Standard Specification Section 202, Removal of Structures and Obstructions, contains the contract requirements for removing and disposing, wholly or in part, of all buildings, structures, pavements, and obsolete utility lines and tanks. The removal operations include any necessary work to temporary stabilize weak structures during the demolition process. The specification also includes salvaging and storing designated materials, relocating designated buildings, and backfilling trenches, holes, pits, and cellars resulting from the operations.

**General Requirements**
Demolition of structures and buildings, and the replacement of structural elements on structures that are to remain in place, represent significant safety risks both to the works involved and to the traveling public. It is essential that these operations are carried out under the careful supervision of the Contractor with adequate consideration of safety. The Engineer's attention is directed to Sections 202 Removal of Structures and Obstructions and Section 589 Removal of Existing Steel, which provide specific requirements that the Contractor must address. Any demolition or removal of structural elements carried out under other sections of the specifications must address the same general requirements as listed in Section 202 and 589, based on the general health and safety provisions of §107-05 Safety and Health Requirements, and on Subpart T of Title 29 Code of Federal Regulations Part 1926 (OSHA health and safety regulations for Construction).

Specific requirements include the following:

1. Prior to demolition operations, the Contractor's competent person shall make an engineering survey of the building or structure.

2. The written findings and recommendations of this survey shall constitute a removal plan, which must be given to the Engineer and filed with the Project Safety and Health Plan. The removal plan must meet all the requirements of Title 29 Code of Federal Regulations Part 1926, Subpart T-Demolition, and also be consistent with the contractor's Project Safety and Health Plan. It should address the following areas of concern:
   a. Existing condition of the building or structure.
   b. Possibility of collapse of any portion during demolition operations.
   c. Condition of adjacent buildings or structures within 100 ft. (if directed by the Engineer). To make this determination, the Engineer should consider whether the stability of adjacent buildings or structures will be significantly affected by demolition operations.
   d. Description of type, size and location of equipment to be used in the demolition operations.
   e. Sequence and preliminary schedule of removal activities. The schedule should also identify any critical operations which will require on-site monitoring by the contractor's competent person.
   f. Bracing or shoring required to secure or stabilize deteriorated buildings or structures so that workers can perform operations safely.
   g. Walls, supports and bracing necessary to accomplish the demolition of party wall structures.
   h. Details of the shoring and shoring foundations necessary to prevent damage to adjacent property.
   i. Designation and identification of non-access areas (areas that could become unstable or subject to collapse).
   j. The presence of potentially hazardous materials that were noted during the necessary structural survey. The competent person is not expected to perform
SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

hazardous materials survey and testing (this should have been done during the design phase), but suspect materials should be identified for testing by the State.

k. Plans for monitoring the building or structure during demolition operations. The contractor’s competent person does not always have to be present, but should monitor the operations on a frequent and continuing basis, and be on-site to monitor any critical operations.

l. Plans for shutting off or maintaining utilities on the building or structure.
m. Maintenance and protection of traffic scheme.

3. For bridge structures longer than 20 ft., the competent person must be a registered Professional Engineer, unless this requirement is specifically waived in the contract documents. The decision to waive the requirement is made by the project designer, based on the type of structure, the condition of the structure and the type of feature crossed.

For buildings, other than ordinary wood frame construction, the competent person must be a registered Professional Engineer or a registered Professional Architect.

4. Removal plans that must be prepared by a Professional Engineer or a Professional Architect shall be submitted to the Engineer 30 days prior to the commencement of demolition operations. Other removal plans shall be submitted 15 days prior to commencement.

5. When using blasting to remove structures, Departmental procedures for blasting can be found in the manual GEM-22, GEOTECHNICAL ENGINEERING MANUAL Procedures for Blasting. The Contractor is required to submit a blast plan for approval and a preblast meeting will be held prior to the beginning of explosives loading operations.

Project Procedure

Review of Contractor’s Demolition Plan
The Engineer should review the contractor’s demolition plan to ensure that it addresses all appropriate specification requirements. If any obvious omissions are noted, the plan should be returned to the contractor with a request that the necessary information be provided. On particularly large and complicated jobs, the Engineer may also request the Regional Structures Engineer to review the demolition plan.

Inspection During Demolition
During the course of demolition operations, the Engineer and the inspection staff must ensure that the contractor complies with all aspects of the demolition plan submitted. Inspectors must be knowledgeable about the specific aspects of the demolition operations for which they are responsible.

When blasting, the Inspector should document all aspects of the drilling and blasting operations on Form GE-469 (Exhibit 203B), "BLASTING REPORT," and attached to the Inspector’s Daily Work Report (DWR). Consult an Engineering Geologist from the Geotechnical Engineering Bureau (GEB) for assistance in completing these forms.

Changes to Demolition Plan
Any changes to the demolition plan must be submitted to the Engineer for review as noted above. The Engineer is responsible for ensuring the inspection staff is kept informed of all such changes.
Evidence of Acceptability

Buildings
1. The Removal Plan, identifying:
   A. The findings and recommendations of the Contractor’s competent person submitted prior to the demolition operation,
   B. Additional temporary bracing necessary to stabilize the structure to be demolished,
   C. Supports, bracing, and/or foundation shoring necessary to prevent damage to any adjacent property,
   D. Dust control measures.
   E. Sidewalk sheds, canopies or other means of safe and passable pedestrian access.
   F. Any re-assessment updates found during the monitoring operation.
2. Notification of utility companies.
3. Hazardous material removed and disposed of in accordance with all applicable rules, regulations and laws concerning the handling and disposal of Hazardous Materials or Hazardous Wastes.
4. Extermination work performed in accordance with the requirements of City, County, or District Office of the State Department of Health.
5. Compatible condition, and in conformance with local building codes, of remaining walls.
6. Disposal of material in accordance with all federal, state, and local laws, rules, and regulations and §107-10C. Construction and Demolition Debris.
7. Removal of salvaged material from the site.
8. Permission for the use of non-State owned land (if applicable).
9. Sewage recovered from pumping operations handled, transported and disposed of in accordance with 6 NYCRR Part 364.
10. All tanks containing petroleum liquids removed in accordance with local fire and police officials and 6 NYCRR Part 613. All product, cleaning solvents and water generated in the cleaning of tanks transported by a transporter permitted under 6 NYCRR 364 and, if disposed of in NYS, disposed of at a site regulated by DEC.

Structures
1. The Removal Plan, identifying:
   A. The findings and recommendations of the Contractor’s competent person submitted prior to the demolition operation,
   B. Additional temporary bracing necessary to stabilize the structure to be demolished,
   C. Any proposal to allow the structure, or any portion thereof, to remain standing on the site or to be relocated (to be reviewed and approved by DCES).
   D. Any re-assessment updates found during the monitoring operation.
2. Notification of utility companies.
3. Acceptance of paint removal equipment.
4. For steel structures coated with lead-based paint, removal and disposal in accordance with 29 CFR 1926.62 and all other applicable worker Health and Safety Regulations.
5. Disposal of material in accordance with all federal, state, and local laws, rules, and regulations and §107-10C. Construction and Demolition Debris.
6. Removal of salvaged material from the site.

References
Local Building Codes
SECTION 202 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

GEM-22, GEOTECHNICAL ENGINEERING MANUAL Procedures for Blasting.

NYS Fire Prevention & Building Code
https://www.dos.ny.gov/dcea/laws_regs.html

NYC Building Code (for NYC Projects)
https://www1.nyc.gov/site/buildings/codes/nyc-code.page

TITLE 29 Code of Federal Regulations, PART 1926, SUBPART T – Demolition

The Environmental Manual – Section 4.419 Asbestos Management

§107-10 Managing Surplus Material and Waste

§107-11 Air Quality Protection