

PARTH KNOLLS DEVELOPMENT

CONSTRUCTION SEQUENCE PLAN
NARRATIVE VERSION

87.PARTH-12/12/16

Parth Knolls
Construction Sequence Plan
Multifamily Development
87 Hawkes Avenue, Ossining, New York 10562

Refer to Construction Drawings for all construction details, and Best Management Practices, which relate to the Construction Sequence and the Development. The drawings have been previously submitted to the Town of Ossining Planning Board, the Town of Ossining Building Department and their Consultants, Dan Ciarcia, Stephen Coleman David Stolman.

A listing of some of the Construction drawings, details, and Best Management Practices, which relate to the Construction Sequence are as follows, but a full set of construction drawings for the Site and Buildings will be maintained on site for view by the contractors:

1. Storm Water Management Plan, date December 15, 2015, prepared by Site Design Consultants; and
2. Drawing No. G.1, Notes, dated 9/25/16, last revision dated 4/8/16; and
3. Drawing No. G.2, E&SC, dated 9/25/16, last revision dated 4/8/16; and
4. Drawing No. C-501, ES & C Details, dated 9/25/16, last revision dated 4/8/16; and
5. Drawing No. C-502, Details, dated 9/25/16, last revision dated 4/8/16; and
6. An attached narrative on the recommended Sequence of Construction; and
7. The Tree Removal Plan, titled Consolidated Planting Plan, as prepared by Steve Marino of Tim Miller Associates and Site Design Consultants, dated 9/25/15, last revision dated 11/2/16. Trees will be removed prior to commencing construction of each stage based on the Tree removal plan referred to above; and
8. The estimated Construction time is from receipt of all approvals and issuance of Building Permits for Building Nos. 1 and 2; and
9. The estimate of time provideds, may increase due to weather and availability of labor and materials; and
10. The estimated construction time listed below is based on completing each of the construction stages individually, but stages may overlap, or be accelerated, thus shortening the estimated Development's completion date. The estimated construction time of the Development is between three (3) to three (3) and one half (3 ½) years.

Proposed Sequence of Construction:

<u>Stage</u>	<u>Work</u>	<u>Estimated Time</u>
<u>Stage I</u>	<u>Site Work</u> Installation of temporary fencing at main entrance to property, tree protection and other protections details; and Tree removal per Tree removal plan, etc; and Work required to prepare site for installation of the foundations for Building No. 1 and No. 2 The General Contractor will maintain a flagman on site during the period when large trucks are using the main entrance.	7 to 9 Months

The Applicant does not intend on using the Emergency Entrance for the construction of the Development.

Foundations

Installation of Foundations for Building No. 1 and No.2.

<u>Stage II</u>	<u>Utilities and Rough Grading</u> Installation of Utilities to Site Rough grading and installation of underground utilities, drainage and other facilities for Buildings No. 1 and No 2	3 months
<u>Stage III</u>	<u>Construction</u> Building No. 1	11 to 12 months
<u>Stage IV</u>	<u>Construction of facilities for Building No. 1</u> Commence construction of Pool Landscape retaining walls Parking area to serve Building's parking requirements Curbs and sidewalks Building Landscaping Emergency Entrance. The Applicant does not intend to use the Emergency Entrance for Construction. Generator for Building No. 1 Wetland - front of Building No. 1 Refuse Area Binder for main Entrance Drive Landscaping of Entrance and installation of sign-age. Lighting, etc.	2 months
<u>Stage V</u>	<u>Tenant's commencing occupancy of Building No.1</u> Certificate of occupancies being requested. Installation of fencing in areas where construction is in progress or is not completed for residence's safety.	
<u>Stage VI</u>	<u>Construction</u> Building No. 2	9 months
<u>Stage VII</u>	<u>Exterior Recreation facilities and Rear Wetlands.</u> Finish Pool Demolition of Stone structure Tree Removal per Tree removal plan Construction of Recreation Facilities Wetlands - Rear of Site Installation of wood bridges, etc	1 to 2 months

<u>Stage VIII</u>	<u>Construction of facilities for Building No. 2</u> Landscape retaining walls All Parking areas Curbs and sidewalks Landscaping for Building Generator for Building No. 2 Finished paving Entrance Drive Interior Recreation facilities Lighting, etc.	2 months
<u>Stage IX</u>	<u>Tenant's commencing occupancy of Building No.2</u> Certificate of occupancies being requested	
<u>Stage X</u>	<u>Project Completion</u> Final Clean-up and Building's and grounds Punch List Final inspections	1 to 2 months

Recommended Sequence of Construction

Use of erosion and sediment control structures and practices are important for maintaining site stability under runoff and during daily construction activities. The Construction Sequence should be staged with erosion and sediment controls, as follows, with all controls in place and implemented prior to respective infrastructure construction. As construction proceeds, the controls should be monitored, maintained and replaced as needed. Additional controls may be required as needed to address unforeseen situations.

Refer to The Construction Drawings for all plans and details which relate to the Construction Sequence. This Sequence should be followed in conjunction with all Plans, Notes, and the Stormwater Pollution Prevention Plan. Prior to the commencement of work, the Owner and General Contractor shall read and understand the Sequence for Construction. The Sequence shall be discussed at the time of the Pre-construction Meeting.

During construction of the project, the Contractor is responsible to coordinate all required inspections with various agencies and the Project Engineer.

Construction Sequence

General Sequence: The general sequence applies to the start of all Phases of the project. The requirements in such shall be applied as appropriate in that phase and shall be assumed in place prior to the start of the work outlined in the sequence for each Phase.

1. Prior to the beginning of any site work the major features of the construction must be field staked by a licensed surveyor. These include the building, limits of disturbance, utility lines, and Stormwater practices.
2. Prior to the start of the project, an on-site pre-construction meeting will be held. This will be attended by the Project Owner, the Operator responsible for complying with the approved construction drawings including the Erosion and Sediment Control (E&SC) Plan and Details, the Design Engineer, the Engineer responsible for E&SC monitoring during construction, Town representatives from the Engineering Department and Code Enforcement.
3. Cut and clear trees within the phase limits as necessary for the areas to be disturbed. Install tree protective measure at marked locations on E&SC Plan.
4. Install all temporary erosion control measures as shown on the Erosion and Sediment Control Plan for the project's immediate disturbance areas. This shall include, but not limited to silt fence, stabilized construction entrances, diversion swales, sediment traps, construction fence, etc. This sequence must be followed to insure proper implementation of the Erosion and Sediment Control Plan (E&SC) and Stormwater Pollution Prevention Plan (SWPPP).
5. Timbered trees and woodchips shall be temporarily stored in the stockpile and/or staging area if necessary before being removed off-site. Woodchips may be used for mulch to stabilize disturbed areas. Woodchip mulch shall be applied at a minimum rate of 500 lbs. per 1000 SF (2" thick minimum).

6. Remove existing vegetative cover, cut and clear trees, grub, remove stumps and other surface features in the limit of construction only. Any disturbance that results from tree clearing and grubbing shall be immediately stabilized with woodchips mulch, hydro-mulch, or straw and seed. Timbered trees, wood chips, and stumps shall be removed off-site unless otherwise directed. As stated woodchips may be stockpiled for use as stabilizing ground cover. Demolish and/or remove existing features, i.e.: fence, concrete slab, asphalt etc., and dispose of or stockpile as required by the Owner. All construction debris shall be properly disposed of in accordance with all Federal, State, and Local requirements.

Standard Sequence Notes for Phases I & II

7. Begin rough grading the building pads for the Buildings. Begin moving the fill towards the location designated for each phase. Cut and fill of a certain phase shall meet the next phase boundary at a maximum slope of 2V:1H. For previous phases where grading is complete match to finish grade elevations. All compaction requirements shall be met within the fill sections. (This work shall include the commencement of the retaining walls around the proposed building construction.) Upon completion of the grading, temporary seed or hydro-mulch the embankment and install erosion control blankets as shown on the Plans along the northern perimeter of the fill section. During building and site construction, maintain and re-establish as required, erosion control and stabilization measures as required by the Site Plan and Details. Areas which are to remain undisturbed for more than seven (7) days shall be stabilized with temporary seeding or mulch.
8. A licensed surveyor must define the building locations.
9. Install or check condition of all temporary Erosion Control Measures as shown on the Erosion and Sediment Control Plan.
10. Begin preparation of the building site and excavation of the building foundation as well as construction of all retaining walls. Areas in which final grade is achieved shall be immediately stabilized with permanent vegetative cover. Permanent slopes of 3:1 or greater shall receive erosion blankets.
11. Begin construction of the foundation. Upon completion and after proper curing time is achieved, backfill the foundation and bring site to rough grade. Areas which are to remain undisturbed for more than seven (7) days shall be stabilized with temporary seeding or mulch.

The following phases are the general order for construction of the project and may be modified after approved by the supervising Engineer. The phasing is meant to minimize the amount of open disturbance. Under no circumstances shall multiple phases amounting to five (5) acres or greater be disturbed during the same period of time. In the event greater disturbance is necessary outside of the Phase lines shown on the Erosion and Sediment Control Plan, the Contractor shall coordinate with the Engineer of Record, and Municipality for an on-site meeting to discuss the alternative approach to the construction.

Phase I: Construction of Building 1 - The intent of this Phase is to complete the construction of Building 1, the driveways for the parking area in front of the building, the parking garage, the parking area in the rear of the building, and the

landscape and hardscape included in the Phase limits shown on the Erosion and Sediment Control Plan. Additionally, any proposed drainage measures shown within the phase limits shall be put in place, but not connected until the final stabilization of Phase 2.

1. The Surveyor shall stake-out the proposed driveway centerlines, limits of cut and fill and the location of the temporary sediment traps.
2. Implement the General Sequence Notes 1 through 6 where applicable prior to continuing this Phase.
3. Once the tree removal operation is complete strip the topsoil within the Phase I boundary and place excavated topsoil within the identified stockpile locations. Any soils so deemed by the Design or Monitoring Engineer shall be stockpiled for future use as landscaped area topsoil. Contractor shall take every precaution feasible to reduce the amount of disturbed/exposed soils during construction.
4. Construct and install temporary sediment traps along the proposed access drive and rear parking area. Install the temporary filtered outlet pipe. Any disturbed area that will not be further disturbed within seven (7) days shall be immediately stabilized with woodchips, hydro-mulch, or straw and seed.
5. Prior to starting the work install all erosion and sediment controls including the installation of the stabilized construction entrance and sediment trap.
6. Begin the removal of the existing driveway. Material shall be properly disposed of.
7. Begin rough grading of driveways within phase limits and adjacent areas. Slops in excess of 3H:1V shall not be left exposed and must be stabilized.
8. Begin excavation of the building foundation for the Building and adjacent areas.

Refer to Notes 7 through 12 under the General Sequence.

9. Cut material shall first be moved to the fill locations required to complete the access drive and staging area and bring the area up to final grades. Excess material to be used toward infilling in Phase II shall be stockpiled. Blasted rock that is not suitable to remain on site shall be hauled away and properly disposed of. An area has been provided for the stockpiling of removed soil and rock which is to be removed from the site as well as a cueing area for trucks awaiting loading.
10. Proceed with the construction of Building 1. This includes the building structure itself, retaining walls, and rough grades. At any point during this begin installation of the utilities including the water and sewer connections, drainage and power utilities.
11. Stake-out the location of utilities and utility structures within this Phase. Temporarily relocate the staging area at the western end of the site. Begin installation of subsurface infiltration and detention chambers within Phase I limits.

12. When the subsurface units are installed, the upstream drainage structure shall be blocked so as to not allow sediment laden water from reaching the subsurface chambers.
13. Backfill as installation is complete and stabilize the area. If trenches are to be left open, place excavated material on the up-slope sides of the trench and protect and stabilize if it is to remain open for an extended period of seven (7) days or more.
14. Upon completion of the subsurface chambers, begin installation of proposed bypass and outlet structures. Install storm sewer piping, catch basins and manholes, working downstream to upstream. During the installation of catch basins, install inlet protection and water bar as per E&SC Plan to assure that sediment laden water will not enter the storm system. Once the final grade above the system is achieved, put into place the final topsoil cover, seed mix, and erosion control blanket, or hydro-mulch. Refer to the Landscape Plan for the seed mix requirements.
15. Once the infiltrator system has been installed, grade and install the base course for the driveways and parking areas. Re-establish the staging area for the construction site trailer and parking.

Note: No stormwater is permitted to enter the infiltration system from the upstream conveyance system and shall be blocked until the completion and stabilization of all Phases tributary to the basin. An area shall be considered to have achieved final stabilization when it has a minimum uniform 80% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.

16. Complete construction of the building and remaining retaining walls within Phase limits.
17. Stake out and install curbing as per Plan. Once curbing is completed around catch basins, re-install inlet protection within catch basins. As curbing is complete, backfill with topsoil. Areas that are filled with topsoil are to be raked, seeded, and hay mulched.
18. Upon completion of the majority of the infrastructure in that phase, install pavement binder course to the thickness and elevation as per the Construction Plans.
19. As each Phase is at the completion stage install final asphalt surface.
20. Install hardscape such as patios, walks steps etc., and final vegetation including sod and landscaping. Refer to Landscape Plans for location and identification of ground cover and plantings. Clear site of debris and all unwanted materials. Disposal shall be in accordance with all Federal, State, and Local requirements.
21. During the Final Phase of building construction, finish grade, topsoil, rake, and seed all areas as required. Where required or recommended, hydro-mulch or install erosion control blankets.

22. Upon completion of this Phase, the Contractor shall be required to stabilize disturbed soils in the event the disturbed area will remain not worked for greater than seven (7) days, at the direction of the Engineer of Record or permitting entity Inspector, and when significant precipitation is in the immediate forecast. All disturbed areas shall be temporarily stabilized with hydro-mulch or where appropriate woodchips. It is recommended that any grading that is at the finish stage will receive no further disturbance and that permanent stabilization such as topsoil, seed, mulching or blankets as per the Plan be installed. The next Phase cannot commence until these steps have been completed.

Phase II: Construction of Building 2 - The intent of this Phase is to complete the construction of Building 2, the main access driveway and parking for the building, the pool and recreation area located behind the building and the landscape and hardscape included in the Phase limits shown on the Erosion and Sediment Control Plan. Additionally, the any proposed drainage measures shown within the phase limits shall be put in place, but not connected until the final stabilization of Phase II.

1. The Surveyor shall stake-out the proposed building, drive and parking access, pool and recreation area, limits of cut and fill, and the location of the temporary sediment traps.
2. Strip topsoil within the Phase II boundary and place excavated topsoil within the identified stockpile locations. Any soils so deemed by the Design or Monitoring Engineer shall be stockpiled for future use as landscaped area topsoil. Contractor shall take every precaution feasible to reduce the amount of disturbed/exposed soils during construction.
3. Begin excavation for the building foundation for the building and adjacent areas. Refer to Notes 7 through 12 under the General Sequence.
4. Begin rough grading main access driveway and parking area for building 2. Connections to building 1 driveway shall be made at subgrade elevations.
5. Cut material shall first be moved to the fill locations required to complete and bring the areas up to final grades. Excess material to be removed from the site.
6. Stake-out the location of utilities and utility structures within this Phase. Install storm sewer piping, catch basins and manholes, working downstream to upstream. During the installation of catch basins, install inlet protection and water bar as per E&SC Plan to assure that sediment-laden water will not enter the storm system. Make connections to other phase utilities as necessary.
7. Complete construction of the building and remaining retaining walls within Phase limits. Utilities must be installed and completed before the construction of the retaining walls.
8. Stake out and install curbing as per Plan. Once curbing is completed around catch basins, re-install inlet protection within catch basins. As curbing is complete, backfill with topsoil. Areas that are filled with topsoil are to be raked, seeded, and hay mulched.

9. Upon completion of the majority of the infrastructure in that phase, install pavement binder course to the thickness and elevation as per the Construction Plans.
10. As the Phase is at the completion stage install final asphalt surface..
11. Install hardscape such as patios, walks steps etc., and final vegetation including sod and landscaping. Refer to Landscape Plans for location and identification of ground cover and plantings. Clear site of debris and all unwanted materials. Disposal shall be in accordance with all Federal, State, and Local requirements.
12. During the Final Phase of building construction, once final grade is achieved, place final topsoil cover, begin placement of seed mix and erosion control blanket, or hydro-mulch. Refer to the Landscape Plan for the seed mix requirements.

Final Site Stabilization and Completion of New Construction:

13. Upon completion of all Phases, the site shall be inspected by the Supervising Engineer and Town Inspector to determine completion of all work and permanent stabilization of the site.
14. Any areas deemed incomplete or not properly stabilized shall be done so to the satisfaction to the Supervising Engineer and Town Inspector.
15. Once the site is deemed adequately stable the temporary erosion and sediment control measures can be removed including the sediment traps. The area where the sediment trap was located shall be filled, top soiled, seeded and mulched in accordance with the specifications within this plan. At that time if deemed appropriate drainage structures upstream from the subsurface stormwater management systems shall be cleaned of sediment and debris. They can then be unblocked to allow for flow of collected surface runoff.

Contact information during and after construction:

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