The work under this item is for the services of excavating soil by hand and / or with an air pressure tool in order to expose tree roots, and for associated services and materials necessary to complete the work of relocating roots, pruning roots, backfilling with existing soil, watering, mulching, and fertilizing. The intent of this item is to reduce the negative impacts of construction to tree root systems that are adjacent to the work. This item shall include furnishing and operating the air pressure tool.

<u>Associated Item</u>: All references to Arborist herein shall refer to the Arborist under Item 102.55 Arborist. Arborist shall meet the requirements as specified under that Item and shall be compensated under that Item.

Trees to receive hand excavation shall be those shown on the Plans and/or as determined necessary by the Engineer per the recommendations of the Arborist.

<u>REFERENCES</u>

The standards from American National Standards Institute (ANSI): A300 (Part 8)-2013 Root Management with special attention to Section 84 shall apply to this work. If requested, the Contractor shall provide to the Engineer one copy of this reference. Provision of reference shall be incidental to this item.

METHODS

Hand excavation and root pruning / relocation work shall be performed by or overseen by the Arborist.

Hand excavation and root pruning / relocation shall occur any time prior to equipment work within the root zone of identified trees.

Hand excavation shall be performed where shown on the Plans and/or where directed by the Engineer per recommendations of the Arborist. Excavation shall be of sufficient width to observe and relocate and/or cut roots and shall be to the depth of proposed subgrade. Immediately following air excavation, roots shall be relocated and/or pruned.

Following relocation and/or pruning, roots shall immediately be covered with backfill and watered. Roots shall continue to be watered and fertilized as directed by the Arborist.

METHOD OF MEASUREMENT

Hand Excavation Within Root Zone will be measured for payment by the cubic yard, complete in place.

BASIS OF PAYMENT

Hand Excavation Within Root Zone will be paid for at the Contract unit price per cubic yard, which price shall include all labor, materials, equipment, and incidental costs required to complete the work. No separate payment will be made for hand excavation,

root relocation and/or pruning, watering, and fertilizing, but all costs in connection therewith shall be included in the Contract unit price bid.

Arborist services will be paid for separately under Item 102.55 Arborist.