Engineer's Report

Prepared for:

Pro-cutters Landscape Inc

2970 County Road 10

TOWN OF CANANDAIGUA, NY 14424

Date:

March 1, 2022

Prepared by:

MarksEngineering

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Canandaigua, NY 14424

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Marks Engineering, P.C. (Marks Engineering) has prepared this Engineer's Report for the new facility noted above located:

Tax Map # 84.00-1-45.20
2970 County Road 10
Town of Canandaigua
Ontario County
New York

Project Description/Intent:

The Pro-cutters Landscape Inc site is located on an existing +/- 11.2 acre site in the Town of Canandaigua with tax account number 84.00-1-45.20 The project site is located on the northwest corner of County Road 10 and County Road 46 roundabout with frontages along both county roads.

Site development includes proposal to construct a 5200 s.f. landscape contracting building. The landscape contracting building will be offices and storage for Pro-cutters Landscape Inc. Other site amenities include site access from County Road 46, stormwater management area, septic system, water supply and landscape material storage bunkers.

Water supply will be provided from a proposed 6" PVC DR-18 private water service/combined service connecting to the existing watermain located on the west side of County Road 10. The water service installation will include backflow prevention equipment and domestic water metering installed on the water service within the proposed building to provide protection of the public watermain from backflow of water from the site water service.

Sanitary wastewater treatment is proposed to be addressed by the installation of a private onsite wastewater treatment system (WWTS) designed per the current New York State Department of Health (NYSDOH) and New York State Department of Environmental Conservation. (NYSEC) requirements for a private intermediate sized WWTS.

A comprehensive stormwater management plan has been prepared and addresses the runoff from the proposed site development and includes treatment of stormwater from the proposed impervious and disturbed areas. This project has been prepared in basic conformance with the NYSDEC SPDES General Permit for Stormwater Discharges from construction activity, GP -0-20-001, where applicable.

The following report provides the technical data to support the proposed action, The report includes discussion on the water, sanitary sewer services, stormwater management, construction erosion control and other site components.

Existing Conditions:

The site is currently vacant and zoned Industrial. The site adjoins a NYSEG substation, Solar field,

Self-storage facility, and a residence. The surface of the lot is mostly flat. The site drains west to the Canandaigua Outlet, a fifth order stream. The site is covered by brush and saplings. There are no federal or state wetlands on the site. There is a floodplain that is associated with the ditch along the road and a flood elevation of 688.63 has been assigned by the FEMA Seneca Watershed Study Map 12.

Water Supply:

The site water supply will include connection to the existing public watermain located on the west side of Couty Road 10 with a proposed 6" PVC DR-18 private combined service extending into the site. The private combined service will include the installation of backflow prevention devices on the fire service and domestic located inside of the proposed contracting building within a mechanical room at the point the service enters the building. Downstream of the backflow prevention devices, the development will include the installation of a building water service to provide domestic water supply, and a fire hydrant service located in the middle of site to provide fire protection.

Sanitary Wastewater Treatment:

The project includes the installation of a proposed private onsite WWTS located at the northeasterly corner of the site which shall be installed by the developer and will treat the domestic wastewater generated from the site The design sanitary discharge loading rate of 500 gallons per day has been utilized based upon the anticipated water use estimate. The proposed WWTS includes installation of a 6" SCH 40 PVC sanitary latera pipe from the building to a proposed 2,000 gallon precast concrete septic tank, proposed sanitary effluent pump tank with a 1.5" 160 PSI force main connected to a precast concrete distribution box, which will facilitate equal distribution of wastewater effluent. The absorption field will be constructed as a shallow absorption trench system due to site soils. The proposed sanitary WWTS has been designed in basic compliance with the NYSDOH & NYSDEC requirements based on the existing soil characteristics.

Stormwater Management:

Stormwater runoff associated with the proposed project will be treated during and after construction to meet the New York State Department of Environment Conservation (NYSDEC) water quality and quantity requirements. A proposed stormwater management facility will be constructed to capture and detain runoff from the developed areas of the property, then release the runoff to a downstream area at a controlled rate. The stormwater management plan for the project is designed in accordance with the current rules and regulations set in the NYSDEC Stormwater Management Design Manual (January 2015) and the Town of Canandaigua requirements.

The NYSDEC Stormwater Management Design Manual provides specification and sizing criteria for the stormwater management practices for stormwater discharges. The proposed stormwater management for this project has been designed to meet the five key criteria outlines in the design manual:

- Water Quality volume (WQv) to meet pollutant removal goals
- Runoff reduction volume (RRv) by application of runoff reduction practices to replicate pre-development flows.
- Channel protection volume (Cpv) to reduce channel erosion
- Overbank flood protection (Qp) to prevent overbank flooding
- Extreme storm protection (Qf) to help control extreme floods

The existing and proposed drainage conditions at the project site were analyzed following the methods outlines in Soil Conservation Service Technical Release No. 20 & 55. Peak runoff rates for existing and

post-development conditions were modeled for the 1, 10, and 100-year storm events using the HydroCAD V10 software. Runoff rates were determined based on the hydrologic characteristics of the site (soil conditions, existing and proposed land cover, time of concentration for contributing drainage areas). The SWPPP contains the stormwater hydrographs and sub area information, These stormwater hydrographs reports show the subarea routings, subarea data, stormwater management facility ad outlet structure sizing, estimated detention times storage volumes, peak ponding elevations, and discharge rates.

Site development will include installation of a storm sewer system to convey site runoff from the proposed areas to the SWMF. Storm sewers have been designed to convey for the 10-year design flows.

Erosion Control:

The proposed stormwater management facility and comprehensive erosion control plan have been designed to control sediment runoff and provide water quality treatment during and after the site construction, As required by the NYSDEC the project will include a Stormwater Pollution Prevention Plan (SWPPP) that will combine the design presented in the report and on the plans with the requirements of NYSDEC GP 0-20-001 to outline how the owner will address the construction and post construction stormwater conditions. The construction erosion control plan has been designed per the New York Standards and Specifications for Erosion and Sediment Control.

Erosion control measures will be implemented during construction to control silt and minimize disturbance to the existing swales and drainage conditions. Typical practices include the installation and maintenance of silt fence, stone check dams, rip rap outlet protection, and filter fabric inlet protection. The disturbed areas will be seeded and mulched as soon as possible to control the erosion. Pipe outlet control rip-rap measures are also provided with the storm sewer system. Appropriate sediment and erosion control facilities will be provided at the right of way disturbances to include stabilized construction entrance and silt fence as appropriate.

The final component of the erosion control plan will be maintenance. The contractor will be responsible for installing the erosion control features, as well as maintaining and replacing them as necessary throughout the construction. An owners representative and the Town of Canandaigua will review the erosion control measures to determine their efficiency, need for replacement, or need for additional measures. A SWPPP will be prepared for the project and is to be kept on-site throughout the soil disturbing activities and until groundcover is established.

Landscaping:

The landscape plan incorporates native plant material to be used as screening trees along County Road 46 and certain adjacent parcels Seed mixes were chosen to be used within the stormwater pond area and incorporate native plant species that are well suited for places inundated with water or have year long standing water.