

3 Electrical System Impact Analysis

December 4, 2012

Town of Wellesley Planning Board

RE: A&M Project # 1917-01
Wellesley Country Club
Pool Replacement and Renovation
Project
Electrical Impact Analysis

Allen & Major Associates Inc. (A&M) is pleased to submit this summary regarding the potential impacts on the Wellesley Municipal Light Plant Electrical system.

The Wellesley Country Club is served by the Wellesley Municipal Light Plant. A preliminary analysis of the project was conducted by BLW Engineers, the electrical engineer. As shown in the summary below, the proposed summer load is 424 amps. The final service size will be determined based on final project build out and WMLP review. Further information on the electrical usage will be provided by others under separate cover as the design is finalized.

Based on preliminary discussion of the project, Wellesley Municipal Light Plant (WMLP) did not anticipate issues in servicing the development. WMLP requirements for the additional projected demand loads will be coordinated as the design of the facility progresses. A project coordination meeting will occur with WMLP on December 5 to review the project loading.

The existing pool facility has the infrastructure necessary to support the site plan. However, field adjustments will be required to locate the services around the proposed buildings. The electric service to the building is routed through an existing transformer located near Wellesley Avenue adjacent to the existing access driveway. The project will require the transformer to be relocated approximately twenty south of its current position. Additionally, the existing electric duct bank will be relocated. The duct bank provides service to the pool facility as well as the golf cart storage building.

BLW ENGINEERS, INC.

MEMORANDUM

DATE: 11.29.12

TO: Tony Barletta, AIA
Rob Bramhall Architects
14 Park Street
Andover, Ma. 01810

FROM: John C. Pierga, P.E.
BLW Engineers

PROJECT: Wellesley Country Club- Pool House Project

SUBJECT: Electrical Loads

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BLW has provided a preliminary electrical calculation for the proposed 8,520 square foot Pool Building Facility. The loads were produced with anticipated winter and summer conditions. The summer loads including a 200 amp, 208 volt load for the pool equipment, are anticipated to be larger than the winter loads.

The load calculation includes a load description, a kilowatt (KW) load per load, quantity of that load or square footage, the demanded load.

The summer load calculated is 412.04 KVA, with a high demand of approximately 352.43 KVA. This equates to either 424.1 amps at 277/480 volts 3-phase, or 979.0 amps at 120/208 volts 3-phase. Therefore either a 600 amp 480 volt service or 1000 amp 208 volt service is anticipated.

These calculations are approximate for the proposed building and pools, and does not take into account the existing loads from the present building and pools.

BLW

BLW ENGINEERS, INC.

311 Great Road Littleton, Massachusetts 01460 tel 978.486.4301 fax 978.428.0067 e-mail Info@blwengineers.com

Load Calculation

Project phase: Preliminary	Project: Wellesley Country Club	Date: 11.28.12				
Trade Specification Section: 16000						
By: JMO Checked By: JCP	Project Number: 12246					
Load Description	Load (KW)	Quantity	KVA	Demanded	480/277V(AMPS)	120/208V(AMPS)
Lighting	0.002	8,520	17.04	21.30		
Receptacle	0.18	100	18	14.00		
Washer	1.5	2	3	3.00		
Dryer	5.5	3	16.5	16.50		
Kitchen Equipment	75	1	75	75.00		
Kitchen MAU 15HP	17.5	1	17.5	21.88		
AHU 70HP	50	1	50	62.50		
Pool Equipment	72	1	72	90.00		
Recirculation 1/3HP	1	2	2	2.00		
Fire Alarm	1.5	1	1.5	1.88		
Communication	4.5	1	4.5	5.63		
Electric Water Heater	10	2	20	20.00		
Exterior Lighting	15	1	15	18.75		
Snow Melt	100	1	100	0.00	Not running	
Total Summer Load			412.04	352.43	477.1	1,098.3

All Snow melting and Heating have been excluded for summer loads