

SECTION 02050
DEMOLITION OF EXISTING STRUCTURES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope of Work

1. This Section specifies the labor, materials, equipment, and incidentals required for the demolition, relocation, and/or disposal of all structures, building materials, equipment, and accessories to be removed as shown on the Drawings and as specified herein.
2. There may be existing and active stormwater, wastewater, water, and other facilities on site as indicated on the Drawings. It is essential that these facilities, when encountered, remain intact and in service during the proposed demolition. Consequently, the Contractor shall be responsible for the protection of these facilities and shall diligently direct all his activities toward maintaining continuous operation of the existing facilities and minimizing operational inconvenience.
3. Demolition generally includes:
 - a. Complete demolition and removal of manholes, valve vaults, wetwells, piping, and mechanical and electrical equipment related to the Work as shown on the Drawings and specified herein.
 - b. Complete demolition and removal of all above and below ground structures, concrete slabs and foundations, vaults, and underground utilities (water, wastewater, electrical, etc.) as shown on the Drawings and specified herein.
 - c. All material, equipment, rubble, debris, and other products of the demolition shall become the property of the Contractor for his disposal off-site in accordance with all applicable laws and ordinances at the Contractor's expense. The sale of salvageable materials by the Contractor shall only be conducted off-site. The sale of removed items on the site is prohibited by the County.
4. The Contractor shall examine the various Drawings, visit the site, determine the extent of the Work, the extent of work affected therein, and all conditions under which he is required to perform the various operations.
5. The Contractor shall fill and compact all voids left by the removal of pipe, structures, etc. with materials described herein to a grade that will provide for positive drainage of the disturbed area to drain run-off in direction consistent with the surrounding area. The Contractor shall provide all fill materials to the site as needed. Compaction of fill shall match the compaction of adjacent undisturbed material.

1.02 QUALITY ASSURANCE

- A. Permits and Licenses: Contractor shall obtain all necessary permits and licenses for performing the Work and shall furnish a copy of same to the County prior to commencing the Work. The Contractor shall comply with the requirements of the permits.

- 1 B. Notices: Contractor shall issue written notices of planned demolition to companies or
2 local authorities owning utility conduit, wires, or pipes running to or through the project
3 site. Copies of said notices shall be submitted to the County.
- 4 C. Utility Services: Contractor shall notify utility companies or local authorities furnishing
5 gas, water, electrical, telephone, or sewer service to remove any equipment in the
6 structures to be demolished and to remove, disconnect, cap, or plug their services to
7 facilitate demolition.
- 8 D. Contractor shall notify the Orange County Risk Management Department in writing prior
9 to beginning any demolition work.

10 1.03 SHOP DRAWINGS AND SUBMITTALS

- 11 A. Submittals shall be submitted to the County for review and acceptance prior to
12 construction in accordance with the General Conditions and specifications Section 01300
13 "Submittals."
- 14 B. Submit to the County for their approval, 2 copies of proposed methods and operations of
15 demolition or relocation of the structures specified below prior to the start of Work.
16 Include in the schedule the coordination of shut-off, capping, and continuation of utility
17 service as required.
- 18 C. Provide a detailed sequence of demolition and removal work to ensure the uninterrupted
19 progress of the County's operations.
- 20 D. Before commencing demolition work, all structure relocation, bypassing, capping, or
21 modifications necessary will be completed. Actual work will not begin until the County
22 has inspected and approved the prerequisite work and authorized commencement of the
23 demolition work.
- 24 E. The above procedure must be followed for each individual demolition operation.

25 1.04 SITE CONDITIONS

- 26 A. Prior to demolition, the Contractor shall obtain written verification from the utility
27 owner(s) that the existing utilities, including stormwater, wastewater, and/or water
28 facilities, are not operational and are ready for demolition.
- 29 B. The County assumes no responsibility for the actual condition of the structures to be
30 demolished or relocated.
- 31 C. Conditions existing at the time of inspection for bidding purposes will be maintained by
32 the County insofar as practicable. However, variations within each site may occur prior
33 to the start of demolition work.
- 34 D. No additional payment will be made for pumping or other difficulties encountered due to
35 water.

1 E. Certain information regarding the reputed presence, size, character and location of
2 existing underground structures, pipes and conduit has been shown on the Drawings.
3 There is no certainty of the accuracy of this information, and the location of underground
4 structures shown may be inaccurate and other obstructions than those shown may be
5 encountered. The Contractor hereby distinctly agrees that the County is not responsible
6 for the correctness or sufficiency of the information given; that in no event is this
7 information to be considered as a part of the Contract; that he shall have no claim for
8 delay or extra compensation on account of incorrectness of information regarding
9 obstructions either revealed or not revealed by the Drawings; and that he shall have no
10 claim for relief from any obligation or responsibility under this Contract in case the
11 location, size, or character of any pipe or other underground structure is not as indicated
12 on the Drawings, or in case any pipe or other underground structure is encountered that is
13 not shown on the Drawings.

14 1.05 RESTRICTIONS

15 A. No building, tank or structure, or any part thereof, shall be demolished until an
16 application has been filed by the Contractor with the Building Department Inspector and
17 a permit issued if a permit is required. The fee for this permit shall be the Contractor's
18 responsibility. Demolition shall be in accordance with applicable provisions of the
19 Building Code of the State of Florida.

20 B. No explosives shall be used at any time during the demolition. No burning of
21 combustible material will be allowed.

22 C. Contractor shall notify the Orange County Risk Management Department prior to
23 beginning any demolition work.

24 1.06 DISPOSAL OF MATERIAL

25 A. All salvageable or useable material or equipment to be retained by the County shall be
26 shown on Drawings, and shall be moved to a designated area by Contractor for pick up
27 by County. The Contractor shall promptly remove all other materials from the site as
28 indicated or shown on the Drawings.

29 B. All materials not retained by the County shall become the Contractor's property and shall
30 be removed off-site.

31 C. The on-site storage of removed items is prohibited by the County. Off-site sale of
32 salvageable material by the Contractor is acceptable.

33 1.07 TRAFFIC AND ACCESS

34 A. Conduct work to ensure minimum interference with on-site and off-site roads, streets,
35 sidewalks, and occupied or used facilities.

- 1 B. Special attention is directed towards maintaining safe and convenient access to the
2 existing facilities remaining in operation by plant personnel and plant associated vehicles,
3 including trucks and delivery vehicles.
- 4 C. Do not close or obstruct streets, sidewalks, or other occupied or used facilities without
5 permission from the County. Provide alternate routes around closed or obstructed traffic
6 in access ways.

7 1.08 PROTECTION

- 8 A. Conduct operations to minimize damage by falling debris or other causes to adjacent
9 buildings, structures, roadways, other facilities, and persons. Provide interior and
10 exterior shoring, bracing, or support to prevent movement or settlement or collapse of
11 structures to be demolished and adjacent facilities to remain.

12 1.09 DAMAGE

- 13 A. Promptly repair damage caused to adjacent facilities by demolition operations as directed
14 by the County at no cost to the County.

15 1.10 UTILITIES

- 16 A. Maintain existing utilities as directed by the County to remain in service and protect
17 against damage during demolition operations.
- 18 B. Do not interrupt existing utilities serving occupied or operational facilities, except when
19 authorized by County. Provide temporary services during interruptions to existing
20 utilities as acceptable to the County.
- 21 C. The Contractor shall cooperate with the County to shut off utilities serving structures of
22 the existing facilities as required by demolition operations.
- 23 D. The Contractor shall be solely responsible for making all necessary arrangements and for
24 performing any necessary work involved in connection with the interruption of all public
25 and private utilities or services.
- 26 E. All utilities being abandoned shall be terminated at the service mains in conformance
27 with the requirement of the utility companies or the municipality owning or controlling
28 them.

29 1.11 EXTERMINATION

- 30 A. If required, before starting demolition, the Contractor shall employ a certified rodent and
31 vermin exterminator and treat the facilities in accordance with governing health laws and
32 regulations. Any rodents, insects, or other vermin appearing before or during the
33 demolition shall be killed or otherwise prevented from leaving the immediate vicinity of
34 the demolition work.

1 1.12 POLLUTION CONTROL

2 A. For pollution control, use water sprinkling, temporary enclosures, and other suitable
3 methods as necessary to limit the amount of dust rising and scattering in the air to the
4 lowest level of air pollution practical for the conditions of work. The Contractor shall
5 comply with the governing regulations.

6 B. Clean adjacent structures and improvements of all dust and debris caused by demolition
7 operations as directed by the County. Return areas to conditions existing prior to the start
8 of Work.

9 **PART 2 - PRODUCTS (NOT USED)**

10 **PART 3 - EXECUTION**

11 3.01 SEQUENCE OF WORK

12 A. The sequence of demolition and relocation of existing facilities shall be in accordance
13 with the approved critical path schedule as specified in paragraph 1.03 above.

14 3.02 REMOVAL OF EXISTING PROCESS EQUIPMENT, PIPING, AND APPURTENANCES

15 A. Equipment to be retained by the County will be designated for retention by the County
16 prior to bidding as specified in Paragraph 1.06 above. Subject to the constraints of
17 maintaining existing facilities in operation as shown on the Drawings, all other process
18 equipment, non-buried valving and piping, and appurtenances shall be removed from the
19 site.

20 3.03 DEMOLITION PROCEDURES

21 The Contractor shall adhere to the following demolition procedures as referenced on the
22 Drawings:

23 A. TO BE DEMOLISHED: Demolition shall be the breaking up, cutting, filling of any holes
24 resulting, final grading of the area, performing any other operations required, and the
25 removal from the site of all structures and equipment (structures, substructures, floor
26 slabs, equipment, tanks, pipes, fittings, electrical systems, light poles, wiring,
27 underground conduits and wiring, isolated slabs, and sidewalks) as indicated on the
28 Drawings. All pieces of concrete, metal, and any other demolished material shall be
29 removed to a depth of at least 5-feet below existing grade. Broken pieces of concrete
30 may be size reduced by an on-site crusher, but in any event must be removed from the
31 project site.

32 Before commencing structural demolition, remove all mechanical, electrical, piping, and
33 miscellaneous appurtenances. Completely remove the structure by thoroughly breaking
34 up concrete into pieces no more than 2-feet across the largest dimension.

- 1 B. TO BE REMOVED: Where indicated on the Drawings, the structures and equipment
2 shall be completely removed from the site with all associated connecting piping or
3 electrical service. The item shall be taken whole or in parts to be salvaged or disposed of
4 by the Contractor.
- 5 C. TO BE ABANDONED: Where indicated on the Drawings, the structures and equipment
6 shall be left in place, drained, and the contents properly disposed. The upper 4-feet of the
7 structure shall be cut and removed, including the cover slab and access port, frame, and
8 cover. All structures to be abandoned with bottom slabs shall be drilled (2 holes
9 minimum, 2.0-inch diameter each) or hole punched to prevent flotation and filled with
10 common fill.
- 11 D. PIPING TO BE REMOVED: Where indicated on the Drawings, pipe (and conduit) shall
12 be drained and the contents properly disposed. The pipe (or conduit) shall then be
13 completely removed from the site, including fittings, valves, and other in-line devices.
14 Connections to existing piping to remain shall be plugged by mechanical means (M.J.
15 plugs, tie-rods, or thrust blocks). Piping shall be removed in accordance with
16 Specification Section 02080 "Abandonment, Removal and Salvage or Disposal of
17 Existing Pipe."
- 18 E. PIPING TO BE ABANDONED: Where indicated on the Drawings, piping (or conduit)
19 shall be left in place. All such piping shall be drained and the contents properly disposed.
20 The pipe (or conduit) shall then be filled with grout (flowable fill) and each end of the
21 pipe (or conduit) shall be plugged using a concrete plug in a manner acceptable to the
22 County. Piping shall be abandoned in accordance with Specification Section 02080
23 "Abandonment, Removal and Salvage or Disposal of Existing Pipe."
- 24 F. TO BE PROTECTED: Where indicated on the Drawings, the utility service, fence,
25 structure, tree, or device so designated shall be temporarily protected during the
26 prosecution of the demolition work as specified in Division 1.
- 27 G. TO REMAIN: Where indicated on the Drawings, the designated facilities shall remain
28 intact and in service during the prosecution of the demolition work.

29 3.04 DEWATERING OF EXISTING PROCESS UNITS AND DISPOSAL OF RESIDUE

30 The Contractor shall notify the County prior to beginning the dewatering work on any
31 existing process units which contain wastewater, grit, or sludge. The Contractor, at his own
32 expense, shall remove the entire contents of each structure and dispose off site. The proper
33 transport and disposal of all residues shall remain the responsibility of the Contractor.
34

35 END OF SECTION