

# Newton New EBeam Project

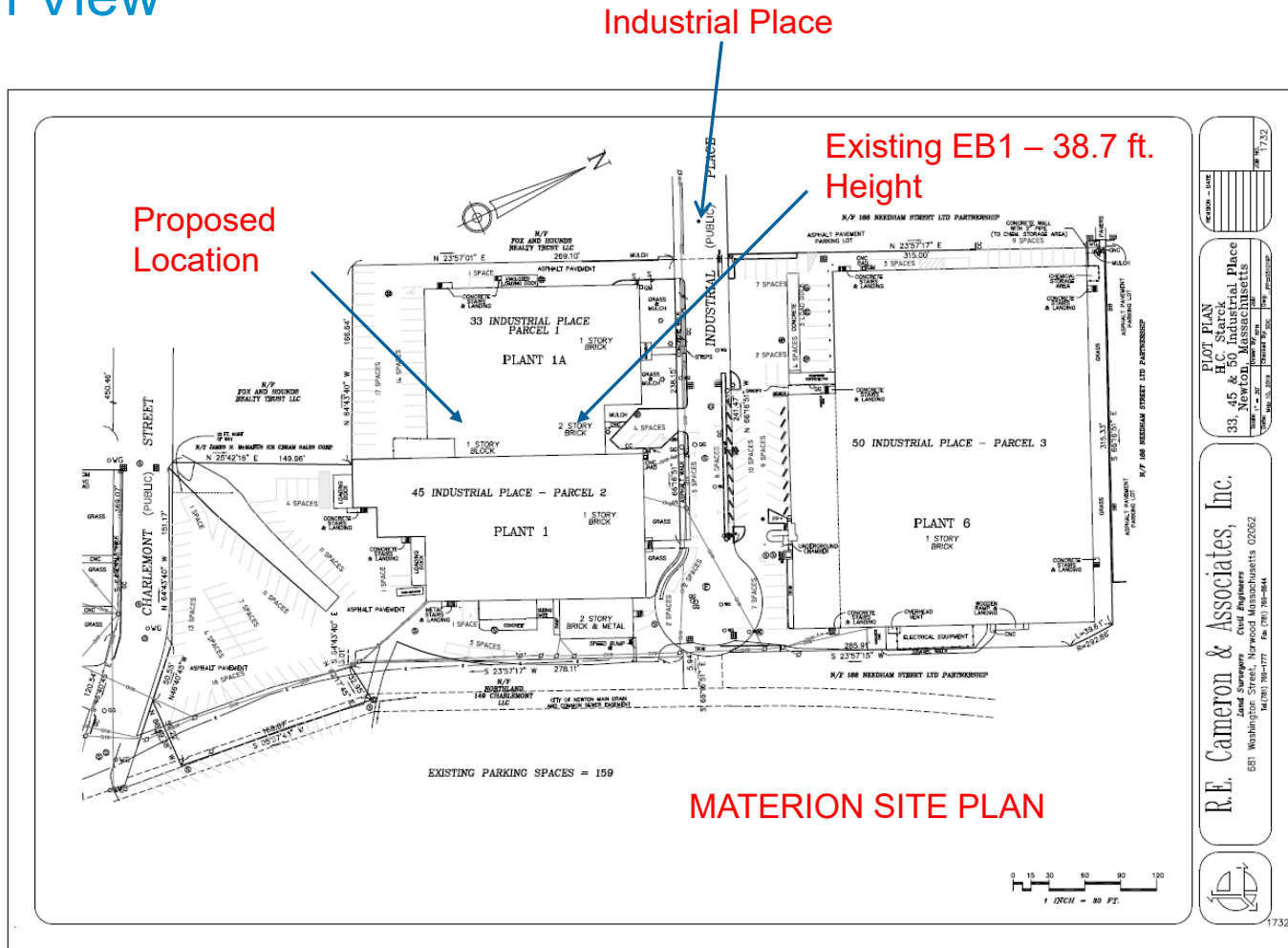
*January 19, 2021*



## Site Zoning Overview



# Site Plan View



# Existing Building Height Analysis

## ATTACHMENT A



**R.E. Cameron & Associates, Inc.**

Surveying Engineering  
681 WASHINGTON STREET, NORWOOD, MASSACHUSETTS 08062  
PHONE (781) 759-1777 FAX (781) 759-8644  
www.recameron.com

November 19, 2021

Jack Crocker  
Materion Corporation  
33 Industrial place  
Newton, MA  
Jack.crocker@hestarkolutions.com

Subject: Plant One  
Newton, MA

Dear Jack,

Please find the attached grade plane calculations and worksheet for the subject building. The calculations are based on Newton Zoning Article 1 General Provisions Section 1.5. The grade plane is a function of the average of the finished grade of the perimeter of the building and the lengths of the sides of the building.

I certify, using the City of Newton formula, that the height of the building is 38.76 feet. Please let me know if you have any questions.

Very truly yours,

Scott Cameron, PLS  
President  
R.E. Cameron & Associates, Inc.



# Existing Building Height Analysis



## Technical Memorandum Minimum Building Height Analysis

**To Company:** H.C. Starck  
45 Industrial Place  
Newton, MA

**Project:** EB Furnace #2

**Attention:** Jack Crocker

**Project No.:** STV No. 40\_16965

**By:** Michael Camoscio, PE

**Date:** December 22, 2021

**Copies to:** Michael Cassavoy, PE, RA  
Robert Rink, RA

The HC Starck facility in Newton, MA is evaluating the installation of a new electron beam furnace (EB furnace #2). STV was tasked to evaluate the minimum required building height that this furnace would require.

### Building Height Analysis

STV's architects evaluated the required height of a building to support the new EB furnace #2 and a 3-ton materials handling crane. The buildings are located in a Mixed Use District MU-1 and the height above average grade is limited to 36 feet per current City of Newton zoning<sup>1</sup>. Discussions with HC Starck indicate that the building was constructed under prior versions of the zoning code and the existing height is 38.76 feet per R.E. Cameron & Associates calculations (see attachments).



Zoning Map – MU-1 mixed use district

<sup>1</sup> City of Newton, Chapter 30: Zoning Ordinances  
<https://www.newtonma.gov/home/showpublisheddocument/29553/637268507332270000>



## Technical Memorandum Minimum Building Height Analysis

The new EB Furnace and 3-ton materials handling crane govern the proposed building height. The clearance assumptions are based on lighting between the joists, as well as ductwork mounted along walls so as to not interfere with the critical operating envelope of the furnace or crane. See Table 1 for the heights (also shown in attached sketch):

Table 1: Component Heights

	Feet	inches	Feet (decimal)
Furnace Height	26	10	26.83
Clearance to Crane	0	6	0.50
Bridge Crane	4	0.0625	4.01
Clearance to structure	0	6	0.50
Joist/beam	2	10	2.83
Deck		1.5	0.13
Insulation (R-30)		6	0.50
Slope		15	1.25
Flashing		2	0.17
<b>Required height above slab - "B"</b>			<b>36.71</b>

Table 2: Height Analysis Data

	Grade Elevation (per Cameron)	Floor Elevation (per Cameron) <sup>2</sup>	Existing Height from Grade	Minimum required height from slab to roof ("B")
Plant 1A 33 Industrial Place	118.88	122.12	38.76	36.71
Plant 1 45 Industrial Place	118.44	122.18	38.76	36.71

Based on the above table, the new slab to accommodate 36.71 feet of height will require a floor slab no greater than 2'-0" above the average grade. The existing slab in the area of Option C is lower than the Cameron elevation and will need to be confirmed by survey. It is assumed the new slab will need to be lower than all existing slabs for this operation to not exceed the existing building height of 38.76 feet.

### Summary

The minimum height from slab to top of roof structure exceeds 36 feet. The new furnace requires 36.71 feet of building height above slab to support the new EB furnace and a materials handling crane.

<sup>2</sup> Elevations shown is assumed as building entry. Elevation lower in area of Option C



## EB2 Proposed Location “View From Retail Parking Lot



## Proposed Location Newton Site



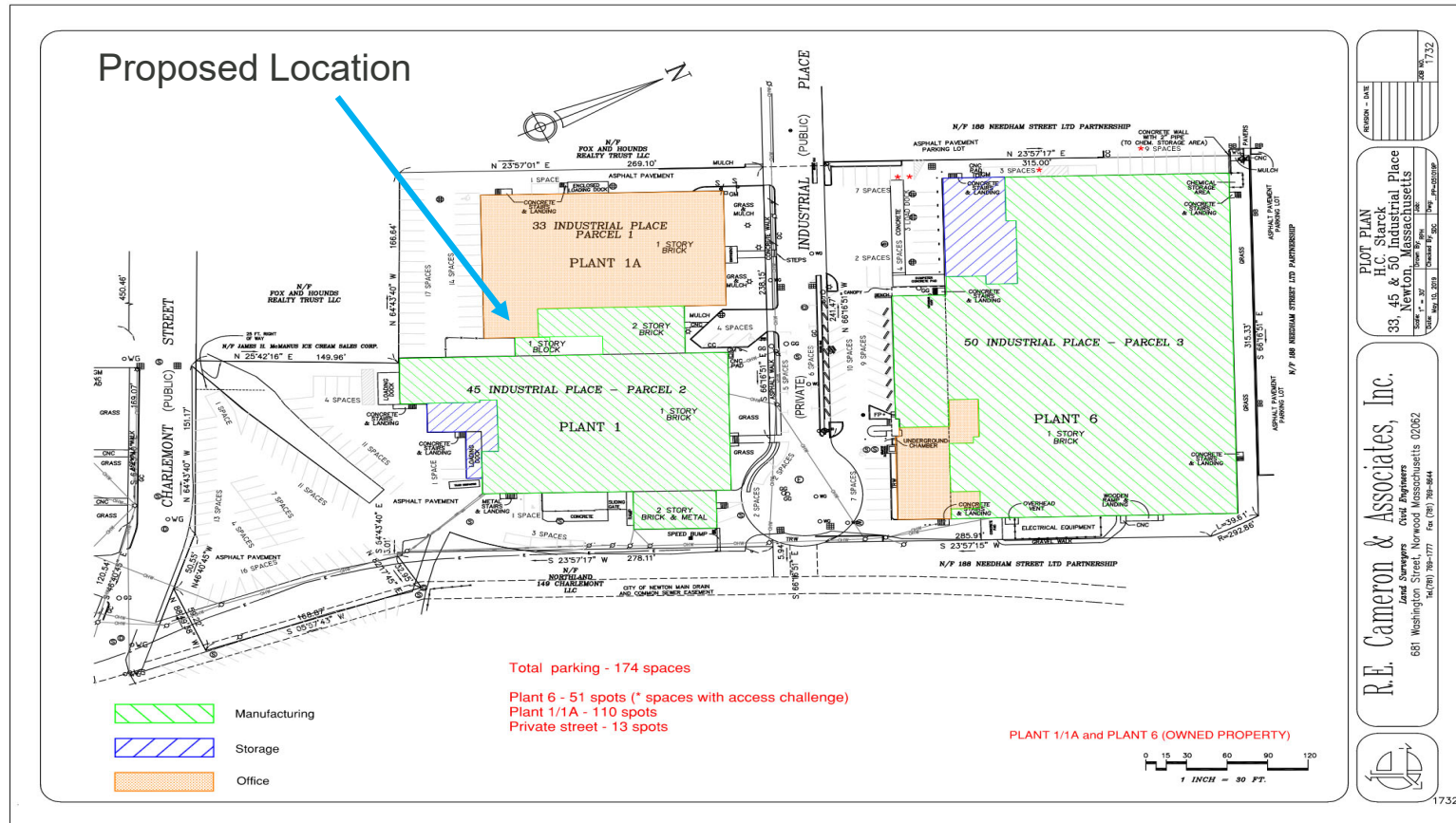
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## New EB2 Rendering View From Parking Lot





# Plant 1/6 Parking



# Plant 2/3/4 Parking

