

SECTION 024113

SITE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section Includes: Furnishing labor, materials and equipment necessary for demolition, dismantling, cutting and alterations as indicated, specified, or required for completion of the Work. Includes items such as the following:

1. Protection of existing improvements to remain.
2. Cleaning existing improvements to remain.
3. Disconnecting and capping utilities.
4. Removing debris, waste materials, and equipment.
5. Removal of items for performance of the Work.
6. Salvageable items to be retained by the Owner.

- B. Related Sections:

1. The Contract Drawings.

1.3 DEFINITIONS AND ABBREVIATIONS

- A. ASTM: American Society For Testing and Materials.
- B. ANSI: American National Standards Institute.
- C. ASSP: American Society of Safety Professionals.

1.4 REFERENCES

- A. The most current version of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

1. American Society For Testing And Materials (ASTM)
 - a. E 3073-17 Standard guide for development of waste management plan for construction, deconstruction, or demolition project.
2. American National Standards Institute (ANSI)
3. American Society of Safety Professionals (ASSP)
 - a. ASSP A10.6 Safety And Health Program Requirements For Demolition Operations.

1.5 ACTION SUBMITTALS

A. General:

1. Make submittal in compliance with all provisions of Division 01 pertaining to submittals and quality assurance.
2. Render submittals and receive approval prior to delivery of installation.
3. Approval in writing by the Engineer of submitted products, samples, test reports, and certificates, does not constitute final acceptance.

B. Shop Drawings: Submit Shop Drawings indicating the extent of items and systems to be removed. Indicate items to be salvaged or items to be protected during demolition. Indicate locations of utility terminations and the extent of abandoned lines to be removed. Include details indicating methods and location of utility terminations. Include correct sequence, limits, methods, and schedule.

1.6 INFORMATION SUBMITTALS

A. None.

1.7 QUALITY ASSURANCE

A. Perform the Work of this section by workers skilled in the demolition of historic designated buildings, structures, utilities and sites. Perform the Work of this section under direct superintendence at all times.

B. Prior to commencement of Work, schedule a walkthrough with the ENGINEER, to confirm Owner property items have been removed from scheduled Work areas. Identify and mark remaining property items and schedule their removal.

C. Coordinate demolition for the correct sequence, limits, and methods. Schedule demolition Work to create least possible inconvenience to the public and facility operations.

D. Related Standard: ANSI/ASSP A10.6.

1.8 PROJECT CONDITIONS

A. Drawings may not indicate in detail all demolition Work to be performed. Examine existing conditions to determine the full extent of required demolition.

B. Repair damage to existing improvements or damage due to excessive demolition.

C. Provide all measures to avoid excessive damage from inadequate or improper means and methods, improper shoring, bracing or support.

D. If conditions are encountered that varies from those indicated, promptly notify the ENGINEER for clarification before proceeding.

PART 2 - PRODUCTS

2.1 HANDLING OF MATERIALS

- A. Items scheduled for salvage by the Owner shall be stored and protected on the project at a location designated by the CONTRACTOR. Items shall be cleaned, packaged, and labeled for storage.
- B. Items scheduled for reuse shall be stored on the Project site and protected from damage, theft and other deleterious conditions.
- C. Extent of items to be salvaged and items for re-use are as shown on the Drawings.

PART 3 - EXECUTION

3.1 GENERAL

- A. Protection:
 - 1. Do not commence demolition until safety partitions, barricades, warning signs and other forms of protection are installed.
 - 2. Provide safeguards, including warning signs, lights and barricades, for protection of workers, occupants, and the public.
- B. If safety of existing construction appears to be endangered, take immediate measures to correct such conditions; cease operations and immediately notify the ENGINEER.

3.2 DEMOLITION

- A. Do not throw or drop materials. Furnish ramps or chutes as required by the Work.
- B. Remove existing construction only to extent necessary for proper installation of Work and interfacing with existing construction. Cut back finished surfaces to straight, plumb or level lines as required for a smooth transition.
- C. Where openings are cut oversize or in improper locations, replace or repair to required condition.

3.3 CUTTING EXISTING CONCRETE

- A. Cutting of existing concrete shall be performed by skilled workers familiar with the requirements and space necessary for placing concrete. Perform concrete cutting with concrete cutting wheels and hand chisels. Do not damage concrete intended to remain.
- B. Extent of cutting of structural concrete shall be as indicated on Drawings. Cutting of non-structural concrete shall be as indicated on Drawings or as reviewed by the ENGINEER or structural engineer. Replace concrete demolished in excess of amounts indicated.
- C. Prior to cutting or coring concrete, determine locations of hidden utilities or other existing improvements and provide necessary measures to protect them from damage.

- D. Concrete that has been cut shall be crushed and reused as indicated on Drawings.

3.4 CRACKING EXISTING CONCRETE

- A. Cracking of existing concrete shall be performed by skilled workers familiar with the requirements and space necessary for placing concrete. Perform concrete cracking with concrete cutting wheels, hydraulic ram, hand chisels, or other mechanical means and equipment deemed suitable. Do not damage concrete intended to remain.
- B. Extent of cracking of concrete shall be as indicated on Drawings or as reviewed by the ENGINEER or structural engineer. Replace concrete demolished in excess of amounts indicated.
- C. Prior to cracking or coring concrete, determine locations of hidden utilities or other existing improvements and provide necessary measures to protect them from damage.
- D. Concrete that has been cracked shall be relocated as indicated on Drawings.

3.5 REMOVAL OF OTHER MATERIALS

- A. Masonry: Cut back to joint lines and remove mortar without damaging units to remain. Allow space for repairs to backing where applicable.
- B. Remove existing improvements not specifically indicated or required but necessary to perform Work. Cut to clean lines, allowing for installation of Work.
- C. Remove existing vegetation as indicated on Drawings.

3.6 PATCHING

- A. Patch or repair materials to remain when damaged by the performance of the Work of this section. Finish material and appearance of patch and/or repair Work shall match existing.

3.7 CLEANING

- A. Clean existing materials to remain with appropriate tools and equipment.
- B. Protect existing improvements during cleaning operations.
- C. Debris shall be dampened by fog water spray prior to transporting by truck.
- D. Debris pick-up area shall be kept broom-clean and shall be washed daily with clean water.
- E. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 311010

SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Protecting buildings, walls, pavements, utilities, existing vegetation, site improvements, miscellaneous structures, equipment to remain.
 - a. Protecting site from construction traffic including guarding areas of planting and lawn work from over compaction, adhering to load limitations, and as otherwise directed by the Engineer.
2. Providing staging areas, project signs, and other preparatory work.
3. Selective removal of designated trees (including stump grinding), shrubs, groundcover, lawn and other vegetation.
4. Demolition and removal of all above grade site improvements and pavements indicated on the Drawings.
7. Demolition and removal of all below grade site improvements, including footings, walls, and all other structures indicated on the Drawings.
8. Clean up and removal of rubble and debris including maintaining site areas raked clean until Project completion.
9. Disconnecting, capping, sealing, abandoning, and removing site utilities.
10. Temporary erosion and sedimentation control measures.
11. Removal and salvage of existing fences.

B. RELATED SECTIONS

1. Division 31 Section - EARTHWORK.
2. Section 024116 Site Demolition

1.3 DEFINITIONS AND ABBREVIATIONS

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.

- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings.
- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 REFERENCES

- A. The most current version of the publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
 - 1. Standards for Soil Erosion and Sediment Control in New York

1.5 ACTION SUBMITTALS

- A. General:
 - 1. Make submittal in compliance with all provisions of Division 01 pertaining to submittals and quality assurance.
 - 2. Render submittals and receive approval prior to delivery of installation.
 - 3. Approval in writing by the Engineer of submitted products, samples, test reports, and certificates, does not constitute final acceptance.
- B. Schedule: Submit proposed methods and sequence of site preparation work to the Engineer for review prior to start of Work.

1.6 INFORMATIONAL SUBMITTALS

- A. None.

1.7 QUALITY ASSURANCE

- A. Preconstruction meeting: Arrange a preconstruction meeting between the Owner's representative, the Civil Engineer, and the General Contractor. Review items including the proposed schedule, areas and structures to be salvaged stored, and protected, limits of Work, and soil stockpiling.
- B. REGULATORY REQUIREMENTS
 - 1. Comply with all rules, regulations, laws and ordinances of local, state and federal authorities having jurisdiction. Provide labor, materials, equipment and services necessary to make Work comply with such requirements without additional cost to Owner.
 - 2. Investigate the conditions of public thoroughfares and roads as to availability, clearances, loads, limits, restrictions, and other limitations affecting transportation to and ingress and

gress at the site. Conform to all governmental regulations regarding the transportation of materials.

3. Procure and pay for permits and licenses required for Work.

PART 2 - PRODUCTS

2.1 SIGNS

- A. Project Signs - as established in conjunction with the Owner's requirements.

2.2 MISCELLANEOUS

- A. Earth Fill- For use in preparations, protections, and temporary conditions of fill: Provide controlled fill material as specified in Section 312000, Earthwork.

PART 3 - EXECUTION

3.1 VERIFICATIONS

- A. Obtain limits of excavation and filling work, sequencing, limits of work, and verify areas of load limitations.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

3.2 PROTECTIVE MEASURES

- A. Use every precaution to prevent damage to, and provide protection as necessary of, areas outside of the contract limit line and existing features, improvements, and utilities indicated to remain within the contract limit line. Repair or replace to original condition, as acceptable to the Engineer and at no cost to the Owner, any material or Work damaged or destroyed while performing Work.
- B. Prior to the start of any site disturbance, including Demolition and Site Preparation, install protective fencing and silt fence. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place. Engineer to approve layout before any work shall begin.
- C. Preservation of Property From Damage: Existing structures, site improvements, adjacent property, utilities, walls, gates, curbs, statues and other facilities; and trees that are not to be removed shall be protected from injury or damage.
 1. Provide protection of existing curbs and sidewalks at locations with crossing construction traffic. Use materials that are suitable for details of installation and that protect surface finishes and resist imposed loads, as approved by Engineer.
 2. Exercise extreme care in demolition or excavation atop underground structures.
 3. The surface of the required excavations or grading work may expose soft grades during the course of the Work. The Contractor shall take whatever actions necessary to allow the progress of the Work to continue and to make the site accessible to its equipment. These actions may require the furnishing and temporary placement of rock, crushed

stone, or other materials. Conditioning of the site shall be at the Contractor's expense with no additional cost to Owner.

D. Barricades

1. In addition to existing controls or protection items installed as specified herein, provide barricades, other protections, and signs to exclude persons, except those connected with work, from entering the work area. Do not interfere with the use of adjacent sidewalks and crosswalks, and maintain free and safe passage.
2. Coordinate on-site traffic as required. Establish traffic routes on-site clearly marked with construction safety fence and the like to avoid compaction in areas of future plant bed areas and lawns. Use future pavement areas wherever possible.

E. Dust Palliation

1. Dust resulting from demolition, removal, and other construction operations shall be controlled to avoid creation of a nuisance or damage to the surrounding areas. Use approved dust control methods to prevent excessive dust accumulation on foliage of trees to be preserved.
2. Excessive use of water for dust control will not be permitted when it will result in, or create, hazardous or objectionable conditions such as flooding or pollution.

3.3 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.4 EXISTING UTILITY SECTION

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 1. Arrange with utility companies to shut off indicated utilities.
 2. Owner will arrange to shut off indicated utilities when requested by Contractor.

- C. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Engineer not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.

3.5 SELECTIVE TREE REMOVAL

- A. Prior to starting selective tree removal, mark trunks of only those trees to be removed with a bright color. Notify Engineer after trees to be removed have been identified. Perform no removals until Engineer has visited the site and approved trees to be removed.
- B. All depressions excavated below the original ground surface, or caused by the removal of stumps and roots, shall be refilled with suitable material compacted to the density, grade, and contour of the surrounding earth as specified in Section 312000 - Earthwork.
- C. Carefully fell trees designated to be removed, following standards of safety and exercising care to not damage existing trees or structures to remain.

3.6 SHRUB, GROUND COVER AND TURF REMOVAL

- A. Prior to starting removal operations, stake out limits of all areas to be removed and receive approval of Engineer before any work is to begin.
- B. Remove selected shrubs, groundcover, turf, roots, logs, stones, boulders and other organic matter at or above the existing ground level as indicated on Drawings.
- C. All depressions excavated below the original ground surface, or caused by the removal of stumps and roots, shall be refilled with suitable material compacted to the density, grade, and contour of the surrounding earth as specified in Section 312000 - Earthwork.

3.7 STRIPPING AND STOCKPILING TOPSOIL

- A. Prior to starting general excavation, remove all topsoil within the limits of work, as indicated on the Drawings. Topsoil shall be stripped to its entire natural depth.
 - 1. Remove sod and grass before stripping topsoil.
 - 2. Prevent intermingling with subsoil or other waste materials.
 - 3. Remove subsoil and non-soil materials from topsoil including clay lumps, gravel, and other objects more than 2 inches in diameters including trash, debris, weeds, roots and other waste material.
- B. Do no stripping without clear understanding of existing soil, planting, and site conditions to be preserved.
- C. Topsoil stripped from site may be used for lawn and planting areas provided that it meets the requirements of new off-site topsoil.

- D. All topsoil shall be stockpiled on the site within the work limit lines. Stockpile area for topsoil shall be approved by Engineer. Should the topsoil be stockpiled in any area without prior approval of the Engineer, the Contractor may be directed to relocate such stockpile to another portion of the site, and the Contractor shall do so at no additional cost to the Owner.
- E. Stockpile topsoil no higher than 3 feet (3') high, and shape stockpiles to drain. Should site constraints dictate that the soil must be piled higher than 3 feet (3'), Contractor shall provide aeration piles within the topsoil pile to prevent the soil from becoming anaerobic. (Cover to prevent windblown dust and erosion by water).
- F. No stockpiles to occur within the driplines of existing trees to remain.
- G. Perform soil stripping, handling, and stockpiling only when the topsoil is dry or slightly moist.

3.8 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.9 SALVAGED MATERIALS

- A. Carefully remove items indicated to be salvaged as indicated on the Drawings and store and protect on Owner's premises where indicated.
- B. Materials, items and equipment removed during site preparation work and not indicated to be reinstalled or salvaged for the Owner's use are property of the Contractor.
 1. Items of salvage value to the Contractor shall be removed as work progresses and promptly removed from the site.
 2. Storage and sale of Contractor's salvage items on the site will not be permitted.

3.10 CLEAN UP AND DISPOSAL

- A. Legally dispose of off-site all refuse and debris from these operations. Remove or neatly store material at the end of each day's work. Burning of material or dumping on the site is prohibited.
 1. Maintain segregation of man-made materials, debris, organic matter, and soil material as may be required for conditions of disposal.
 2. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

3. Transport materials over legal haul routes and obtain necessary permits for transporting and disposal as required by Federal, State and local regulations.
 4. Removals at Completion: Remove all temporary preparation and protection measures installed on Project site at completion of Work and at a time approved by Engineer.
- B. Maintain the site in an orderly condition during the progress of Work. Continuously and promptly remove excess and waste materials; keep lawn areas, walks and roads clear. Store materials and equipment where directed. Immediately remove rejected materials from the property. Promptly remove equipment, surplus material, and debris and trash resulting from operations under this Contract upon completion and prior to initial acceptance of Work. Leave the site in a neat, orderly condition, "broom clean".
1. Prior to and during earthwork and other on-site construction operations, the site areas shall be maintained raked clean with no buried debris. Pieces of rock, brick, or concrete smaller than two inches (2") in their maximum dimensions are not considered debris.

END OF SECTION