand selected Napa Syar Rhyolite from the Syar Quarry. Stone shall be selected by Contractor under direct observation by the O.R. (O.R. reserves right to limit quarry visits) at quarry (selection at stone supply yard may be approved by O.R. but is not guaranteed).
- B. Site Boulders shall be select, high quality stone. Broken boulders, boulders with sharp edges, friable boulders, or boulders scarred from excavation and transportation shall not be accepted.
- C. Color shall be variable, from light brown to tan and grey, as determined by O.R. from quarry inventory.

**2.02 SITE BOULDER SIZES AND QUANTITIES:**

AREA	SMALL 1 TON	BIG 2.5 TON
Sand Creek Confluence	7	2
Duffy Meadow	5	1
TONS	12 TONS	7.5 TONS

- 1. Exact boulder sizes, weights, form, texture and tone as determined and approved by O.R. through submittal, quarry (or stone yard) review, and mock-up process.
  - 2. Sizes shall range widely from small boulders to big boulders. Forms shall be square to rectangular, with rounded edges.
- B. Site Boulder quantities shall be controlled by total tonnage. O.R. shall determine the breakdown of the boulder sizes and weights during the boulder selection process at the quarry. Contractor is responsible for procuring and transporting all stone to the site and completing the work as specified.

**PART 3 EXECUTION****3.01 SUBGRADE PREPARATION**

- A. Areas where Site Boulders are to be placed shall be graded to achieve the design intent under direction from O.R. General grade elevations are shown on the Plans. Boulder elevations shall be determined in the field by O.R. The soil surface shall be smooth and free from any obstructions to provide adequate contact area between the soil and boulders.

**3.02 SITE BOULDER PLACEMENT**

- A. Contractor shall provide personnel both experienced and skilled in boulder placement (high-end residential garden level craftsmanship) to complete the specified Site Boulder placement. Provide at a minimum, (1) equipment operator and appropriate machine (See Below) and (2) man crew for Site Boulder setting.
- B. Site Boulder setting shall be completed under direct O.R. observation. Approved mock-up will be used to control all boulder installation detailing and quality.

- C. Site Boulders shall be located/relocated within the site per the Plans and per O.R. direction.
1. Prepare site to accept Site Boulders as described on the Plans and as directed by O.R. Verify placement and boulder size with O.R. prior to installation. Site Boulders shall be placed after rough site grading has been completed, and prior to site paving operations. See Plans for additional information.
  2. Contractor shall be required to use a track excavator with articulating thumb and zero clearance arm capable of picking up, rotating, handling, and setting 5+ ton boulders. Site Boulders shall be expertly set to ensure a high quality, residential garden level of boulder setting workmanship. Ensure tight, permanent fit between adjacent boulders and native soil.
  3. Transport Site Boulders to general locations shown on Plans. Install Site Boulders in final locations directed by O.R. in the field.
  4. Site Boulders placements shall be scheduled so that O.R. observation of boulder placement work can be completed in four working days. Contractor time on this work is not constrained to four days. If Contractor requires additional time request from Contractor shall be submitted for review and approval by O.R. at no additional cost to the Owner.
  5. Protect all site improvements during the Site Boulders placement.
- 3.03 CLEAN-UP
- A. Keep project site and adjacent streets reasonably free from accumulation of debris resulting from work specified in this section.
  - B. Immediately remove dirt, debris, and over seeding from seeding operations from buildings and structures, walls, pavements, and curbs.
- 3.04 PROTECTION
- A. Provide adequate barriers marked with white flags, throughout the duration of the installation to protect site improvements, existing features, and stockpiles.

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