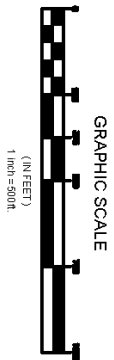


**FIGURE 5  
CONSTRUCTION PHASES FOR SEQUENCING PLAN  
PREPARED FOR**

**HUDSON HIGHLANDS RESERVE  
SITUATE IN THE  
TOWN OF PHILPSTOWN  
PUTNAM COUNTY  
NEW YORK**  
 APRIL 15, 2021  
**BADEY & WATSON  
SURVEYING & ENGINEERING, P. C.**



3063 Route 9  
 Cold Spring, NY 10516  
 www.Badey-Watson.com

845.265.9217  
 845.265.4428 (Fax)  
 877.3.141593 (Toll Free)

To better illustrate the work within each of the phases, the project engineer has created two 50 scale phasing plans utilizing the site utility plans as a base. They are included in the Preliminary SWPPP rather than as part of the plan set, and will continue to be included in the Final SWPPP for the project.

## CONSTRUCTION SEQUENCING

### 1) Pre-Construction

- a) This project has not received written approval from the MS4, Town of Philipstown or the NYSDEC to allow disturbance of more than five acres of land at any one time. Therefore, if the contractor's construction sequence requires the disturbance of more than five acres at any one time, the contractor must obtain written approval from the NYSDEC prior to disturbing more than five acres at any one time.
- b) Obtain plan approval and all other applicable permits.
- c) Mobilize construction vehicles, equipment, materials, and trailers.
- d) Stake and flag construction and work limits of disturbance for Phase 1, including right-of-way (row) edge, off-row access roads, staging areas, and no-access areas.
- e) Conduct a pre-construction conference with involved agencies at least one week prior to the start of construction. At a minimum the town engineer, town wetland inspector, project engineer, general contractor and owner must attend the meeting. The meeting is to be held on site.
- f) Mark and stake out underground and overhead utilities.
- g) Trees must be felled between November 1 and March 31. The contractor may fell all trees within the limits of disturbance provided stumps are not removed. The trees may then be removed from site when a road has been sufficiently developed to accommodate the equipment necessary for their removal. Felling the trees without removing the stumps is not considered land disturbance.

### 2) Phase 1

- a) Phase 1 consists of creating an entrance to the property from the rear of the existing commercial building and constructing the Highlands Trail from station 3+00 to 15+00. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
- b) Install stabilized construction entrances and all silt fences and erosion control measures.
- c) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
- d) Grub all areas to be constructed.
- e) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
- f) Install silt fencing around the temporary topsoil stockpile location(s).
- g) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
- h) Build access road from behind commercial building.

- i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - k) Begin building Highlands Trail roadway construction including foundations, curb, subbase and base pavement sections.
  - l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 3) Phase 2
- a) Phase 2 consists of extending Highlands Trail from station 15+00 to Forest Court. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
  - b) As Phase 1 is stabilized move into Phase 2 by first installing all erosion and sediment control measures for Phase 2.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
  - e) Grub all areas to be constructed.
  - f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - g) Install silt fencing around the temporary topsoil stockpile location(s).
  - h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
  - i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - k) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - l) Begin construction of model home.
  - m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 4) Phase 3
- a) Phase 3 consists of extending Highlands Trail from Forest Court to its end just past Reserve Road and installation of the septic tanks and pump station for the common septic system. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
  - b) As Phase 2 is stabilized move into Phase 3 by first installing all erosion and sediment control measures for Phase 3.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.

- e) Grub all areas to be constructed.
  - f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - g) Install silt fencing around the temporary topsoil stockpile location(s).
  - h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
  - i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - k) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - l) Install the septic tanks and pump station for the common septic system.
  - m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 5) Phase 4
- a) Phase 4 consists of installation of a diversion swale on the hillside, construction of Reserve Road and installation of the fields for the common septic area. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
  - b) As Phase 3 is stabilized move into Phase 4 by first installing all erosion and sediment control measures for Phase 4.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
  - e) Grub all areas to be constructed.
  - f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - g) Install silt fencing around the temporary topsoil stockpile location(s).
  - h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
  - i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Build the diversion swale.
  - k) Build fields for the common septic area.
  - l) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - m) Begin building Reserve Road roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - n) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

- 6) Phase 5
- a) Phase 5 consists of constructing Highlands Trail from station 300 to its connection with US Route 9. The bioretention area should not be constructed until all areas that contribute runoff to it have been stabilized.
  - b) As Phase 4 is stabilized move into Phase 5 by first installing all erosion and sediment control measures for Phase 5.
  - c) Prior to conducting any work in the NYS Route 9 right-of-way ensure all permits are in place and the NYSDOT has been notified that work is to start. If inspection of work in the right-of-way is required by the permit, ensure the inspector is on site during construction. Any improvements that may be required within the row must be completed prior to opening Highlands Trail to traffic.
  - d) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - e) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
  - f) Grub all areas to be constructed.
  - g) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - h) Install silt fencing around the temporary topsoil stockpile location(s).
  - i) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
  - j) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - k) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - l) Continue building Highlands Trail roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - m) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 7) Phase 6
- a) Phase 6 consists of the construction of Forest Court.
  - b) As Phase 5 is stabilized move into Phase 6 by first installing all erosion and sediment control measures for Phase 6.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
  - e) Grub all areas to be constructed.
  - f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - g) Install silt fencing around the temporary topsoil stockpile location(s).
  - h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.

- i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - k) Begin building Forest Court roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 8) Phase 7
- a) Phase 7 consists of the construction of Ulmar Pond Drive.
  - b) As Phase 6 is stabilized move into Phase 7 by first installing all erosion and sediment control measures for Phase 7.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Surround all bioretention and raingarden areas with orange construction fence to avoid compaction.
  - e) Grub all areas to be constructed.
  - f) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - g) Install silt fencing around the temporary topsoil stockpile location(s).
  - h) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.
  - i) Install the storm drainage system consisting of swales, catch basins, manholes and underground storm pipes from the Stormwater Management Areas throughout the site along with the sediment and erosion control devices associated with the storm drainage system (i.e., inlet protection, stone check dams, etc., as will be shown on the Plans).
  - j) Install any underground utilities (sewer, electric, telephone, etc.), as required.
  - k) Begin building Ulmar Pond Drive roadway construction including foundations, curb or gutter, subbase and base pavement sections.
  - l) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.
- 9) Phase 8
- a) Phase 8 consists of the construction of the fill pad for the reserve septic area.
  - b) As Phase 7 is stabilized move into Phase 8 by first installing all erosion and sediment control measures for Phase 8.
  - c) Re-install stabilized construction entrances as necessary and where warranted. Install all silt fences and erosion control measures.
  - d) Grub all areas to be constructed.
  - e) Construct any temporary sediment basins and stabilize the areas disturbed for the construction of the temporary sediment basins.
  - f) Install silt fencing around the temporary topsoil stockpile location(s).
  - g) Proceed with rough grading of the area under active construction, including construction of temporary diversion swales and stone check dams as required to convey stormwater runoff to the temporary sediment basins. Exposed areas shall be stabilized within 14 days.

- h) Build fill pad for reserve septic area.
- i) Finish grading, redistribute topsoil and establish vegetation and/or landscaping.

10) Close out

- a) Construction of individual house lots can commence during any phase of construction provided the amount of disturbance on the site at any one time does not exceed 5 acres.
- b) Final top coat of pavement will not be applied until all houses are constructed or as otherwise agreed with town engineer.
- c) The contractor shall keep records of: daily and weekly inspections of the construction site; and documentation of soil disturbances and site restoration/soil stabilization.
- d) The contractor shall keep records of inspection and record maintenance.
- e) The contractor shall keep records of final stabilization and project closeout.
- f) Complete any final grading, topsoil and establish vegetation and/or landscaping.
- g) Clean pavements and storm drain system of all accumulated sediment in conjunction with the removal of all temporary sediment and erosion control devices.
- h) Complete construction throughout the site and stabilize the exposed areas.
- i) Issue Notice of Termination (NOT).

**Comment 2.93 (Gainer):** Control over limits on disturbed areas within individual lots - "Limits of Disturbance" lines extend through portions of most individual lots planned within the project. The manner that these could reasonably be enforced should be explained, or otherwise it should be acknowledged that overall project disturbances will be greater than that currently outlined.

**Response 2.93:** The limit of disturbance lines were developed in an effort to calculate a reasonable estimate of the projected area of disturbance. This is a common and necessary exercise in developing such an estimate. The lines are not meant to be restrictive or regulatory in any way. The actual limit of disturbance may differ somewhat one way or the other, but the lines shown are a reasonable estimate based on topography, projected grading, and anticipated construction methods. However, as explained below, it is believed that while the actual boundaries may differ from that shown, the area of disturbance shown is an accurate estimate of what would be expected to occur with the proposed project.

The Project's goal is to develop a subdivision that is sustainable and respectful of the environment while allowing flexibility in design. It is this concept that has driven the design process.

The proposed development is clustered in the area most suitable for development and the size of the lots has been limited to around one acre. A Home Owners Association (HOA) will be established in which lot owner membership will be required. Membership requires adherence to the rules and regulations of the HOA. In addition to providing a mechanism for maintenance and repair of the common facilities, the HOA "Declaration of Covenants and Restrictions ...," and "By-Laws ...," (Appendices I & J of the DEIS, respectively) establish an Architectural Review Board that will have the authority to approve the site plan and building plans of an individual lot owner. As stated in the "Residential Design and Maintenance Rules and Regulations" that are part of Appendix J of the DEIS, one of their purposes is "to promote respect and sensitivity for the natural environment" (Article 1, Section 1, Page 1). Among the many rules is a limitation on the size of lawns to 2000 square feet (Article 3, Landscaping,

**Response 4.2:** a. The two roadways connecting to Horton Road are pre-existing. There are no plans to improve them as part of this project. Otherwise, they will remain as is. The roadway that is part of the historic road will be permanently blocked. The other roadway will have a locked gate with a Knox Box containing a key available to emergency service providers to serve as an emergency access. The roadway connecting to East Mountain Road North is also pre-existing as a driveway that served a residential structure that is still standing. It is also part of the historic road. It will likewise remain unimproved, except for some regrading to get the emergency access below a 12% grade, and will have a locked gate and Knox Box with key available to emergency service providers to serve as an emergency access. As neither would be used except in the case of an emergency, there would be no impact on wildlife.

b. The project does not involve any new stream or wetland crossings. The emergency road access road that connects the end of Reserve Road to Horton Road, crossing over a braided stream/wetland system, already exists. It is a gravel road built several years ago by a previous owner. It was built under the Open Development Area roadway standards, which is used extensively throughout Philipstown. The road is built with little grading beyond that necessary to shape the road. There are no curbs. Because this roadway will only be used for emergency services, it will be used very infrequently. Because it will be used infrequently, there is little, if any threat of animal/amphibian mortality and requiring crossing tunnels is not necessary in this area. The remainder of the road system, except for the entry road from Route 9 is designed in accordance with the Town Road standards, without curbs. If the entry road from Route 9 is constructed, the applicant will be required to substitute "cape cod" or mountable curbs instead of the standard curbs in this area. The need to provide crossing tunnels along Highland Trail is apparent in the vicinity of station 2+50, 11+00 and 20+00. The applicant will be required to show crossings at these stations on their final plans.

c. The revised plan eliminates previously proposed lots #24 and 25. Lot #18 is a pre-existing historic house and cannot be removed. There is no benefit to removing lot #19. Access to 100% of Ulmar Pond will be maintained through the preservation of a 140-foot buffer. Residential units will be developed around the northern half of the pond behind the buffer. No development will be placed at all around the southern half on the pond. The greatest degree of wildlife connectivity to Ulmar Pond will occur via the watercourse/wetland inflow into the pond and via the outflow, both of which will be fully preserved.

d. With the elimination of the Equestrian Center, the cul-de-sac serving previously proposed lots #15, 16, and 17 has been significantly shortened, and proposed lot #16 has been eliminated.

e. As documented by herpetologist Randy Stechert, the potential use of the property by timber rattlesnakes for foraging is nearly nonexistent. The location of the talus slope copperhead habitat suggested by Coleman was nowhere near previously proposed lots #9 and 10. The only identified talus slope is located offsite (see Response 3B.5), and the species itself has no protective status. In the revised plan, however, previously proposed lot #10 has been relocated due to its encroachment into the area characterized as having high conservation value, and proposed lots #8 and #9 have also been relocated. The cul-de-sac in this area has also been greatly shortened, opening up an additional area for preservation under the Conservation Easement.