

CHAPTER 19
SITE CLEARING

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1 **PART 1 - GENERAL**

2 **1.1 SUMMARY**

3 A. Section Includes:

- 4 1. Protecting existing vegetation to remain.
- 5 2. Removing existing vegetation.
- 6 3. Clearing and grubbing.
- 7 4. Stripping and stockpiling topsoil.
- 8 5. Stripping and stockpiling rock.
- 9 6. Removing above- and below-grade site improvements.
- 10 7. Disconnecting, capping or sealing, and abandoning site utilities in place.
- 11 8. Temporary erosion and sedimentation control.

12 **1.2 DEFINITIONS**

- 13 A. See Sections iii and iv of the CHARLOTTE WATER Water and Sewer Design and
14 Construction Standards for common abbreviations and definitions, in addition to the
15 following:
- 16 B. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally
17 occurring soil profile, typified by less than 1 percent organic matter and few soil
18 organisms.
- 19 C. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed
20 areas, surface soil is typically called "topsoil," but in disturbed areas such as urban
21 environments, the surface soil can be subsoil.
- 22 D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing
23 in-place surface soil; the zone where plant roots grow. Its appearance is generally friable,
24 pervious, and black or a darker shade of brown, gray, or red than underlying subsoil;
25 reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50
26 mm) in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.
- 27 E. Tree and plant-Protection Zone: Area surrounding individual trees, groups of trees,
28 shrubs, or other vegetation to be protected during construction and indicated on
29 Drawings.
- 30 F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

31 **1.3 MATERIAL OWNERSHIP**

- 32 A. Except for materials indicated to be stockpiled or otherwise remain Owner's property,
33 cleared materials shall become Contractor's property and shall be removed from Project
34 site and properly disposed.

35 **1.4 SUBMITTALS**

- 36 A. Existing Conditions: Documentation of existing trees and plantings, adjoining
37 construction, and site improvements that establishes preconstruction conditions that
38 might be misconstrued as damage caused by site clearing.

- 1 1. Use sufficiently detailed photographs or video recordings.
- 2 2. Include plans and notations to indicate specific wounds and damage conditions of
- 3 each tree or other plant designated to remain.
- 4 B. Record Drawings: Identifying and accurately showing locations of capped utilities and
- 5 other subsurface structural, electrical, and mechanical conditions.

6 **1.5 FIELD CONDITIONS**

- 7 A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent
- 8 occupied or used facilities during site-clearing operations.
 - 9 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities
 - 10 without permission from property Owners and authorities having jurisdiction.
 - 11 2. Provide alternate routes around closed or obstructed trafficways if required by
 - 12 Owner or authorities having jurisdiction.
- 13 B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store
- 14 on Owner's premises where indicated.
- 15 C. Utility Locator Service: Notify utility locator service for area where Project is located
- 16 before site clearing.
- 17 D. Do not commence site clearing operations until temporary erosion- and sedimentation-
- 18 control and tree and plant-protection measures are in place.
- 19 E. Tree and Plant Protection Zones: Provide protection zones for all trees and plants
- 20 identified to remain prior to performing all clearing and grubbing activities.
- 21 F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly
- 22 moist.

23 **PART 2 - PRODUCTS**

24 **2.1 MATERIALS**

- 25 A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in
- 26 Chapter 20 of the CHARLOTTE WATER Water and Sewer Design and Construction
- 27 Standards and Standard Details.
- 28 B. Obtain approved borrow soil material off-site when satisfactory soil material is not
- 29 available on-site.

30 **PART 3 - EXECUTION**

31 **3.1 PREPARATION**

- 32 A. Protect and maintain benchmarks and survey control points from disturbance during
- 33 construction.
- 34 B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been
- 35 flagged and that protection zones have been identified and enclosed.

- 1 C. Protect existing site improvements to remain from damage during construction.
2 1. Restore damaged improvements to their original condition, as acceptable to
3 Owner.

4 **3.2 EROSION CONTROL**

5 A. Erosion Control is required for all projects regardless of the size of the project limits.
6 Erosion control standards are as set forth by the city, town, or county in which the project
7 is being constructed, but at minimum to the current and as amended the NCDEQ Erosion
8 and Sediment Control Planning and Design Manual.

9 B. Erosion Control Devices:

- 10 1. Erosion control devices and procedures shall conform to the requirements of the
11 Erosion Control Plan approved by the North Carolina Department of Environment
12 and Natural Resources, including the appropriate reporting and documentation
13 requirements. The Contractor shall also comply with the requirements outlined in
14 the Clean Water Act Section 404 wetlands permit issued by the U.S. Army Corps
15 of Engineers.
- 16 2. At a minimum, all erosion control devices (silt fence, sediment traps, diversion,
17 etc.) will be installed as specified on the Plans and in these specifications. Where
18 a device must be placed before construction, removed during construction and
19 replaced following construction, no extra payment will be made for the removal and
20 replacement operations. Temporary seeding and mulching must be done within
21 fifteen (15) days of initial land disturbing activity. All cost associated with temporary
22 seeding shall be included in the various pay items of the proposal.
- 23 3. All silt fence shall conform to Charlotte Mecklenburg Land Development Standard
24 Details or Mecklenburg County Land Development Standards, whichever is more
25 stringent. Supporting fence shall be steel hog wire fence as required by these
26 standards. Posts shall be five (5) foot long steel posts only.

27 C. Protection of Existing Storm Drainage:

- 28 1. In addition to preventing and/or repairing any physical damage to existing storm
29 drainage, the Contractor shall install silt filter bags, or use an approved erosion
30 control device at existing catch basins to prevent sedimentation within said storm
31 drainage. The Engineer may require the physical inspection of the storm drainage
32 to determine the existence of sedimentation, which can be attributed to this
33 construction and if existing, the Contractor will do all that which is necessary (flush,
34 etc.) to return the storm drains to their original operating condition.

35 D. Superintendent and Crew Foreman Requirements:

- 36 1. In an effort to raise awareness of sediment and erosion control requirements and
37 issues, it is the requirement of Charlotte Water that the Contractor's
38 Superintendent and each crew foreman working on this contract must possess a
39 current and valid Site Inspector Certification from the City of
40 Charlotte/Mecklenburg County. This requirement applies to each crew foreman
41 working for the prime contractor or any subcontractor that is performing
42 construction activities on the project site. The contractor will submit a copy of each
43 employee's certificate to the Engineer. The Superintendent's Certificate must be
44 on file prior to Notice to Proceed. Each Foreman's Certificate must be on file within

1 30 days of Notice to Proceed. Ground disturbing activities will be prohibited until
2 the requirements of this section are fulfilled.

- 3 2. The Site Inspector training course is offered through the Mecklenburg County
4 Water Quality Program at 704-336-5500 and/or the City of Charlotte Land
5 Development Division at 704-336.6692. Please request information on the
6 Charlotte-Mecklenburg Certified Site Inspector (CMCSI) Certification Training
7 Course. Each employee must complete the training class and successfully pass
8 the Charlotte-Mecklenburg Certified Site Inspector (CMCSI) Certification Test.
9 CMCSI Certificates are issued to those that pass the test and are valid for 2 years.

10 **3.3 TREE AND PLANT PROTECTION**

- 11 A. Protect all trees and plants as indicated on the plans and outside easement/rights-of-
12 way.
13 B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated
14 that are damaged by construction operations.

15 **3.4 EXISTING UTILITIES**

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

22 **3.5 CLEARING AND GRUBBING**

- 23 A. The clearing work covered by this section consists of cutting, removing and properly
24 disposing of vegetation and debris. Trees specifically identified on the plans to be
25 preserved shall be adequately delineated and flagged by the Contractor, such that the
26 balance of the work may be performed in a safe and harmless manner in the vicinity of
27 preserved trees. Such tree preservation will be considered part of the work and shall be
28 in conformance with applicable local codes and regulations. Clearing and grubbing shall
29 be performed in areas as called for on the plans, the limits of which shall coincide with
30 the construction limits.
31 B. The grubbing work covered by this section consists of removing and properly disposing
32 of all surface vegetation and debris. Where the material being removed is high in organic
33 matter content, such as root mat and other vegetative matter, it shall be considered
34 vegetation and removed as part of the work of grubbing.
35 C. The work of clearing and grubbing shall also include the removal and satisfactory
36 disposal of crops, weeds and other annual growth, fences, steps, walls, chimneys,
37 column footings, other footings, foundation slabs, basements, other foundation
38 components, signs, junked vehicles, and other rubble and debris, and the filling of holes
39 and depressions. This work shall also be performed in all non-wooded areas within the
40 construction limits, shown on the project plans upon which seeding and mulching,
41 sprigging or sodding is to be performed.

- 1 D. As a part of the work of clearing and grubbing, the Contractor may be required to cut off
2 and plug at the right of way or construction limits, as directed by the Engineer, any private
3 water or sewer line intercepted during the construction of the project, as well as cut off
4 and remove from the construction area any septic tank or portion thereof during the
5 construction of the project.
- 6 E. Clearing and grubbing operations shall be completed sufficiently in advance of grading
7 operations as may be necessary to prevent any of the debris from the clearing and
8 grubbing operations from interfering with the excavation or pipe laying operations.
- 9 F. Where adjacent areas within the site but outside the limits of construction are disturbed
10 as a result of clearing and grubbing activities, the Contractor shall remove all debris and
11 restore to the original grades and equal or better condition.
- 12 G. The Contractor shall exercise caution to protect and maintain all existing utilities and
13 underground works which are to remain. Any existing utilities or underground works
14 which are to remain that are disturbed during construction shall be repaired as required
15 by the utility owner and at the Contractor's expense.
- 16 H. The Contractor must comply with all local, state and federal laws, ordinances and
17 regulations in the removal and disposal of clearing and grubbing of all vegetation, timber,
18 waste and all surface debris that must be hauled from the Project Site. No burning of
19 materials will be allowed on site. The Contractor shall properly dispose of all cleared
20 materials at his expense, in conformance with all applicable local and state laws and
21 ordinances with the exception of any materials to be reused or recycled as directed
22 elsewhere in this contract.
- 23 I. Fill depressions caused by clearing and grubbing operations with satisfactory soil
24 material unless further excavation or earthwork is indicated.
- 25 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200
26 mm) and compact each layer to a density equal to adjacent original ground.
- 27 J. Unless otherwise specified, the entire permanent easement shall be cleared and all
28 stumps, limbs and trash removed and disposed of at an approved location. When the
29 sewer/water main line is installed in undeveloped/non-maintained areas (woods), stumps
30 can be left flush with the ground if they are outside the trench excavation. Stumps must
31 be removed from all maintained areas (yards, lawns, road rights-of-way, etc.).
- 32 K. Temporary construction easements shall be cleared unless otherwise noted in the
33 Special Provisions or on the drawings. No clearing or grubbing may be performed in
34 road rights-of-way without approval from Charlotte Water or Engineer. Additionally, no
35 clearing or grubbing may be performed in road rights-of-way until the limits of clearing or
36 grubbing have been approved by Charlotte Water or Engineer.
- 37 L. Useable timber and/or firewood may be left on adjoining property, off the permanent
38 easement at the request of or with the consent of the property owner. Such requests
39 must be in writing and must release Charlotte Water from any claims for improper
40 disposal of timber.
- 41 M. The Contractor shall abide by all special conditions contained in the easement
42 agreements for this project. When the easement agreement specifies stacking timber or
43 firewood adjacent to the easement a written release is not required. The Contractor shall
44 verify cut lengths of timber/firewood for such placement and location with the property
45 owner.

- 1 N. At a minimum, fences removed during construction shall be replaced of the same
2 material and to the same condition existing prior to the construction. If the removed fence
3 was 12-foot or greater in width and did not have a gate installed, the Contractor shall
4 install a gate when replacing the fence so as to maintain access across Charlotte Water
5 easements.
- 6 O. The Contractor shall confine all his operations to the bounds as set forth in all easements
7 unless prior written approval of the current property owner is obtained and submitted to
8 the Engineer for their approval.

9 **3.6 TOPSOIL STRIPPING**

- 10 A. Stripping and Storage of Topsoil: All topsoil suitable for reuse, in the opinion of the
11 Engineer, shall be stripped to its full depth, all topsoil to be moved shall be free of large
12 stone, roots, brush, waste construction materials and other undesirable matter.
- 13 B. Topsoil stripping shall be accomplished from all topsoiled areas to be disturbed.
- 14 C. Existing lawn sods may be left to decompose with the topsoil. Heavier stands of weeds
15 and grasses shall be removed as directed by the Engineer prior to the stripping
16 operations.
- 17 D. The topsoil shall be kept separate from other excavated materials and stored in
18 stockpiles, the location of which shall be as directed by the Engineer. Topsoil shall be
19 stockpiled so that it shall not be subject to abnormal erosion and loss, and so that it does
20 not impede the flow of drainage runoff. The directed locations of topsoil stockpiles will,
21 when construction sequence permits, be located in areas that have previously been
22 graded to design rough grade.

23 **3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS**

- 24 A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials,
25 and waste materials including trash and debris, and legally dispose of them off the
26 easement.
- 27 B. Burning tree, shrub, and other vegetation waste is not permitted. Burning of other waste
28 and debris is prohibited.
- 29 C. Separate recyclable materials produced during site clearing from other nonrecyclable
30 materials. Store or stockpile without intermixing with other materials, and transport them
31 to recycling facilities.

32 END OF SECTION

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