

IV. ADVERSE IMPACTS THAT CANNOT BE AVOIDED

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All significant adverse impacts resulting from the development of the Proposed Site will be mitigated to the maximum extent practicable. The proposed development will have certain short term and long term adverse impacts, as would any development on the site.

A. Long Term

Long term adverse impacts associated with the Proposed Project that cannot be avoided include additional traffic, additional demand on infrastructure, loss of trees, and a 2.3 percent increase in the Town's population. All significant adverse impacts will be mitigated to the maximum extent practicable.

B. Short Term Construction and Site Remediation

1. Grading operations

The Conceptual Plan will require the demolition of existing buildings, excavation of material, placement of the excavated material within the site and regrading of those areas. Excavated soil will be placed onsite where necessary to raise elevations to the proposed finished elevations. It is anticipated that the amount of excavation will equal the amount of soil placed to raise elevations and not require removal of soil material from the site.

As a result of the magnitude of the demolition and site construction, the area of grading and disturbance will encompass the majority of the 143 acre Project Site. During the site plan review process, detailed landscaping plans will identify any trees to remain. Prior to construction, the disturbance limit will be staked in the field and reviewed to determine if changes to grading can conserve additional trees. This will be done by installation of tree wells and minor adjustment to the grading. The trees to remain will be protected with construction fencing to avoid damage during construction.

2. Building Demolition and Environmental Remediation

The project will provide a substantial benefit with the demolition of the existing abandoned buildings and the remediation of contamination within the buildings and the soil of the Project Site. All remediation activities will be performed and material disposed of in accordance with all Town, State and Federal regulations.

The demolition of the existing buildings and roads will be done in the initial phase of the project. This will also include removal of underground utilities and utility tunnels that will not be used for the development. The demolition phase will need to be coordinated with the utility and drainage construction to maintain existing facilities that serve the remaining RPC facilities, see Chapter III.E., Utilities.

A Phase II Investigations and Recommended Site Remediation Report was prepared in August 2002 by Lawler, Matusky & Skelly Engineers, LLP. The report identifies all material that will need to be removed in a controlled manner prior to the demolition of the buildings. All remediation activities will be performed, and material disposed in accordance with all applicable Town, State and Federal regulations.

Prior to beginning any demolition of the existing buildings, the asbestos contained in fire proofing, acoustical and finish plasters, equipment insulation, piping and fitting insulation, roofing felts, boards, shingles, and flashings, dust and debris, vinyl asbestos tile, ceiling tile, gaskets/seals/sealants, and fire doors will be abated by removing the material and disposing of it in a certified landfill. The New York State Department of Labor's Asbestos Control Bureau oversees the abatement of toxic hazards associated with asbestos fiber during the rehabilitation, reconstruction or demolition of buildings and other structures originally constructed with asbestos containing materials. The Bureau enforces the New York State Labor Law and Industrial Code Rule 56 (asbestos). The requirements of this code address the licensing of contractors, certification of all persons working on asbestos projects, the filing of notifications of large asbestos projects, and a predemolition survey of buildings to identify any asbestos which may be present to ensure proper abatement of asbestos materials. Code Rule 56 requires that a building survey be conducted prior to advertising for bids, or commencing work, on any demolition project by a certified inspector. The survey includes the identification of all asbestos materials throughout the building to be demolished. The survey identifies and assesses the condition of asbestos material contained in fireproofing, acoustical and finish plasters, equipment insulation, piping and fitting insulation, roofing felts, boards, shingles, and flashings, dust and debris, vinyl asbestos tile, ceiling tile, gaskets/seals/sealants, and fire doors.

A sampling of the soils immediately adjacent to the buildings indicated visible evidence of peeling paint, lead and a variety of other metals that were found at elevated concentrations. Prior to demolition these areas should be tested. It is anticipated that it will be necessary to remove the immediately surrounding soils to a depth of 6-12 inches and disposed of, or reused, onsite in accordance with applicable regulations.

To the extent practical, concrete and brick will be recycled for use as fill and base material. The large pieces of concrete debris could be placed into an on-site crusher to create an aggregate suitable for use at this site or sold locally. The crushed concrete could serve as a sub-base for parking lots and structures.

3. Construction Phasing

The phasing of the project will be subject to the market conditions. The Developer will provide a phasing plan as part of the site plan approval process. The construction of the portion of the development adjacent to Blaisdell Road and Old Orangeburg

Road, from a construction impact standpoint, is independent and will not impact the phasing of the balance of the project.

The anticipated construction sequence is as follows:

- Site Preparation – A temporary staging area will be established on the site and sediment control measures will be installed as defined in the Stormwater Pollution Prevention Plan. This phase will include demolition and removal of the existing roadways and utilities.
- Clearing – An on-site wood chipper would process all of the brush, logs, and stumps located at the site. The wood chips may be able to be reused at the site as mulch for landscaping purposes. The wood chips may also be taken to either the Orangetown or Clarkstown Compost Facility for future use as mulch by local homeowners or landscapers.
- Building and Tunnel Demolition – Before any existing building can be demolished the following tasks must be completed:
 - All asbestos containing materials (ACM) for which a variance has not been obtained shall be removed and properly disposed of.
 - All fluorescent lamps and ballasts shall be removed and properly disposed of.
 - All utilities (water, sanitary, storm, gas, electrical, telephone/data, etc.) serving the building must be located, disconnected, and plugged or capped.
 - Solid wastes which are not considered construction and demolition (C&D) debris such as garbage, corrugated container board, carpeting, furniture, appliances, tires, drums, and containers, clothing, etc. shall be removed and properly disposed of.

Most of the major buildings on the facility were previously heated via steam generated at the Power Plant, and transmitted via a system of tunnels that extends throughout the facility's main campus. The tunnels also contained electric and water lines and served as connecting corridor tunnels between buildings. The tunnels will be removed or abandoned within the project area as follows:

- Remove all asbestos in accordance with regulatory requirements.
- Remove existing utility pipes.
- Where tunnels do not conflict with proposed buildings, roads or utilities, the tunnels can remain after removing the top slab, breaking up the bottom slab and backfilling. The tunnels can be backfilled with crushed concrete.
- Where tunnels conflict with proposed construction, they will need to be removed.

The demolition of the buildings and utilities is anticipated to be the first phase of construction. Due to the extensive coordination with the proposed infrastructure and the abandoned utilities and tunnels, it is highly probable that all demolition will occur during the initial phase of the project. Timing of the demolition would be 6 months or longer, depending on the phasing and coordination with the environmental remediation.

- **Utility Construction** – The construction phasing will require maintaining the existing utilities that serve the portions of the RPC facilities to remain. If any of these utilities need to be relocated, the phasing will require that service is not interrupted to the RPC complex.
- **Roadway and Infrastructure Construction, Rough Grading, Site Grading, and Drainage and Utilities** – Earthwork operations will begin to establish the rough grading of the site. After the approximate subgrade elevation is established, the storm drainage and utilities will be installed. Sediment control measures during this phase will include installation of sediment barriers adjacent to all areas to be disturbed. A stabilized construction entrance will be installed at all points of access to adjacent roadways. The contractor will maintain a gravel access road or use the existing site roads to the extent possible. Stabilization of all slope areas will proceed immediately upon completion. Dust control measures will be implemented as required.
- **Golf Course Construction** – Reconstruction of the golf course will occur after the demolition and relocation of utilities has been completed. The construction of the new golf holes and reconstruction of the existing golf holes will be phased to minimize the period during which the golf course will be shutdown. During the shutdown period, the new irrigation system will be installed within the existing golf holes to remain.
- **Building Construction** – The building construction is expected after the site access roads and utilities are completed. The duration will depend on the sale of units. The first buildings will not be occupied until the utility infrastructure systems serving the units are completed.

4. Construction Access

All construction access will be from Veterans Memorial Highway to Blaisdell Road and through the RPC Campus via 3rd Avenue. Construction traffic will be prohibited from all other roads within the RPC Campus. It is anticipated that construction traffic will arrive to the area via NYS Route 303 and I-87/I-287.

5. Construction Noise

The impacts of construction activities and crushing of demolition material on the site will be described with respect to impacts on both neighbors and the other facilities on

the RPC Campus. In order to provide a frame of reference to the sound levels to be presented herein, some common sound levels are listed below.

Pile Driver at 100 feet	90 to 100 dBA
Chainsaw at 30 feet	90 dBA
Truck at 100 feet	85 dBA
Noisy Urban Environment	75 dBA
Lawn Mower at 100 feet	65 dBA
Average Speech	60 dBA
Typical Suburban Daytime	50 dBA
Quiet Office	40 dBA
Quiet Suburban Nighttime	35 dBA
Soft Whisper at 15 feet	30 dBA

The construction process for this type of project generally occurs in the following sequences: ground clearing, excavation, foundations, building construction, exterior finishing and cleanup. Construction equipment utilized will differ from sequence to sequence. In general, heavy equipment (bulldozers, dump trucks) will be used during ground clearing and excavation activities. Noise is generated during construction primarily from diesel engines that power the equipment. Exhaust noise usually is the predominant source of diesel engine noise, which is the reason that maintaining functional mufflers on all equipment will be a requirement.

Blasting, if any, is required for the project at locations where significant rock is found. Blasting noise is of very short duration (less than one second) and is typically heard as a dull rather than sharp type of sound.

Noise levels of construction equipment typically utilized for this type of project are presented in Table IV-1. Site average sound levels for each phase of construction are presented in Table IV-2. The highest site average sound levels) are associated with pneumatic impact equipment and jackhammers. This is the type of equipment that may be used for demolition of buildings, concrete and roads. These are only anticipated to be used during demolition activities. Noise levels in both tables are presented for a reference distance of 50 feet and at various greater distances, covering the range of distances to nearby residences to the project.

**Table IV-1
Noise Levels of Major Construction Equipment**

Equipment Type	Noise Level (dBA)			
	50 Feet	200 Feet	400 Feet	800 Feet
Front Loaders	79	73	67	61
Graders	85	78	67	61
Bulldozers	80	72	66	60
Pickup Trucks	60	54	48	42
Dump Trucks	85	79	67	61
Pneumatic Impact Equipment	83-88	77-82	71-78	65-72
Jackhammers	81-98	75-92	69-88	63-82
Backhoes	85	79	67	67
Crusher	81	75	69	63

Source (U.S. EPA, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, 1971; New York State Department of Environmental Conservation, *Construction Noise Survey*, Report No. NCP2, April 1974)

**Table IV-2
Noise Levels of Major Construction Operations**

Construction Phase	Noise Level (dBA)			
	100 Feet	400 Feet	600 Feet	1000 Feet
Ground Clearing	78	72	63	59
Excavation	83	77	68	64
Foundations	71	65	56	52
Building Erection	78	72	63	58
Finishing and Cleanup	83	77	68	64

Source (U.S. EPA, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*, 1971)

The sound levels presented above are, when evaluated against typical sound levels as presented above, relatively low. The noise levels presented in Tables IV-1 and IV-2 will be attenuated by a variety of mechanisms. The most significant of these is the diversion of the sound waves with distance. In general, this mechanism will result in a 6 dBA decrease in the sound level with every doubling of distance from the source. Additional reductions in noise are achieved through absorption by the atmosphere.

The Project Site covers a large area. Projected sound levels at offsite locations will vary with the type and location of the construction activity on the Site. Because construction activities would be carried out at various locations and because these activities change as work progresses, the construction site would have both spatial and temporal noise dimensions. Noise levels at the various receptors will depend on the work activity, the proximity of the work activity (relative location on site/distance to receptor), and extraneous sources (i.e., sirens, and other background sources). As

such, no one existing residential use will be exposed to the same sound levels over an extended period of time, as construction progresses through the site.

6. Mitigation Measures

a. Construction Phasing

The Developer will provide a phasing plan as part of the site plan approval process for the project. The plan will identify the phasing of building construction, roadways and infrastructure, maintenance of existing utility services to remain and the area to be disturbed at any one time.

Another consideration will be the site security to protect the safety of the remaining RPC facilities and operations. It is suggested that construction fence will be installed to separate construction activities from the patients, employees and others on the RPC site.

b. Construction Noise

It is important to note that the construction equipment presented above is not used in each phase of construction. Further, equipment is not generally operated continuously, nor are the various pieces of equipment always operated simultaneously. There will therefore be times when no equipment is operating and noise will be at ambient levels.

It is anticipated that project construction will occur over an approximately 3-4 year period. The demolition phase will occur over 6 months or longer, depending on phasing and coordination with the environmental remediation. The use of pneumatic equipment and jack hammers for demolition should be minimized to the extent practical for the demolition of the buildings in the northern portion of the site, adjacent to Convent Road.

The construction noise levels presented above are those which would be experienced for people outdoors. A building (house) will provide significant attenuation for those who are indoors. Sound levels can be expected to be up to 27 dBA lower indoors with the windows closed. Even in homes with the windows open, indoor sound levels can be reduced by up to 17 dBA (USEPA, 1978).

The short-term nature and relatively small magnitude expected of the potential construction noise impacts do not warrant any mitigation measures. However, it is a generally good construction practice to reduce construction noise to the greatest extent possible and practical.

While the potential location for the crusher has not been determined, and since this will be a stationary source, noise levels from any potential crusher can be reduced by locating it at further distances from residential locations. The duration of the crushing

operation will depend on the project phasing, i.e. if all building are demolished at the same time. The overall crushing operation may extend for a 6-18 month period.

Noise and air quality measures to minimize impact should include the following:

- The internal combustion engine-powered construction equipment used in the construction of the project shall be limited to late model (1998 and newer) so as to take advantage of the cleaner burning engines. Exceptions to this shall be subject to the approval of the Town Building Department upon a demonstration that it is not feasible or practicable to obtain the required equipment.
- Engines shall be fitted with “critical” level exhaust silencers.
- All non-road vehicles over 50HP used shall utilize the best technology available for reducing the emission of pollutants, including, but not limited to, retrofitting such non-road vehicles with oxidation catalysts, particulate filters, and/or technology with comparable or better effectiveness. All construction equipment shall include PM2.5 emission controls.
- All diesel powered non-road vehicles in use at this construction site shall be fueled only with ultra low sulfur diesel having a sulfur content of no more than 15 parts per million. All fuel delivered for use at this construction site shall consist of said fuel.
- “Non-road engines” mean an internal combustion engine (including the fuel system) that is not used in a motor vehicle used solely for competition or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code (USC), except that this term shall apply to internal combustion engines used to power generators, compressors, or similar equipment used in any construction program or project.
- Variable volume back-up alarms shall be used on construction vehicles.

c. Natural Resources

To the extent practical, the project will reuse existing onsite material for the construction. This will include stockpiling and reuse of topsoil, chipping of trees for use in landscaping and mulch, use of excavated crushed concrete and brick as controlled fill and pavement subgrade.

d. Erosion Control

During construction of the project, the potential for soil erosion and sedimentation will be controlled through the use of temporary soil erosion and sediment control measures as required in a SWPPP submitted by the Developer. These measures will be designed and installed in accordance with *New York Guidelines for Urban Erosion and Sediment Control*, October 2005 and the New York State Department of Environmental Conservation (NYSDEC) Pollution Discharge Elimination System (SPDES) for Discharges for Construction Activities, General Permit GP0-08-001. The proposed Soil Erosion and Sediment Control Plan will minimize the downstream

erosion by controlling runoff at its source, minimizing runoff from disturbed areas and de-concentrating storm water runoff. Temporary and permanent stabilization methods will be implemented before construction begins and will be continuously modified throughout construction to provide the best methods for stormwater management and pollution prevention. The construction phasing will limit the area of disturbance to the extent practical to five acres at any one time. Where this is not possible, the phasing will be reviewed and approved by the Town as part of the Stormwater Pollution Prevention Plan. See Chapter C.2., Topography and Soils, for additional discussion on the proposed Sediment and Erosion Control Plan.

e. Adjacent Land Uses

The project will temporarily impact the adjacent hospital uses as well as residential uses across Convent Road during the construction period. This will be mitigated through the implementation of dust and erosion control measures, and controlling noise by properly maintaining equipment and staging construction activities away from adjacent residential properties, hospital facilities, and Nathan S. Kline Institute to the extent possible. Hours allowed for blasting operations are controlled by Chapter 13-9 of the Town Code as “No person shall conduct blasting operations within the Town of Orangetown after the hour of 5:00 p.m. and before 8:00 a.m. nor any time on Saturday, Sunday or holidays, except in the case of emergency or necessity, and then only with permission of the Building Inspector or Fire Inspector.”

f. Construction Traffic

A Construction Traffic Control Management Plan will be required to manage construction traffic. The plan will address the onsite circulation of traffic to minimize conflicts with existing RPC operations. The plan will also provide means to direct all construction traffic to Veterans Memorial Highway and to avoid local roads. The plan will include control of deliveries and also workers arriving and departing the site.