

Sewer Supply Report



Village of South Blooming Grove, NY

Prepared for:

**OCCR Enterprises, LLC
c/o The Cordish Company
601 East Pratt Street, 6th floor
Baltimore, MD 21202**

**McLaren Project No. 140346
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1.0 INTRODUCTION

McLaren Engineering Group (MEG), has been retained by the OCCR Enterprises, LLC to conduct an independent analysis regarding a proposed sewer supply and availability for the proposed casino/hotel development in the Village of South Blooming Grove, Orange County, New York. The proposed project will be a joint venture between two established gaming operators, the Cordish Companies and Penn National Gaming, Inc.

2.0 MCLAREN ENGINEERING GROUP QUALIFICATIONS

Founded in 1977, McLaren Engineering Group has a 37-year history of providing multidiscipline consulting engineering services to clients worldwide. Headquartered in West Nyack, NY and with offices in New York, NY; Orlando, FL; Baltimore, MD; Middletown, CT; and San Francisco, CA.

We have an excellent history of inspection, engineering and design experience working for both public and private entities. McLaren is currently providing or has recently provided structural engineering services for clients such as the Port Authority of New York and New Jersey, New York City Department of Transportation, New York City Economic Development Corporation, New York City Department of Corrections, New York State Department of Transportation, the Baltimore Center for the Performing Arts, Olympia & York, Carnival Cruise Corporation, U.S. Gypsum, Roseland Contractors, LLC., R&D Development, Turner Construction, Consolidated Edison Company, PSE&G, and the U.S. Navy.

The Site/Civil Division provides complete design and construction management services for all types public and private of civil and site development projects. Including drainage, grading, infrastructure, geotechnical services, utilities design, erosion control, stormwater management and zoning and entitlement permitting and assistance for large-scale public and private infrastructure, mixed-use developments, parks, and waterfront facilities. We have specific in-depth expertise in large site development projects and public transportation and infrastructure facilities.

Our recent experience with similar large-scale entertainment and gaming facilities include: Philly Live! that contains which approximately 57,000 s.f. of entertainment/ retail space where McLaren provided site/civil engineering and geotechnical engineering services including the subsurface investigation and report and development of ground modification specification; and Maryland Live! gaming facility that includes the 2 million square foot structure and parking for 4,300 cars on the six-level structure.

Other large-scale site development and infrastructure experience includes: the Club at Briarcliff Manor Senior Housing will be a 385 unit continuing care retirement community with on a 59 acre campus; the General Electric Training Center in Ossining, NY, which includes a new residential building, maintenance building, classroom addition, and renovations on the 52 acre campus; the Port Imperial development which consists of 6,500 residential units and approximately 2 million square feet of commercial space, including office, retail and a full service hotel; the Central Nyack Drainage Improvement Project for the Town of Clarkstown which is a \$11 million dollar infrastructure project including street and streetscape improvements, drainage improvements and a 30-acre regional dam and detention basin; and the Village of Briarcliff Water Infrastructure projects which includes a water pump station to replace an existing elevated tank, water and sewer infrastructure and a comfort station at a Village Park.

3.0 EXISTING CONDITION

3.1 Site Location

The project site is located in the Village of South Blooming Grove, NY. The site is approximately 125 acres and is located west of NYS Route 208 in the southern portion of the Village. The site known as Tax Map Section 223, Block 1, Lots 1 and 2.

3.2 Village Sewer District

Portions of the Village of South Blooming Grove is located in the Village's Consolidated Sewer District 1. This district services the homes and businesses generally in the Village center located north of the Project Site. The sewer is collected by a gravity system that flows to an existing sewer pump station located west of Duell Avenue. The system includes a waste water pump station, two (2) waste water substations and approximately 20 miles of waste water main. The Village Sewer Department maintains and operates the sewer system.

The sewer pump station discharges to a 12--inch PVC force main that is located on the west side of NYS Route 208. The force main continues south on Route 208 and then continues along Museum Village Road where it connects to the Orange County Sewer District 1 sewer force main and gravity sewer system. The sewer effluent discharges to the Harriman Sewer Treatment plant.

The Village Consolidated Sewer District 1 currently has a sewer allocation of 225,000 gallons per day.

4.0 PROPOSED PROJECT

4.1 Sewer District

The OCCR will petition the Village Board to extent the Consolidated Sewer District 1 to include the project site. The extension of the sewer district will be in accordance with the procedures prescribed in Article I Sewer & Water Services of the Village Code.

Applicant has requested that the Village reserve up to 260,000 gallons per day of its allocation of municipal sewer capacity for the project. Applicant has committed to pay the Village's actual cost of reserving such allocation and for use of the sewer capacity.

4.2 Projected Project Demand

The estimated sewer demand for the new facilities were determined through engineering analysis and reflected in the table below. The sewer and water demand is based on the component of the building program. The calculated values are considered to be conservative, since the interaction of users between the various venues and uses within the casino and hotel will provide redundancy and may results in actual lower flow rates.

| PROGRAM AREAS LIVE! New York Hotel & Casino | Unit | Quantity | Water/Sewer Demand | |
|--|-------|----------|--|-------------------------|
| | | | Rate | Total (Gallons Per Day) |
| Casino Floor | SF | 217,700 | 15 gpd per employee/shift + 0.3 gpd/sf | 87,080 |
| Casino Support (FOH) | SF | 27,660 | .1 gpd/sf | 2,766 |
| Casino Support (BOH) | SF | 47,250 | .1 gpd/sf | 4,725 |
| Administration/Support | SF | 28,710 | .1 gpd/sf | 2,871 |
| Hotel Guestrooms | Rooms | 321 | 110 gpd/module | 35,310 |
| Meeting Rooms (4), Prefunction | SF | 8,150 | .1 gpd/sf | 815 |
| Center Bar / Lounge | Seats | 109 | 35 gpd/seat | 5,250 |
| Lobby Bar | Seats | 90 | 35 gpd/seat | 4,375 |
| Upscale Steakhouse | Seats | 174 | 35 gpd/seat | 5,250 |
| Overlook Lounge | Seats | 105 | 35 gpd/seat | 3,675 |
| Asian | Seats | 133 | 35 gpd/seat | 4,655 |

| | | | | |
|--|-------|--------|----------------|---------------------------|
| Deli | Seats | 80 | 35 gpd/seat | 2,800 |
| Italian | Seats | 221 | 35 gpd/seat | 7,735 |
| Food Court / Buffet | Seats | 375 | 50 gpd/seat | 13,125 |
| American Diner / Café (24 HR) | Seats | 254 | 50 gpd/seat | 8,890 |
| Noodles | Seats | 30 | 35 gpd/seat | 1,050 |
| Employee Dining | Seats | 325 | 35 gpd/seat | 11,375 |
| Spa (at hotel 11th and 12th floors) | SF | 34,094 | 0.1 gpd/SF | 3,409 |
| Central Plant (condensate recovery - percentage of cooling tower makeup) | Ton | 5,272 | 4 gph/ton | 31,632 |
| Entertainment Venue | Seats | 3,000 | 5 gpd/seat | 15,000 |
| Daycare | Child | 20 | 20 gpd/child | 400 |
| TOTAL | | | | 252,188 |
| Total Sewer Demand - with 20% reduction for low flow fixtures | | | 201,751 | Use 205,000 GPD |

4.3 Onsite Infrastructure Improvements

Sanitary sewer will be collected from the casino, hotel and other project components by gravity sewers. The gravity sewer will flow to a pump station that will be located west of the proposed parking structure. All onsite sewers will be constructed with PVC, SDR 35 pipe. The sewer design will be in accordance with the Village requirements and the "Recommended Standards for Wastewater Facilities, 2004 Edition, Policies for the Design, Review, and Approval of Plans and Specifications for Wastewater Collection and Treatment Facilities (10 State Standard)". All onsite sewer collection systems will be constructed and maintained by OCCR

4.4 Municipal Infrastructure Improvements

The proposed pump station will discharge to a force main that will connect to the existing 12-inch force main in Route 208. The pump station will include a wet-well with duplex pumps. The pump station will be connected to an emergency generator. The design of the pump station will be in accordance with Chapter 40 of the 10 State Standards. The Wastewater pumping station structures and electrical and mechanical equipment will be protected from physical damage by the 100 year flood and will remain fully operational and accessible during the 25 year flood. The duplex pump system will have capacity such that, with any pump out of service, the remaining pump will have capacity to handle the design peak hourly flow.

The pump station and force main will be designed and constructed by OCCR. After construction, testing and acceptance by the Village, the pump station and force main will be dedicated to the Village and will be the Village Sewer department responsibility to maintain.

5.0 LOCAL AND REGIONAL IMPACTS

The proposed project will provide all infrastructure improvements required to provide sewer service for the facility. Sewer allocation is available for the projects at the Harriman Treatment plant. No local or regional impacts are anticipated with respect to sewer facilities.

6.0 CONCLUSION

The project will require the extension of the existing Village Sewer District to include the project site. The Village allocation of sewer flow at the Harriman Sewer Treatment plant will provide sufficient capacity for the project. The construction of the onsite infrastructure and the new municipal sewer pump station and force main will provide connection to the existing offsite sewer infrastructure.

Respectfully submitted by,

The Office of
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