

New York Gaming Facility Location Board
Response to Request for Applications to Develop and Operate a
Gaming Facility in New York State

TIOGA DOWNS RACETRACK, LLC

Exhibit VIII.C.16.

16. PHYSICAL PLANT AND MECHANICAL SYSTEMS

On-Site Infrastructure

The Tioga Downs Casino and future Casino Resort are served by onsite water and wastewater systems.

The existing water system consists of two wells, a pump house, storage tank, and water distribution system. The water system has been classified as Transient Noncommunity (TNC) by Tioga County Health Department (NYS PWS ID#NY5330037), which currently requires a Grade C certified operator.

The water supply system consists of two groundwater supply wells. Both wells are currently connected to an automated level control system with the water storage tank.

Well #1 shall be defined as the pre-existing well that has served the property since the 1970's. There are no known records for the development of Well #1 but field measurements indicate a well depth of 81 feet and a static water depth of 45 feet below the adjacent ground surface. The well pump for Well #1 is known to pump at 90 gallons per minute (GPM).

Well #2 shall be defined as the secondary well supply installed in the summer of 2012. Well #2 is an 8" well with a 10" casing and 3" discharge. Well #2 has a static, non-pumping water level of 48.72 feet below the top of the well casing and has a total depth of 99 feet and screened over the depth interval of 84 to 99 feet.

Well #1 and #2 are located in close proximity to each other, approximately 16 feet away from each other. A pump test report from the installation of Pump #2 indicates the aquifer serving the two wells has "sufficient available drawdown to support an intended rate of extraction of up to 100,000 gallons per day." An extraction rate of 100,000 gallons per day (roughly 70 GPM) can be served by one of the existing individual wells.

The existing water storage tank is a 200,000 gallon steel tank, twenty feet (20') in diameter and 85 feet tall. During the redevelopment project in 2005, the tank was cleaned of any sediment and recoated.

The water distribution system consists of primarily 10" and 8" PVC pipe installed as part of the 2005 redevelopment project. Cross contamination protection with the horse barns is provided via a double check valve assembly. A 10" mainline runs from the control building to western edge of the grandstand apron. From there, an 8" watermain loops around the existing casino

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Exhibit VIII.C.16 (cont.)

facility and down to the east around the proposed hotel area. Gate valves and hydrants are located along the watermain routing for maintenance, operation and fire protection.

Only the water distribution system will require modifications for development of the Tioga Downs Casino Resort. Watermain and appurtenances will be relocated outside of the building walls and therefore maintain a looped effect for efficient water system operation.

Sanitary sewerage generated by Tioga Downs Casino and future Casino Resort are and will be directed to an onsite wastewater treatment facility built and approved for operation in 2011/2012. The wastewater treatment facility for built on the premise of future development.

The onsite wastewater collection and treatment system consists of the following infrastructure:

A main duplex pumping station with submersible, variable frequency drive (VFD) pumps is located in the infield of the horseracing track. The pump station is comprised of a 6' diameter wet well and 6'x6' valve vault. The pumps will run in parallel and will be set as a lead / lag type system with pumping capabilities up to 300 gpm. A separate valve vault is designed to be placed adjacent to the wet well for easy access to valves. A 4" HDPE force main carries all raw wastewater from the influent pump station to the headworks of the wastewater treatment facility. The barn, paddock and maintenance areas of the Project Site are served through an individual pump station connected to the headworks of the treatment facility.

The wastewater treatment facility has a design capacity of 75,000 gallons per day and operates under the New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) Discharge Permit Number NY0244881. The treatment train consists of the following:

- Primary sedimentation tanks, (septic tank) will remove from 50 to 70 percent of the suspended solids and from 25-40 percent of the BOD. There will be two tanks sized at 37,000 gallons each. Gases generated from digestion of the organics are vented out to atmosphere. The inlet and outlet structures shall be designed to limit short circuiting and retain sludge and scum layers. Manways are provided in the tank cover to allow access for periodically removing the contents, including the accumulated scum and sludge. The septic tanks are pumped on a regular basis.
- Flow Equalization Tanks, two (2) 20,000 gallon tanks, accommodate the wide variations in flow rates and organic mass loadings faced in design of the wastewater treatment facility. Because the naturally occurring variations in the generation of wastewater, specifically for a facility of this type that has events such as races, gaming events and concerts, the wastewater treatment facility must process unsteady wastewater flows. The flow equalization tank dampens the diurnal flow variation and thus achieves a constant or nearly constant flow rate. An additional benefit is a reduction in the variability of the

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Exhibit VIII.C.16 (cont.)

concentration and mass flow of wastewater constituents by blending in the equalization basin. This more uniformly loads downstream processes with organics, nutrients, and other suspended and dissolved constituents.

- A Rotating Biological Contactor (RBC) coupled with a secondary clarification provides the secondary biological treatment required. The process consists of a series of disks mounted on a horizontal shaft and placed in a tank with a contoured bottom. Rotating reactors use a fixed film biomass on rotating media for biological treatment. The rotating medium, typically made from sheets of high-density plastic, provides a surface on which organisms grow and contact organic wastewater constituents and oxygen from the air. The rotating reactor carries a film of wastewater into the air. The wastewater trickles down the surfaces of the contactor and absorbs oxygen from the air. Organisms in the biomass remove both dissolved (DO) and organic materials from the wastewater.

With the ability to recycle the effluent downstream of the RBC, this treatment process is able to operate at variable loadings. This is an important characteristic due to the seasonal and diurnal flow conditions at Tioga Downs.

The system has two secondary clarifiers that process effluent from the RBCs. The side wall depth of the clarifiers is 10 ft and the weir over flow rate is 3,575 gallons per day per lineal foot.

- Continuous disinfection is provided through ultraviolet light.
- Final outfall of the treated effluent stream is to the Susquehanna River

The existing wastewater treatment facility will require expansion of one full treatment train to handle the full Tioga Downs Casino Resort. It is projected the full Casino Resort will generate greater than 75,000 gallons of wastewater per day. A full evaluation can be found in Exhibit VIII.C.17.a.

Mechanical Systems

Mechanical systems design will incorporate concepts geared toward providing cost effective, energy saving and sustainable systems. Systems design will include use of variable frequency drives, economizers and controls with the capability of optimizing performance. High efficiency equipment, to meet or exceed the requirement by code will be provided to assist the overall design in achieving compliance with the New York Energy Code, as well as 20% reduction in energy usage when compared to ASHRAE 90.1-2007 baseline model and to achieve LEED Silver Certification.

A complete Building Automation System (BAS) shall be provided for the facility. The BAS will consist of a fully integrated direct digital control (DDC) system for energy management,

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equipment monitoring and control, and complete energy management system and subsystems. Energy saving control schemes shall be incorporated into the design including demand controlled ventilation, transfer of casino ventilation to kitchens for make-up air and night setback to shut down equipment when areas of the facility are not in use. The BAS shall also include provisions for measurement and verification, trending, and sustainability to coordinate with the requirements of LEED for indoor environmental quality, in support of the project achieving LEED Silver certification.

Control of outdoor airflow to large, open spaces such as the gaming floor, multipurpose and restaurants will be performed via demand control sequence noted above, utilizing space-mounted CO2 sensors. In addition to the demand control for outdoor airflows, outdoor airflow control will also be configured to provide makeup air to replace exhausted air.

Air handling units will be packaged direct expansion type or modular chilled water type with double wall construction, horizontal draw thru configuration. Units include filtration sections, cooling coils, and gas heating. Outside airflow and relief airflow measurement will be provided for all air handling units with airflow measuring stations. All units will be variable volume and will utilize variable frequency drives for fan speed control.

All ductwork systems (except special exhaust systems) will be galvanized sheet metal, medium (6") and low pressure (+/-2") construction. Type I kitchen hood exhaust ductwork will be welded 16 gauge steel, constructed in accordance with the code required sloping, cleanouts, etc. Hood exhaust will be wrapped with 2 layers of external fire barrier duct wrap. Dishwasher and vapor hood/Type II exhaust ducts will be stainless steel welded construction with drains at all low points.

The mechanical systems for the proposed buildings will vary depending on the use of the building. The casino expansion will utilize a new air cooled chiller to serve a new roof mounted air handling unit with gas heat. The amenities building will utilize several packaged rooftop direct expansion units with gas heat to serve the individual areas and use groups within the building. The hotel building will utilize a water source heat pump system to serve all of the guestroom and public areas of the building. The ventilation air for the hotel will be introduced through an energy recovery unit to transfer the energy from the toilet exhaust airstream to the ventilation air for the building.

Emergency Power

Diesel generators provide emergency and standby electrical power for complete operation of the facility during loss of offsite power events. Individual generators and transfer equipment provided complete back-up power for each of the following facilities; existing casino and grandstand, existing waste water plant, existing paddock, casino expansion (Phase 2)and

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Exhibit VIII.C.16 (cont.)

restaurant (Phase 3), amenities building (Phase 2) and parking garage (Phase 1) and hotel (Phase 2). Generators are located near each facility to minimize power losses due to voltage drop. Each diesel generator system is sized to supply the demand for the facility it supplies. Double walled integral fuel tanks in the base of each generator provide 24 hours of fuel capacity at peak demand operation.

Uninterruptable Power Supplies

A centralized uninterruptable power supply (UPS) system in the casino expansion provides continuous power to critical surveillance, table gaming lighting and casino IT systems during the period of between loss of offsite power and generator startup and transfer. Existing casino areas utilize distributed UPS units in the surveillance and IT equipment racks to power critical cameras and casino data systems during the transition to generator power.

Also see Exhibit VIII.C.5.a.1 for specifics about location and approximate square footage of waste water treatment facility.