



ENGINEERING REPORT  
Proposed Subsurface Sewage Treatment System &  
Non-transient Non-community Water System

**CRS International, Inc.**

Town of Philipstown, TM #38.-3-64  
Putnam County, New York

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## **PROJECT**

CRS International, Inc. is under contract to purchase the subject premises at 2761 Route 9 in Cold Spring, where they intend to construct a new wholesale distribution warehouse and office headquarters. They currently conduct their operation just north of this property at 3504 Route 9, which will be vacated upon completion of this project. The new building will have approximately 20,340 square feet of interior space (21,223 SF building footprint); 15,220 SF of warehouse space, and 5,120 SF of office space. The company will be expanding slightly from their current facility, with a total of 20 office staff, and a total of 10 warehouse staff. All restroom and kitchen facilities will be located in the office portion of the building, but the warehouse employees will have no dedicated space in the office.

## **SITE**

Development of the site was started by MHCP Realty, LLC when they had approvals to construct a self-storage facility, and associated office/caretaker's residence. The building pad has been leveled, and construction of the retaining walls had commenced. All construction has been idle for 10+ years now. The currently proposed development will incorporate a majority of the existing construction, including the existing septic system at the front of the property. There is a large retaining wall along the front of the property, directly upgrade of the absorption trenches. The construction of this wall is complete, and will remain. Installation of the absorption trenches under Construction Permit #CO 0406-PH is complete, and permission to backfill was granted on August 27, 2008. The existing trenches shall remain, and will be protected throughout construction.

## **HYDRALIC DEMAND**

The following hydraulic loading rates were estimated as prescribed in *Table B-3. Typical Per-Unit Hydraulic Loading Rates of the New York State Design Standards for Intermediate Sized Wastewater Treatment Systems*, as promulgated by the New York State Department of Environmental Conservation – March 5, 2014

### Proposed Condition:

Office –

$$15 \text{ GPD/employee} \times 20 \text{ employees} = 300 \text{ GPD}$$

Warehouse –

$$15 \text{ GPD/employee} \times 10 \text{ employees} = 150 \text{ GPD}$$

There are no shower or laundry facilities proposed for this building. These per-unit hydraulic loading rates may be reduced by 20% for this establishment, which will be equipped with water saving plumbing fixtures.

Adjusted hydraulic loading rate –

$$(300 \text{ GPD} + 150 \text{ GPD}) \times 0.8 = \mathbf{360 \text{ GPD}}$$

### Existing Condition:

The existing subsurface sewage treatment system, as designed and constructed, has a hydraulic capacity of **600 GPD**. Therefore, the existing absorption system has sufficient capacity to

support the proposed change of use. Only the absorption trenches and equal distribution box were installed – the septic tank was not installed.

### **SUBSURFACE SEWAGE TREATMENT**

Septic Tank - The proposed septic tank was sized pursuant to Table D-2. of New York State Design Standards for Intermediate Sized Wastewater Treatment Systems, as promulgated by the New York State Department of Environmental Conservation – March 5, 2014.

For this range of design flow, the tank size should be 1.5 times the daily flow, or, 900 gallons. In this instance, the design flow we are considering is that of the existing absorption system and not the lesser calculated per unit rate – should the current (or future) owner wish to increase the use of the property. No septic tank shall have a capacity less than 1,000 gallons. Therefore, a **1,000-gallon reinforced pre-cast concrete septic tank** shall be provided. A tamper-proof manhole frame and cover shall be brought to grade for inspection and maintenance.

Absorption System – The existing absorption system consists of conventional 24”-wide stone and pipe absorption trenches spaced 6’ on center. The perforated laterals are pitched for gravity distribution, and are fed by a precast concrete equal distribution box. There are six (6) laterals that are 50 linear feet each, for a total of 300 linear feet. The sewage application rate of the in-situ soil is 1.0 GPD/SF. The approved 100% reserve replacement area remains unencumbered by existing or proposed development.

### **WATER SUPPLY**

The proposed use will require approval of a non-transient, non-community water system (NTNC). This water system will serve 30 full-time employees, 8 hours per day, 5 days per week, 52 weeks per year. (An NTNC is a public water system which will regularly serve at least 25 of the same people, four hours or more per day, for four or more days per week, for 26 or more weeks per year.) There is only one proposed structure, there is no distribution. A water meter, Recordall® Badger Meter, model RCDL-25, shall be installed on the water service in the mechanical room. Daily meter readings shall be submitted to the health department on a monthly basis. The health department shall test and monitor the untreated well water on a quarterly basis. A smooth-nose sample tap shall be installed on the raw-water supply.