

PROJECT APPROVALS

## UTILITY COMPANY NARRATIVE

6B.3.3 - 02



December 20, 2022

Mr. Vladimir Lyubetsky  
DRA Architects  
260 Charles Street, Suite 300  
Waltham, MA 02453

RE: Northeast Metro Technical High School  
Project: 60-20-409

Dear Vladimir,

This is to acknowledge that we sent to WMGL&D a work order application, load letter, and site plan locating their utility feeders, junction boxes, and pad mounted transformers for the new electric service for Northeast Metro Technical High School. They have acknowledged receipt of this information and have also acknowledged that there will be a new service for this project. Attached at the end of this load letter is our most recent e-mail correspondence regarding the loads.

Very truly yours,

Dino D. Buro, P.E.

BALA CONSULTING ENGINEERS



## Projected Preliminary Electrical Connected Loads

### Lighting

(lighting load at 0.81W/sf (energy code X 125% continuous load as per NEC, roughly 365kW, plus site lighting, 100 kW )

492 kW

### Receptacles (3 watt / SF)

1161 kW

### Mechanical:

• Miscellaneous Electric Heat FTUs and EUHs	210 kW
• Energy Recovery Ventilators (ERVs)	77 kW
• VRF Fan Coil Units	625 kW
• VRF Condensing Units	445 kW
• Rooftop Units RTUs (2) and HRUs (5)	500 kW
• Miscellaneous Electric Heat FTUs and EUHs	210 kW
• Makeup Air Units (2)	63 kW
• Indoor Air Handling Units (11)	792 kW
• Exhaust Fans Largest 20hp	61 kW
• Air Cooled Condensing Units (ACCUs)	127 kW
• Miscellaneous AC Split Systems	61 kW
• VRF Condensing Units (VCUs)	965 kW

### Plumbing:

• Electric Hot Water Heaters (2 @ 108, 2 @ 90kW each)	396 kW
• Miscellaneous Circ Pumps (Fractional hp)	5 kW
• Miscellaneous Pumps	5 kW
• Air Compressor (1 @ 40hp, 1 @ 20hp, 5 @ 15hp)	135 kW
• Domestic Water Booster Triplex Pump (3 @ 20hp)	60 kW

### Elevators (two at 60 hp)

120 kW

### Miscellaneous Power



(Appliances, Copiers, Elec Heat Trace, Art Rm equipment, Field House Equipment, etc.)	100 kW
<b>Kitchen (Gas)</b>	300 kW
<b>Miscellaneous Equipment</b>	45 kW
	Total: 6,955kW 7,321kVA

Projected Preliminary Electrical Connected Loads with code applied Demand Factor:

First 1,161kVA at 100%	1,161kVA
Plus	
Next 6,160kVA at 75%	4,620kVA
<b>Demand Total:</b>	5,781kVA

Based on projected connected loads with code applied demand, calculated estimated demand load is 6,953Amps at 480Volts, 3-phase.

Proposed secondary service will be sufficient to serve this calculated ampacity. Final utility transformer quantity and size to be determined by Utility Co. Two 2500kVA normal power transformers and one 300kVA emergency transformer are requested. Additionally, we are requesting a 300kVA transformer and 480V service to supply site power to the football field area (750kVA if the locker room building and concession building are constructed [currently add-alternates]). Lastly, we are requesting a 112.5kVA, 480V service to the new school message board area near Farm Road.

(NOTE, This does not include any PV generation)

Project will be supported by a utility-supplied standby generator that will provide a dedicated emergency service to the building.

January 12, 2023

Mr. Jimmy Brown  
Wakefield Municipal Gas & Light Department (WMGLD)  
480 North Avenue  
Wakefield, MA 01880

Re: Northeast Metrotech Regional High School  
Gas Service Availability & Coordination  
Bala Project No. 60-20-409

Dear Mr. Brown:

The following is written to update the gas company on the gas requirements for the project. The previous load letter was dated 7/29/2022, and was responded to by WMGLD on 8/26/2022. This letter is to update the previous gas load and meter location.

Modifications to the gas load are as follows, shown in **bold**:

Estimated Cafeteria Cooking Loads	850
Estimated Culinary Arts Cooking Loads	2,150
Estimated Paint Spray Booth Heating Loads	<b>3,600</b>
<b>Estimated Plumbing Shop Water Heater Loads</b>	<b>1,600</b>

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Preliminary/Anticipated Total Connected Load	<b>8,200 CFH</b>
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At this time, we would like to request that the gas company confirm of the following:

1. Confirm that the gas company will still be able to extend the gas main for this new service, as stated in previous correspondence.
2. Confirm that the proposed gas routing is acceptable, with the understanding that WMGLD will confirm final routing once a contractor is selected, as stated in previous correspondence.
3. Provide an updated cost for this scope of work, based on the revised location of the gas service. Please refer to the attached site plan as needed.
4. Confirm that the total connected load of 8,200 CFH be available to supply the new school. Previous correspondence confirmed a connected load of 20,950 CFH.
5. Confirm if vehicle access is required for the gas meter.
6. Confirm size of the meter assembly based on the total connected load. Provide cut sheets of meter assembly for coordination.

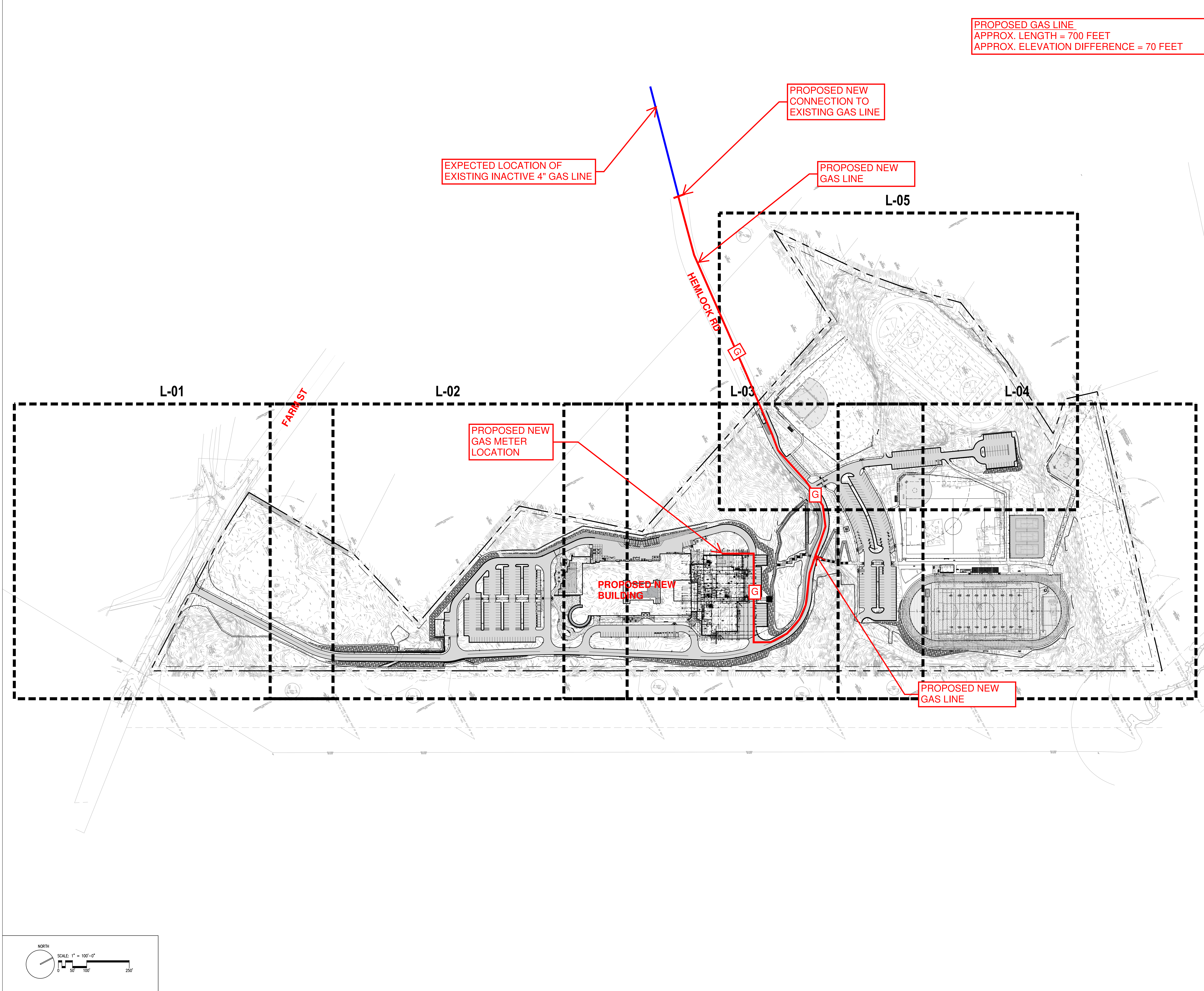
7. Confirm the size of the gas pipe to be provided at the gas meter inlet.

Sincerely,

BALA CONSULTING ENGINEERS, INC.

Richard Rivera, EIT  
Plumbing & Fire Protection Designer

Cc: Raven Fournier – WMGLD  
Vladimir Lubetsky – DRA  
SPS, GC, DDB, Bala



PROPOSED GAS LINE  
APPROX. LENGTH = 700 FEET  
APPROX. ELEVATION DIFFERENCE = 70 FEET

PROPOSED NEW  
CONNECTION TO  
EXISTING GAS LINE

PROPOSED NEW  
GAS LINE

EXPECTED LOCATION OF  
EXISTING INACTIVE 4" GAS LINE

PROPOSED NEW  
GAS METER  
LOCATION

PROPOSED NEW  
BUILDING

PROPOSED NEW  
GAS LINE



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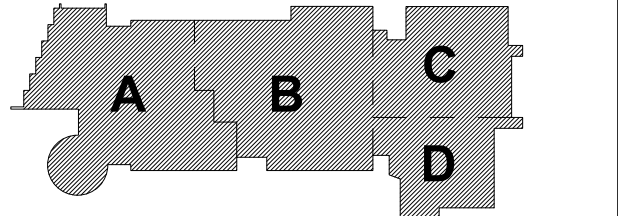
100 Hemlock Rd,  
Wakefield, MA 01880

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warnerlarson.com

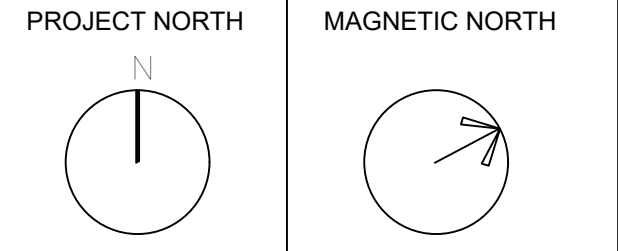
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60% CD  
Submission

November 16, 2022



KEY PLAN



**OVERALL  
SITE PLAN**

Scale: 1" = 30'-0"  
Job No.: 20202.00  
Drawn By: JM  
Date: June 23, 2022  
**L000**

