

SECTION 02520 – STEEL PILES

(Follow all instructions and make all edits with “Track Changes” turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Replace Section 02520 of the Standard Specifications except for the Section number and title with the following:

Description

02520.00 Scope - This Section includes the requirements for steel pipe, steel H-beams, and steel sheets used for piling.

Materials**02520.10 Steel Piles:**

(a) General - Furnish all steel piles, except steel pipe piles, meeting the requirements for Camber and sweep specified in AASHTO M 160 (ASTM A6).

(b) Steel Pipe Piles - Furnish either spirally welded or longitudinally welded steel pipe piles that are constant in section. Furnish steel piles meeting the requirements of ASTM A252 or API 5L and the grade shown.

(c) Steel H-Piles - Furnish steel H-piles that are rolled steel pile sections of the size and weight shown. Furnish steel H-piles meeting the requirements of ASTM A36 or ASTM A572. The manufacturer's name, brand or trademark may be shown by die stamping in the web at intervals not exceeding 20 feet along the length of the pile.

(d) Steel Sheet Piles - Furnish steel sheet piles meeting the requirements of AASHTO M 202 (ASTM A328).

(e) Reinforced Pile Tips - Steel pile tip reinforcement includes H-pile points, pipe pile shoes or points or any other proprietary steel pile tip reinforcement. Legibly mark or tag each cast steel point or shoe delivered to the Project Site with the heat or lot number. Submit certified mill test reports showing the physical and chemical properties of each heat or lot number. If the heat or lot number cannot be read on the point or if the mark or tag is missing, the point or shoe will be rejected.

Furnish reinforced tips for steel H-piles from the QPL. In addition, furnish all cast steel points or shoes meeting the following:

ASTM A27, Grade 65 - 35

ASTM A27, Grade 70 - 36

ASTM A27, Grade 70 - 40

ASTM A148, all grades

For steel H-piles provide no less than a 5/16-inch fillet weld full width of each flange.

(f) **Sampling and Field Testing Pile Tips** - The Engineer may randomly sample from each heat or lot number, at least one pile tip or up to 10 percent of the tips for larger projects, of the pile tips delivered for incorporation into the Project.

Test the selected tips as follows:

- Grind five smooth spots on each randomly selected tip. The Engineer will test each smooth spot on each tip with a portable hardness tester or in a laboratory. If three or more of the five spots tested have a reading below 74 on the "B" scale, the tested tip and the entire lot is rejected.
- For steel H-piles, determine the weight of the tips. Furnish cast steel H-pile point having a weight not less than 30 percent of the weight of a 1-foot section of the H-pile where it is attached. If any of the tested tips fail to pass the minimum weight criteria the entire lot is rejected.

Pile tips that are supplied unattached to the pile may be selected for nondestructive testing as described above. Pile tips passing the field test may be incorporated into the Project. Pile tips selected for testing that are supplied already attached to the pile are destructively tested as determined by the Engineer. Provide replacement tips for the tips that are destructively tested at no cost to the Agency. Replace rejected tips with new tips and rejected lots with new lots at no additional cost to the Agency. No time extension or other compensation is granted for Materials or Work required in testing pile tips, replacing rejected pile tips or for replacing tips that are destructively tested. New tips and new lots may also be tested.

02520.30 Acceptance - Material for piles is accepted according to 00165.35 and this Section.