Tel: (508) 520-4907 Fax: (508) 520 4906

Town of Franklin

Planning Board

Due to the growing concerns regarding the COVID-19 virus, we will be conducting a remote/virtual Planning Board Meeting. In an effort to ensure citizen engagement and comply with open meeting law regulations, citizens will be able to dial into the meeting using the provided phone number (Cell phone or Landline Required) OR citizens can participate by copying the link (Phone, Computer, or Tablet required).

Please click on the link https://us02web.zoom.us/j/82080240244 **or call on your phone at 312-626-6799, meeting # 82080240244.**

June 1, 2020

7:00 PM **Commencement/General Business**

7:05 PM **PUBLIC HEARING** – *Continued*
122 Chestnut Street
Site Plan
TO BE CONTINUED
Adv.: *Jan. 13 & Jan. 20, 2020*
Abuts: January 8, 2020

7:05 PM **PUBLIC HEARING** – *Continued*
Maple Hill
Definitive Subdivision
TO BE CONTINUED
Adv.: *Feb. 24 & March 2, 2020*
Abuts: February 24, 2020

7:05 PM **PUBLIC HEARING** – *Continued*
160 Grove St
Special Permit & Site Plan
Adv.: *Dec. 2 & Dec. 9, 2019*
Abuts: Nov. 26, 2019

GENERAL BUSINESS:
A. Discussion: MS4 Stormwater Changes
B. Discussion: Street Light Update
C. Planning Board Meeting Dates Revised
D. Field Change: Mine Brook Estates
E. Final Form H: 27 Forge Parkway
F. Meeting Minutes: May 4, 2020 & May 11, 2020

This agenda is subject to change. Last updated: May 26, 2020
The next meeting of the Planning Board is scheduled for June 8, 2020.

TOWN OF FRANKLIN
DEPARTMENT OF PUBLIC WORKS
Franklin Municipal Building
257 Fisher Street
Franklin, MA 02038-3026

April 30, 2020

Mr. Anthony Padula, Chairman
Members of the Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Stormwater Bylaw Updates

Dear Mr. Chairman and Members:

The Department of Public Works has been working with our stormwater consultant on complying with new requirements of the Town's most recent MS4 Stormwater Permit issued by the Environmental Protection Agency.

Some of the new requirements involve changes to current bylaws which are to be in place by July 1, 2020. The purpose of this letter is to provide a summary of the proposed changes, some of which will be presented to the Town Council for approval and some which will require approval from the Planning Board. The actual amendments will be presented to the Board for review and approval in the near future.

There are three proposed changes under Stormwater Management - Chapter 153, one proposed change under Zoning - Chapter 185, one proposed change to Subdivision of Land Bylaw - Chapter 300, and one proposed change to the Best Development Guidebook. The proposed changes are summarized as follows:

Section 153-7: This change adds a two-year time limit for submission of final as-built plans. Currently there is no time limit.
Section 153-12: This section requires the control of soil erosion and sediment on construction sites. Under sub-section L, language has been added to also control and prohibit discharge of other wastes such as demolition debris, discarded construction materials, and litter.
Section 153-16: This section describes the design standards which stormwater control must meet. Language has been added to include the requirements of the Town's MS4 Permit. Subsection B has also been added which spells out the specific requirements under our permit.

Section 185-31: Language has been added to the Site Plan and Design Review section which encourages the use of Low Impact Development and Green Infrastructure practices and requires they be incorporated into the site plan to the maximum extent feasible.

Section 300-11: Language has been added to the Stormwater Management section to specifically reference the complete Massachusetts Stormwater Handbook and the Town of Franklin's MS4 permit.

Best Development Guidebook: Proposed changes to the Stormwater Management chapter include updating the requirements for new development and redevelopment projects to match the requirements of the Town's MS4 permit.

Again these changes are required to be in place by July 1, 2020 in order for the Town to comply with our current MS4 permit. The proposed changes to Chapter 153 and Chapter 185 are also being presented to the Town Council for approval.

Sincerely,

Michael Maglio, PE
Town Engineer

Cc: Robert Cantoreggi, Director of Public Works
Mark Cerel, Town Attorney
Bryan Taberner, Director of Planning and Community Development
Amy Love, Town Planner
Jennifer Delmore, Conservation Agent

TOWN OF FRANKLIN
DEPARTMENT OF PUBLIC WORKS
Franklin Municipal Building
257 Fisher Street
Franklin, MA 02038-3026

April 30, 2020

Mr. Anthony Padula, Chairman
Members of the Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Street Lighting Bylaw Updates

Dear Mr. Chairman and Members:

As you may be aware, Franklin has recently upgraded street lighting fixtures throughout town to new energy efficient LED street lights. In working with developers on approved subdivisions, we've noticed that current requirements under the Subdivision of Land Bylaw - Chapter 300 still call out for sodium vapor street lighting. We've also noticed that the language under this Chapter reflects a time when the Town leased the street lights from the utility company. Today, Franklin owns and maintains the street lighting fixtures that have been accepted by the Town.

We have reviewed the language of Section 300-12 (C) which covers street lighting and will soon be presenting recommended changes to the Board which will require LED fixtures for new installations, and which will update the process for Town accepted lighting.

Sincerely,

Michael Maglio, PE
Town Engineer

Cc: Robert Cantoreggi, Director of Public Works
Mark Cerel, Town Attorney
Bryan Taberner, Director of Planning and Community Development
Amy Love, Town Planner

Town of Franklin

Planning Board

November 19, 2019
Revised June 1, 2020

Teresa M. Burr, Town Clerk
Town of Franklin
355 East Central Street
Franklin, MA 02038

RE: Planning Board Meeting Dates for 2020

Dear Mrs. Burr:

Please be advised that at its meeting on Monday, June 1, 2020, upon motion duly made and seconded, the Planning Board voted (5-0-0) to approve the *REVISED* meeting dates for the year 2020. Dates are subject to change.

Monday, January 6, 2020
Monday, January 27, 2020
Monday, February 10, 2020
Monday, February 24, 2020
Monday, March 9, 2020
Monday, March 23, 2020
Monday, April 6, 2020
Monday, April 27, 2020
Monday, May 4, 2020
Monday, May 11, 2020
Monday, May 18, 2020
Monday, June 1, 2020
Monday, June 8, 2020
Monday, June 22, 2020
Monday, June 29, 2020
Monday, July 13, 2020
Monday, July 27, 2020
Monday, August 10, 2020
Monday, August 24, 2020
Monday, September 14, 2020
Monday, September 28, 2020
Monday, October 19, 2020
Monday, November 2, 2020
Monday, November 16, 2020
Monday, December 7, 2020
Monday, December 21, 2020

Sincerely,

_____
Anthony Padula, Chairman

PROPOSED 20'± LONG
BOULDER RETAINING WALL
(SEE DETAIL)

REPLACE EXIST. CB GRATE
WITH MANHOLE COVER
IN SIDEWALK
RIM=191.9
INV. IN (PR.)=186.8
INV. OUT (EX.)=186.7

TOP WALL EL=194.00
BOT. WALL EL=192.50

APPROX. LOCATION OF
EXISTING TREE

TOP WALL EL=194.00
BOT. WALL EL=192.50

MASSACHUSETTS
STATE PLANE
NAD83 (NA2011)
(EPOCH 2010.00)

CONTRACTOR TO MAINTAIN 3:1 SLOPE
FROM BACK OF WALK TO PROPERTY
LINE. EVERGREEN GROUND COVER FOR
STABILIZATION SHALL BE INSTALLED.

MARYLE
LANE

Utility
Boxes

WALK

WALK

RELOCATE ETC
UTILITIES WITHIN
SIDEWALK

SIDEWALK LOCATION
ADJUSTED TO BE FLUSH
WITH BACK OF CURB

CATCH BASIN
GUTTER INLET
RIM=191.4
I=186.9
(SEE MASSDOT
E 204.2.0 DETAIL)

T' S

4+00

5+01.62

6+00

6+79

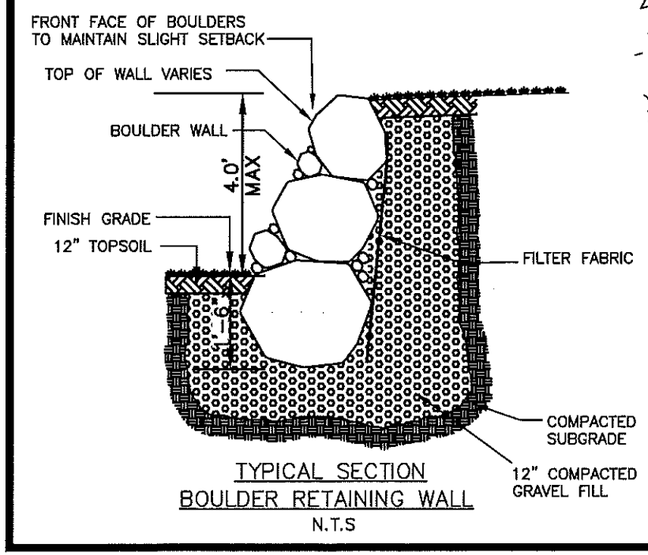
4+31.63

100'B

TP8

OG=19

23, 1997)
-74)
. 192)



TYPICAL SECTION
BOULDER RETAINING WALL
N.T.S

OWNER/
APPLICANT: WHITMAN HOMES
1200 TURNPIKE STREET
CANTON, MA 02021

Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

COMMONWEALTH OF MASSACHUSETTS
ELIZABETH A. MAININI-SANCHIONI
No. 48096
REGISTERED PROFESSIONAL ENGINEER
DATE: 5-20-20

FIELD CHANGE PLAN
"MINE BROOK ESTATES"
FRANKLIN MASSACHUSETTS

SCALE: 20 FEET TO AN INCH
DATE: MAY 11, 2020

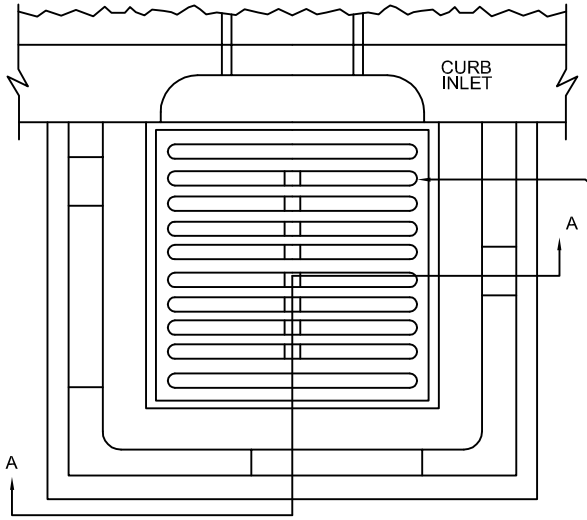
00	DATE	REVISION DESCRIPTION	INIT
01	5/19/20	PER 5/13/20 BETA EMAIL	MAH
02	5/20/20	PER 5/20/20 TOWN ENGINEER EMAIL	MAH

F-4269

CONSTRUCTION STANDARDS

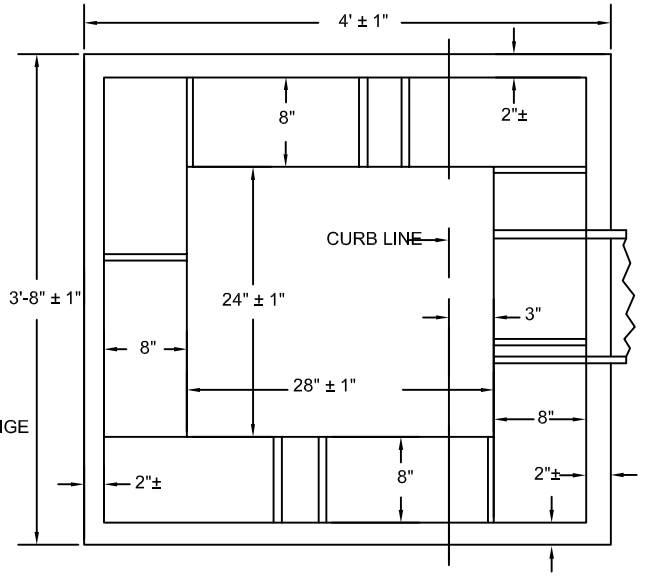
massDOT
Massachusetts Department of Transportation
Highway Division

GUTTER INLET

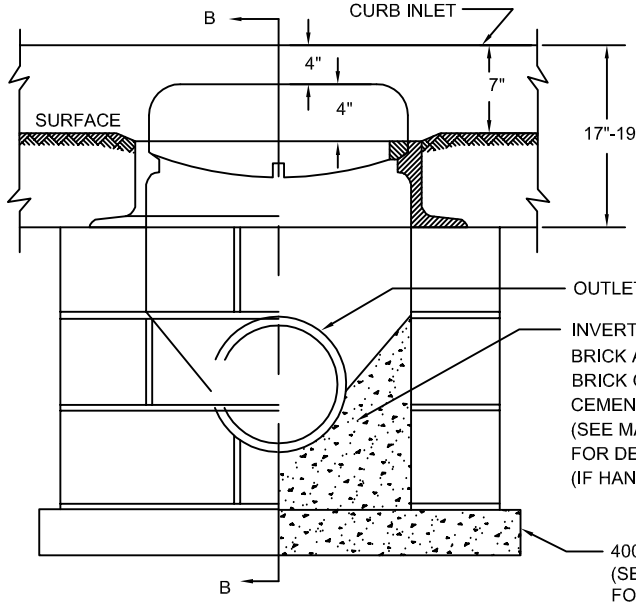


NOTES:

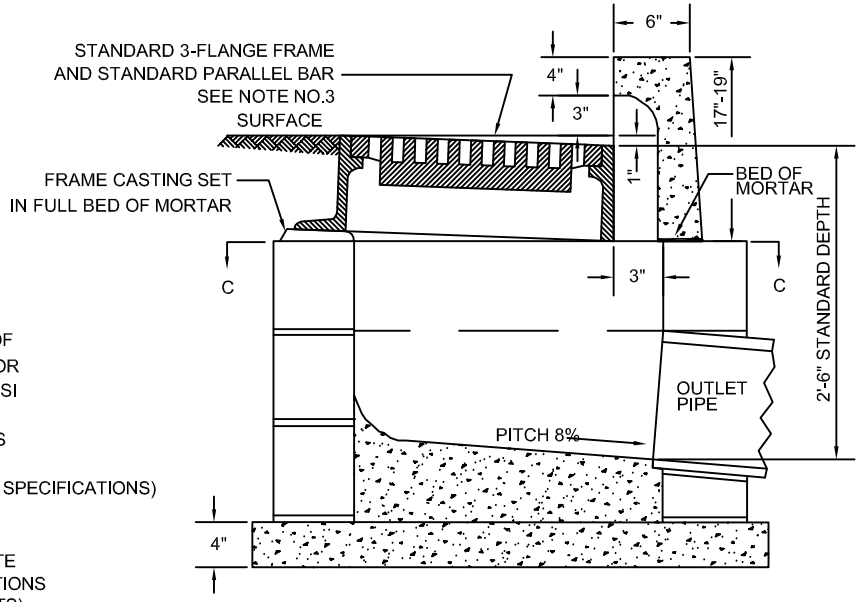
1. WHERE CURB INLET IS NOT USED THE INSIDE HORIZONTAL DIMENSIONS OF GUTTER INLET TO BE 24"±1" X 24"±1" IN WHICH CASE AND UNLESS OTHERWISE DIRECTED, A STANDARD 4-FLANGE FRAME IS TO BE USED.
2. BRICKS MAY BE USED BETWEEN TOP COURSE AND FRAME FOR GRADE ADJUSTMENT.
3. A CASCADE GRATE IS TO BE USED WHERE BICYCLE TRAVEL IS ALLOWED.
4. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHODS, SEE STANDARD SPECIFICATIONS.



SECTION C-C



SECTION A-A



SECTION B-B

DATE OF ISSUE
OCTOBER 2017

DRAWING NUMBER
E 204.2.0

Gmail by Google

Amy Love <alove@franklinma.gov>

Field Change Request - Mine Brook Estates

1 message

Amanda Cavaliere <ACavaliere@gandhengineering.com> Wed, May 20, 2020 at 1:56 PM
To: Amy Love <alove@franklinma.gov>
Cc: Michael Maglio <mmaglio@franklinma.gov>, Matt Crowley <MCrowley@beta-inc.com>, Rich Whittington <richw@whitmanhomes.com>, Michael Hassett <MHassett@gandhengineering.com>

Good afternoon Amy
Please find attached the proposed field change that we respectfully request to discuss with the Planning Board under General Business at the next available Planning Board meeting for the above referenced project. As depicted on the attached drawing, we are proposing to construct a 20'+/- boulder wall to allow for a smooth transition between the existing and finished ground elevations. The boulder wall is approximately 1.5'-2' in height and the contractor will maintain a 3:1 slope from the back of the walk to the property line. Evergreen ground cover for further stabilization will be installed. In addition, this field change would require the existing catch basin grate to be replaced with a manhole cover and fitted with a gutter inlet (attached).

Please review the attached and let us know if you require additional information as well as hard copies to distribute to the Board.

Thank you in advance for your consideration.

Amanda K. Cavaliere, Office Manager

[cid:image001.jpg@01CC0400.5F0D4CC0]
55 West Central Street
Franklin, MA 02038
Ph. 508.528.3221
Fx. 508.528.7921
Email: acavaliere@gandhengineering.com<mailto:acavaliere@gandhengineering.com>
Website: www.gandhengineering.com<http://www.gandhengineering.com/>

3 attachments

image001.jpg
4K

MASSDOT GUTTER INLET.PDF
118K

2020-05-20 Revised Field Change.pdf
105K

Gmail by Google

Amy Love <alove@franklinma.gov>

27 Forge Parkway Franklin Final Asbuilt Resubmittal

1 message

Amanda Cavaliere <ACavaliere@gandhengineering.com> Fri, May 15, 2020 at 11:14 AM
To: Matt Crowley <MCrowley@beta-inc.com>
Cc: Amy Love <alove@franklinma.gov>, Jennifer Delmore <jdelmore@franklinma.gov>, "Castro, Bento" <BCastro@pidc-construction.com>

Good morning Matt
Please find attached the resubmittal of the final asbuilt for 27 Forge Parkway for your review and comment.

Since your last inspection, the following items have been completed:

* Bituminous walkway has been removed and replaced with a concrete walkway at the rear of the building in accordance with the approved plans;
* An additional shade tree has been planted in accordance with the approved plans. Please note the tree was relocated from the original design because the hydrant did not require to be moved during construction.
* (2) rip rap check dams have been installed;
* Site has been loamed and seeded.

Pictures have been attached for your reference that were taken on April 29th.

Please let us know if you have any questions. If not, we will resubmit to Planning and Con Com to close out the project.

Amanda K. Cavaliere, Office Manager

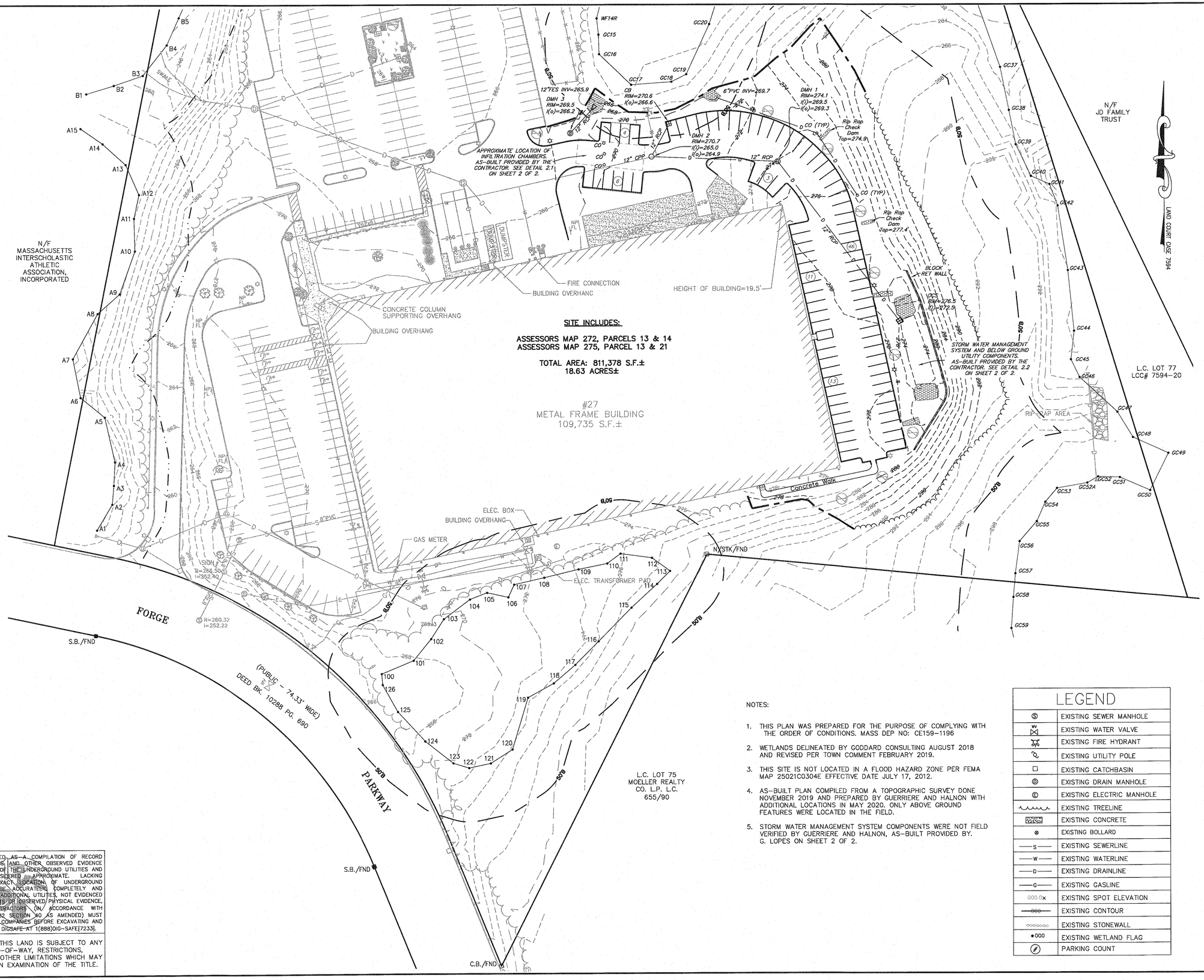
[cid:image001.jpg@01CC0400.5F0D4CC0]
55 West Central Street
Franklin, MA 02038
Ph. 508.528.3221
Fx. 508.528.7921
Email: acavaliere@gandhengineering.com<mailto:acavaliere@gandhengineering.com>
Website: www.gandhengineering.com<http://www.gandhengineering.com/>

3 attachments

image001.jpg
4K

2020-05-15 Final Asbuilt Resubmittal.pdf
419K

2020-04-29 Site Inspection.pdf
1796K



UTILITIES ARE PLOTTED AS A COMPILATION OF RECORD DOCUMENTS, MARKINGS AND OTHER OBSERVED EVIDENCE TO DEVELOP A VIEW OF THE UNDERGROUND UTILITIES AND SHOULD BE CONSIDERED APPROXIMATE. LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DEPICTED. ADDITIONAL UTILITIES, NOT EVIDENCED BY RECORD DOCUMENTS OR OBSERVED PHYSICAL EVIDENCE, MAY EXIST. CONTRACTORS (IN ACCORDANCE WITH MASS.G.L. CHAPTER 82 SECTION 40 AS AMENDED) MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING AND CALL DIGSAFE AT 1(888)DIG-SAFE(7233).

CONSTRUCTION ON THIS LAND IS SUBJECT TO ANY EASEMENTS, RIGHTS-OF-WAY, RESTRICTIONS, RESERVATIONS, OR OTHER LIMITATIONS WHICH MAY BE REVEALED BY AN EXAMINATION OF THE TITLE.

NOTES:

1. THIS PLAN WAS PREPARED FOR THE PURPOSE OF COMPLYING WITH THE ORDER OF CONDITIONS. MASS DEP NO: CE159-1196
2. WETLANDS DELINEATED BY GODDARD CONSULTING AUGUST 2018 AND REVISED PER TOWN COMMENT FEBRUARY 2019.
3. THIS SITE IS NOT LOCATED IN A FLOOD HAZARD ZONE PER FEMA MAP 25021C0304E EFFECTIVE DATE JULY 17, 2012.
4. AS-BUILT PLAN COMPILED FROM A TOPOGRAPHIC SURVEY DONE NOVEMBER 2019 AND PREPARED BY GUERRIERE AND HALNON WITH ADDITIONAL LOCATIONS IN MAY 2020. ONLY ABOVE GROUND FEATURES WERE LOCATED IN THE FIELD.
5. STORM WATER MANAGEMENT SYSTEM COMPONENTS WERE NOT FIELD VERIFIED BY GUERRIERE AND HALNON, AS-BUILT PROVIDED BY. G. LOPES ON SHEET 2 OF 2.

LEGEND

S	EXISTING SEWER MANHOLE
W	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING UTILITY POLE
	EXISTING CATCHBASIN
D	EXISTING DRAIN MANHOLE
E	EXISTING ELECTRIC MANHOLE
	EXISTING TREELINE
CONCRETE	EXISTING CONCRETE
	EXISTING BOLLARD
—S—	EXISTING SEWERLINE
—W—	EXISTING WATERLINE
—D—	EXISTING DRAINLINE
—G—	EXISTING GASLINE
000.0x	EXISTING SPOT ELEVATION
000	EXISTING CONTOUR
	EXISTING STONEWALL
000	EXISTING WETLAND FLAG
P	PARKING COUNT

JOB NO. F3527-4

I CERTIFY THAT THIS PLAN WAS PREPARED FROM AN ON THE GROUND SURVEY AND THAT THE IMPROVEMENTS ARE LOCATED ON THE LOT AS SHOWN HEREON.

05/12/2020

COMMONWEALTH OF MASSACHUSETTS — ROBERT E. CONSTANTINE, II No. 49611 — REGISTERED PROFESSIONAL LAND SURVEYOR

PROFESSIONAL LAND SURVEYOR

OWNER(S):
27 FORGE PARKWAY LLC
27 FORGE PARKWAY
FRANKLIN, MA 02038
A.M. 272 LOTS 13 & 14
A.M. 275 LOTS 13 & 21
CERTIFICATE NO. 177794

APPLICANT:
P & IDC CONSTRUCTION LLC
25 BIRCH STREET
MILFORD, MA 01757

REVISIONS

DATE	REVISED
05.12.2020	CONCRETE WALK, TREE, CHECK DAMS.

Guerriere & Halnon, Inc.
Engineering & Land Surveying
Ph. (508) 528-3221 Fx. (508) 528-7921
55 WEST CENTRAL STREET FRANKLIN, MA 02038
www.gandhengineering.com

THERMO FISHER SCIENTIFIC, INC.
SITE AS-BUILT PLAN
27 FORGE PARKWAY FRANKLIN, MASSACHUSETTS

DATE JANUARY 29, 2020	SCALE 1"=40'
SHEET 1 OF 2	JOB NO. F3527-4

K:\F3527\dwg\F3527-AB SITE.dwg, 5/12/2020 11:32:13 AM, [REC]

TOWN OF FRANKLIN - SITE OBSERVATION REPORT

27 Forge Parkway

Report No.:	**4831 773-13**	Date:	**May 18, 2020**	Arrive:	**2:00 PM**
Observer:	**Nick O'Connell**	Weather:	**Clear ~60°**	Leave:	**2:30 PM**

Owner: **27 Forge Parkway, LLC**
27 Forge Parkway
Franklin, MA 02038

Contractor: **PIDC Construction**
25 Birch Street
Milford, MA 01757

Items Observed: **Conformance Observation – Submitted in conjunction with Applicant's request for acceptance of Form H – Certificate of Completion**

OBSERVATIONS

Observation Requested By: Amanda Cavaliere, Guerriere and Halnon, Inc.

Met/walked site with: N/A

Current Activity on Site: No current activity

Observed Construction: BETA arrived on site to perform a construction observation in conjunction with the Applicant's request for acceptance of Form H – Certificate of Completion. The required Form H dated February 10, 2020 and as-built plan, dated January 29, 2020, revised May 12, 2020, were provided by email. The following work items were noted to be outstanding in BETA's previous report and the current status is described in red:

- 83 new parking spaces have been provided, where the Approved Plans call for 84. BETA notes that one space appears to have been lost in order to provide a clear access path to the entrance on the east side of the building.
- 7 shade trees have been provided along the perimeter of the parking area, where the Approved Plans call for 8. An additional shade tree has been provided.
- Rip rap check dams have not been provided in the grass swale. Check dams have been provided.
- A bituminous walkway has been provided where the Approved Plans call for concrete (per detail). The bituminous walkway has been removed and replaced with a concrete walkway.
- Loam and seed have been placed throughout disturbed areas of the site but the seed has little germination. Seed should be reapplied, as necessary, during the spring. BETA notes erosion control matting has been placed on steep slopes and there is minimal erosion at the site. Significant improvement to vegetative cover has been established. It is anticipated that any small bare areas that remain nearing the end of the growing season will be reseeded as part of general site maintenance.

Discussed Following Compliance Items with Contractor: None

Photos Attached: Included below

SITE PHOTOS

Concrete Walkway

Additional shade tree installed

Typical vegetative cover

Typical check dam

FRANKLIN PLANNING & COMMUNITY DEVELOPMENT
355 EAST CENTRAL STREET
FRANKLIN, MA 02038-1352
TELEPHONE: 508-520-4907
FAX: 508-520-4906

MEMORANDUM

DATE: **May 27, 2020**

TO: **Franklin Planning Board**

FROM: **Department of Planning and Community Development**

RE: 27 Forge Parkway – Site Plan Modification
Final Form H

DPCD has reviewed the above referenced Form H submitted for acceptance at the June 1, 2020 Planning Board meeting and offers the following commentary:

General

1. On April 22, 2019, the Planning Board approved an application for a Site Plan Modification for 27 Forge Parkway.
    - The modification to the Site Plan included constructing 84 parking spaces to accommodate additional employees

2. The applicant is requesting acceptance for the above referenced Final Form H for the Site Plan Modification.

3. BETA has provided an observation report, and indicated all outstanding items are complete.

4. On February 24, 2020, the Planning Board approved a partial Form H with the following conditions:
    - Add the 1 missing parking space, per the approved plans.
    - Add 1 tree as 7 were planted when the plans provided for 8 trees.
    - Replace the bituminous walk way with concrete, as per the approved plans.
    - Add the rip rap check dams in the grass swales.

Recommendation
DPCD has no further comments.

Tel: (508) 520-4907 Fax: (508) 520-4906

Town of Franklin

Planning Board

May 4, 2020
Meeting Minutes

Chair Anthony Padula called the above-captioned **Remote Access Virtual Zoom Meeting** to order this date at 7:00 PM**.** Members in attendance: Joseph Halligan, William David, Gregory Rondeau, Rick Power. Members absent: None. Also present: Michael Maglio, Town Engineer; Bryan Taberner, Director Planning and Community Development; Amy Love, Planner; Matthew Crowley, BETA Group, Inc.

*As stated on the agenda, due to the growing concerns regarding the COVID-19 virus, the Planning Board will conduct a **Remote Access Virtual Zoom Meeting.** The Massachusetts State of Emergency and the associated state legislation allows towns to hold remote access virtual meetings during the COVID-19 pandemic crisis. In an effort to ensure citizen engagement and comply with open meeting law regulations, citizens will be able to dial into the meeting using the provided phone number, or citizens can participate by using the Zoom link also provided on the agenda.*

7:00 PM **Commencement/General Business**
Chair Padula read aloud the provided Zoom platform call-in phone number and the Zoom link which were provided on the meeting agenda.

A. Lot Release & Bond: Mine Brook Estates
Mr. Crowley stated he conducted a site observation for the installation of the roadway binder course and completion of the infiltration basin. He provided an updated report and a listing the items needing to be completed for a total of $267,887. He noted dribble berm was installed on the edge of the roadway and the applicant was told that dribble berm was unsuccessful at another project.

Chair Padula confirmed dribble berm did not work at another development location. He said the cul de sac did not have any berm. He does not believe dribble berm will last in terms of performance or directing the water for the duration of the lots being built. He asked for the distance between catch basins. Mr. Crowley stated he believed it was less than 300 ft., but he would have to confirm that. He discussed the interpretation of the bylaw. Chair Padula asked the developer what they were going to do with the broken asphalt in the pile at the end of the cul de sac. Ms. Love said no one was present at the meeting representing the developer. Mr. Crowley said the developer would have to remove the asphalt pile from the project.

Chair Padula stated this is non-functioning drainage, and he does not think it will function as designed. He does not think the dribble berm is acceptable. He asked if the developer could provide be some kind of temporary berm that would last until the development is finished such as Cape Cod berm. He stated the Planning Board has made other builders do this. He would like to see this rectified before the lots are released. Mr. Halligan said temporary Cape Cod berm would be acceptable as long as it worked during construction. Mr. David agreed.

Mr. Maglio discussed the bylaw requiring 300 ft. from catch basin to catch basin and explained that the highpoint is taken into consideration; he explained what he thought was the intent of the bylaw. Discussion commenced about the bylaw language. Chair Padula said the Planning Board is not required to check every detail on a plan as the applicant must follow all bylaws. Planning Board members discussed the location and placement of the catch basins and agreed they would like the drainage in operating condition. Chair Padula requested that the distance between catch basins be reviewed. He said this item should be put on the next meeting agenda on March 11, 2020.

7:05 PM **PUBLIC HEARING –** *Continued*
300 East Central Street
Site Plan – Change in Use
Documents presented to the Planning Board are on file.

Motion to Continue the public hearing for 300 East Central Street, Site Plan – Change in Use, to May 11, 2020. Rondeau. Second: David. Vote: 4-0-0 (4-Yes; 0-No; 1-Abstained). (Mr. Halligan abstained.)

7:05 PM **PUBLIC HEARING –** *Continued*
12 Forge Parkway
Site Plan Modification
Documents presented to the Planning Board are on file.

Mr. Gene Sullivan, engineer, addressed the Planning Board. He stated the proposal is for an approximately 236,000 sq. ft. industrial building in the Industrial zoning district; it borders a Residential district on one side. The proposal is to expand/create parking, loading, and turn-around areas to make it more flexible for tenants in the rear of the building. The proposal includes adding 54,000 sq. ft. of impervious surface to allow for outdoor trailer storage and maneuverability. He discussed the current stormwater drainage. It was discovered the drainage was not functioning properly due to a blockage; it has been remedied. He discussed the new infiltration basins. He stated BETA's comments have been addressed. They have added screening.

Mr. Maglio reviewed his comments as outlined in his letter to the Planning Board dated March 16, 2020. Mr. Sullivan stated the berm shown on the plans was shown as concrete to match that which was existing. On the revised plans, there is a definite layout of how the areas will be used. Ms. Love reviewed her letter to the Planning Board dated April 29, 2020, including that the Planning Board should determine if a traffic study is required. She stated a photometric plan and snow storage plan are required.

Chair Padula stated reinforced concrete or granite curbing is required as 54,000 sq. ft. is a large addition to the area. He stated 266 parking spots are required, but only 83 are proposed. He confirmed the applicant submitted upgrades to BETA's comments. He asked why a Cultec system was not proposed and confirmed HDPE pipe is not allowed. Mr. Crowley reviewed some of BETA's concerns as listed in his letter to the Planning Board dated March 25, 2020. Mr. Maglio agreed with Chair Padula and stated that he does not know if there is a benefit to a traffic study as there is not going to be a significant change in use. Mr. Sullivan stated the tenant is FEMA and they will be using the warehouse space and parking for their fleet. He will obtain their proposed hours of use and typical traffic. Planning Board members agreed that a traffic study was not needed. Mr. Halligan requested that a stipulation be added that if there is a change in tenant, the applicant must return for a Limited Site Plan.

Planning Board members discussed the abutting residential condos and townhouses, elevations of the condos versus the parking lot, potential headlight glare, hours of operation, and fencing needs. Ms. Love recommended the engineer show the condos on the plan as well as the distance from the proposed parking area to the condos. Mr. Sullivan stated he could add the closest buildings and elevations to the plans. He

stated he was comfortable with resubmitting the plans quickly based on the Planning Board's requests and Mr. Crowley's comments.

Mr. J. Gordon, Forge Park abutter, discussed the possibility of flooding as there is already flooding into the townhouses and asked about the infiltration basin. He asked if the parking could be located closer to the applicant's property than the abutter's property with the infiltration basin located closer to the abutters. He stated concern about trucks coming into the parking lot and being so close to the residences. Mr. Sullivan stated he would provide the location of the abutters on the revised plans and will note the elevations. He discussed that they would make certain the water would not go toward the property line. He stated the infiltration basin is required to drain completely within 72 hours.

Motion to Continue the public hearing for 300 East Central Street, Site Plan – Change in Use, to May 18, 2020 at Halligan. Second: Rondeau. Vote: 5-0-0 (5-Yes; 0-No).

7:05PM **PUBLIC HEARING** – *Continued*
158 Grove Street
Special Permit & Site Plan Modification
Documents presented to the Planning Board are on file.

Mr. Edward Cannon, attorney on behalf of the applicant, 67 Degrees Franklin Brewing Company; Ms. Amanda Cavaliere of Guerriere & Halnon, Inc.; and owners Mr. Olivier Edouard and Ms. Laury Lucien addressed the Planning Board. Mr. Cannon stated the applicants are requesting to expand the leased area an additional 1,440 sq. ft., and increase the tasting area to 1,110 sq. ft. complying with the allowance of a maximum occupancy of 39 people per the Board of Health, and they would like permission to open on Tuesdays from 4:30 PM to 10:00 PM. They also request the ability to have live entertainment.

Ms. Love noted her memo to the Planning Board dated April 29, 2020. She stated the applicant submitted a revised site plan. The requested changes include increased square footage, adding live entertainment, and changing the hours. Mr. Maglio said there is no exterior work; therefore, there are no comments by his department.

Ms. Cavaliere reviewed the parking spaces. She said 24 spaces were approved on the last submittal for all the businesses; there are 14 in the front, 7 in the back, and 3 additional spaces behind Mar Electrical for a total of 24 spaces. She noted that parking is a concern. Seating has been approved by the Board of Health for 39 people in the building. The parking is based on square footage, not seats. Additional parking spaces will be available from Mar Electrical during their off-hours.

Chair Padula stated concern about the parking as the applicant is approved for 39 seats in the tasting room. As well, there must be room for employee parking. Adding entertainment exacerbates the parking situation. Mr. Rondeau stated the applicant is requesting to add 1,400 sq. ft. and live entertainment without additional parking. He stated people cannot park on Grove Street. It is up to the Planning Board to make sure it is safe for anyone to go on the site. Ms. Cavaliere stated the applicant is very aware of the limited parking and they put cones on Grove Street to prohibit parking there.

Mr. Halligan said if the applicant can only have 39 people in the tasting room, he thinks expanding the brewery area/warehouse and production would be fine. He does not think the business has proven itself yet to show that they need the extra tasting room space. Discussion commenced about the use of the square footage proposed for the warehouse, brewing process area, and tasting room. Mr. Power said he visited the location and does not have an issue with opening the tasting room space a little from an aesthetic standpoint. Mr. Halligan explained why the temporary walls were put up; the tasting room was built much larger than the 25 percent allowed.

Ms. Cavaliere reviewed the proposed type of entertainment with no more than five people at a time.

Planning Board members expressed concern about the number of vehicles from the customers, employees, and entertainers. Mr. Cannon stated the applicant realizes they will have to manage the patrons and the ability to park safely on the site. Mr. Halligan said he might be open to entertainment from one person, but not from a four to five-person band. Mr. Cannon said the applicant would probably be happy with an allowance for a one-person band.

Chair Padula said this is a Special Permit; the Planning Board can allow the applicant to add on to the area he already has, not expand the parking, and give a one-piece band allowance. However, the Planning Board does not want people to park on Grove Street illegally, have a car get hit, and have someone get hurt. As well, this would be setting a precedent by giving a waiver on required parking.

Mr. Cannon said the owner would be happy with the suggested conditions; there is no need for a continuance. Chair Padula said the usual method is the Planning Board closes the public hearing and votes on a Special Permit at the next Planning Board meeting.

Ms. Love noted that the applicant requested to extend the hours to open on Tuesdays. Chair Padula said he is not concerned with adding hours on a weekday. He noted that as this is a Special Permit the hours of operation or limited days for entertainment can be conditioned.

Mr. Rondeau said the left side of the site looks like it could be conducive to more parking. Mr. Halligan agreed the parking could be extended without affecting the occupancy.

Motion to Close the public hearing for 158 Grove Street, Special Permit & Site Plan Modification. Halligan. Second: David. Vote: 5-0-0 (5-Yes; 0-No).

7:05PM **PUBLIC HEARING** – *Continued*
Panther Way
Special Permit & Site Plan
Documents presented to the Planning Board are on file.

Motion to Continue the public hearing for Panther Way, Special Permit & Site Plan, to May 18, 2020. Rondeau. Second: Halligan. Vote: 5-0-0 (5-Yes; 0-No).

7:10 PM **PUBLIC HEARING** – *Continued*
94 East Central Street – Multi-Family
Special Permit & Site Plan
Documents presented to the Planning Board are on file.

Motion to Continue the public hearing for 94 East Central Street – Multi-Family, Special Permit & Site Plan, to May 11, 2020. Rondeau. Second: Power. Vote: 5-0-0 (5-Yes; 0-No).

7:10 PM **PUBLIC HEARING** – *Continued*
176-210 Grove Street
Site Plan
Documents presented to the Planning Board are on file.

Mr. Cannon, attorney on behalf of Marcus Partners, developer of the project; Mr. Levi Reilly, Director of Development of Marcus Partners; Mr. David Kelly of Kelly Engineering Group; and Mr. Giles Ham of

VAI, traffic engineering, addressed the Planning Board. Mr. Cannon stated there are currently two large warehouses; the request is to construct a third warehouse between the two existing warehouses. They are requesting to reduce the required number of parking spaces and that the number of parking spaces over 300 ft. from the entrance door will count toward the fulfillment of the requirement.

Mr. Kelly discussed the existing conditions with two buildings currently existing on the property. He reviewed the current parking spaces, loading docks, curb cuts, and grades/elevations on the site. The property is located in the Industrial Zoning District and Water Resource Overlay District. They are proposing that all existing lot lines will be removed for a new lot of approximately 35.6 acres. It will be a new state-of-the-art warehouse and distribution facility. He explained the proposed operation of the new driveways and the truck movement entering and exiting the site. He stated the plan is to minimize earth work needed on the site. He discussed that they full comply with the zoning requirements except for parking. There will be 415 spaces on the entire campus with 487 required. He reviewed some reasons why the parking waiver should be granted. He noted a parking study was done by VAI. He discussed the location of parking spaces from the entrance door to the furthest parking spot. He reviewed the landscaping plan and plantings, lighting and photometric plan, grading, stormwater management, and utilities. He said they have filed with Conservation Commission. Peer review was received from BETA and they responded to those comments.

Mr. Reilly noted the package the Planning Board received from Marcus Partners, a Boston-based real estate investment firm. He thanked the Planning Board for moving this project forward.

Mr. Ham discussed the traffic study. He reviewed his slideshow presentation, discussed the trip generation summary, and explained the recommendations including signage and pavement markings. He stated this is a small generator of traffic and the design as proposed is safe.

Ms. Love stated BETA is currently reviewing the traffic study. The first Conservation Commission hearing is scheduled for May 28, 2020. She noted that any signage and dumpsters on the property should be shown on the plans.

Chair Padula reviewed a concern from the fire department as outlined in their letter dated March 10, 2020, regarding a corner of the proposed building will be over a main water supply for fire suppression; he recommended the applicant address said letter.

Mr. Maglio reviewed his comment letter to the Planning Board dated March 20, 2020.

Chair Padula asked about traffic on Washington Street. He stated Cape Cod berm is not allowed. He stated HDPE pipe is not allowed; it must be reinforced concrete. The offsite runoff for the drainage must be addressed. The applicant must provide hours of operation and uses of the building. He asked how will vehicle parking next to the residences be addressed with screening.

Mr. Cannon stated there are currently two parcels; they are working to merge them into one parcel. Chair Padula questioned why some of the paperwork indicates Site Plan Modification, which this is not. Planning Board members asked how the traffic study was conducted. Mr. Halligan requested new tenants return for a Limited Site Plan. Mr. Ham reviewed how the traffic study was conducted.

Mr. Scott Waite, direct abutter at 198 Grove Street, stated Grove Street is falling apart and probably cannot take any more trucks. He does not believe a new warehouse will support this road. He is also concerned about the lighting; the current stadium lighting is very bright already. He does not want to see a 40 ft. building as it is too high; there is already a 30 ft. building there. He asked about the proposed driveways. He stated there is a great deal of dirt and loam on the property as it was a nursery.

Chair Padula said there should not be any light spillage on abutting properties. The applicant must address this. Mr. Maglio stated they are aware there is work to be done on Grove Street, but there is no funding for any road improvements at this time.

Chair Padula stated the entrances and exits should be addressed, and he does not believe they should all be used for truck traffic. Mr. Reilly discussed their intent in laying out the industrial building. He reviewed the proposed car parking and truck entering and exiting plan, and the proposed screening. Mr. Kelly stated they were concerned about the parking on the north side of the building. The building is about 20 ft. lower than Grove Street. The parking area is below the existing grade. There is a retaining wall there so there will not be any lights from vehicles. He noted that there is no light spillage as shown on the lighting plan.

Chair Padula stated as this is a complete Site Plan, he would like the current light spillage addressed. He asked for the hours of operation as this does abut residential properties. Planning Board members asked questions about the height of the building in relation to the neighbors. Traffic and the condition of Grove Street were discussed. Mr. Kelly confirmed snow storage will be added to the plans if it is currently not shown.

Mr. Crowley reviewed some of his comments including the interior lot line as shown on the plan should be clarified, parking calculations should be revised, Cape Cod berm is not allowed, light spillage must be addressed, and a hydrologist's review is usually required in a Water Resource District. Chair Padula asked if there was a Vortex system to catch contaminants.

Motion to Continue the public hearing for 176-210 Grove Street, Site Plan, to June 8, 2020. Rondeau. Second: David. Vote: 5-0-0 (5-Yes; 0-No).

7:10 PM **<u>PUBLIC HEARING</u>** – *Continued*
160 Grove Street
Special Permit & Site Plan
Documents presented to the Planning Board are on file.

Motion to Continue the public hearing for 160 Grove Street, Special Permit & Site Plan, to May 18, 2020. Halligan. Second: Rondeau. Vote: 5-0-0 (5-Yes; 0-No).

Motion to Adjourn the Remote Access Virtual Zoom Planning Board Meeting. Rondeau. Second: David. Vote: 5-0-0 (5-Yes; 0-No). Meeting adjourned at 9:03 PM.

Respectfully submitted,

_____
Judith Lizardi,
Recording Secretary

Tel: (508) 520-4907 Fax: (508) 520-4906

Town of Franklin

Planning Board

May 11, 2020
Meeting Minutes

Chair Anthony Padula called the above-captioned **Remote Access Virtual Zoom Meeting** to order this date at 7:00 PM**.** Members in attendance: Joseph Halligan, William David, Gregory Rondeau, Rick Power. Members absent: None. Also present: Michael Maglio, Town Engineer; Bryan Taberner, Director Planning and Community Development; Amy Love, Planner; Matthew Crowley, BETA Group, Inc. Maxine Kinhart, Administrative Assistant.

*As stated on the agenda, due to the growing concerns regarding the COVID-19 virus, the Planning Board will conduct a **Remote Access Virtual Zoom Meeting.** The Massachusetts State of Emergency and the associated state legislation allows towns to hold remote access virtual meetings during the COVID-19 pandemic crisis. In an effort to ensure citizen engagement and comply with open meeting law regulations, citizens will be able to dial into the meeting using the provided phone number, or citizens can participate by using the Zoom link also provided on the agenda.*

7:00 PM **Commencement/General Business**
Chair Padula read aloud the Zoom platform call-in phone number and the Zoom link which were also provided on the meeting agenda.

A. Decision: 158 Grove Street – Brewery
Chair Padula stated that the public hearing on this Special Permit was previously closed. He stated the Planning Board wanted to make an Order of Conditions for extending hours of operation allowing Tuesday evenings from 4:30 PM to 10:00 PM, allowing live entertainment of a single person, DJ, or single instrument player, allowing expansion of square footage to a total 4,400 sq. ft. leaving 1,100 sq. ft. for the tasting area, and limiting seating to 39 people as approved by the Board of Health.

ROLL CALL VOTE:

This determination shall be in addition to the following specific findings:

Special Permit VOTE: §185 Attachment 4 Use Regulation Schedule Part III 3.13:

- To amend the Special Permit at 158 Grove Street, and allow the following:

1. Expand the square footage from 3,000 sq/ft to a total of 4,400 sq/ft. The tasting room will be 1,100sq/ft of the 4,400 sq/ft.
2. Expand hours of operation to add Tuesday evenings from 4:30PM – 10:00PM.
3. Allow live entertainment

Chairman Padula read aloud the following.

a) Proposed project addresses or is consistent with neighbor or Town need.

Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

b) Vehicular traffic flow, access and parking and pedestrian safety are properly addressed.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

c) Public roadways, drainage, utilities and other infrastructure are adequate or will be upgraded to accommodate development.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

d) Neighborhood character and social structure will not be negatively impacted.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

e) Project will not destroy or cause substantial damage to any environmentally significant natural resource, habitat, or feature or, if it will, proposed mitigation, remediation, replication or compensatory measures are adequate.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

f) Number, height, bulk, location and siting of building(s) and structures(s) will not result in abutting properties being deprived of light or fresh air circulation or being exposed to flooding or subjected to excessive noise, odor, light, vibrations, or airborne particulates.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

g) Water consumption and sewer use taking into consideration current and projected future local water supply and demand and wastewater treatment capacity, will not be excessive.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

The proposed use will not have adverse effects which overbalance its beneficial effects on either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site.
Padula-YES; Power-YES; Rondeau-YES; Halligan-YES; David-YES. Vote: 5-0 (5-Yes; 0-No)

B. Lot Release and Bond: Mine Brook Estates – Margaret's Cove

Chair Padula said the cul de sac has not been done. He asked if the catch basins were measured to determine if they are over 300 ft. apart. Mr. Crowley said he looked at the wording of the bylaw and the key is continuous grade; therefore, he thinks the applicant met what is required by the bylaw. Chair Padula stated he thought the bylaw indicated a maximum of 300 ft. from catch basin to catch basin. Mr. Crowley said there is no stretch of pavement that goes more than 300 ft. without a catch basin.

Ms. Amanda Cavaliere of Guerriere & Halnon, Inc., representing Whitman Homes, read aloud the section of the bylaw related to catch basins. She said there is a break in the road that interrupts the continuous stretch. In addition, the approved endorsed plans show roughly 400 ft. from catch basin to catch basin and show the road pitching and breaking in the middle which is why the catch basins were designed in that fashion. She said they would not put a catch basin at the top of a hill as it would not catch anything. She

discussed the grading and requirements for the catch basins. Chair Padula discussed the peak in the road before it reaches the catch basins. Ms. Cavaliere said she does not have the exact distance; however, this is what has been approved.

Chair Padula discussed the construction at other subdivisions regarding temporary curbs. Mr. Halligan said he thinks the catch basins will work but only with a temporary curb, not a dribble berm. Mr. Whittington, owner/developer, stated the requirements should be set out ahead of time; if this is what the Planning board wants, why were these specifications not provided. Chair Padula discussed that his concern is directing the water; in order to direct water, a temporary curb or slant granite is needed. He noted that all subdivision contractors have put in a temporary berm. He stated that temporary curb is Cape Cod berm. Mr. Whittington said he hopes in the future the Planning Board will state which type of berm will be acceptable as they have already put in dribble berm. He noted the maximum grade of the road is two percent; this is a fairly flat site. He said they can back up the dribble berm with silt socks.

Ms. Cavaliere discussed the stormwater bylaws. She stated concern about Chair Padula's request to put in Cape Cod berm after the fact as it was not specified anywhere in the regulations that dribble berm is not acceptable. Chair Padula said the Planning Board has no problem if the applicant puts in the slant granite right now and makes it operational. Mr. Rondeau said a pick-up truck will break the dribble berm. Chair Padula recommended to continue this item to the next meeting. Planning Board members informally agreed to continue this item to the meeting on May 18, 2020.

7:05 PM **PUBLIC HEARING –** *Continued*
300 East Central Street
Site Plan – Change in Use
Documents presented to the Planning Board are on file.

Chair Padula read aloud a letter dated May 11, 2020 from Attorney Richard Cornetta on behalf of the applicant New England Chapel for the applicant to withdraw without prejudice the current application.

Chair Paula explained the events of this application. He stated that this item came before the Planning Board for a Site Plan Modification. The Planning Board's policy is that all Site Plan applications on sites that do not have a Site Plan will come in for a Site Plan before coming in for a Site Plan Modification. This property has been abandoned for approximately six years. This item came to the Planning Board from a recommendation of the Zoning Enforcement Agent who is the Building Commissioner for a complete Site Plan. He noted the Dover Amendment makes daycare centers and churches exempt from certain regulations within the town. However, when it comes to environmental and pedestrian safety, certain things can be asked by the Town and Planning Board on such sites. This site is in a Water Resource District. Chair Padula stated that the Planning Board has listened to this application a number of times: three to four times in a public hearing and three to four times continued on Zoom meetings. The applicant went to the Town and superseded the Planning Board and their current application and was issued a building permit for this site before the Planning Board even received the applicant's withdrawal without prejudice letter. The same person, the Zoning Enforcement Agent, who had asked the Planning Board for a complete Site Plan, has turned around and issued a building permit before the applicant even withdrew. The Planning Board members are elected officials by the people; this deal and issuance of a building permit went behind the Planning Board's back and completely ignored an elected board. This should not happen; there should be no back-room deals. This deal should not have happened just because threats were made to go to court because this is a religious-type of entity that is going into this abandoned building.

Motion to Appeal the decision of the issuance of the building permit for 300 East Central Street. David. Second: Rondeau. Vote: 4-0-1 (4-Yes; 0-No; 1-Abstain). (Mr. Halligan abstained).

Ms. Love said she would to talk to the town attorney about the process for this.

Motion to Close the public hearing 300 East Central Street, Site Plan – Change in Use. Rondeau. Second: David. Vote: 4-0-1 (4-Yes; 0-No; 1-Abstain). (Mr. Halligan abstained).

7:05 PM **PUBLIC HEARING –** *Continued*
70, 72 & 94 East Central Street – Multi-Family
Special Permit & Site Plan Modification
Documents presented to the Planning Board are on file.

Chair Padula recused himself.

Mr. Richard Cornetta, attorney representing the applicant, stated this is a continuous property. It was approved by the Planning Board with two mixed use condominiums constructed on the property at 70 and 72 East Central Street. He stated that 94 East Central Street is the proposed building with 13 residential condo units and one commercial unit next to the approved 70 and 72 East Central Street development. The applicant is seeking two Special Permits: allow multi-family in C1 zone and allow building height up to 50 ft. He noted the line of demarcation for the zoning district is at this property. This property is located in the C1 zone; the previous development was located in the Downtown Commercial zone. He said they are treating this as a modification of the previously approved Site Plan; this site only has 37 ft. of frontage. Therefore, the plan is to combine it to the existing property at 70 and 72 East Central Street. He noted the property in the middle at 88 East Central Street is granting an easement to allow the access drive.

Mr. Rick Goodreau, United Consultants, Inc., addressed changes to the revised plan set and the comment letters from both BETA and the town engineer. He explained the new proposal addressing stormwater and drainage. He stated that they propose to install granite curbing along the driveway at the 88 and 94 East Central Street property boundary. He reviewed the parking illustration. Vice Chair Halligan said he did not see frontage on the plans. Mr. Goodreau said he can show the frontage on the plans. He reviewed the parking requirements for both the Downtown Commercial and C1 zoning districts. Adequate parking has been provided on site at 94 East Central Street.

Mr. Maglio stated reviewed his comment letter and reviewed his three comments. He stated that he spoke with Mr. Goodreau and they agreed on the drainage changes. Vice Chair Halligan asked about a sidewalk from one property to the other. Mr. Maglio said that can be looked at in the field.

Ms. Love reviewed items outlined in her memo to the Planning Board dated May 6, 2020. She noted the Fire Department said they are satisfied with the fire access.

Vice Chair Halligan said a major issue was the height of the buildings; the applicant did a great job demonstrating the height compared to the surrounding buildings in the first parcel. He believes the four stories would be in line with the existing two structures.

Planning Board members discussed the building height and renderings. Mr. Rondeau said he is concerned about the size of the building dwarfing the lot. He would like to see the building pulled forward to have access around the rear of the building as they have requested of other applicants. He would prefer to see the whole site compiled together for both 88 and 94 East Central Street. He stated this is not a continuous plan; there are no sidewalks or access throughout. Mr. David said he agrees with Mr. Rondeau about pulling the building forward; there are too many pieces going at different times. He stated that he has said from the beginning that the building is too large. Mr. Power said the applicant did a great job with the

renderings. It should be able to fit in; he is okay with the height. Mr. David stated he would like to talk about some of the items Mr. Rondeau pointed out.

Vice Chair Halligan asked if this project could work on its own without being tied to the existing Site Plan that has been approved and finished. Mr. Cornetta said they are lacking the frontage for 94 East Central Street which is why they are combining 94 with 70 and 72 East Central Street. They would like to avoid going for a variance. He said the owners at 88 East Central Street continue to reside there. Vice Chair Halligan stated that if this was granted, both parcels would be combined and taxed under the same ownership. Mr. Cornetta confirmed they would like to combine the two lots. Vice Chair Halligan asked about the residents of 70 and 72 Central Street; some of the people who bought into those developments did not get notification of this proposed development. He stated that during the original permit, both buildings had to be constructed at the same time in order to not disturb residents. With this new proposal, there would be construction traffic going by the existing units. He wants to ensure that those new homeowners are on board with this new proposal. Mr. Chaffee said all the homeowners know there is a plan; he would be happy to confirm the owners are comfortable with the new proposal.

Mr. Crowley stated that some of the parking spaces are undersized and some have some difficult turning access. He noted the project design team said they believe they can make the spaces conform to the proper size. He recommended that if the Planning Board approves this, they should require the applicant return to obtain final approval on the garage and the spaces. He discussed the existing 4 ft. fence and noted the applicant added arborvitaes to help with the screening. Vice Chair Halligan asked about the noise factor of the air conditioners. Mr. Goodreau pointed out the parking requirements and discussed the parking spaces for the original and new buildings. Vice Chair Halligan asked about the original project regarding the overflow stormwater going into the town system and if between the two sites it will overtax the system. Mr. Maglio stated the way it is designed, there is no more water coming off the site as proposed than coming off the site now; therefore, it should have no impact. Mr. Chaffee confirmed the new building is 8,300 sq. ft.; the size of the two buildings in the first phase combined. Vice Chair Halligan commented that now that they are combining the sites, there are no sidewalks to walk around the site. As this product is being built to accommodate people who want to walk, he asked what would it take to put a looping sidewalk around the project to allow people to walk to the street safely. Mr. Chaffee explained the access to the site and discussed possible sidewalks; he said there is an easement with 88 East Central Street. He said the design team will review to see what they can do. He discussed that this project would have to be phased. He noted the challenge is the people living at the house at 88 East Central Street want to move into the building at 94 East Central Street when it is done. Vice Chair Halligan confirmed he is hearing from the Planning Board members that four stories and the multi-family permit are both acceptable. He confirmed he is hearing some Planning Board members are saying the structure it is a little large, but it may be acceptable if the idle parcel could be combined into the project.

Mr. Chaffe said he would like to think about a global plan with the team; he could show what could be envisioned. Vice Chair Halligan said he would want to see that information on a plan. He stated the applicant met the hurdle of four stories and multi-family, now it is about how it sits on the lot with sidewalks and greenspace; possibly the building should be slid forward. Mr. Chaffee said he would look at greenspace and sidewalks. He reviewed possible plans for 88 East Central Street. He confirmed if this were to go forward, they would use the entrance for 94 East Central Street for construction vehicles. There should not be any disturbance to the original site during construction. Mr. Rondeau said the buildings look nice; he noted the Planning Board is looking out for the best interest of the Town. Mr. Chaffee asked to continue the public hearing.

Motion to Continue the public hearing for 70, 72 & 94 East Central Street – Multi-Family, Special Permit & Site Plan Modification, to June 8, 2020 at 7:10 PM. Rondeau. Second: David. Vote: 4-0-0 (4-Yes; 0-No).

Motion to Adjourn the Remote Access Virtual Zoom Planning Board Meeting. David. Second: Rondeau. Vote: 4-0-0 (4-Yes; 0-No). Meeting adjourned at 8:48 PM.

Respectfully submitted,

_____
Judith Lizardi,
Recording Secretary

Site Development Plan

Hennep Cultivation & Production Facility

INDEX OF SHEETS

LEGAL REFERENCES

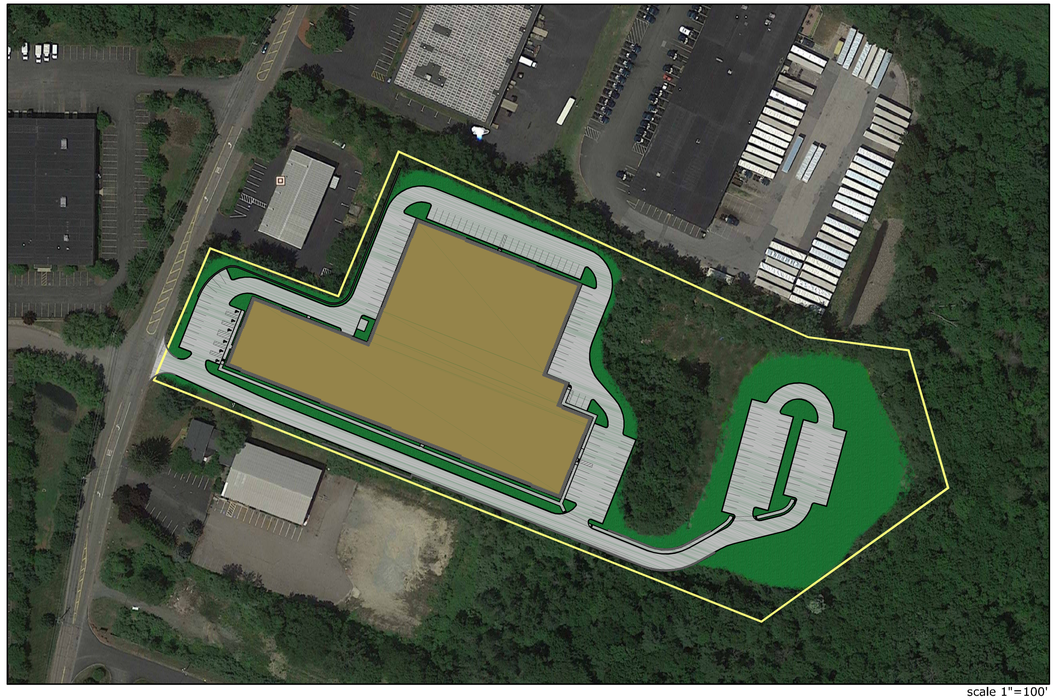
ASSESSORS: PARCEL 306-002-000
DEED: DEED BOOK 37525 PAGE 499
PLAN: PLAN BOOK 688 PAGE 38

ZONING SUMMARY

Zone: Industrial

	Required	Proposed
Frontage:	175 ft	200.21 ft
Area:	40,000 ft²	372,249 ft²
Front Yard:	40 ft	80.8 ft
Side Yard:	30 ft	55.6 ft
Rear Yard:	30 ft	328.6 ft
Bldg. Coverage:	70%	28.5% of upland
Lot Coverage:	80%	57.0% of upland
Height:	3 Stories	3 Stories

Note: Portions of the locus is located within the Water Resource District.



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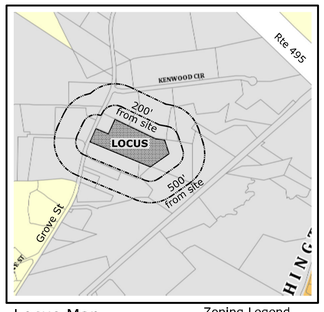

Locus Map
scale 1"=1000'

Zoning Legend
Industrial
Rural Residential I

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

Located at
160 Grove Street
Franklin, MA

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 100'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
100	EXISTING CONTOUR
100	PROPOSED CONTOUR
581x5	PROPOSED SPOT GRADE
	LIGHT - WALL MOUNTED
	LIGHT - POLE MOUNTED
	SIGN
ETC	ELECT., TEL. & CABLE
W	WATER LINE
S	SEWER LINE
G	GAS LINE
OHW	OVERHEAD WIRE
	FENCE
	GUARD RAIL
x WF-#	WETLAND FLAG

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
No. 31887
REGISTERED ENGINEER

Date: 5/20/2020
Norman G. Hill, PE #31887

Land Planning, Inc.
Civil Engineers • Land Surveyors
Environmental Consultants

Bellingham
167 Hartord Ave.
Bellingham, MA 02019
508-966-4130

North Grafton
214 Worcester St.
N. Grafton, MA 01536
508-839-9526

Hanson
1115 Main Street
Hanson, MA 02341
781-294-4144

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Scale	1" = 100'
Date	February 14, 2020
Job No.	B2521
Sheet No.	1

Soil Logs

DH-1 3/3/2020
0"-30" Fill
30"-120" C horizon, med. sand
No mottles
Standing water @ 78"
Elevation = 264.2
Groundwater = 257.7

DH-2 3/3/2020
0"-10" A horizon, loamy sand
10"-32" B horizon, loamy sand
32"-60" C1 horizon, med. sand
60"-156" C2 horizon, loamy sand
Mottles @ 108"
No standing water
Elevation = 267.8
Groundwater = 258.8

TP-1 11/4/2019
0"-6" A horizon, loamy sand
6"-26" B horizon, loamy sand
26"-144" C horizon, med. sand w/ gravel
No mottles
No standing water
Elevation = 270.7
Groundwater = <258.7

TP-2 11/4/2019
0"-132" C horizon, med. sand w/ gravel
No mottles
Weeping water @ 125"
Elevation = 266.5
Groundwater = 256.1

TP-3 11/4/2019
0"-10" Fill
10"-134" C horizon, med. sand w/ gravel
Mottles @ 54"
Weeping water @ 95"
Standing water @ 118"
Elevation = 247.8
Groundwater = 243.3

TP-4 11/4/2019
0"-90 Fill
90"-150" C horizon, med. sand w/ gravel
Mottles @ 120"
No standing water
Elevation = 249.7
Groundwater = 239.7

TP-5 3/3/2020
0"-156" Fill
156"-168" C horizon, loamy sand
Mottles = none
Weeping water @ 156"
Elevation = 249.7
Groundwater = 236.7

General Notes

1. Topography determined by an on-the-ground survey by Land Planning, Inc. All elevations refer to NAVD 1988 datum.
2. No portion of the site is located within the limits of the 100 yr flood zone as shown on the FIRM Map #25021C0308E dated 07/17/12
3. Property lines shown are based upon an on-the-ground retracement survey performed by Land Planning, Inc.
4. Wetland resource boundaries were flagged by Northeast Ecological Services and located by Land Planning, Inc.

n/f
One Kenwood LLC

n/f
RCG Kenwood LLC

n/f
United States of America

n/f
Grove Street
Realty Trust

n/f
Charley2017 LLC

n/f
Core Real Estate
Holdings, LLC

n/f
United States of
America

S65°13'06"E 23.98'
S65°11'29"E 184.57'
S64°36'18"E 181.81'
S64°40'54"E 161.58'
S65°09'31"E 75.99'
S81°47'38"E 141.84'
S23°28'13"E 200.00'
S35°08'16"W 320.91'
N23°22'06"E 219.01'
S23°50'46"E 671.85'
S68°45'37"E 191.00'
N67°35'34"W 913.15'
L=12.00'
R=1200.00'

Assessor ID: 306-002-000-000
372,249± sq. ft.
8.55± acres

Vegetated Wetland
Bordering Vegetated Wetland
Metal Building
Wood Frame Building
Shed
Trailer
Buildings and trailer to be removed
Utility pole to be removed
Existing House
Existing house razed Dec. 2019
Roof
Conc. pad
Existing trees to be removed

Grove Street
(50' Wide)

Limit of Water Resource District
100' Buffer Zone
200' Riverfront Area
0 to 25' Buffer Zone
25' to 50' Buffer Zone
100' Riparian

WF-A1 … WF-A19, WF-B1 … WF-B27, WF-C1 … WF-C15
Bank 1 … Bank 5
UP 54-1 … UP 54-4
TP-1 … TP-5

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Existing Conditions Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 40'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
100	EXISTING CONTOUR
100	PROPOSED CONTOUR
581x5	PROPOSED SPOT GRADE
	LIGHT - WALL MOUNTED
	LIGHT - POLE MOUNTED
	SIGN
ETC	ELECT., TEL. & CABLE
W	WATER LINE
S	SEWER LINE
G	GAS LINE
OHW	OVERHEAD WIRE
	FENCE
	GUARD RAIL
x WF-#	WETLAND FLAG

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
No. 31887
REGISTERED PROFESSIONAL ENGINEER

Norman G. Hill, PE
Date: 5/20/2020
Norman G. Hill, PE #31887

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781-294-4144

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Scale
1" = 40'

Date
February 14, 2020

Job No.
B2521

Sheet No.
2

Zoning Summary

Zone: Industrial

	Required	Proposed
Frontage:	175 ft	200.21 ft
Area:	40,000 ft²	372,249 ft²
Front Yard:	40 ft	80.8 ft
Side Yard:	30 ft	55.6 ft
Rear Yard:	30 ft	328.6 ft
Bldg. Coverage:	70%	28.5% of upland
Lot Coverage:	80%	57.0% of upland
Height:	3 Stories	3 Stories

Note: Portions of the locus is located within the Water Resource District.

Parking Summary

Use	Regulation	Area	Required Spaces
Industrial	1 per 400 ft²	17250 ft²	44 spaces
Warehouse	1 per 1000 ft²	100841 ft²	101 spaces
Office	1 per 250 ft²	4211 ft²	17 spaces

Total Parking Required = 162 spaces

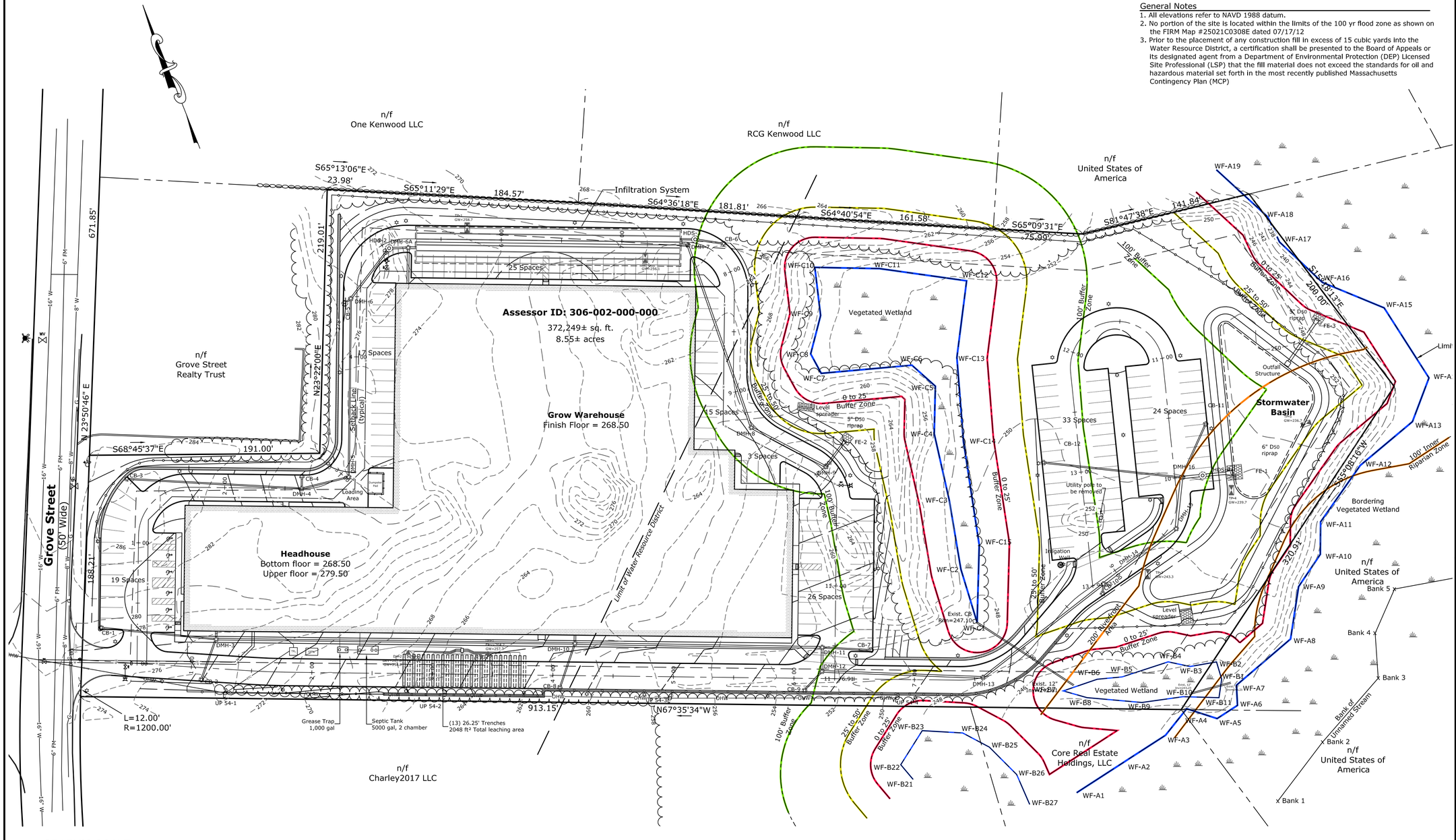
Total proposed parking = 162 spaces

Utility Notes

1. Place 6" Loam and seed all disturbed areas of the project not otherwise improved.
2. All underground utility locations shown are based on field evidence and records provided to Land Planning, Inc.. These locations should be considered approximate. Other utilities may exist which are not evident or for which record information was not found. The contractor must contact all utility companies and "Dig Safe" before excavation begins. We assume no responsibility for damages incurred as a result of utilities omitted or inaccurately shown.
3. It is the responsibility of the contractor to review all of the drawings and specifications associated with this project work and project scope prior to the initiation of construction. Should the contractor find a conflict with the documents, relative to the specifications or applicable codes, it is the contractor's responsibility to notify the project engineer of record in writing prior to the start of construction. Failure by the contractor to notify the project engineer shall constitute acceptance of full responsibility by the contractor to complete the scope of work as defined by the drawings and in full conformance with local regulations and codes.
4. All work shall conform to Town of Franklin requirements and Massachusetts Highway Department construction standards as applicable.
5. Where any utility installation detail conflicts with the Town of Franklin Department of Public Works Standards for Sewer and Water Materials and Installation, the Town Standards shall govern.

General Notes

1. All elevations refer to NAVD 1988 datum.
2. No portion of the site is located within the limits of the 100 yr flood zone as shown on the FIRM Map #25021C0308E dated 07/17/12
3. Prior to the placement of any construction fill in excess of 15 cubic yards into the Water Resource District, a certification shall be presented to the Board of Appeals or its designated agent from a Department of Environmental Protection (DEP) Licensed Site Professional (LSP) that the fill material does not exceed the standards for oil and hazardous material set forth in the most recently published Massachusetts Contingency Plan (MCP)



Site Index Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 40'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
100	EXISTING CONTOUR
100	PROPOSED CONTOUR
581x5	PROPOSED SPOT GRADE
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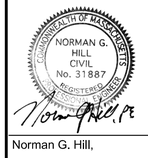
x WF-#	WETLAND FLAG



Date: 5/20/2020

Norman G. Hill, PE #31887

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781-294-4144

www.landplanninginc.com

Scale
1" = 40'

Date
February 14, 2020

Job No.
B2521

Sheet No.
3

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

Zoning Summary

Zone: Industrial

	Required	Proposed
Frontage:	175 ft	200.21 ft
Area:	40,000 ft²	372,249 ft²
Front Yard:	40 ft	80.8 ft
Side Yard:	30 ft	55.6 ft
Rear Yard:	30 ft	328.6 ft
Bldg. Coverage:	70%	26.9%
Lot Coverage:	80%	52.2%
Height:	3 Stories	3 Stories

Note: Portions of the locus is located within the Water Resource District.

Utility Notes

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Assessor ID: 306-002-000-000

372,249± sq. ft.
8.55± acres

Infiltration System
6-rows of 31 Cultec R-330XLHD chambers in 25.67'x 220.50' washed stone field

TP-1
GW<258.7

TP-2
GW=256.1

25 Spaces
17 Spaces
19 Spaces
15 Spaces

Setback Line (typical)

Retaining Wall #1
Proposed segmental block wall
(design by others)

Loading Area

Dumpster Pad

Gate w/ knox box

Grove Street
(50' Wide)

Headhouse
Bottom floor = 268.50
Upper floor = 278.75

See architectural plans for building mounted light fixture locations and details

Grow Warehouse
Finish Floor = 268.50

See architectural plans for building mounted light fixture locations and details

Limit of Water Resource District

Approximate location of transformer & generator. Design by others.

DH-1
Elev=264.2
GW=257.7

DH-2
Elev=267.8
GW=258.8

Proposed gas service

Service saddle

8" Gate valve

16x8 Tapping saddle

2" Type K waterline

8" CLDI Fire protection waterline

Existing utility pole to be retained

Grease Trap
1,000 gal

Septic Tank
5000 gal, 2 chamber

(13) 26.25' Trenches
2048 ft² Total leaching area

Utility & Grading Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 20'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
100	EXISTING CONTOUR
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581x5	PROPOSED SPOT GRADE
	LIGHT - WALL MOUNTED
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ETC	ELECT., TEL. & CABLE
W	WATER LINE
S	SEWER LINE
G	GAS LINE
OHW	OVERHEAD WIRE
	FENCE
	GUARD RAIL
x WF-#	WETLAND FLAG

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
No. 31887
REGISTERED ENGINEER

Date: 5/20/2020
Norman G. Hill, PE #31887

Land Planning, Inc.
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508-839-9526

Hanson
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Scale **1" = 20'**
Date **February 14, 2020**
Job No. **B2521**
Sheet No. **4**

Utility & Grading Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
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1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 20'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
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	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
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COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
No. 31887
REGISTERED PROFESSIONAL ENGINEER

Date: 5/20/2020
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Scale
1" = 20'

Date
February 14, 2020

Job No.
B2521

Sheet No.
5

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

Zoning Summary
Zone: Industrial

	Required	Proposed
Frontage:	175 ft	200.21 ft
Area:	40,000 ft²	372,249 ft²
Front Yard:	40 ft	80.8 ft
Side Yard:	30 ft	55.6 ft
Rear Yard:	30 ft	328.6 ft
Bldg. Coverage:	70%	26.9%
Lot Coverage:	80%	52.2%
Height:	3 Stories	3 Stories

Note: Portions of the locus is located within the Water Resource District.

Vegetated Wetland
Bordering Vegetated Wetland
15 Spaces
3 Spaces
26 Spaces
33 Spaces
24 Spaces
Grow Warehouse
Finish Floor = 268.50
See architectural plans for building mounted light fixture locations and details
Stormwater Basin
Outfall Structure (see detail)
Retaining Wall #3 Proposed segmental block wall (design by others)
Retaining Wall #2 Proposed segmental block wall (design by others)
Benchmark Monitor well cap Elev=250.10
Benchmark Nail in 20" pine Elev=248.12
TP-1 GW=236.7
TP-3 GW=243.3
TP-4 GW=239.7
Level spreader
Irrigation Well
Utility pole to be removed
Lamp post and fixture (typical)
Exist. CB Rim=247.10
Exist. 12" Inv=242.81
Exist. 12" Inv=243.23
Exist. 12" Inv=240.21
100' Buffer Zone
0 to 25' Buffer Zone
25' to 50' Buffer Zone

Site Layout Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
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Franklin, MA

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200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 40'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
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COMMONWEALTH OF MASSACHUSETTS
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Date: 5/20/2020
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Scale **1" = 20'**
Date **February 14, 2020**
Job No. **B2521**
Sheet No. **6**

Assessor ID: 306-002-000-000

372,249± sq. ft.
8.55± acres

Headhouse
Bottom floor = 268.50
Upper floor = 278.75

See architectural plans for building mounted light fixture locations and details

Grow Warehouse
Finish Floor = 268.50

See architectural plans for building mounted light fixture locations and details

Infiltration System
6 rows of 31 Cultec R-330XLHD chambers in 25.67'x 220.50' washed stone field

25 Spaces
17 Spaces
19 Spaces
15 Spaces

Loading Area

Dumpster Pad

Snow storage area

Setback Line (typical)

Limit of Water Resource District

Vert. conc. curb (typical)

Provide accessible parking signs for each space, mounted on wall of building

Conc. walk flush with pavement

Approximate location of transformer & generator. Design by others.

Grease Trap 1,000 gal

Septic Tank 5000 gal, 2 chamber

(13) 26.25' Trenches 2048 ft² Total leaching area

Existing utility pole to be retained

Grove Street (50' Wide)

Site Layout Plan

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Scale: 1" = 40'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
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Scale: **1" = 20'**
Date: **February 14, 2020**
Job No.: **B2521**
Sheet No.: **7**

S64°40'54"E 161.58'
S65°09'31"E 75.99'
S81°47'38"E 141.84
S15°18'13"E 200.00'
S53°08'16"W 320.91'
S22°24'26"W 66.88'
S22°24'26"W 144.50'
S40°25'56"E 34.25'
N13°48'40"E 110.04'
N76°09'29"E 71.51'
N60°00'23"E 38.71'
S19°48'40"W 117.45'
328.6'

Setback Line (typical)
Proposed fence
Outfall Structure (see detail)
Stormwater Basin
Grow Warehouse
Finish Floor = 268.50
See architectural plans for building mounted light fixture locations and details
15 Spaces
3 Spaces
26 Spaces
33 Spaces
24 Spaces
Snow storage area
Level spreader
Lamp post and fixture (typical)
Utility pole to be removed
Irrigation Well
Exist. CB Rim=247.10
Benchmark Monitor well cap Elev=250.10
Benchmark Nail in 20" pine Elev=248.12
5" Dso riprap
6" Dso riprap
FE-1 24" RCP Inv=245.75
FE-2 18" Inv =259.00
FE-3 24" Inv =242.00
Exist. 12" Inv=242.81
Exist. 12" Inv=243.23
Exist. 12" Inv=243.21
5' Conc. sidewalk
Vert. conc. curb (typical)
OHW
UP 54-4

Driveway Plan & Profile

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located at
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Prepared for
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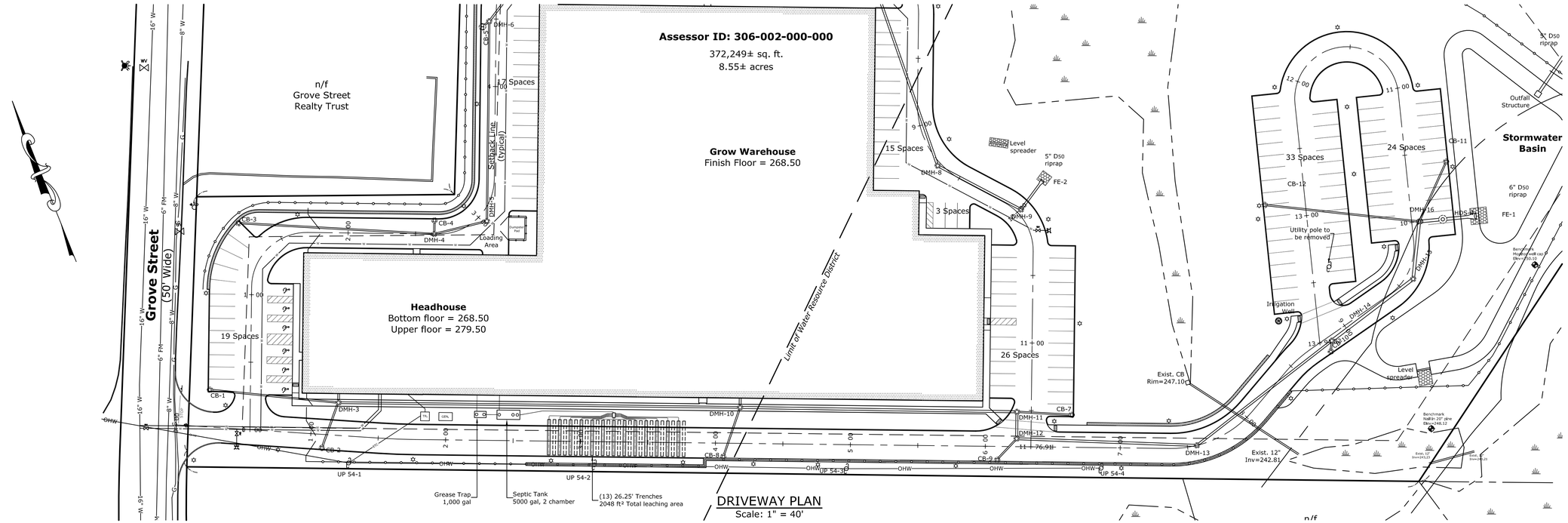
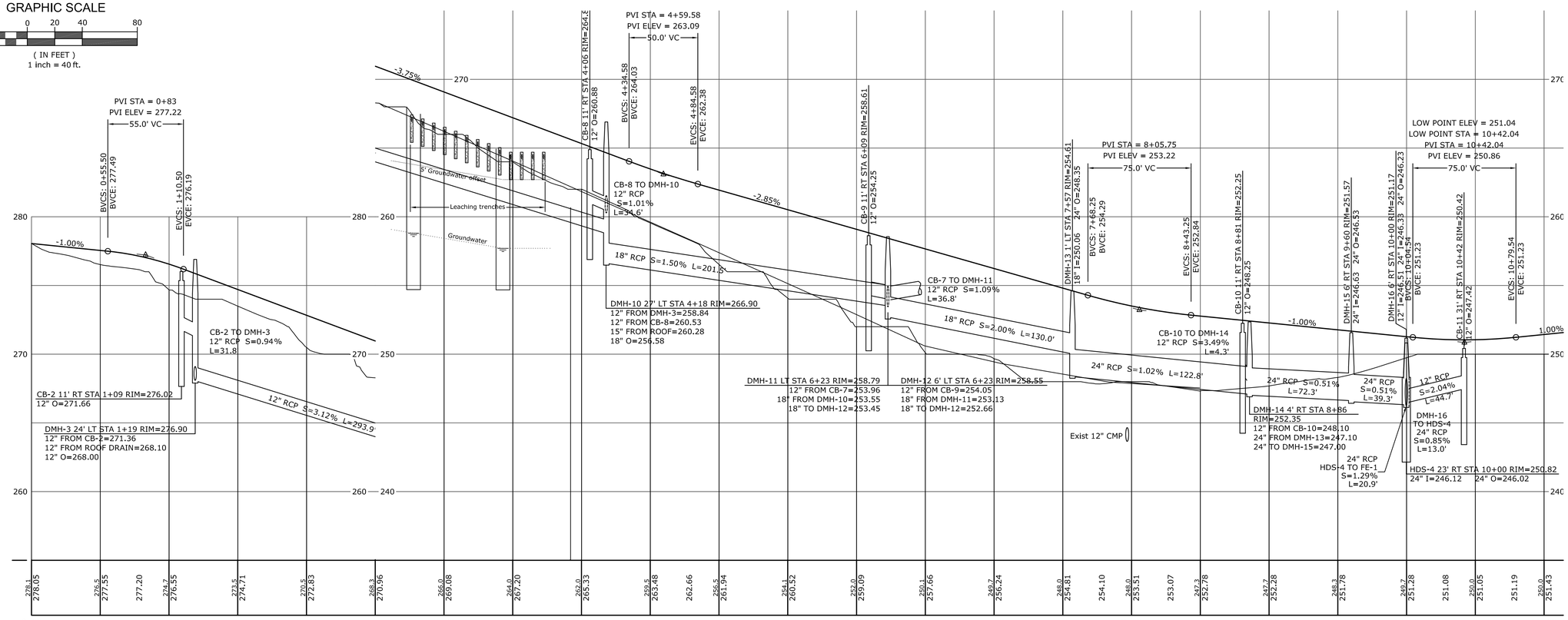
Scale: 1" = 40'
Revised May 20, 2020



DRIVEWAY PLAN
Scale: 1" = 40'

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.



Note: All RCP drain pipes are to be Class V pipe

DRIVEWAY PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
100	EXISTING CONTOUR
100	PROPOSED CONTOUR
581x5	PROPOSED SPOT GRADE
	LIGHT - WALL MOUNTED
	LIGHT - POLE MOUNTED
	SIGN
ETC	ELECT., TEL. & CABLE
W	WATER LINE
S	SEWER LINE
G	GAS LINE
OHW	OVERHEAD WIRE
	FENCE
	GUARD RAIL
x WF-#	WETLAND FLAG

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
No. 31887
REGISTERED ENGINEER

Norman G. Hill, PE
Date: 5/20/2020
Norman G. Hill, PE #31887

Land Planning, Inc.
Civil Engineers • Land Surveyors
Environmental Consultants

Bellingham
167 Hartord Ave.
Bellingham, MA 02019
508-966-4130

North Grafton
214 Worcester St.
N. Grafton, MA 01536
508-839-9526

Hanson
1115 Main Street
Hanson, MA 02341
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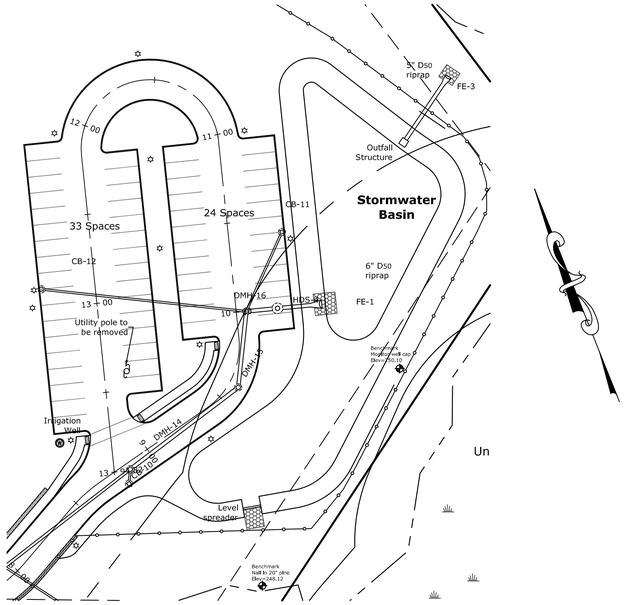
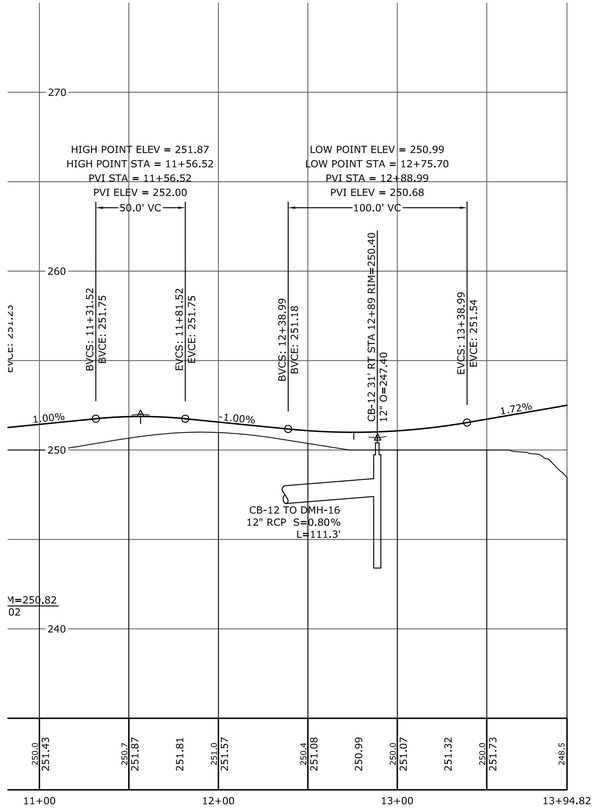
Scale	1" = 40'
Date	February 14, 2020
Job No.	B2521
Sheet No.	8



DRIVEWAY PLAN
Scale: 1" = 40'



DRIVEWAY PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

Note: All RCP drain pipes are to be Class V pipe

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

Driveway Plan & Profile

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 40'
Revised May 20, 2020

LEGEND

SW	STONE WALL
IPF	IRON PIN FOUND
DHF	DRILL HOLE FOUND
	BOUND TO BE SET
	BOUND FOUND
	DRAIN MANHOLE
	CATCH BASIN
	UTILITY POLE
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Scale
1" = 40'

Date
February 14, 2020

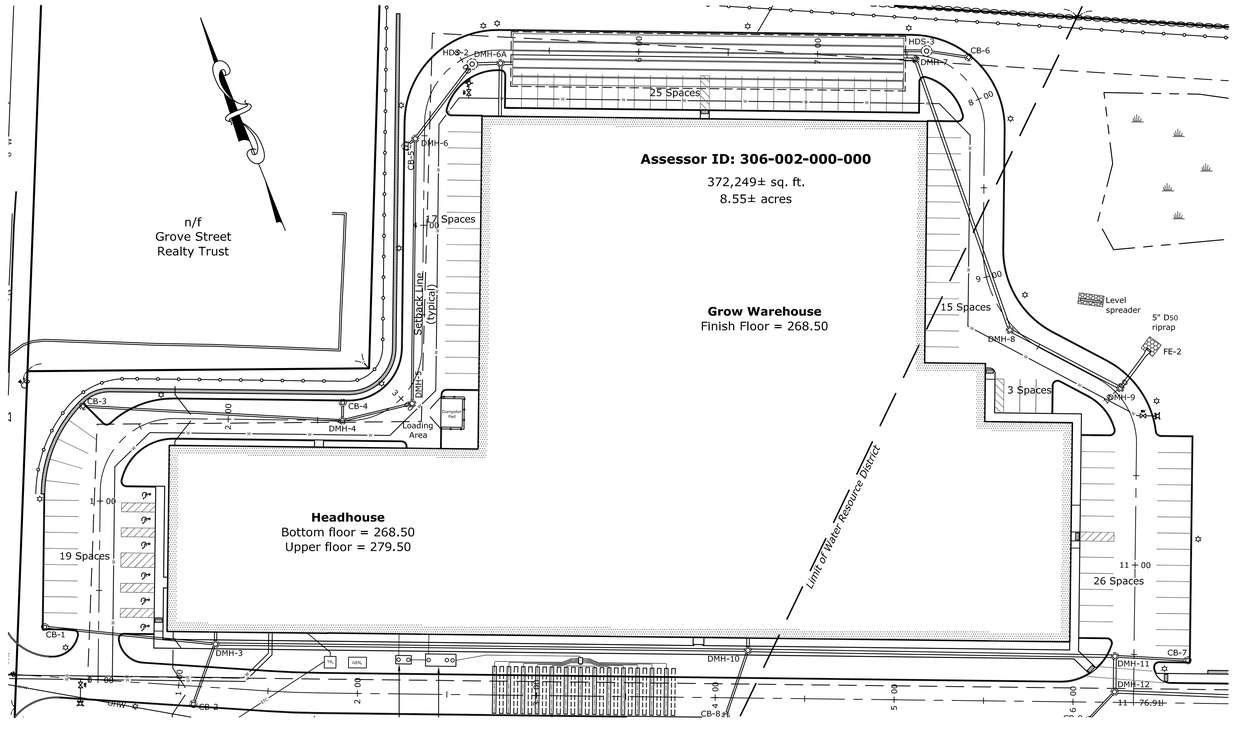
Job No.
B2521

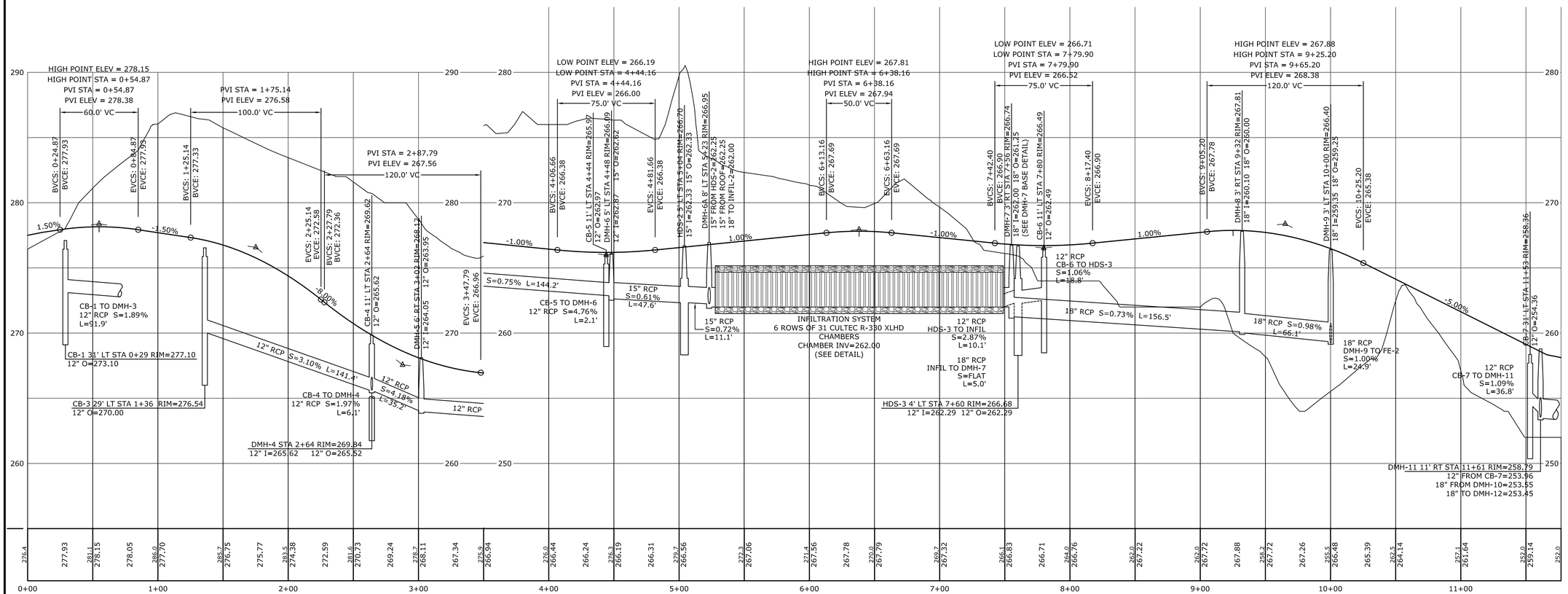
Sheet No.
9

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1 inch = 40 ft.





Note: All RCP drain pipes are to be Class V pipe

DRIVEWAY PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

Driveway Plan & Profile

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LEGEND

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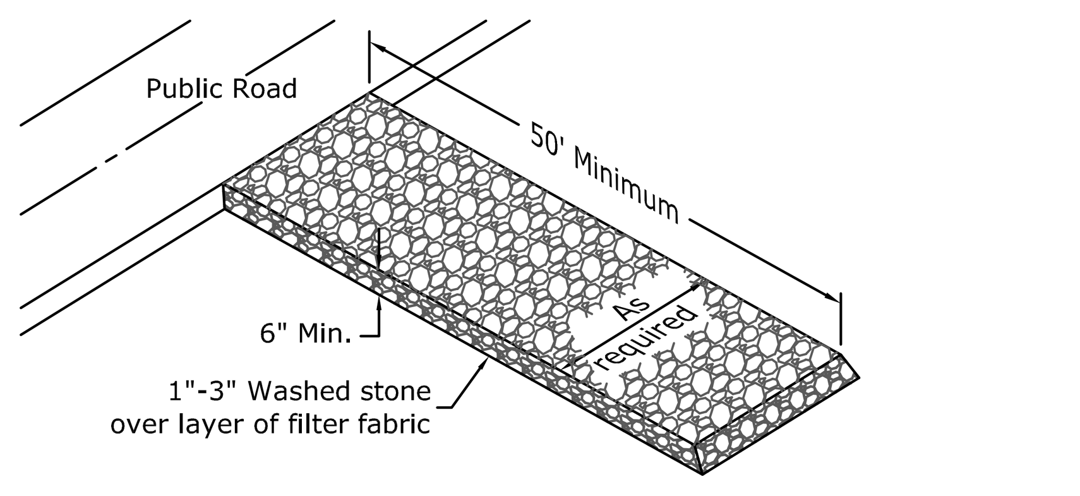
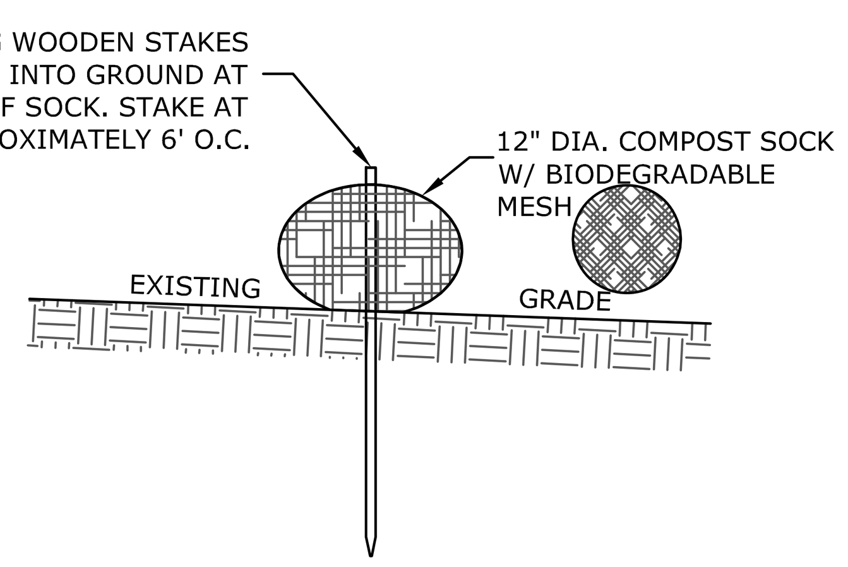
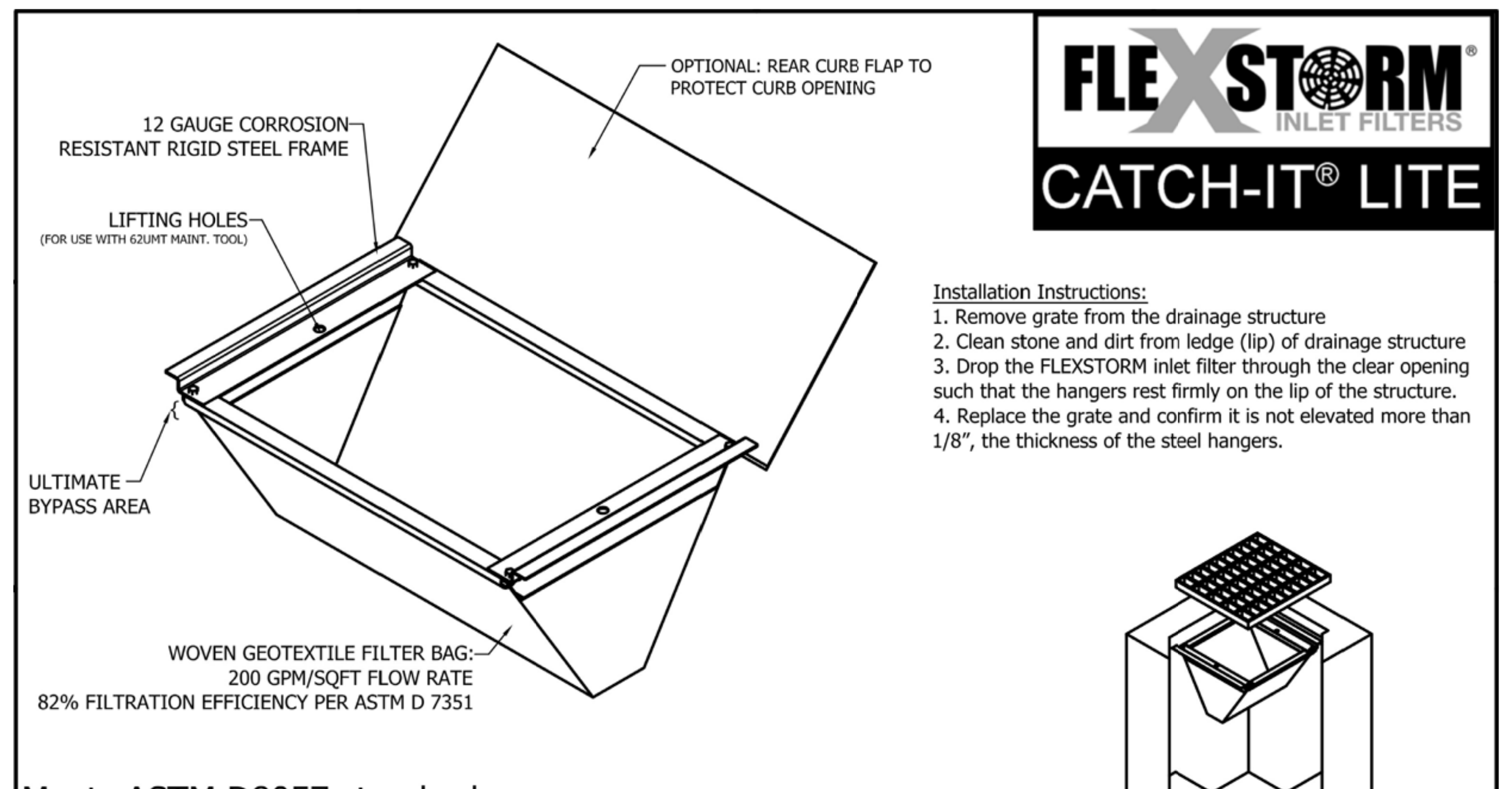
Sheet No.: 10



CONSTRUCTION ENTRANCE ANTI-TRACKING PAD DETAIL
Not to Scale





Installation Instructions:
1. Remove grate from the drainage structure
2. Clean stone and dirt from ledge (lip) of drainage structure
3. Drop the FLEXSTORM inlet filter through the clear opening such that the hangers rest firmly on the lip of the structure.
4. Replace the grate and confirm it is not elevated more than 1/8", the thickness of the steel hangers.

Meets ASTM D8057 standards

FLEXSTORM FX FABRIC SPECS

Woven Geotextile Filter Bag Properties (Minimum Average Roll Values)			
PROPERTY	TEST METHOD	ENGLISH	METRIC
MECHANICAL			
TENSILE STRENGTH	ASTM D4632	350 x 225 Lbs	1557 x 1001 N
ELONGATION	ASTM D4632	20% x 15%	20% x 15%
CBR PUNCTURE	ASTM D6241	1000 Lbs	4448 N
TRAPEZOIDAL TEAR	ASTM D4533	110 x 75 Lbs	483 x 334 N
ENDURANCE			
UV RESISTANCE	ASTM D4355	90%	90%
% RETAINED AT 500 HRS			
HYDRAULIC			
APPARENT OPENING SIZE (AOS)	ASTM D4751	20 US STD SIEVE	.850 mm
PERCENT OPEN AREA (POA)	CW-02215 MOD[1]	17%	17%
PERMITTIVITY	ASTM D4491	1.5 Sec[-1]	1.5 Sec[-1]
WATER FLOW RATE	ASTM D4491	200 gal/min/ft²	8145 l/min/m²

Product Features
- Rigid frame and removable geosynthetic bag
- Sized to meet treatment flow rate.
- Bag maintains shape to be extracted when completely filled with sediment
- Rigid frame capable of supporting full load of sediment without deforming.
- Does not interfere or elevate grate by more than 1/8"
- Bypass flow exceeds design flow of drainage location
- Filter bag achieves +80% gross removal efficiency per ASTM D7351.

CATCH BASIN FILTER BAG DETAIL
(not to scale)

Erosion & Sediment Control Notes

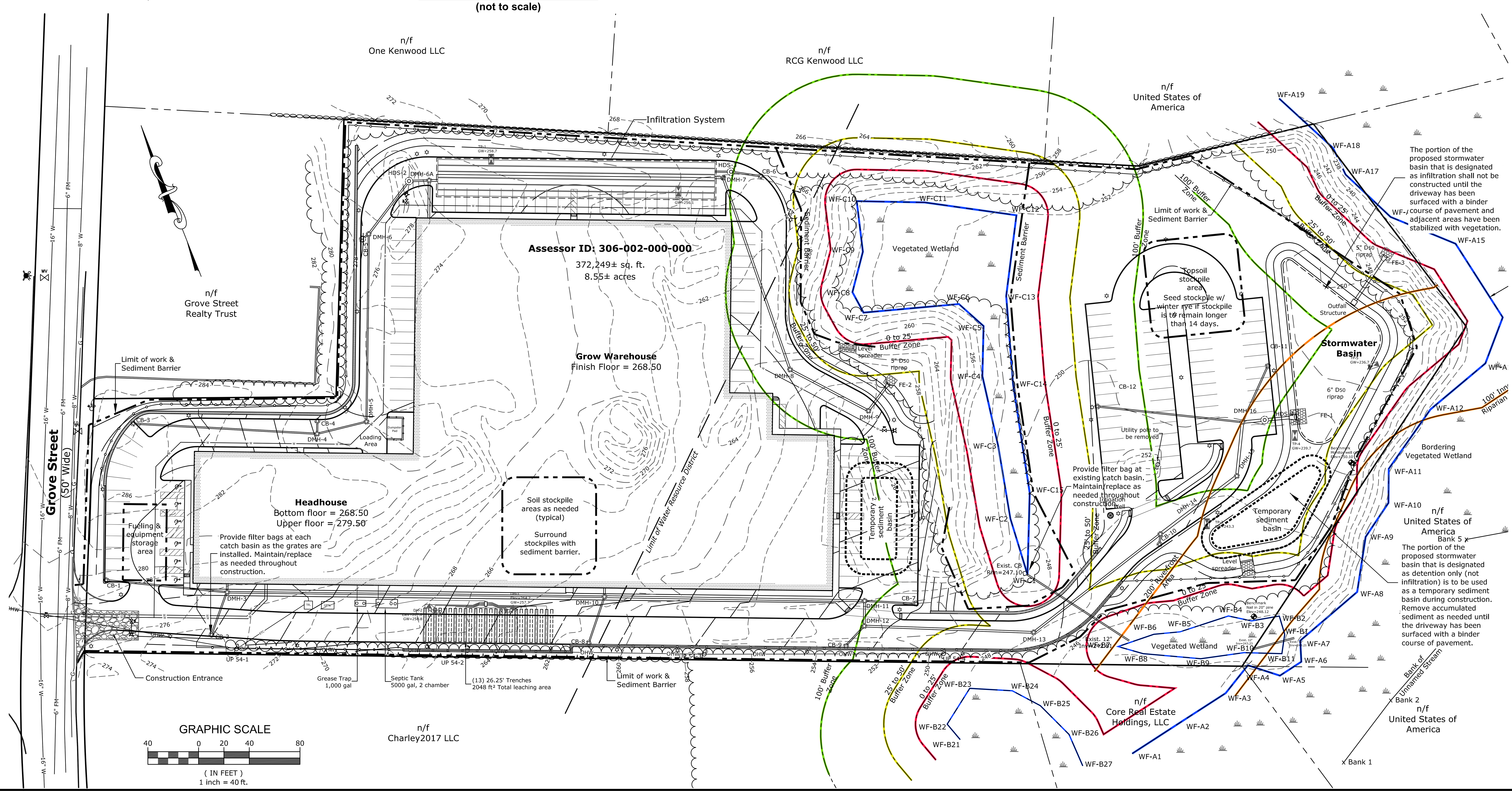
1. Sediment barriers are to be installed where shown on this plan. The contractor and the owner are responsible for the proper maintenance of the sediment barriers and to identify and correct all sources of erosion. Extra sediment barrier materials are to be stored on site in order to quickly repair erosion prone areas. Periodic maintenance of the erosion control structures is required in order to insure the proper protection of the resource areas.
2. Rough grading and pavement construction are to be confined to areas as shown on these plans. Any stockpiled material that is subject to erosion shall be protected at its base on the down-slope side with a silt fence.
3. Temporary stabilization of disturbed areas is required to limit erosion toward abutting properties and public ways. All graded slopes are to be stabilized on a daily basis with special care taken to avoid routing rainfall through gullies toward the resource areas. Areas of erosion are to be repaired on a daily basis.
4. The contractor is to use proper judgment relative to construction practices during adverse weather conditions or periods of high groundwater. No work is to be performed near the wetland areas during periods of heavy rainfall. Inspection is required after more than 1/2" of rainfall in 24 hours.
5. All graded areas are to be loamed and seeded as soon as possible in order to insure the rapid stabilization of the erosion prone areas. A grass seed mixture of 20% Red Top, 60% Chewings Fescue and 20% Kentucky Bluegrass is recommended. "Hydroseed" with high fiber content.
6. The Sediment barriers shall remain in place until all upgradient areas have been stabilized.
7. During periods of heavy rainfall, it will be expected to experience erosion of the unstabilized slopes. Immediate attention to the maintenance of these eroded areas will further insure the successful stabilization of the exposed slopes while limiting the impacts to nearby resource areas.
8. See the Construction Stormwater Pollution Prevention Plan for additional practices and controls.

Utility Notes

1. Place 4" Loam and seed all disturbed areas of the project not otherwise improved.
2. All underground utility locations shown are based on field evidence and records provided to Land Planning, Inc.. These locations should be considered approximate. Other utilities may exist which are not evident or for which record information was not found. The contractor must contact all utility companies and "Dig Safe" before excavation begins. We assume no responsibility for damages incurred as a result of utilities omitted or inaccurately shown.
3. It is the responsibility of the contractor to review all of the drawings and specifications associated with this project work and project scope prior to the initiation of construction. Should the contractor find a conflict with the documents, relative to the specifications or applicable codes, it is the contractor's responsibility to notify the project engineer of record in writing prior to the start of construction. Failure by the contractor to notify the project engineer shall constitute acceptance of full responsibility by the contractor to complete the scope of work as defined by the drawings and in full conformance with local regulations and codes.
4. All work shall conform to Town of Franklin requirements and Massachusetts Highway Department construction standards as applicable.

General Notes

1. All elevations refer to NAVD 1988 datum.
2. No portion of the site is located within the limits of the 100 yr flood zone as shown on the FIRM Map #25021C0308E dated 07/17/12



Sediment & Erosion Control Plan

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Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
Boston, MA 02215

Scale: 1" = 40'
Revised May 20, 2020

LEGEND

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	BOUND FOUND
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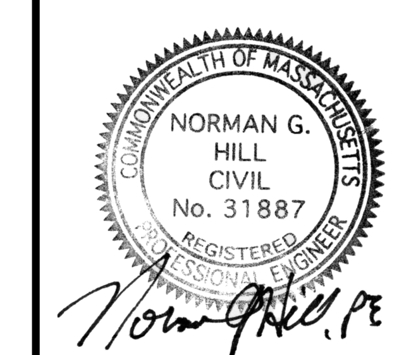

Date: 5/20/2020

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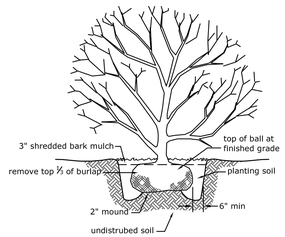
Scale 1" = 40'	
Date February 14, 2020	Sheet No. 11
Job No. B2521	

PLANTING LEGEND

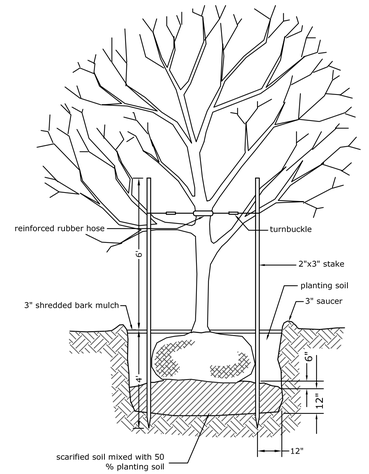
- TREE - 2" MIN. CALIPER
- TURF GRASS
- BUFFER ZONE & RIVERFRONT AREA RESTORATION
  - TREES - 30' SPACING
    - E. RED CEDAR & CHOKEBERRY
  - SHRUBS - 25' SPACING
    - GRAY DOGWOOD, BAYBERRY, STAGHORN SUMAC
  - HERBACEOUS - THROUGHOUT @ 1 LB/1750 FT²
    - NEW ENGLAND CONSERVATION/WILDLIFE MIX
- DETENTION BASIN BOTTOM AND INNER BERM - EROSION CONTROL/RESTORATION MIX @ 35 LB/ACRE
- BOTTOM OF INFILTRATION STAGE OF STORMWATER BASIN - 6" OF C33 SAND

PLANTING NOTES

1. ALL OTHER DISTURBED AREAS NOT DESIGNATED AS TURF GRASS TO BE MULCHED
2. TREES TO BE SELECTED FROM THE TOWN OF FRANKLIN BEST DEVELOPMENT PRACTICES GUIDEBOOK

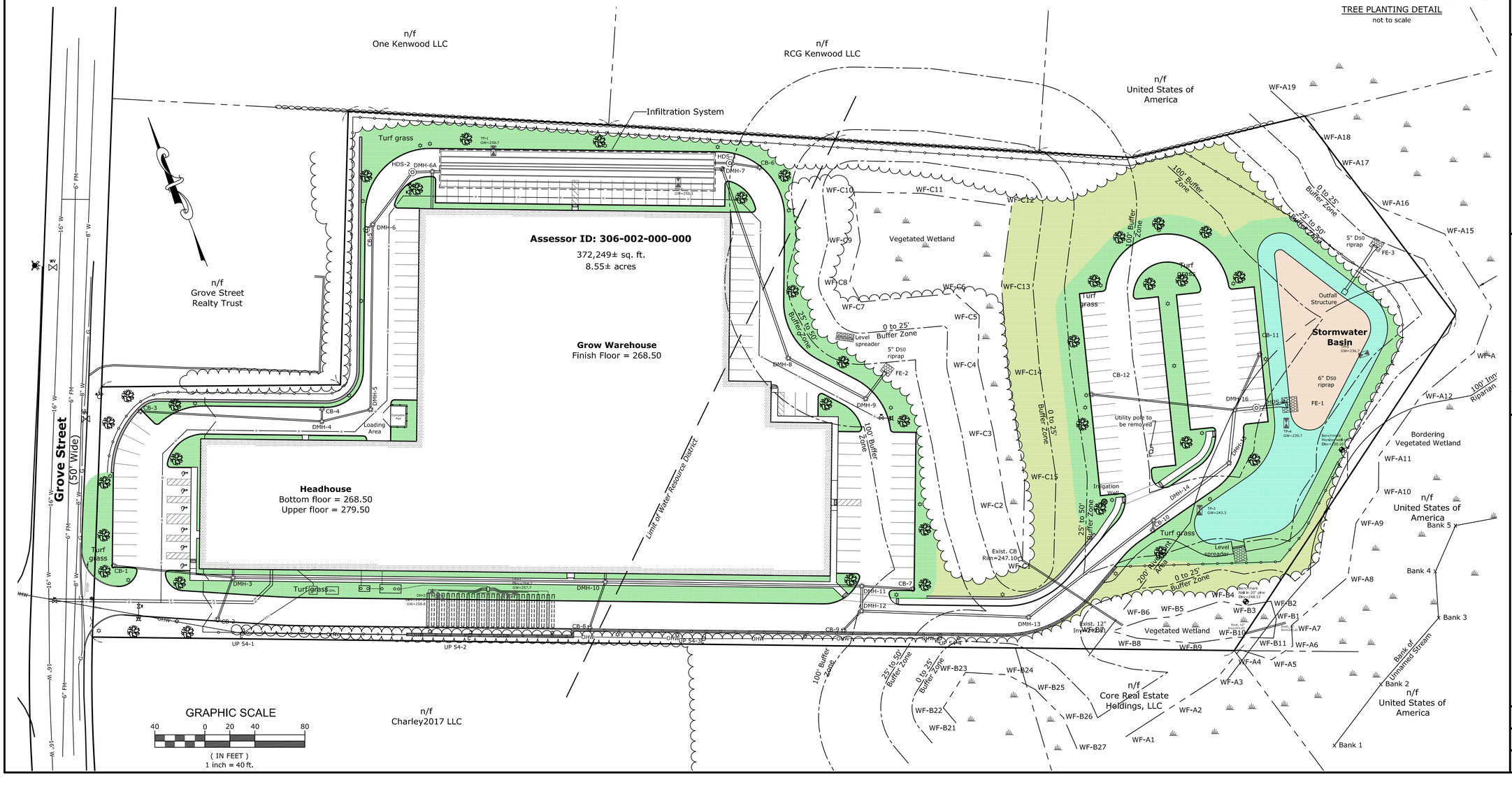


SHRUB PLANTING DETAIL
not to scale



note: guying systems employing buckles & cables shall be brought to tension & turnbuckle threads be flattened to prevent loosening.

TREE PLANTING DETAIL
not to scale



Landscape Plan

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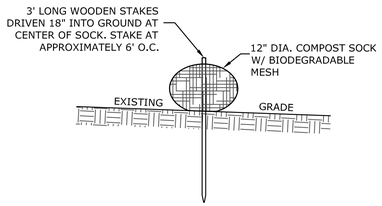
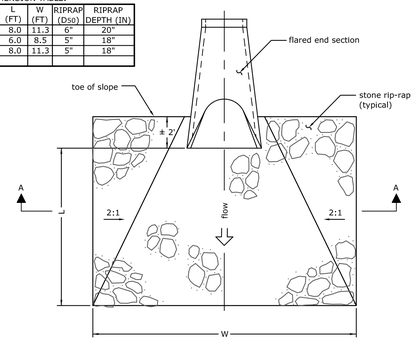
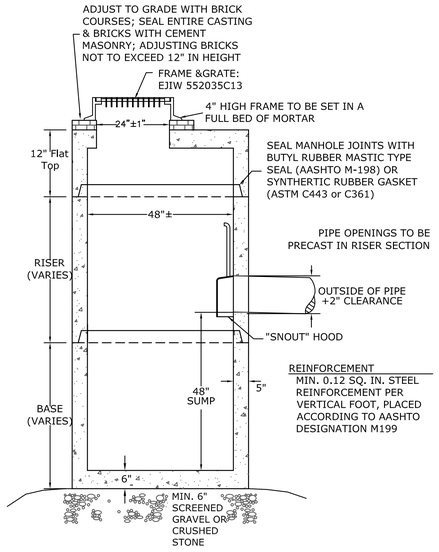


DIMENSION TABLE:

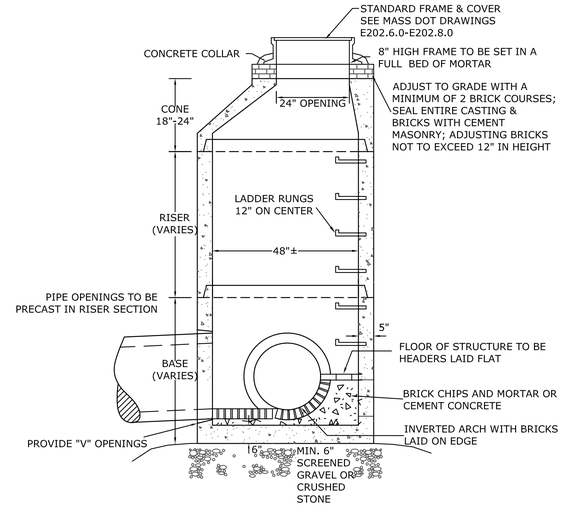
FLARED END	PIPE DIA.	L (FT)	W (FT)	RIPRAP (D50)	RIPRAP DEPTH (IN)
FE-1	24"	8.0	11.3	6"	20"
FE-2	18"	6.0	8.5	5"	18"
FE-3	24"	8.0	11.3	5"	18"



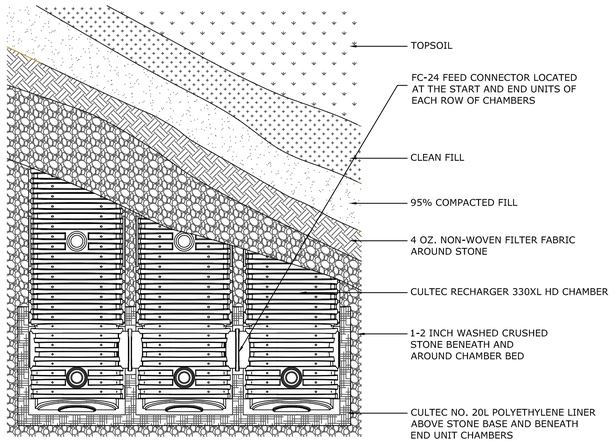
FLARED END EROSION PROTECTION DETAIL
not to scale



PRECAST CONCRETE CATCH BASIN DETAIL
(not to scale)

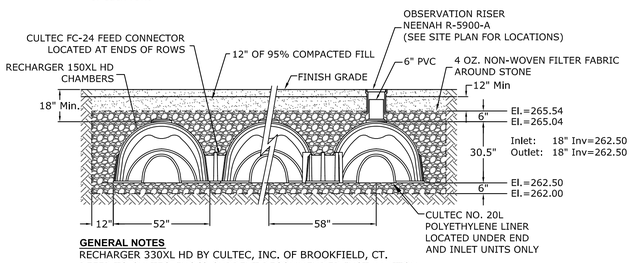


PRECAST CONCRETE MANHOLE DETAIL
(not to scale)



INFILTRATION SYSTEMS - PLAN VIEW
(not to scale)

Infiltration system consists of 6 rows of 31 Recharger 330XL HD units. All rows to be connected with FC-24 Feed Connectors between the end units of each row.



GENERAL NOTES
RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.

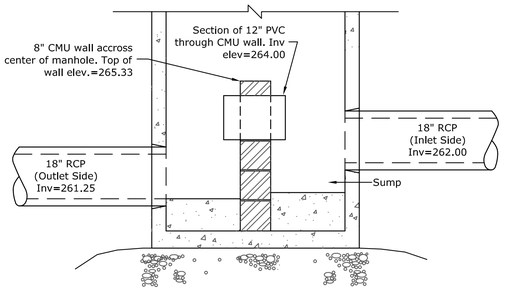
INFILTRATION SYSTEMS - CROSS SECTION
(not to scale)

INFILTRATION SYSTEM FILL SPECIFICATIONS:

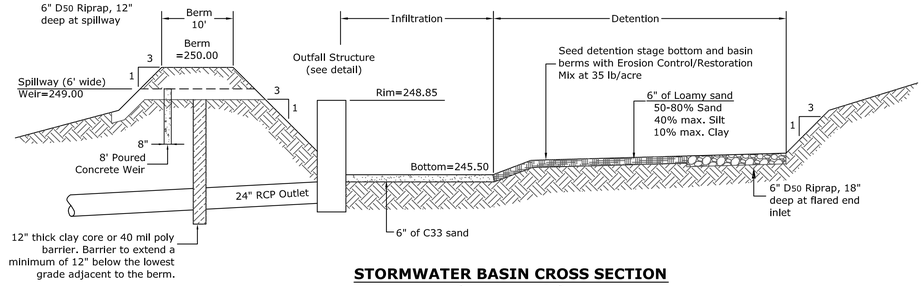
Fill material required beneath the infiltration system shall consist of select on-site or imported soil material. The fill shall be comprised of clean granular sand, be free from organic matter and deleterious substances, and shall not contain Remediation Waste as that term is defined in 310 CMR 40.0000. Mixtures and layers of different classes of soil shall not be used. The fill shall not contain any material larger than two inches. A sieve analysis, using a #4 sieve, shall be performed on a representative sample of the fill. Up to 45 % by weight of the fill sample may be retained on the #4 sieve. Sieve analyses also shall be performed on the fraction of the fill sample passing the #4 sieve, such analyses must demonstrate that the material meets each of the following specifications:

SIEVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SIEVE
# 4	4.75 mm	100%
# 50	0.30 mm	10% - 100%
#100	0.15 mm	0% - 20%
#200	0.075 mm	0% - 5%

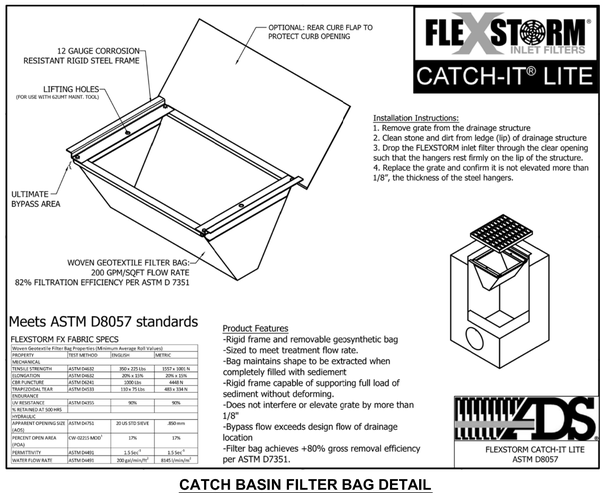
Any fill required to replace unsuitable or impermeable soils, the excavation of the unsuitable material shall extend a minimum of five feet laterally in all directions beyond the outer perimeter of the infiltration system to the depth of naturally occurring pervious material, and replaced with suitable fill material.



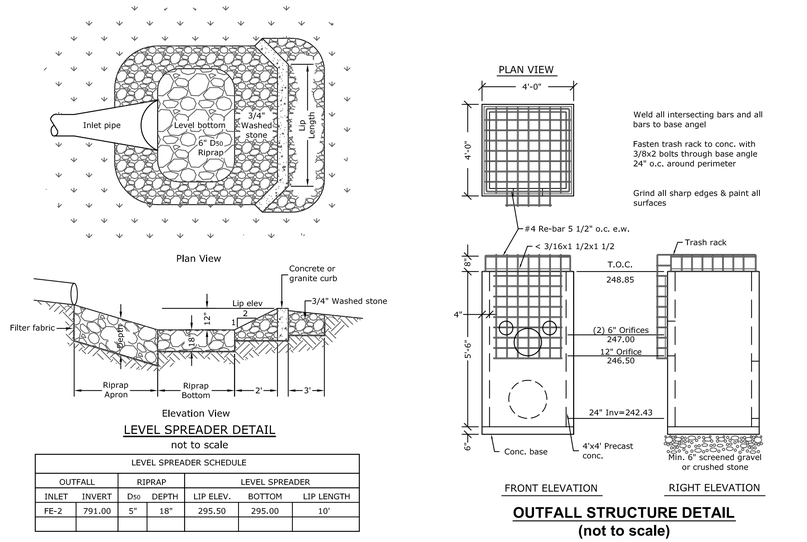
DMH-7 MANHOLE BASE
(not to scale)



STORMWATER BASIN CROSS SECTION
(not to scale)



CATCH BASIN FILTER BAG DETAIL
(not to scale)



LEVEL SPREADER DETAIL
not to scale

LEVEL SPREADER SCHEDULE						
OUTFALL		RIPRAP		LEVEL SPREADER		
INLET	INVERT	D50	DEPTH	LIP ELEV.	BOTTOM	LIP LENGTH
FE-2	791.00	5"	18"	295.50	295.00	10'

OUTFALL STRUCTURE DETAIL
(not to scale)

Details Plan

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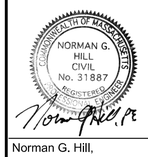
Scale: As Noted
Revised May 20, 2020



Date: 5/20/2020
Norman G. Hill, PE #31887

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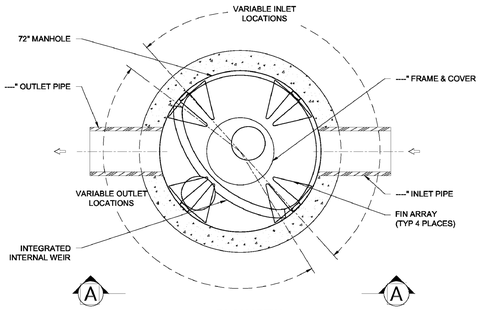
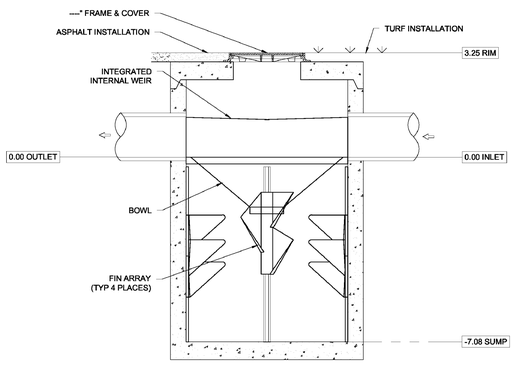
February 14, 2020

Job No.
B2521

Sheet No.
13

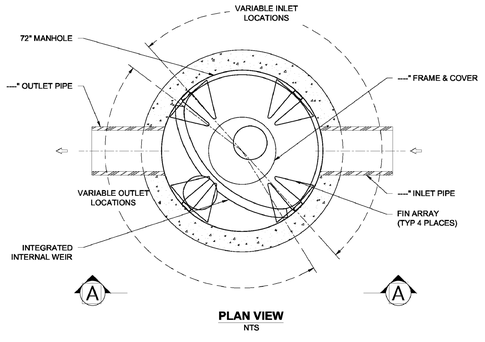


PLAN VIEW
NTS

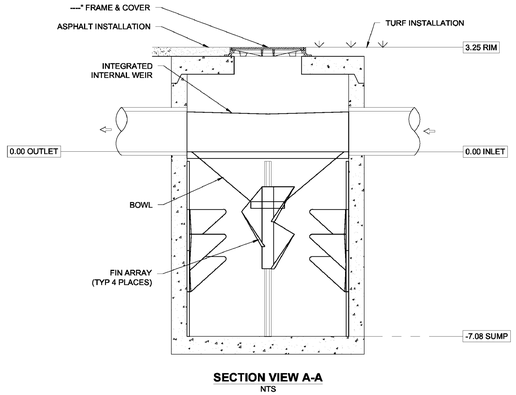


SECTION VIEW A-A
NTS

BARRACUDA S6 DETAIL
(not to scale)
Use S6 unit at HDS-4

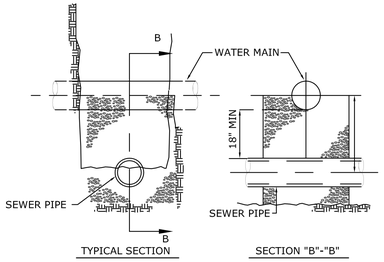


PLAN VIEW
NTS



SECTION VIEW A-A
NTS

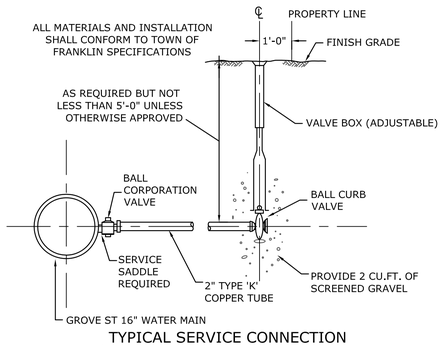
BARRACUDA S4 DETAIL
(not to scale)
Use S4 unit at HDS-2 and HDS-3



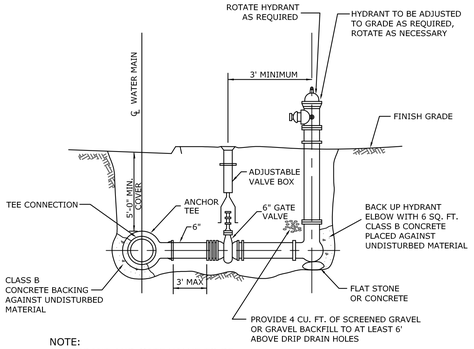
TYPICAL SECTION — SECTION "B"-"B"

NOTE: IN THE EVENT OF A SEWER MAIN OR SEWER SERVICE CROSSING A WATER MAIN OR WATER SERVICE CLOSER THAN 10', THE SEWER MAIN OR SERVICE SHALL BE COMPLETELY ENCASED IN 6" OF 3,000 P.S.I. CONCRETE FOR A DISTANCE OF 10' ON EACH SIDE OF THE CROSSING.

UTILITY CROSSING DETAIL
N.T.S.

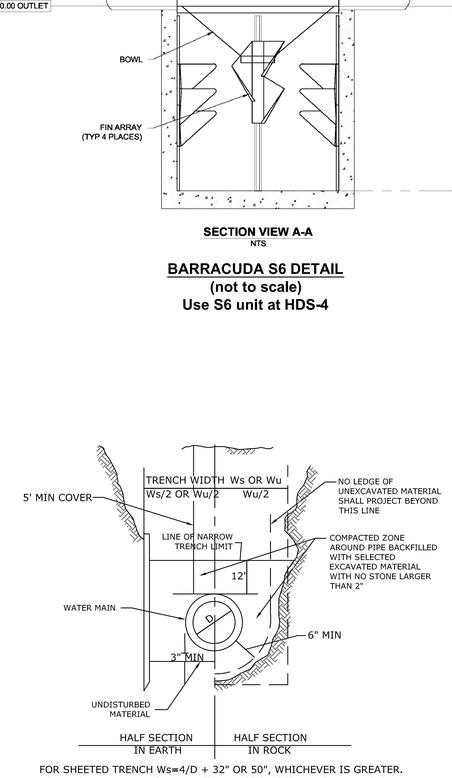


TYPICAL SERVICE CONNECTION
NOT TO SCALE



NOTE:
1. HYDRANT AND GATE VALVE TO BE RODDED TO ANCHOR TEE.
2. SEE FORCE MAIN THRUST BLOCK DETAIL FOR THE AREA OF CONCRETE REQUIRED

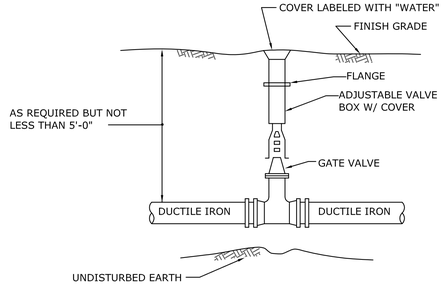
TYPICAL HYDRANT AND VALVE DETAIL
NOT TO SCALE



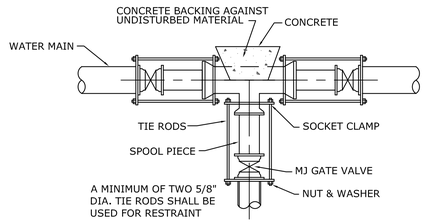
FOR SHEETED TRENCH Ws=4/D + 32" OR 50", WHICHEVER IS GREATER.
FOR UNSHEETED TRENCH Wu=4/3 D + 18" OR 36", WHICHEVER IS GREATER.

NOTES:
1. TRENCHES MAY BE EXCAVATED WIDER THAN THE TRENCH WIDTH Ws ABOVE THE "LINE OF NARROW TRENCH LIMIT.
2. BELOW THE "LINE OF NARROW TRENCH LIMIT" THE TRENCH SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH Ws.
3. SHEETING, IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE ONE FOOT ABOVE THE TOP OF THE PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED.
4. "COVER" AT ANY POINT SHALL BE DEFINED AS THE VERTICAL DISTANCE FROM THE UPPERMOST POINT OF THE PIPE TO A LINE WHICH CONNECTS THE SURFACE OF UNDISTURBED GROUND AT EITHER SIDE OF THE TRENCH AND IS AT RIGHT ANGLES TO THE DIRECTION OF THE PIPE.
5. WHERE FUTURE EXTENSION OF A PLUGGED PIPE OR PLUGGED BRANCH WILL ENTAIL ROCK EXCAVATION, TRENCH EXCAVATION IN ROCK SHALL BE EXTENDED FOR A DISTANCE OF FIVE FEET BEYOND THE PLUG.

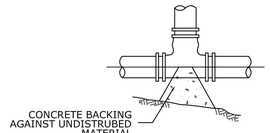
WATER MAIN TRENCH DETAIL
NOT TO SCALE



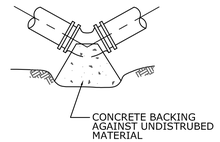
TYPICAL GATE VALVE
NOT TO SCALE



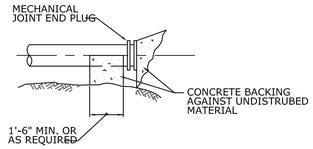
TYPICAL VALVE CONNECTION
RESTRAINED JOINT TEE
NOT TO SCALE



TYPICAL TEE



TYPICAL BEND



TYPICAL PLUG

Details Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
160 Grove Street
Franklin, MA

Owned By
Hennep Properties, LLC
200 Brookline Ave, #508
Boston, MA

Prepared for
HENNEP CULTIVATION LLC
1330 Boylston St Unit 202
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Scale: As Noted
Revised May 20, 2020

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
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REGISTERED PROFESSIONAL ENGINEER

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Job No.: **B2521**
Sheet No.: **14**

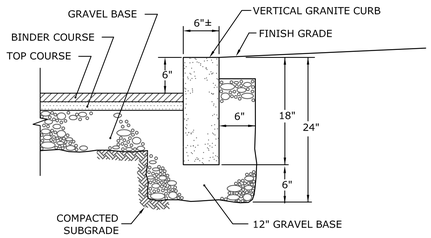
Sign to be mounted on post at 7' height to bottom of sign

Sign to be mounted on building wall at the head of standard accessible parking spaces

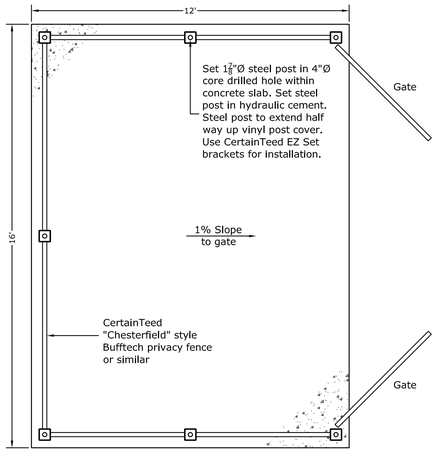
Sign to be mounted on building wall at the head of van accessible parking spaces

Mount signs 5' min. to 8' max. to top of sign

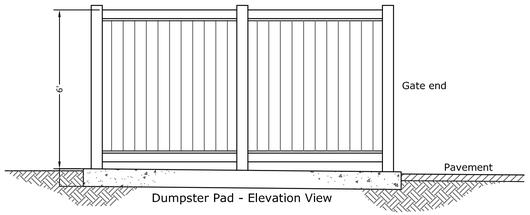
SIGN DETAILS
(not to scale)



VERTICAL GRANITE CURB DETAIL
(not to scale)

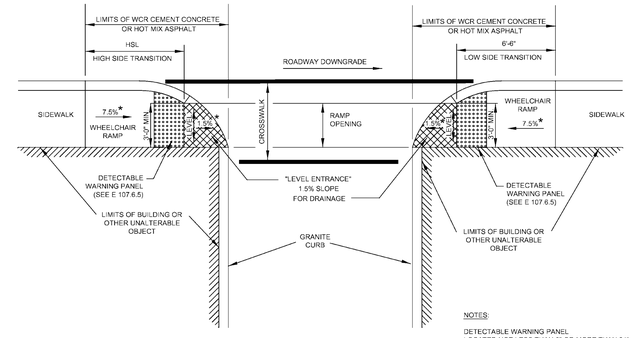


Dumpster Pad - Plan View



Dumpster Pad - Elevation View

Dumpster Pad and Fence Detail
not to scale



LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)

★ = TOLERANCE FOR CONSTRUCTION ±0.5%

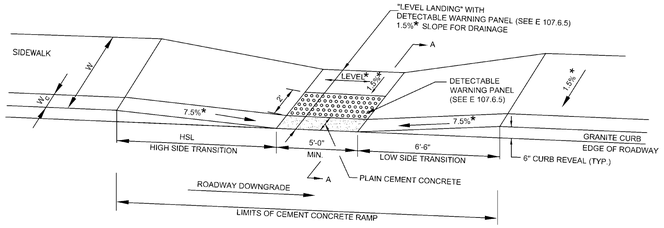
NOTES:

DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.

FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5.

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

MassDOT Highway Division — CONSTRUCTION STANDARDS	WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL	DATE OF ISSUE: OCTOBER 2017
		DRAWING NUMBER: E 107.6.0

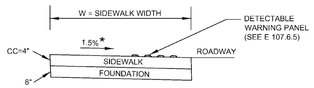


LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0)
W = SIDEWALK WIDTH
W_C = CURB WIDTH
CC = CEMENT CONCRETE
★ = TOLERANCE FOR CONSTRUCTION ±0.5%

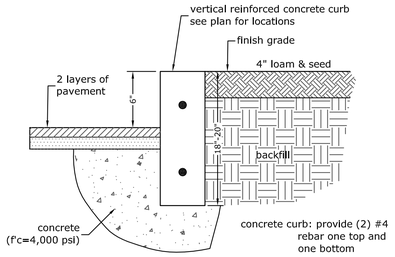
USABLE SIDEWALK WIDTH PER AAB = W-Wc
USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'0"
SEE E 107.6.5 FOR DETAILS OF DETECTABLE WARNING PANEL

NOTE:
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

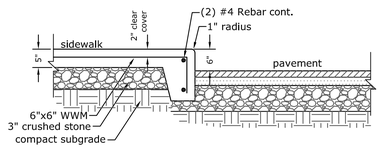


SECTION A-A

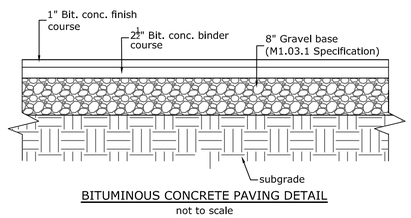
MassDOT Highway Division — CONSTRUCTION STANDARDS	WHEELCHAIR RAMP ON NARROW SIDEWALK WITH DETECTABLE WARNING PANEL	DATE OF ISSUE: OCTOBER 2017
		DRAWING NUMBER: E 107.2.1



VERTICAL CONCRETE CURB DETAIL
not to scale



MONOLITHIC CONCRETE SIDEWALK/CURB DETAIL
not to scale



BITUMINOUS CONCRETE PAVING DETAIL
not to scale

Details Plan

HENNEP CULTIVATION & PRODUCTION FACILITY

located at
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Boston, MA

Prepared for
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1330 Boylston St Unit 202
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Scale: As Noted
Revised May 20, 2020

COMMONWEALTH OF MASSACHUSETTS
NORMAN G. HILL
CIVIL
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REGISTERED PROFESSIONAL ENGINEER

Date: 5/20/2020

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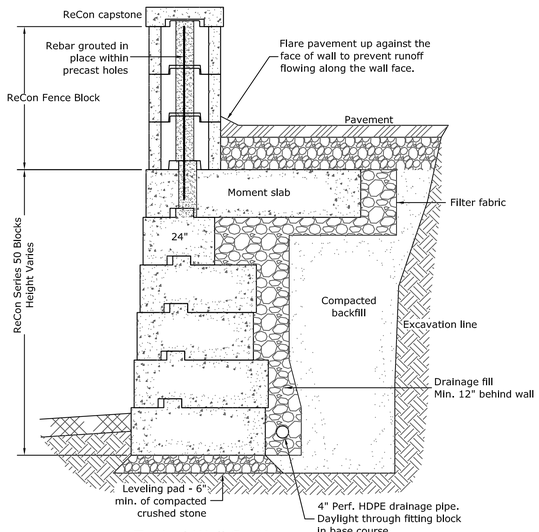
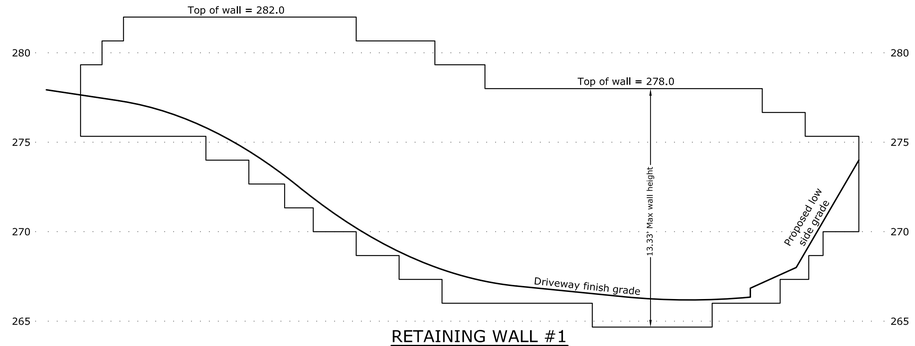
Date: **February 14, 2020**
Job No.: **B2521**
Sheet No.: **15**

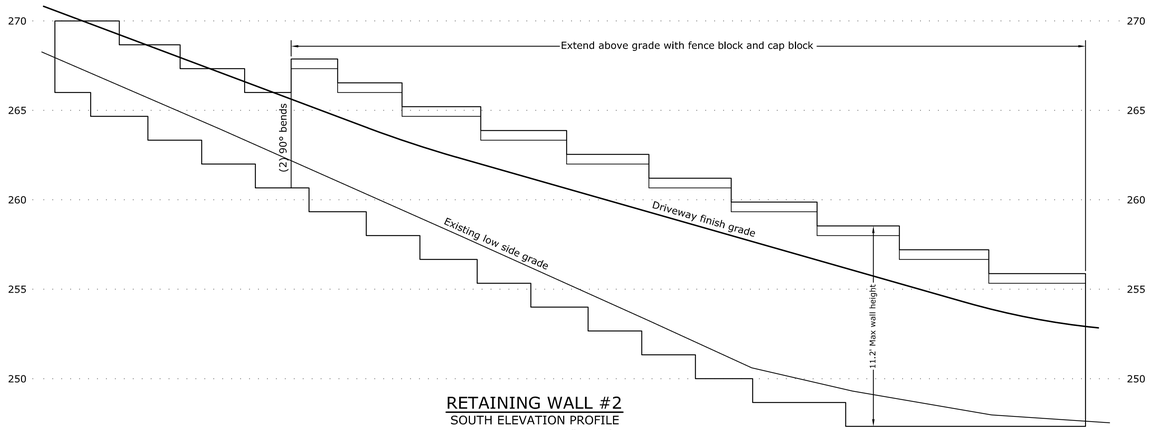
Note: Wall details depict the general requirements for the proposed segmental block gravity walls. Structural analysis and design, construction details, and specifications to be provided by others.



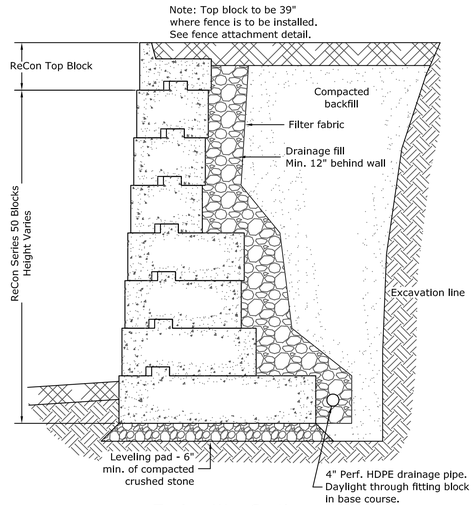
Typical Wall Section
(Wall Adjacent to Pavement)
Scale: 1/2" = 1'-0"



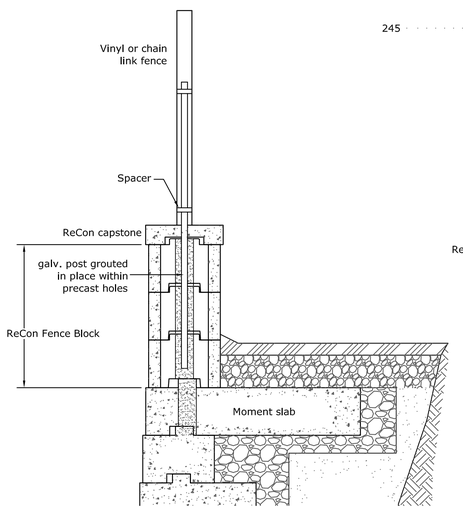
RETAINING WALL #1
SOUTH/EAST ELEVATION PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'



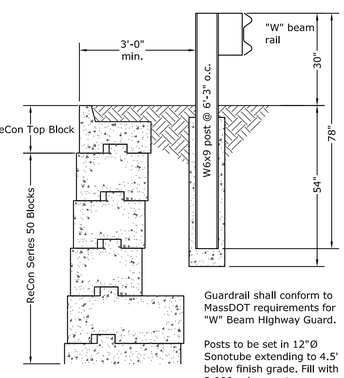
RETAINING WALL #2
SOUTH ELEVATION PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'



Typical Wall Section
(Wall Adjacent to Landscape Area)
Scale: 1/2" = 1'-0"



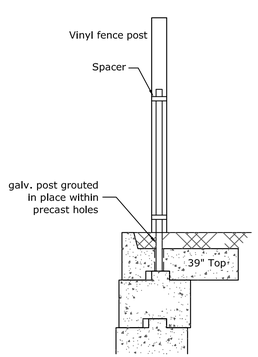
Fence Attachment Detail
(Wall Adjacent to Pavement)
Scale: 1/2" = 1'-0"



Guardrail shall conform to MassDOT requirements for "W" Beam Highway Guard.

Posts to be set in 12"Ø Sonotube extending to 4.5' below finish grade. Fill with 3,000 psi concrete.

Guard Rail Placement Detail
Scale: 1/2" = 1'-0"



Fence Attachment Detail
(Wall Adjacent to Landscape Area)
Scale: 1/2" = 1'-0"

RETAINING WALL #3
NORTH ELEVATION PROFILE
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

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Date: February 14, 2020	Sheet No. 16
Job No. B2521	

May 28, 2020

Mr. Anthony Padula, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Hennep Cultivation and Production Facility – Site Development Plan & Special Permit
160 Grove Street Peer Review Update

Dear Mr. Padula:

BETA Group, Inc. has reviewed revised documents for the proposed Site Plan and Special Permit application, "Hennep Cultivation and Production Facility," located at 160 Grove Street in Franklin, Massachusetts. This letter is provided to update findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and form the basis of the review:

- Plans (16 Sheets) entitled ***Site Development Plan: Hennep Cultivation & Production Facility,*** revised to May 20, 2020 prepared by Land Planning Inc. of Bellingham, MA
- Application for Approval of a Site Plan and Special Permits including the following:
  - Special Permit and Site Plan Application Form
  - Certificate of Ownership Authorization Form
  - Certified List of Abutters within 300-feet
  - Supporting Statement
  - Odor Abatement Report
  - Host Community Agreement
  - Use Square Footage Analysis for Parking Space Determination
  - Waiver Requests (Parking)
  - Security Plan
- Cooling Fan performance charts, provided January 28, 2020.
- **Stormwater Report,** revised May 20, 2020, prepared by Land Planning, Inc.

Review by BETA included the above items along with the following, as applicable:

- Site Visit
- ***Zoning Chapter 185 From the Code of the Town of Franklin,*** dated January 30, 2019.
- ***Zoning Map of the Town of Franklin, Massachusetts,*** attested to August 23, 2018
- ***Stormwater Management Chapter 153 From the Code of the Town of Franklin,*** Adopted May 2, 2007
- ***Subdivision Regulations Chapter 300 From the Code of the Town of Franklin,*** dated January 1, 2016.
- ***Wetlands Protection Chapter 181 From the Code of the Town of Franklin,*** dated August 20, 1997.
- ***Town of Franklin Best Development Practices Guidebook***, dated September 2016.

INTRODUCTION

The project site is an 8.55 +/- acre parcel located at 160 Grove Street in the Town of Franklin (the "Site"). The Town of Franklin Assessor's office identifies the parcel as Lot 306-002. The Site is located within the Industrial (I) zoning district; parcels in all directions are also located in this district. Portions of the property are within the Water Resources district.

The front portion of the lot is partially developed with a residential building (1,250 +/- SF) near Grove Street. The rear portion of the lot is improved with two structures (2,820 +/- SF and 1,810 +/- SF). A driveway provides access to each of these structures from Grove Street. Additional existing site development includes landscaping, sheds, concrete pads, and trailers. Undeveloped portions of the lot are generally woodlands or wetlands.

Topography at the Site generally slopes towards the east into several series of vegetated wetlands. Slopes are varied throughout the Site, with steep (25% - 50%) slopes in the center and edges of the property, and shallower slopes near the developed portions. A vegetated wetland is located in the center of the property, and bordering vegetated wetlands are located along its eastern boundary. A Zone II Wellhead Protection Area is present on the eastern portion of the Site. The project is not located in proximity to an estimated habitat of rare or endangered species. The Site is not located within a FEMA-Mapped 100-year flood zone. NRCS soil maps indicate the presence of Merrimac fine sandy loam with a Hydrologic Soil Group (HSG) rating of A (high infiltration potential).

The project proposes to remove existing structures and construct a 100,528 +/- SF structure for use as a recreational use cultivation and production manufacturing marijuana establishment. Associated site improvements include tree clearing, re-grading, the installation of paved parking areas and driveways, loading areas, a septic system, domestic and fire protection water services, odor abatement technologies, and security/safety measures. Stormwater management is proposed to be accomplished through a closed drainage system with catch basin and manhole conveyance, two subsurface infiltration systems, and a stormwater basin. Work is proposed within wetland buffer zones, but no alterations are proposed within wetland resource areas.

COMPILED REVIEW LETTER KEY

BETA reviewed this project previously and provided review comments in letters to the Board dated December 31, 2019 and March 6, 2020 (original comments in standard text), Price Lobel Tye, LLP (PLT) and Land Planning, Inc. (LPI) provided responses (responses in *italic text*), and BETA has provided comments on the status of each (status in **standard bold text**).

FINDINGS, COMMENTS AND RECOMMENDATIONS

GENERAL COMMENTS

G1. Provide details for pavement, sidewalks, wheelchair ramps, retaining walls, erosion controls, curbs, signs, drainage structures, subsurface infiltration system, stormwater basin, utility installations, fences, dumpster pads, tree plantings, and other site features. *PLT: The Revised Plans depict these details, with the exception of the dumpster pad detail, which will be added to the next revised set of plans.* **BETA2: Provide details for retaining walls, utility installations, dumpster pads, signs, and each style of wheelchair ramp proposed.** *LPI: The requested additional details have been provided.* **BETA3: Details provided – issue resolved.**

G2. Provide legend/labels for all proposed site features including, but not limited to, walks, stairs, curbing, fence, etc. *PLT: The Revised Plans address this comment.* **BETA2: Legend not provided – issue remains outstanding.** *LPI: The legend has been revised.* **BETA3: Legend revised to include additional features – issue resolved.**

G3. Indicate source and methodology for obtaining existing survey data. *PLT: A note referencing the source and methodology will be added to the next revised plan.* **BETA2: Issue remains outstanding.** *LPI: The note regarding the sources of survey information has been added to the General Notes on sheet 2, Existing Conditions Plan.* **BETA3: Information provided – issue resolved.**

G4. Confirm the project will fully comply with §185-22.B. and provide information on any regulations or restrictions related to the proposed external deodorant agent (Odor Armor 420). The manufacturer's Material Safety Data Sheet should also be provided. *PLT: The project and the proposed Facility will comply with Section 185-22.B of the Town of Franklin Zoning Bylaws (the "Bylaws") and the Applicant is working with BETA Group Inc's sub-consultants to address this requirements.* **BETA2: Information provided. Review of proposed odor control mitigation to be provided under separate cover.**

G5. Provide fire hydrants around the building to the satisfaction of the Fire Chief. *PLT: The Revised Plans show the fire main service line coming into the building of the Facility. Engel Architects is designing additional specifications and will be working with the Franklin Fire Department.* **BETA2: BETA defers to the Fire Chief on this issue; however, notes that no hydrants are currently depicted on the plans.** *LPI: Hydrants have been added to the plans.* **BETA3: Two hydrants provided. BETA defers to the Fire Chief on this issue – no further comment.**

G6. Provide spot grades to identify grading along sidewalks, ramps, and building entrances. Detailed grading should be provided for accessible parking and routes to ensure compliance with Massachusetts Architectural Access Board requirements. *PLT: The Plans comply with ADA and AAB requirements. Additional grades will be added to the next revised grading plan.* **BETA2: Issue remains outstanding. BETA notes that grading depicted on the plans indicates that slopes within the accessible parking areas exceed the maximum 2% permitted.** *LPI: The accessible parking area has been reconfigured and regraded to comply with the requirements of 521 CMR.* **BETA3: Grading revised at accessible parking – issue resolved.**

G7. Provide top and bottom elevations for all retaining walls. *PLT: The retaining wall elevations and details will be shown on a revised set of plans. Please note that the Applicant proposes fencing along all proposed retaining walls. Moreover, all retaining walls require building permits, which will address the heights and structural requirements.* **BETA2: Issue remains outstanding.** *LPI: General details and*

elevations of the 3 proposed retaining walls have been added to sheet 16 of the plans. The specifics of the structural design and details will be provided by others as part of the building permit application for the retaining walls. **BETA3: Information provided. BETA notes that due to height of the walls (>10 feet) structural design and permitting through the building department will be required prior to construction.**

ZONING

The Site is located within the Industrial (I) zoning district; parcels in all directions are also located in this district. The eastern portion of the property is located within the Water Resources district. A non-medical marijuana facility is permitted in the Industrial zoning district via a Special Permit by the Planning Board. An application for a Special Permit has been provided, and the Site is within the Marijuana Use Overlay District.

SCHEDULE OF LOT, AREA, FRONTAGE, YARD AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

As proposed, the lot complies with minimum lot area, frontage, depth, width, front, rear, and side yard dimensions, and maximum impervious coverage of structures and structures plus paving. The lot does not abut any residential uses that would require increases to side and rear yard dimensions.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

Access to the facility will be provided through a 22' – 24' +/- wide paved driveway replacing the existing curb cut in the southwestern portion of the Site. This driveway will encircle the proposed structure and provide access to a number of parking spaces along the building. The driveway also extends through the wetland buffer zone to provide access to a new paved parking area in the rear portion of the Site.

Section §185-21.B.(3)(b) describes the number of parking spaces required for nonresidential buildings. According to the provided planset, the facility will be divided between Office, Warehouse, and Industrial uses for the purposes of this section. Based on the proposed parking summary, 162 spaces are required.

The proposed plan includes 162 9' x 19' parking spaces, 105 which are located adjacent to the building. Five accessible parking spaces are proposed, two of which are van accessible.

The applicant initially requested a waiver from the required number of parking spaces on the grounds that only 30-35 employees are anticipated to be in the facility at any given time and it will not be open to the public; however, revised parking provides the required number of spaces, based upon a predominant warehouse use. The applicant has also requested a waiver from the requirement that parking spaces be located greater than 300 feet from the building entrance.

P1. At the discretion of the Board, provide a plan depicting features that can be constructed without granting waivers. *PLT: P1-P3 above have been addressed in the Revised Plans and in conjunction with the discussion with the Planning Board at its meeting of January 6, 2020.* **BETA2: BETA defers to the preference of the Board on this issue.**

P2. As requested by the Board, a floor plan depicting the number of employees required in each area of the building has been provided. Clarify the maximum number of employees per shift. *PLT: P1-P3 above have been addressed in the Revised Plans and in conjunction with the discussion with the Planning Board at its meeting of January 6, 2020.* **BETA2: Floor plan provided – issue resolved.**

P3. Recommend providing ramps and crosswalks for the sidewalk connections to the rear parking area. Ensure there are reasonable pedestrian accommodations from all parking areas to building entrances.

PLT: P1-P3 above have been addressed in the Revised Plans and in conjunction with the discussion with the Planning Board at its meeting of January 6, 2020. **BETA2: Ramps provided. Recommend providing crosswalks for ramp connections. No pedestrian accommodations appear to be provided for the 25 spaces on the north side of the building. At a minimum, an access aisle should be provided between the parking spaces so pedestrians have unobstructed access to the building entrance.** *LPI: An access aisle has been provided as suggested.* **BETA3: Crosswalks and access aisle provided – issue resolved.**

P4. Provide empirical data from other facilities to demonstrate that the proposed number of parking spaces is adequate and designated "warehouse" use is appropriate for parking calculations. *PLT: The Applicant believes that it addressed this concern pursuant to the discussions with the Planning Board at its meeting of January 6, 2020. Additionally, the Applicant notes that the Board accepted the "Warehouse" use category for the grow areas of the recently approved cultivation facility at 4 Liberty Way, Franklin.* **BETA2: Information provided – issue resolved.**

P5. Quantify the number of parking spaces that are located greater than 300 feet from a building entrance, including those spaces adjacent to the building. *PLT: P5-P8 above have been addressed in the Revised Plans.* **BETA2: Based on the previous public hearing, the Board has indicated they are generally satisfied with the proposed parking layout – issue dismissed.**

P6. Provide trees for each parking area with 20 or more spaces in accordance with §185-21.C.(5). *PLT: P5-P8 above have been addressed in the Revised Plans.* **BETA2: Trees provided – issue resolved.**

P7. Provide typical dimensions for parking stalls, access aisles, and driveways. *PLT: P5-P8 above have been addressed in the Revised Plans.* **BETA2: Provide typical dimension for parking aisles – issue remains outstanding.** *LPI: The widths of the parking aisles have been added to the Site Layout Plans.* **BETA3: Dimensions provided – issue resolved.**

P8. Provide an additional accessible parking space to meet Massachusetts Architectural Access Board (MAAB) requirements. *PLT: P5-P8 above have been addressed in the Revised Plans.* **BETA2: Additional space provided. Relocate the two accessible spaces on the west side of the access aisle to the east to provide the shortest accessible route to the building, as required.** *LPI: The accessible parking area has been reconfigured to comply with the requirements of 521 CMR.* **BETA3: Accessible spaces relocated – issue resolved.**

P9. Revise accessible parking spaces to include handicap parking designations and signs in conformance with MAAB requirements. *PLT: Sign details/requirements will be added to the next plan revision.* **BETA2: Issue remains outstanding.** *LPI: Notes regarding the required accessible parking signage has been added to the plan. Details of the signs have been added to sheet 15, Details Plan.* **BETA3: Accessible signing and striping provided – issue resolved.**

P10. Provide ramps to the sidewalk at each shared aisle from accessible spaces. *PLT: Additional sidewalk ramps will be added to the next revised set of plans.* **BETA2: Issue remains outstanding.** *LPI: The sidewalk adjacent to the accessible parking has been lowered to be flush with the adjacent pavement. Ramps at each access aisle will not be required.* **BETA3: Provide bollards or car stops to prevent vehicles from encroaching onto sidewalk and provide protection to pedestrians.**

P11. Confirm that the proposed 22' access driveways are acceptable to the Fire Chief. *PLT: The proposed emergency vehicle accessibility is acceptable to the Fire Chief pursuant to his letter, dated November 26, 2019.* **BETA2: BETA defers to the Fire Chief – no further comment.**

EARTH REMOVAL REGULATIONS (§185-23)

Review of the grading plan indicates there are proposed cuts up to approximately 13 feet throughout the Site for installation of the parking areas and building. Earth removal of greater than 1,000 cubic yards of material requires a special permit by the Board of Appeals.

ER1. Provide an estimate of the total earth removal from the site. *PLT: The earthworks calculations will be updated to determine if there is a net cut/removal from the site.* **BETA2: Issue remains outstanding.** *LPI: The earthworks analysis has not been completed at this time. The cut/fill volumes will be provided at a later date.* **BETA3: Issue remains outstanding.**

CURBING (§185-29)

Although the plan set does not specifically note the proposed pavement edge treatments, typical line types appear to depict curbing along the driveway radius at Grove Street and between the parking area and front of the building. The remainder of the site appears to propose cape cod berm along the edge of pavement.

C1. The Bylaw does not include any provisions for the installation of cape cod berm. Revise berm to be vertical granite or reinforced concrete curbing adjacent to parking areas. Granite curb is required within the Grove Street right-of-way. BETA defers to the preference of the Board for the use of vertical or slant curbing along access driveways and the radius at Grove Street. *PLT: Additional notes regarding curbing materials will be added to the next revised set of plan. A vertical granite curbing detail will be added to the plan.* **BETA2: Issue remains outstanding.** *LPI: A vertical granite curb detail has been added to the detail sheet for the roundings adjacent to Grove Street. The remaining curbing on the site will be reinforced concrete. The linewidths have been adjusted on the plans and additional labels provided.* **BETA3: Vertical granite and reinforced concrete curb provided. Final plans should indicate that concrete shall be precast. Clarify if curb is proposed along the sidewalk adjacent to parking spaces (26 and 3) at the southeast corner of the building. BETA also notes there appears to be no barrier between the building and the 17 proposed spaces on the west side of the building and the 15 spaces proposed along the east side of the building. Consider providing curb, bollards, or car stops.**

SITE PLAN AND DESIGN REVIEW (§185-31)

The proposed improvements are subject to site plan review and thus must comply with the provisions of site plan approval requirements.t

S1. Provide north arrow on Sheets 2 through 5 §185-31.1.C.(3)(b). *PLT: This comment is addressed in the Revised Plans.* **BETA2: Arrow provided – issue resolved.**

S2. Revise locus map to include zoning information §185-31.1.C.(3)(d). *PLT: This will be added to the next set of revised plans.* **BETA2: Issue remains outstanding.** *LPI: The zoning information has been added to the locus map.* **BETA3: Locus revised – issue revised.**

S3. Indicate locations of proposed hydrants and lighting §185-31.1.C.(3)(i). *PLT: This comment is addressed in the Revised Plans.* **BETA2: Locations of light poles provided – issue resolved. BETA defers to the Fire Chief regarding the location of hydrants.**

S4. Provide the location, size, and sketch for all proposed signs §185-31.1.C.(3)(j). *PLT: This will be added to the next set of revised plans once determined.* **BETA2: Issue remains outstanding.** *LPI: Details for*

the proposed stop sign and accessible parking signs have been added to the plans. **BETA3: Sign details provided – issue resolved.**

S5. Provide a landscaping plan and depict the existing tree line along the frontage of the property §185-31.1.C.(3)(k). *PLT: A landscape plan was included in the Revised Plans, subject to final review and change.* **BETA2: Landscaping Plan provided. Revise Note 2 to indicate that tree species shall be from the Town of Franklin Best Development Practices Guidebook and depict the existing tree line along the frontage of the property.** *LPI: A note referencing the Best Development Practices Guidebook for the selection of suitable planting materials has been added to the Landscaping Plan.* **BETA3: Note provided – issue resolved.**

S6. Provide a photometric plan for proposed lighting §185-31.1.C.(3)(l). In consideration of the proposed use, lighting should at a minimum conform with the Illuminating Engineer Society's "Lighting for Parking Facilities" and have sufficient illuminance around the building perimeter for security. *PLT: The Applicant is consulting with a photometric consultant for the selection of building and pole mounted fixtures.* **BETA2: Issue remains outstanding.** *LPI: A photometric plan has been provided with the revised plans.* **BETA3: Photometric plan provided. Indicate units for depicted illuminance levels and evaluate if spillage onto adjacent industrial properties can be reduced or eliminated. Also, although spillage onto Grove Street may be considered beneficial for roadway safety, the designer should confirm that the anticipated illuminance is not excessive compared to typical Town roadway lighting.**

S7. Provide data quantifying the on-site generation of noise and calculated sound levels at the property lines §185-22.A. and §185-31.1.C.(3)(r). *PLT: The Applicant has provided noise specifications from the air handling fans that it proposes to use.* **BETA2: Sound information provided. Refer to review provided under separate cover.**

S8. Provide a trip generation summary for total and peak trips, including deliveries/shipments §185-31.1.C.(3)(s). *PLT: To be provided by the Applicant.* **BETA2: Issue remains outstanding.** *LPI: A Traffic Assessment report has been prepared by Ron Müller & Associates and has been included with the submittal of revised documents. The outstanding issues are addressed within the report.* **BETA3: Information provided. BETA defers to the preference of the Board to require a full review of the traffic analysis.**

S9. Provide sight line information at the proposed entrance/exit in accordance with §185-21.C.(7)(c) §185-31.1.C.(3)(t). BETA notes that the existing tree line and topography restrict sight distance to the north of the site. *PLT: The available sight distance will be added to further revised plans. The Applicant expects some improvement to the existing sight distance as a result of clearing and grading adjacent to Grove Street.* **BETA2: Issue remains outstanding.** *LPI: A Traffic Assessment report has been prepared by Ron Müller & Associates and has been included with the submittal of revised documents. The outstanding issues are addressed within the report.* **BETA3: Sight line information provided indicating that minimum stopping sight distances can be provided at the intersection of the site driveway and Grove Street. Based on the information provided in the traffic report, the proponent should evaluate relocating or raising the existing private sign (Doering Equipment) located to the south to increase sight distance above the required minimum for stopping sight distance and to bring greater conformity to the desired intersection sight distance, particularly if the sign is located within the Town right-of-way. The traffic report also notes that grading and clearing is required to provide the minimum stopping sight distance to the north; however, site plans do not appear to**

indicate any grading with the Town right-of-way. BETA recommends the proponent work with the Town to perform grading within the right-of-way to increase sight distance to the north.

WATER RESOURCE DISTRICT (§185-40)

The eastern portion of the Site is located within the Water Resource District due to the presence of a Zone II Wellhead Protection Area. An on-site sewage disposal system is depicted on the plans outside of, but in proximity, to the Water Resource District. It is anticipated that stormwater treatment and recharge calculations will be provided in the future as part of a Stormwater Management Report.

WR1. Provide estimated sewage flow to verify compliance with §185-40.D.(1)(i) and (k). *PLT: The calculated daily flow for the proposed septic system is 1500 GPD and is within the limitations of 185-40.D.(1)(i) and (k).* **BETA2: Information provided – issue resolved.**

WR2. Clarify if there will be any storage or disposal (i.e. directed to septic) of toxic or hazardous materials, fertilizers, pesticides, process chemicals, or fuel oil on the site to verify compliance with §185-22.B. §185-40.D.(1)(a) and (d). *PLT: No exterior storage of materials is proposed. The Applicant will provide additional information on any interior storage of materials. Moreover, all interior storage will be within the head-house, outside of the Water Resource District.* **BETA2: Issue remains outstanding.** *LPI: The applicant will provide additional information.* **BETA3: BETA recommends for the applicant discuss this issue with the Board.**

WR3. Provide a note requiring that any construction fill in excess of 15 cubic yards must be certified in accordance with the requirements of §185-40.E.(5). *PLT: The requested note will be added to a further revised set of plans.* **BETA2: Issue remains outstanding.** *LPI: The requested note has been added to the General Notes found on sheets 3 and 4 of the plans.* **BETA3: Note provided – issue resolved.**

WR4. Provide additional snow storage for parking/driveway areas outside of the Water Resource District. Snow containing deicing chemicals cannot be brought into the Water Resource District. *PLT: Snow storage areas adjacent to the paved surfaces, both inside and outside the Water Resource District, are shown on the Revised Plans.* **BETA2: Snow storage areas have been identified on the plans – issue resolved.**

MARIJUANA USE OVERLAY DISTRICT (§185-49)

The project is located within the Marijuana Use Overlay District and proposes the development of a Non-medical marijuana establishment. The proposed use is allowed by Special Permit within the overlay district.

WETLANDS PROTECTION (§181)

The project proposes alterations within the 100' buffer zone of an isolated vegetated wetland and bordering vegetated wetlands. Bordering vegetated wetlands are regulated by the Massachusetts Wetlands Protection Act and all freshwater wetlands are regulated by the Town's Wetlands Bylaw. The project will require a Notice of Intent to be submitted to the Franklin Conservation Commission and review will be provided under separate cover.

UTILITIES

The proposed development will be serviced by Town water and private septic. The proposed septic system will require approval from the Board of Health.

U1. Provide information for proposed drainage, sewer, and water, including size, material, and invert elevations where appropriate. Identify locations of proposed gate valves, curb stops, fittings, and other appurtenances. *PLT: The requested information will be provided following the anticipated March 3, 2020 soil tests and after consultation with the fire protection engineer and mechanical engineer for service sizing.* **BETA2: Information for drainage provided. Remaining issues outstanding.** *LPI: The additional utility information has been added to the Utility & Grading Plans and the Details Plan.* **BETA3: Information provided – issue resolved.**

U2. Provide a note that where any utility installation detail conflicts with the Town of Franklin Department of Public Works Standards for Sewer and Water Materials and Installation (Town Standards) that the Town Standards shall govern. *PLT: The requested note will be added to the utility notes on a further revised plan.* **BETA2: Issue remains outstanding.** *LPI: The requested note has been added to the Utility Notes on the Utility & Grading Plan.* **BETA3: Note provided – issue resolved.**

U3. Clarify how the existing residence is currently serviced by water, sewer, and gas and in coordination with the Department of Public Works and Board of Health, how they will be terminated during demolition. BETA notes the DPW typically requires municipal water services to be terminated at the main. *PLT: The demolition of the existing residence has been completed. The existing septic was abandoned per Title 5 requirements, the water service was capped, and the electric service was removed.* **BETA2: Information provided. BETA defers to the DPW to confirm they are satisfied with the cap for the water.**

STORMWATER MANAGEMENT

The project proposes two separate means of stormwater management. Runoff from much of the western portion of the Site will be conveyed via catch basin and manhole connections to a subsurface infiltration system. Overflow from this system is discharged towards the central wetlands area then conveyed to the northern wetlands. Runoff from all other impervious areas will be conveyed via catch basin and manhole connections to a stormwater basin located in the eastern portion of the Site. Overflow from this system will be discharged towards the eastern wetlands.

Best Development Practices Guidebook

The project has been designed to meet portions of the stormwater management requirements of the BDPG (i.e. peak development discharge and volume rates). Further discussion on these topics, along with sedimentation and erosion control, is provided in the Massachusetts Stormwater Management Standards section below.

GENERAL

SW1. Provide Class V RCP where cover is less than 42" (§300-11.B.(2)(a)). *LPI: A note requiring Class V pipe throughout the site has been added on the Driveway Plan & Profile sheets.* **BETA2: Note provided – issue resolved.**

SW2. Provide roof leader and drain layout to show connections between roof areas and drainage systems. *LPI: Perimeter gutters and downspouts are not proposed. The roof drains are collected within the building and discharged through the foundation wall at 3 locations: to DMH-6A, DMH-3, and DMH-10. The details of the building's internal roof drainage system will be shown within the plans submitted for the application of a building permit.* **BETA2: Information provided – issue dismissed.**

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS:

The proposed development will disturb greater than one acre; therefore, the project is subject to Chapter 153: Stormwater Management of the Town of Franklin Bylaws and MassDEP Stormwater Management Standards.

No untreated stormwater (Standard Number 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

The project does not propose any new untreated discharges directly to wetlands. Discharges from the subsurface system and the stormwater basin have outfalls located within the 100' wetland buffer zone. Riprap aprons are proposed to mitigate erosion potential. An existing outfall will continue to discharge stormwater directly to wetland resource areas; however, does not received any untreated flow from impervious areas.

SW3. Revise dimension table on Flared End Erosion Protection Detail to match rip rap apron sizing calculations in the Stormwater Report. *LPI: The table on sheet 13 has been revised to match the calculations within the Stormwater Report.* **BETA2: Table revised – issue resolved.**

SW4. Provide rip rap on the downgradient side of level spreaders. *LPI: Riprap has been added to the level spreaders.* **BETA2: Rip rap provided – issue resolved.**

Post-development peak discharge rates (Standard Number 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

The project proposes to attenuate post-development peak discharge rates and volumes through the use of a subsurface infiltration system and an infiltration basin. Stormwater will be conveyed to these BMPs via catch basin to manhole connections. Calculations show a reduction in post-development peak discharge rate compared to pre-development conditions.

SW5. Provide additional spot grades throughout the parking areas to confirm positive drainage. *LPI: Spot grades have been added to the parking areas.* **BETA2: Information provided – issue resolved.**

SW6. Recommend using a minimum Time of Concentration (TOC) of 6 minutes for Subcatchment areas S2a2 and S2b1. The minimal area of grass and woods used to calculate the TOC will likely underestimate the peak runoff rates from the significantly larger roof and parking areas. *LPI: A Tc of 6 minutes has been used for the 2 subcatchments as suggested.* **BETA2: TOC revised – issue resolved.**

SW7. Verify area of "Gravel Surface" used in pre-development model for Subcatchment S2b as well as length of "unpaved" surface used in flow path. Plans depict an area/length much lower than that used in the calculations. *LPI: The discrepancies in the Tc lengths have been resolved within the revised Stormwater Report. The extent of the gravel surface has been revised on the Existing Conditions Plan to reflect recent survey information.* **BETA2: Information provided – issue resolved.**

SW8. Verify length of flow path in TOC calculations for Subcatchments S2a3, S2b1, and S2b2, which differ from lengths indicated on plans. **BETA2: TOC revised – issue resolved.**

SW9. Model basin area as impervious to avoid "double-counting" infiltration potential. *LPI: The infiltration stage of the stormwater basin has been modeled as impervious within the revised Stormwater Report.* **BETA2: Model revised – issue resolved.**

SW10. Provide summary table comparing pre-development and post-development runoff volumes, including Wetland C as a design point. Runoff volumes may not increase per §300-11.A.(3) and the Best

Development Practices Guidebook. *LPI: The flow rate summary table has been revised to include Wetland C and a volume summary table has been added to the stormwater report.* **BETA2: Table provided indicating a reduction in peak runoff rates and volumes – issue resolved.**

Recharge to groundwater (Standard Number 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.*

NRCS soil maps indicate the presence of Merrimac fine sandy loam with a Hydrologic Soil Group (HSG) rating of A (high infiltration potential) and Scarboro and Birdsail soils with HSG A/D (very low infiltration potential when saturated). Plans indicate that test pits have been conducted at the Site, but logs of these investigations have not been provided to BETA. Calculations indicate the project will provide a recharge volume in excess of that required. All BMPs are shown to drain within 72 hours.

SW11. Provide test pit logs. Also, conduct additional test pits within the limits of the proposed open-air infiltration basin. *LPI: The test pit logs have been added to the sheet 2, Existing Conditions Plan.* **BETA2: Test pit information provided – issue resolved.**

SW12. Specify soil media to be applied to the stormwater basin. Typical loam and turf grass is likely to restrict the infiltration potential of the basin. Consider a special loamy sand mixture with 50% sand and a restoration seed mixture. *LPI: The soil media for the stormwater basin has been added to the basin cross section on sheet 13, Details Plan.* **BETA2: Loamy sand mixture proposed – issue resolved.**

SW13. Test pits conducted for Infiltration System 2 indicate groundwater within 4 feet of the system bottom. Revise system to provide 4 feet of separation or provide the required mounding analysis. *LPI: A mounding analysis has been added to the stormwater report for the subsurface infiltration system. The report demonstrates that the mound will not adversely impact the functioning of the system.* **BETA2: Mounding analysis provided – issue resolved.**

80% TSS Removal (Standard Number 4): *For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids.*

The project proposes to direct runoff from all impervious areas through a closed drainage system to either a subsurface infiltration system or an infiltration basin. Water quality units are provided for pretreatment prior to discharge to each infiltration area. The proposed BMPs will treat a water quality volume that exceeds that required for the proposed impervious increase and will provide the minimum required 80% TSS removal. The 44% TSS removal required for pretreatment prior to discharge to soils with rapid infiltration rates will also be provided.

Higher Potential Pollutant Loads (Standard Number 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads require the use of specific stormwater management BMPs*.

The project does not propose any land uses with Higher Potential Pollutant Loads – **not applicable.**

Critical Areas (Standard Number 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.*

The eastern portion of the Site is within a Zone II Wellhead Protection Area which is classified as a critical area. Proposed water quality units and infiltration structures are consistent with DEP recommendations for discharges to Zone II areas.

Redevelopment (Standard Number 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.*

The project has been designed as a new development – **not applicable.**

Construction Period Erosion and Sediment Controls (Standard Number 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.*

The project as currently depicted will disturb in excess of one acre of land; therefore, a Notice of Intent with EPA and a Stormwater Pollution Prevention Plan (SWPPP) are required. The project proposes the use of erosion control barrier (straw wattle and filter fabric combination), catch basin inlet protection, and a stabilized construction entrance. A draft SWPPP was provided as part of the Stormwater Management Report.

SW14. Revise sediment control barrier to remove silt fence, which is not permitted in the Town of Franklin per the BDPG and Conservation Commission. *LPI: The sediment barrier details have been revised to show a 12" compost sock.* **BETA2: Detail revised – issue resolved.**

SW15. In consideration of the overall development area and presence of wetland resources, straw wattles are not anticipated to be sufficient on their own. Recommend replacing the straw wattle with a compost filter tube (12" diameter minimum). *LPI: The sediment barrier details have been revised to show a 12" compost sock.* **BETA2: Detail revised – issue resolved.**

SW16. Provide detail for inlet sediment control protection. *LPI: A detail of the catch basin filter bag has been added to sheet 13, Details Plan.* **BETA2: Detail provided – issue resolved.**

Operations/maintenance plan (Standard Number 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

A Long-Term Operation and Maintenance (O&M) Plan was included as part of the Stormwater Management Report.

SW17. Provide estimated operations and maintenance budget. *LPI: The operation and maintenance budget has been added to the Operation & Maintenance Plan within the stormwater report.* **BETA2: Budget provided – issue resolved.**

SW18. Provide maintenance requirements for deep sump catch basins. *LPI: The maintenance requirements for deep sump catch basins has been added to the Operation & Maintenance Plan within the stormwater report.* **BETA2: Information provided – issue resolved.**

SW19. Revise infiltration basin maintenance/inspection requirements to include all activities and frequencies outlined in the Mass Stormwater Handbook. *LPI: The basin maintenance and inspection requirements have been revised within the stormwater report.* **BETA2: Information provided – issue resolved.**

SW20. Remove text that does not appear to pertain to this project, e.g. "Pocket Wetland" and "Water Quality Swale." Revise Maintenance Log to include all proposed BMPs. *LPI: The references to "Pocket Wetland" and "Water Quality Swale" have been removed from the stormwater report.* **BETA2: Text revised – issue resolved.**

SW21. Provide sufficient maintenance access area around the perimeter of the basin berm. *LPI: The proposed fence has been relocated off the top of the berm to allow maintenance access.* **BETA2: Fence relocated – issue resolved.**

Illicit Discharges (Standard Number 10): *All illicit discharges to the stormwater management systems are prohibited.*

A signed Illicit Discharge Compliance Statement was provided.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.

Matthew J. Crowley, PE
Project Manager

Stephen Borgatti
Staff Engineer

cc: Amy Love, Town Planner
Jennifer Delmore, Conservation Agent

FRANKLIN PLANNING & COMMUNITY DEVELOPMENT
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TELEPHONE: 508-520-4907

MEMORANDUM

DATE: **May 27, 2020**

TO: **Franklin Planning Board**

FROM: **Department of Planning and Community Development**

RE: **160 Grove Street**
Special Permit & Site Plan

The DPCD has reviewed the above referenced Site Plan application for the Monday, June 1, 2020 Planning Board meeting and offers the following commentary:

General:

- The site is approximately 8.55 acres and is located at 160 Grove Street. The property is within the Industrial Zoning District - Marijuana Overlay District, Assessor's Map 306 Lot 002.
- The applicant seeks approval to construct a 121,000 sq/ft facility for the cultivation, processing, and distribution of Marijuana and Marijuana related products and office space.
- Applicant has filed with the Conservation Commission.

Records on File:

1. Application for Site Plan and Special Permit
2. Certificate of Ownership
3. Special Permit Criteria
4. Abutters certified mailing
5. Overview of Proposed project and Special Permit Findings
6. Cannabis Odor Abatement Plan
7. Host Community Agreement
8. Waiver Request for Parking
9. Security System and Plans
10. Employee and Occupancy Schematics

Applicant submitted the following revised plans (May 22, 2020):

1. Existing Photos of Property showing disturbed areas
2. Revised Stormwater Management Narrative and Maps
3. Revised Site Plans dated May 20, 2020
4. Traffic Study
5. Left Turn Lane plans (For Grove St)
6. Land Planning Response to BETA's report dated March 6, 2020
7. Odor and Noise – Criterion (BETA's subcontractor) respo0nse to the Epilson Report
8. Photograph Simulation of the Street Sign

Comments:

1. Revised Site Plans and Stormwater Management plan was submitted to DPCD on May 20, 2020. DPCD refers to the Town Engineer and BETA for review.
2. The Applicant submitted a Traffic Study. Does the Planning Board want BETA to review and provide an analysis of the Traffic Study?
3. The applicant is required to file with the Design Review Commission.
4. Applicant should provide color renderings of the building to the Planning Board for review.

PRINCIPALS

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March 13th, 2020

Attention: Anthony Padula
Chair, Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Subject: Third Party Odor and Noise Review for the Cannabis Cultivation Facility for the Franklin Planning Board

Dear Mr. Padula:

INTRODUCTION

Epsilon Associates, Inc was tasked with conducting a third-party review of the odor and noise mitigation plans for the proposed Hennep Cultivation and Production Facility (Hennep) located at 160 Grove Street in Franklin, MA.

Epsilon Associates, Inc (Epsilon) is a mid-sized engineering and environmental consulting firm located in Maynard, MA. Epsilon has served manufacturing, energy, institutional and government clients for over twenty years and has Professional Engineers and Certified Consulting Meteorologists with decades of experience analyzing air quality impacts. I am a certified consulting air pollution meteorologist and public health professional with over 15 years of experience in preparing these types of analyses. In performing my review, I reviewed the Cannabis Odor Abatement Plan[1], noise performance details on the cooling fans[2], the Site Development Plan[3], and details on the location of the fans in relation to the property boundary.

BACKGROUND

Hennep is a proposed cannabis cultivation and production facility located in an industrially zoned area at 160 Grove Street in Franklin, MA. A residential house is located adjacent to Grove Street but is scheduled to be demolished. Immediately northeast of

[1] Prepared by Criterion Environmental, Inc. Dated November 22nd, 2019.
[2] Provided by Prince Lobel Tye, LLP on January 28th, 2020
[3] Dated December 23rd, 2019.

the site are two commercial buildings, immediately to the west of the proposed site is a small business park. South of the property are several commercial buildings, east of the site is thick vegetation. The nearest residential property is located southwest of the proposed site approximately 700 feet from the property line. Figure 1 shows the location of the proposed site and Figure 2 shows the distance to the nearest residence.

The proposed site is approximately 8.43 acres and will include a grow warehouse (~90,000 square feet) and a Headhouse (~26,000 square feet) where cannabis will be processed and dried, within the Headhouse there were also be office space. Once fully operational the growing warehouse will contain 10,584 cannabis plants. Operations associated with the Hennep facility are anticipated to occur indoors.

Based on the description in the Cannabis Odor Plan, the growing and cultivation process consists of several stages, the first stage which lasts up to 30 days is the immature plant stage during this stage odor is minimal. The second stage, the flowering stage, which can last up to 35 days, can be quite odorous as the plants begin producing terpenes, the final stage is the processing stage where the plants are cut and dried this can take up to 21 days. The odor control technologies described in the odor control plan are evaluated in detail below.

Noise associated with the Hennep facility is anticipated to be primarily from fans, associated with the heating and ventilation (HVAC) equipment system; traffic traveling to and from the facility; and equipment used to process the cannabis for packaging in totes. Of these three potential sources of noise, the one with the potential for the most significant impact is the operation of the HVAC equipment, this is evaluated in detail below.

METEOROLOGICAL CONDITIONS IN FRANKLIN

Weather conditions play a role in how readily odors dissipate and how noise propagates. For example, higher temperatures generally lead to more turbulence being generated in the atmosphere which leads to more rapid dispersal of odors. Calmer winds allow for far less turbulence being generated, and more meandering of the wind in the atmosphere and can result in higher concentrations of odors. Rainfall can often reduce odor, as it helps to "wash" odor molecules for the atmosphere.

One useful tool for understanding the magnitude and direction of the wind, is a wind rose. A wind rose shows the direction the wind is blowing from and gives an idea as to how often the wind is not blowing. Figure 3 shows the wind rose for Norwood airport, which is located approximately 10 miles from the proposed site for 2015 to 2019. This wind rose shows that the wind is predominantly from the south, and that "calm" wind conditions exist approximately 30% of the time.

Given the 24-hour operation of the facility it is also useful to characterize the wind speed and direction during daytime and nighttime periods. Often, during daytime periods the winds tend to be stronger, which helps odors to disperse more readily. Consequently, during nighttime periods winds can often be calmer, allowing for odor to disperse far less readily. Figures 4 and Figure 5 show the wind roses under daytime and nighttime conditions. During daytime periods the wind is predominantly from the west and northwest with wind speeds generally ranging from 3.3 miles per hour to 18 miles per hour. During nighttime periods the wind is predominantly from the south with wind speeds generally ranging from 3.3 miles per hour to 11 miles per hour.

BACKGROUND ON ODOR

Odor is considered an air pollutant by the Massachusetts Department of Environmental Protection (MassDEP), and therefore must be controlled in order to prevent a condition of air pollution (i.e. cause a nuisance, injure someone, or unreasonably interfere with the enjoyment of one's life and property). The intensity of an odor can vary and is often a function of the weather conditions (temperature, wind direction, humidity), distance from the source and magnitude of odor compounds generated. The ability of an individual to detect an odor varies with some individuals having very sensitive noses which can detect odors at very low concentrations. As a result, from a single source, the intensity of an odor can vary over time based on changes in the process and underlying weather conditions are constantly changing.

The odor associated with cannabis is generated by terpene molecules, terpenes are a class of molecules known to be very volatile. The cannabis odor has been described as "skunk-like" and if left uncontrolled depending on the magnitude and weather conditions can travel over a half-mile.

Local Regulations

The Town of Franklin limits odor from industrial processes in §185-22(A) of the Industrial Zoning Requirements in the Franklin town code:

Disturbances. No sound, noise, vibration, odor or flashing (except for warning devices, temporary construction or maintenance work, parades, agricultural activities or other special circumstances) shall be perceptible without instruments more than 400 feet from the boundaries of the originating premises within an Industrial District or more than 200 feet inside the boundaries of a commercial or business district or more than 100 feet inside the boundaries of a residential district. However, the Board of Appeals may grant a special permit for an exception for activities not meeting these standards in cases where the Board determines that no objectionable conditions will thereby be created for the use of other properties.

ANALYSIS OF ODOR CONTROL TECHNOLOGY FROM PROPOSED FACILITY

The Hennep facility proposes the use of two different odor mitigation strategies for managing the odor during the growing and processing of the cannabis. During the growing, the Hennep facility has proposed to utilize the Fogco Odor Control system which uses a fogging system to deploy an odor neutralizer as the air from within the grow warehouse is exhausted from 36 roof-mounted fans. Hennep proposes to utilize the odor neutralizer Odor Armor 420.

Odor Armor and other odor neutralizers work by altering the odor molecule to render the molecule odorous. There are several limitations to this approach, the first is there must be enough of the odor neutralizer present in order to neutralize the odor molecules present. If the ratio of neutralizer to odor molecules is out of balance, there could still be an odor. The odor control plan should describe how it intends to determine the correct ratio of neutralizer to odor molecule in order to prevent odorous conditions from occurring from this system.

In addition, the Fogco Odor control system relies on treating the growing room exhaust as it exits the building. This means that the growing room should be under negative pressure (i.e. that pressure inside the building is less than the pressure outside, causing air to leak into the building), this will ensure that untreated odor is not exiting the building without undergoing treatment. The Hennep facility should describe how it intends to ensure that negative pressure is maintained in order to prevent odors from escaping the growing room.

A third potential limitation to the Fogco system is that the Odor Armor 420 is mixed with deionized water and injected into the exhaust stream external to the building. Review of the manufacturers data indicates that the Odor Armor 420 has a potential to freeze at temperatures below 30^{o} Fahrenheit (F) and applications in environments where temperatures dip below 30^{o} F may need to install heat tracing in order to guard against the odor control system freezing. The proponent should describe any heat tracing on the system in order to ensure the system remains operational during winter periods.

During the processing of the cannabis, the odor mitigation technology proposed is the use of activated carbon filters. Carbon filters have been shown to be effective at mitigating many different types of odor but do require active ventilation (i.e. a fan blowing air through the filter for it to be effective). One important consideration when utilizing activated carbon, is to understand the breakthrough in order to appropriately time replacement of the activated carbon. "Breakthrough" is the idea that as the activated carbon traps odor molecules a portion of the carbon is unable to trap odor. This is considered "spent" carbon; once the activated carbon within the filter is completely spent, odor molecules would "breakthrough" uncontrolled. The proponent should

describe in detail the mechanism they intend to use to determine how much of the activated carbon has been used to trap odor in order to adequately determine a site-specific replacement schedule for the spent carbon.

The odor mitigation plan did not include a detailed discussion of other technologies that may be feasible for controlling odor from the proposed operation. For example, in Epsilon's experience we have seen that the installation of an exhaust collection system to a centralized stack as being on additional method that can prove effective at mitigating odor concerns. Additionally, biofilters and scrubbed have been used to mitigate odor, including one being deployed at a cultivation facility in Franklin; after its initial odor mitigation equipment was ineffective at curbing the cannabis odor. The odor mitigation plan should describe in more detail other available technologies, and its effectiveness at mitigating odors from the proposed operations. The odor plan should also discuss potential measures that could be implemented if the proposed odor mitigation systems are ineffective at mitigating odor from the proposed facility.

The odor plan discusses a back-up system for mitigating odors but does not describe this back-up system in any detail.

ODOR COMPLAINT TRACKING SYSTEM

The odor complaint documentation system described in the odor mitigation plan is robust. The odor mitigation plan describes a process by where individuals would contact a hotline that would enable a response within an hour with corrective action being implemented within two hours of the initial call. The tracking system records a number of pieces of information including: the date, time and details of complaint; the source of the complaint; whether all product was being stored in air-tight containers and storage rooms; if the odor mitigation system is active; activate the back-up system if necessary; log the resolution to the complaint; communicate back to the source of the complaint the resolution; and evaluate measures to ensure this event isn't repeated. The system also includes a process to notify the Town of Franklin of any complaints within 24 hours.

One additional measure that should be considered is logging the meteorological conditions that occurred that led to the complaint. This should at a minimum include the wind direction, wind speed, temperature, and precipitation. Ideally this would come from a weather station located onsite in order to ensure the accuracy of the wind speed and wind direction.

BACKGROUND ON NOISE

There are several ways in which sound (noise) levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. The following information defines the noise measurement terminology used in this analysis.

The decibel scale is logarithmic to accommodate the wide range of sound intensities found in the environment. A property of the decibel scale is that the sound pressure levels of two separate sounds are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the total is only a three-decibel increase (to 53 dB), not a doubling to 100 dB. Thus, every three dB change in sound levels represents a doubling or halving of sound energy.

Another property of decibels is that if one source of noise is 10 dB (or more) louder than another source, then the quieter source does not contribute significantly to overall sound level which remains the same as that of the louder source. For example, a source of sound at 60 dB plus another source of sound at 47 dB is simply 60 dB.

The human ear does not perceive changes in the sound pressure level as equal changes in loudness. Scientific research demonstrates that the following general relationships hold between sound level and human perception for two sound levels with the same or very similar frequency characteristics:

- **1 dBA** is the practically achievable limit of the accuracy of sound measurement systems and corresponds to an approximate 10% variation in sound pressure. A 1 dBA increase or decrease is a non-perceptible change in sound.
- **3 dBA** increase or decrease is a doubling (or halving) of acoustic energy and it corresponds to the threshold of perceptibility of change. In practice, a 3 dBA change in environmental sound is just perceptible to the average person.[4]
- **5 dBA** increase or decrease is described as a perceptible change in sound level and is a discernable change in an outdoor environment.
- **10 dBA** increase or decrease is a tenfold increase or decrease in acoustic energy, but is perceived as a doubling or halving in sound (*i.e.*, the average person will judge a 10 dBA change in sound level to be twice or half as loud).[5]

The sound level meter used to measure noise is a standardized instrument.[6] It contains "weighting networks" to adjust the frequency response of the instrument to approximate that of the human ear under various circumstances. One network is the A-

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4 2009 ASHRAE Handbook – Fundamentals, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Atlanta, GA, 2009.

5 Procedures for the Computation of Loudness of Steady Sounds, American National Standard, ANSI S3.4-2007, Annex A, NY.

6 *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983, published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

weighting network (there are also B- and C-weighting networks). The A-weighted scale (dBA) most closely approximates how the human ear responds to sound at various frequencies, and is the accepted scale used for community sound level measurements. Sounds are frequently reported as detected with the A-weighting network of the sound level meter. A-weighted sound levels emphasize the middle frequency (*i.e.,* middle pitched – around 1,000 Hertz sounds), and de-emphasize lower and higher frequency sounds. A-weighted sound levels are reported in decibels designated as "dBA." Sound pressure levels for some common indoor and outdoor environments are shown in Figure 6.

Because the sounds in our environment vary with time they cannot simply be described with a single number. Two methods are used for describing variable sounds. These are exceedance levels and the equivalent level, both of which are derived from many moment-to-moment A-weighted sound level measurements. Exceedance levels are values from the cumulative amplitude distribution of all the sound levels observed during a measurement period. Exceedance levels are designated L_n, where n can have a value of 0 to 100 percent. Several sound level metrics that are commonly reported in community noise monitoring are described below.

- L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the residual sound level, which is the sound level observed when there are no obvious nearby intermittent noise sources.

- L_{eq}, the equivalent level, is the level of a hypothetical steady sound that would have the same energy (*i.e.,* the same time-averaged mean square sound pressure) as the actual fluctuating sound observed. The equivalent level is designated L_{eq} and is also A-weighted. The equivalent level represents the time average of the fluctuating sound pressure, but because sound is represented on a logarithmic scale and the averaging is done with linear mean square sound pressure values, the L_{eq} is mostly determined by occasional loud noises.

Massachusetts Department of Environmental Protection Noise Policy

The MassDEP has the authority to regulate noise under 310 CMR 7.10, which is part of the Commonwealth's air pollution control regulations. According to MassDEP, "unnecessary" noise is considered an air contaminant and thus prohibited by 310 CMR 7.10.

The MassDEP administers this regulation through Noise Policy DAQC 90-001 dated February 1, 1990. The policy limits a source to a 10-dBA increase above the ambient

sound measured (the L_{90} sound level) at the property line for the site and at the nearest residences.

The MassDEP policy further prohibits "pure tone" conditions where the sound pressure level in one octave band center frequency is 3 dB or more greater than the sound levels in each of two adjacent bands. An example of a "pure tone" is a fan with a damaged bearing that is producing an objectionable squealing sound.

Local Regulations

The Town of Franklin limits noise from industrial processes in §185-22(A) of the Industrial Zoning Requirements in the Franklin town code:

A. *Disturbances. No sound, noise, vibration, odor or flashing (except for warning devices, temporary construction or maintenance work, parades, agricultural activities or other special circumstances) shall be perceptible without instruments more than 400 feet from the boundaries of the originating premises within an Industrial District or more than 200 feet inside the boundaries of a commercial or business district or more than 100 feet inside the boundaries of a residential district. However, the Board of Appeals may grant a special permit for an exception for activities not meeting these standards in cases where the Board determines that no objectionable conditions will thereby be created for the use of other properties.*

Compliance with the town industrial zoning requirements and the MassDEP Noise Policy can be assessed using the inverse square law which uses the distance from a source of sound to account for how rapidly the sound will diminish. While this basic approach does not account for reflection, wind effects, etc., it can provide a useful indication of whether sound effects are likely to cause an offsite concern.

ANALYSIS OF FAN NOISE IMPACTS FROM PROPOSED FACILITY

The fans associated with the HVAC system have a dual purpose, climate control of the proposed facility and implementation of the odor mitigation via fogging. Climate control and odor mitigation are expected to be a continuous 24 hours-seven day a week operation and controlled by 36 rooftop fans. The proposed facility is considering two different fans each with identical noise data, this data appears as an attachment.

Figure 7 shows the proposed location of the fans on the property and the distance to the nearest property line. Using the inverse square law, the noise anticipated from each

individual fan at the nearest residence. Table 1 summarizes the anticipated noise from each fan at varying distances.[7]

Table 1: Noise Levels from One Fan at Selected Distances

Location	Distance from Fan (feet)	Decibels (A-weighted)
Onsite	5'	68
Property Line	57'	47
400 Feet from the Property Line	457'	29
Nearest Residence	700'	25

Table 2 provides estimates using key assumptions of the combined impact of multiple fans operating at 400 feet from the facility's property line, and at the nearest inhabited residence.

Table 2: Noise Levels at Selected Distances

	400 Feet from Property Line	Nearest Residence
Combined sound from ten fans, Decibels (A-weighted)	39 dBA	35 dBA
Background, assuming quiet suburban nighttime, Decibels (A-weighted)	37 dBA	37 dBA
Total sound fans plus background, Decibels (A-weighted)	41 dBA	39 dBA
Increase above background, Decibels (A-weighted)	4 dBA	2 dBA

[7] https://www.omnicalculator.com/physics/distance-attenuation

The following conclusions can be reached from Table 2:

1. Based on the key assumptions, it is likely that the fan noise will meet the MassDEP Noise Policy and would not be considered by MassDEP to be causing a noise nuisance condition at the nearest inhabited property.
2. Based on the key assumptions, the fan noise may or may not meet the Town of Franklin code. Specifically, the fan noise may or may not be "*perceptible without instruments more than 400 feet from the boundaries of the originating premises within an Industrial District.*"

The key assumptions are as follows:

- Straight line propagation with no reflections or atmospheric effects;
- Background ambient noise is "quiet suburban nighttime" from Figure 6 (no ambient measurements have been conducted); and
- A total of ten fans could significantly contribute to additive noise at a single receptor. The calculation assumes ten fans at a single location; the other fans are assumed to be blocked or assumed to be too far away from one another to significantly contribute to the total.
- Fans operate per their manufacturer-supplied fan data. A failed bearing or similar problem could cause increased noise including a "pure tone" squeaking or squealing sound.

Additional analysis could provide a more accurate prediction of fan noise impacts. That additional analysis would include measurements of nighttime ambient sound levels in the area and would include computer modeling of sound using a 3-D model that accounts for terrain, atmospheric effects, and space between noise sources.

We are not recommending additional noise analysis, for two reasons. First, even a refined analysis would not exactly duplicate what will be experienced once the facility is built. Second, we believe the proponent will have the ability to provide field modifications to mitigate sound if sound is causing a nuisance condition, a violation of MassDEP guidance, or a violation of Town Code requirements. Insulation, lagging, rooftop barriers, or fan swap-outs for quieter models are all feasible field modifications that should be effective to eliminate noise nuisance conditions from the fans.

OTHER NOISE IMPACTS FROM PROPOSED FACILITY

Beyond the ventilation fans, the proposed facility will have noise from deliveries and employee vehicle trips, indoor equipment, and limited outdoor equipment. These have not been analyzed quantitatively. To avoid a nuisance condition, we recommend that facility operations avoid nighttime deliveries, and avoid significant outdoor equipment operation at night.

RECOMMENDATIONS

- The odor control plan should describe how it intends to determine the correct ratio of neutralizer to odor molecule in order to prevent odorous conditions from occurring from this system.
- The proponent should describe any heat tracing on the system in order to ensure the odor mitigation system remains operational during winter periods.
- The odor plan should also discuss potential measures that could be implemented if the proposed odor mitigation systems are ineffective at mitigating odor from the proposed facility.
- The odor mitigation plan should describe in more detail other available technologies, and its effectiveness at mitigating odors from the proposed operations.
- The odor mitigation plan should describe in detail the mechanism they intend to use to determine how much of the activated carbon has been used to trap odor in order to adequately determine a site-specific replacement schedule for the spent carbon.
- The Hennep facility should describe how it intends to ensure that negative pressure is maintained in order to prevent uncontrolled odors from escaping the growing room.
- The facility should describe the proposed back-up odor mitigation system
- Installation of a weather station, capable of logging wind speed, wind direction and temperature to assist in identification of odor complaint tracking.
- The proponent should commit to mitigation of fan and similar continuous noise sources if those sounds are perceptible without instruments more than 400 feet from the boundaries of the property.
- The proponent should commit to avoiding nighttime outdoor noise generating activities, including truck deliveries.

Sincerely,

Joseph E. Sabato

Joseph Sabato, CCM , MPH
EPSILON ASSOCIATES, INC.

G:\Projects2\MA\Franklin\5752\MXD\1_Aerial_Locus_20200311.mxd

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services

160 Grove Street Franklin, Massachusetts

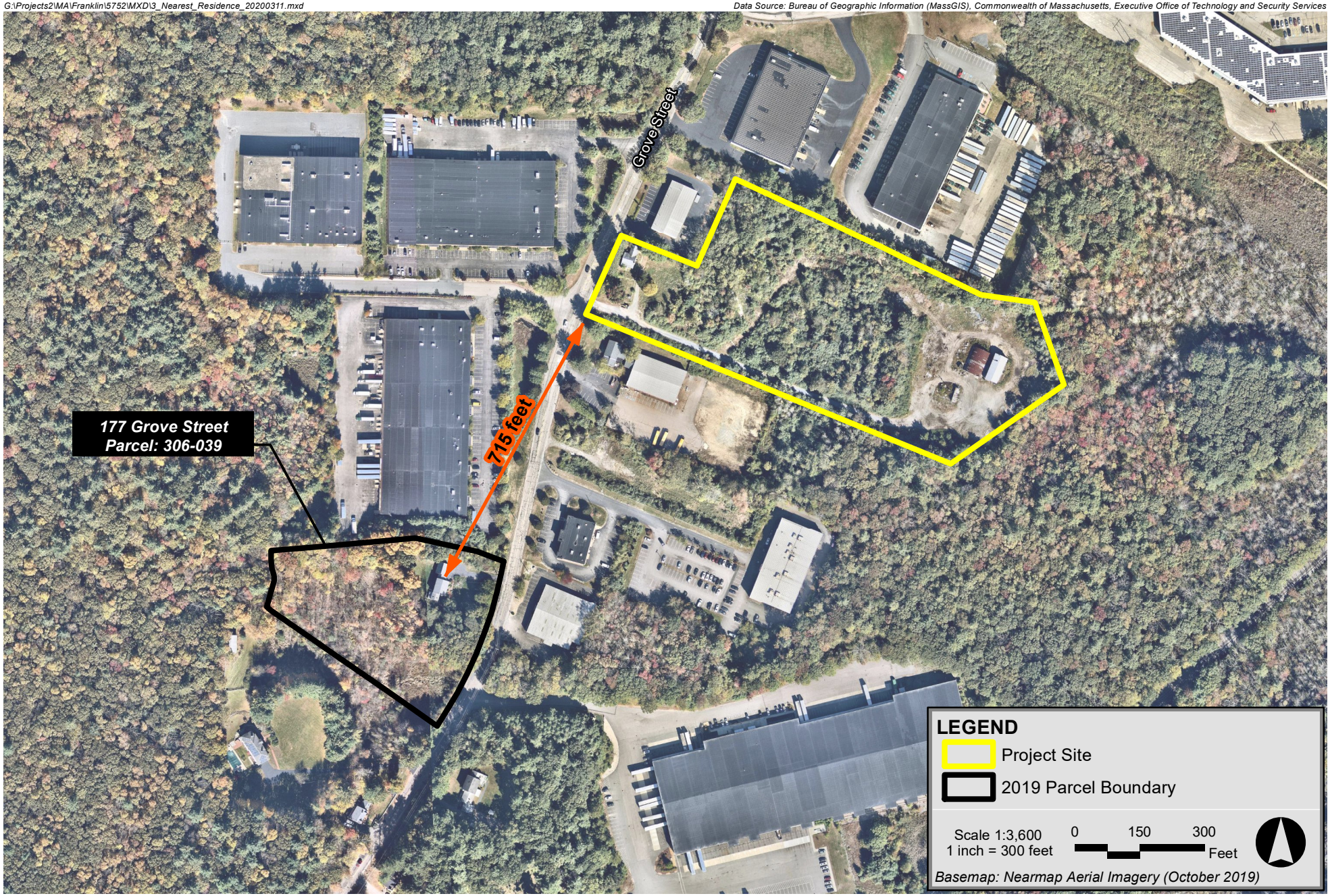
Epsilon Associates Inc.

Figure 1

Aerial Locus Map

G:\Projects2\MA\Franklin\5752\MXD\3_Nearest_Residence_20200311.mxd

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services

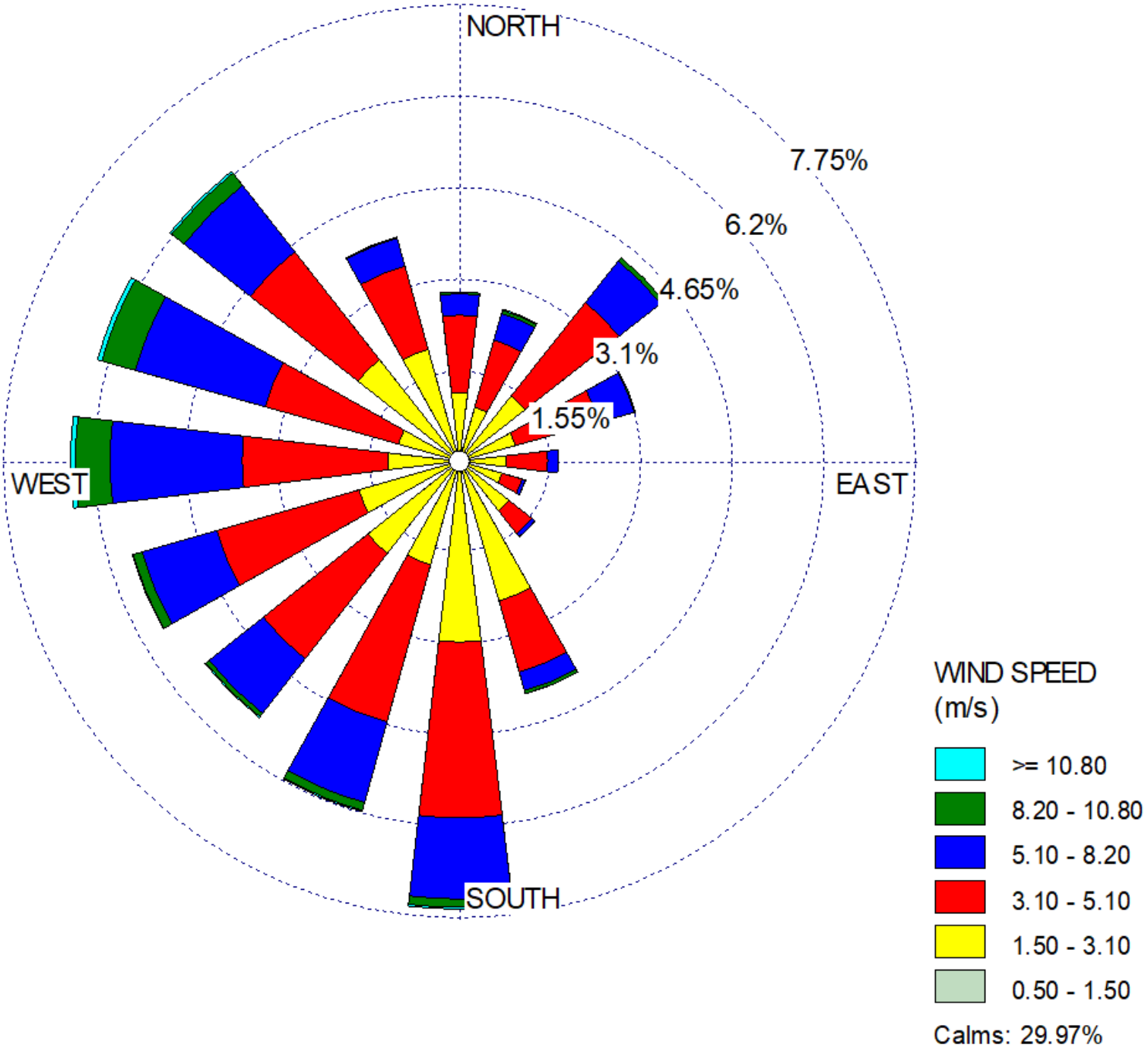


160 Grove Street Franklin, Massachusetts

Epsilon Associates Inc.

Figure 2

Distance to Nearest Residence



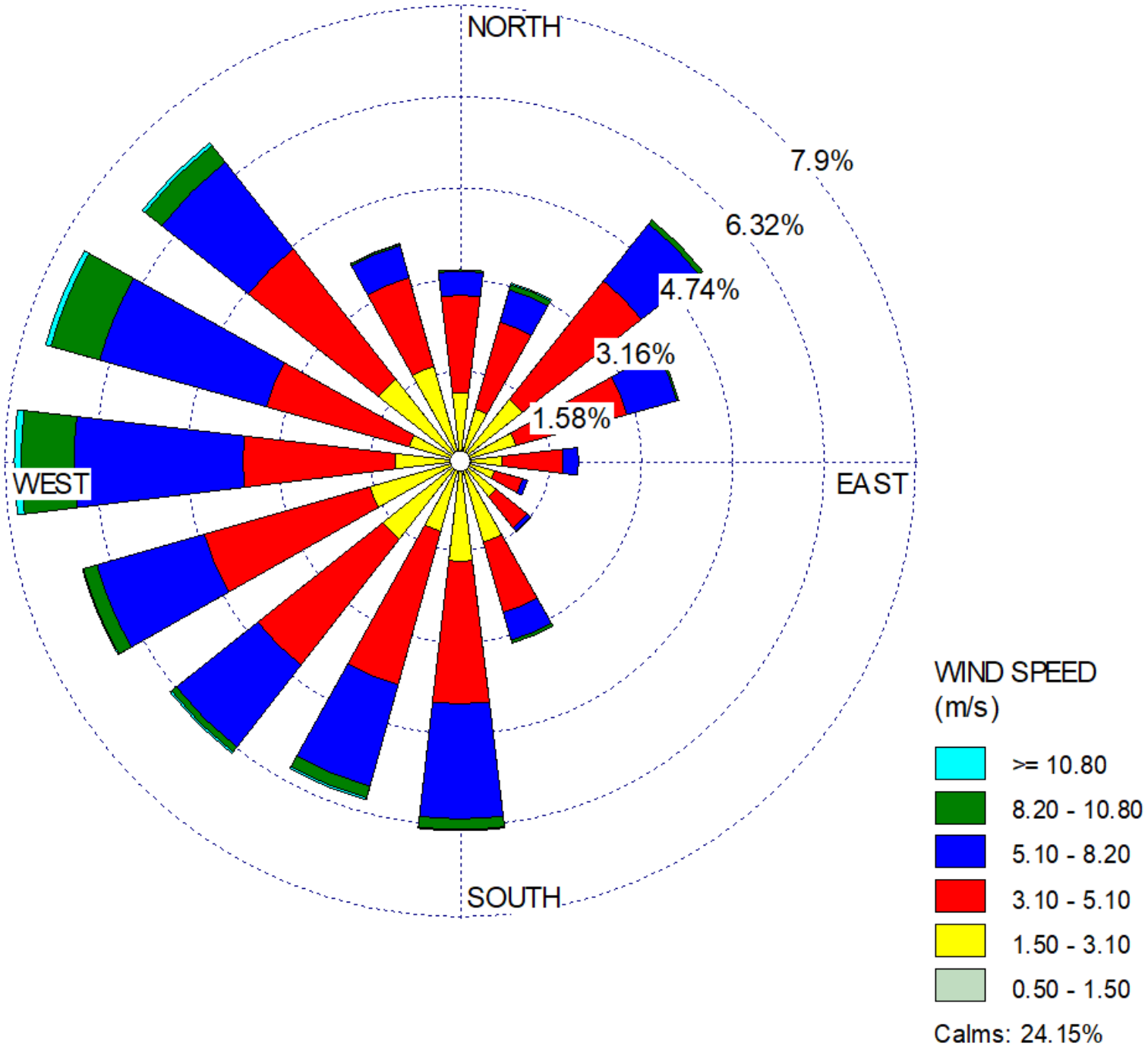
Cannabis Cultivation Facility, Franklin, MA

Epsilon ASSOCIATES INC.

Figure 3

24-hour Wind Rose

Norwood Memorial Airport, Norwood, MA 2015-2019

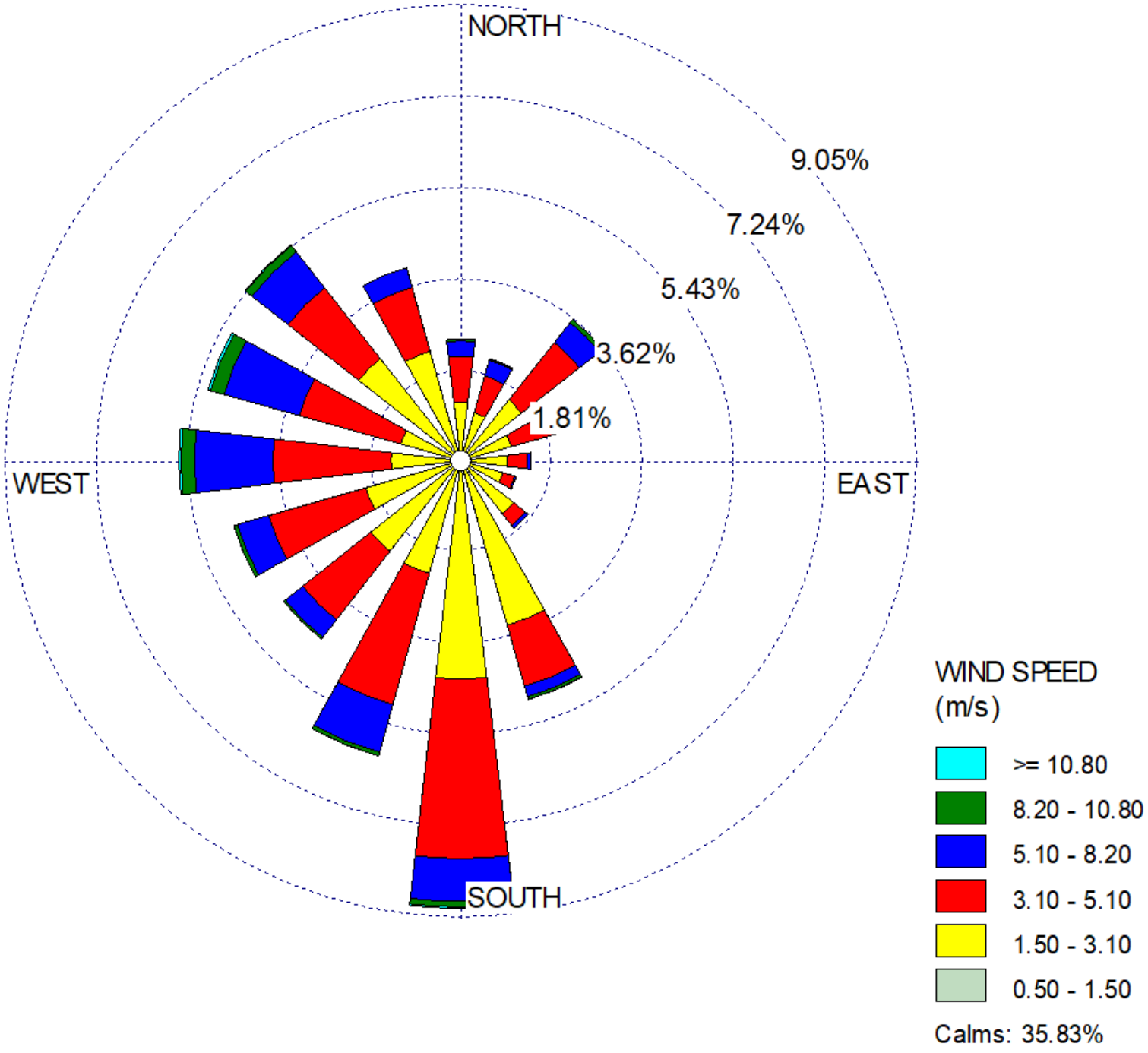


Cannabis Cultivation Facility, Franklin, MA

Figure 4

Daytime Only (6am to 6pm) Wind Rose

Norwood Memorial Airport, Norwood, MA 2015-2019

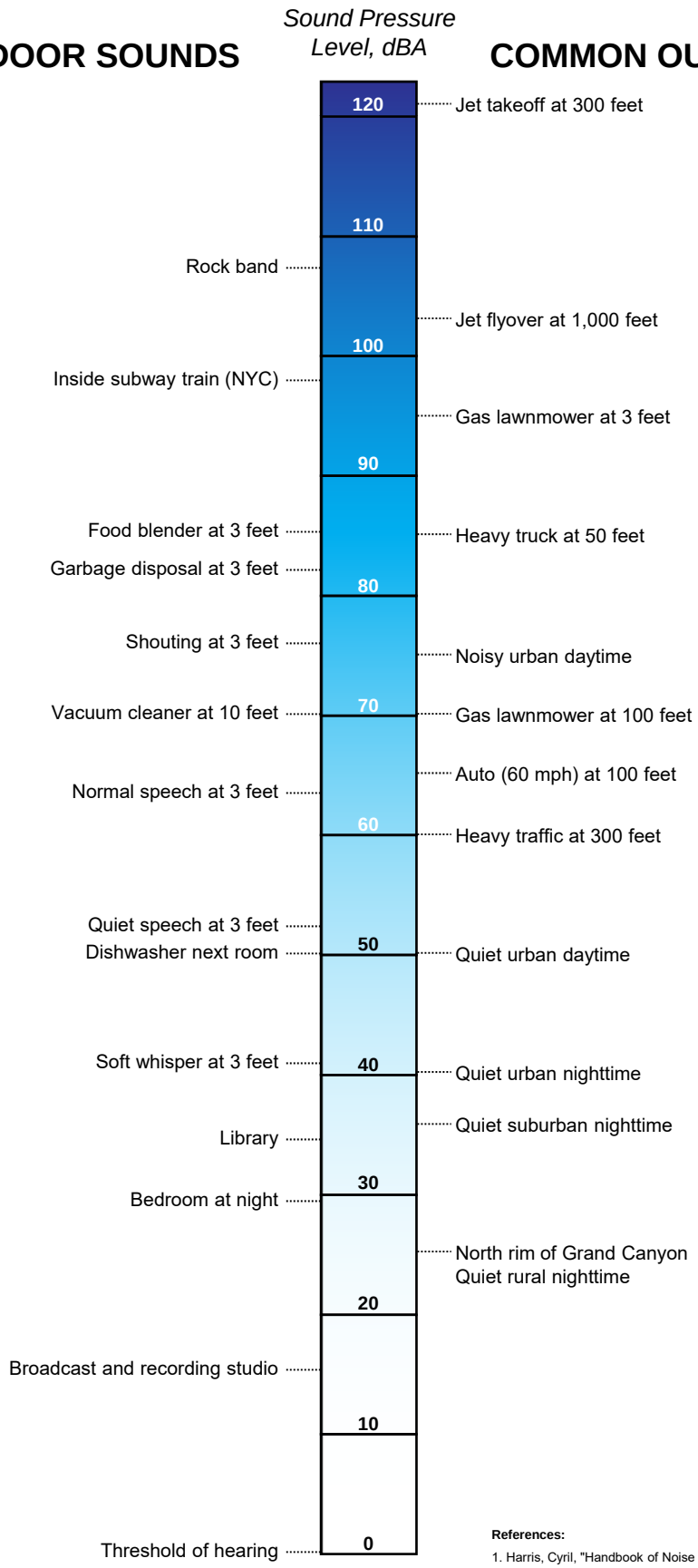


Epsilon ASSOCIATES INC.

Figure 5

Nighttime Only (6pm to 6am) Wind Rose

Norwood Memorial Airport, Norwood, MA 2015-2019



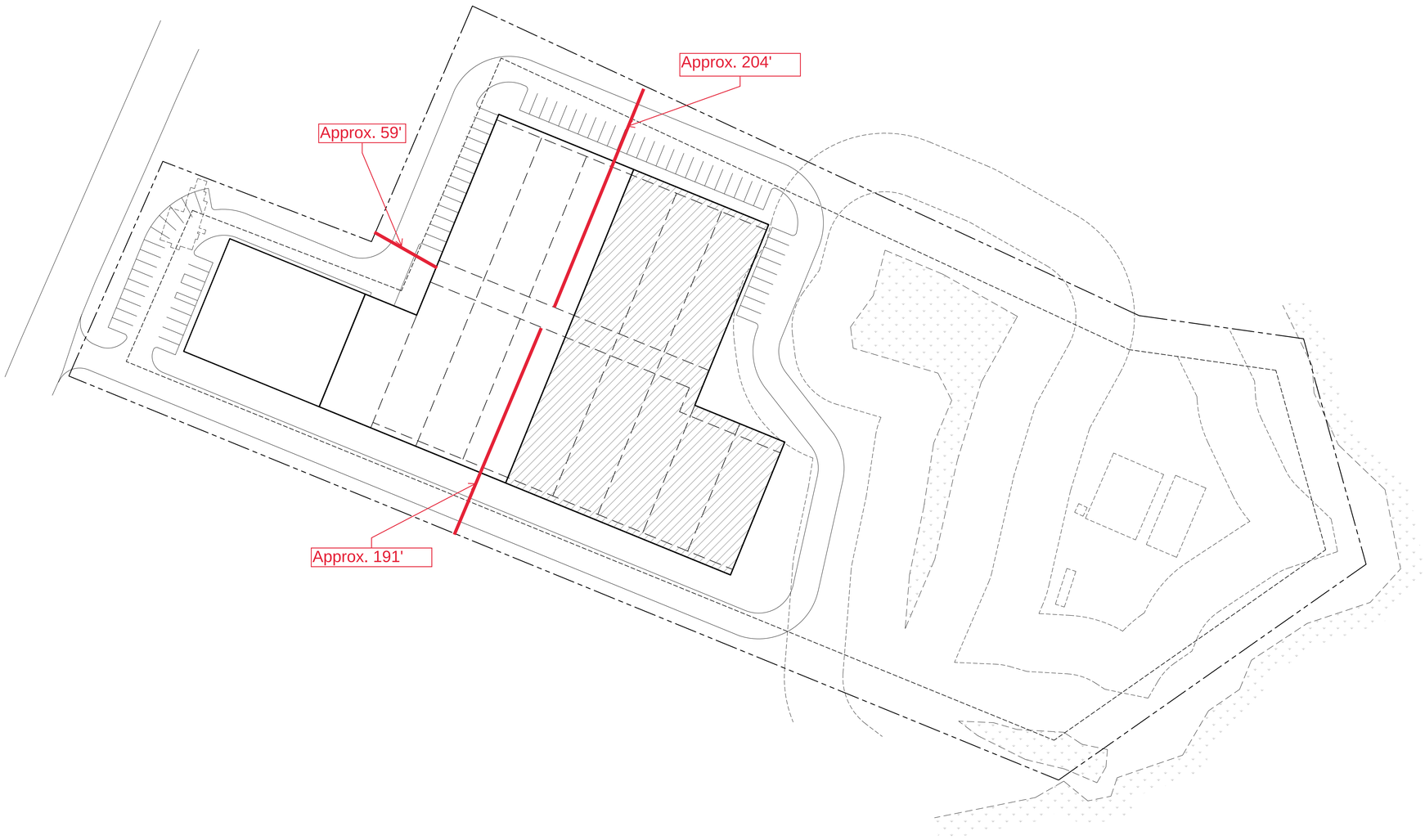
References:

1. Harris, Cyril, "Handbook of Noise Acoustical Measurements and Noise Control", p 1-10., 1998
2. "Controlling Noise", USAF, AFMC, AFDTC, Elgin AFB, Fact Sheet, August 1996
3. California Dept. of Trans., "Technical Noise Supplement", Oct, 1998

Figure 6

Typical Noise Levels from Our Environment

Figure 7 Distances of Fans to Nearest Property Line



1 A0.1 SITE PLAN
SCALE: 1"= 50'-0"

NORTH

PRELIMINARY - NOT FOR CONSTRUCTION 10/8/2019

Growing Facility
for
HENNEP

Engel Architects, LLC
1854 Lincoln Highway East
Lancaster, PA 17602
(717)392-8021, fax 392-7140

SEAL

PROJECT NO.
18161

MANAGED BY
.

DRAWN BY
D. ENGEL

REVISIONS

DATE
.

DRAWING TITLE
SITE PLAN

SHEET NO.
A0.1

AMERICAN COOLAIR CORPORATION

Type: **CBL**

Welded steel construction -- Rugged angle frame -- Deep spun panel orifice -- Unique drive assembly provides longer bearing life -- Six die-formed steel propeller blades -- Bearings permanently lubricated and sealed -- Variable pitch pulleys -- Motor shipped with fan for field mounting -- UL Listed for Standard 705 (most models)

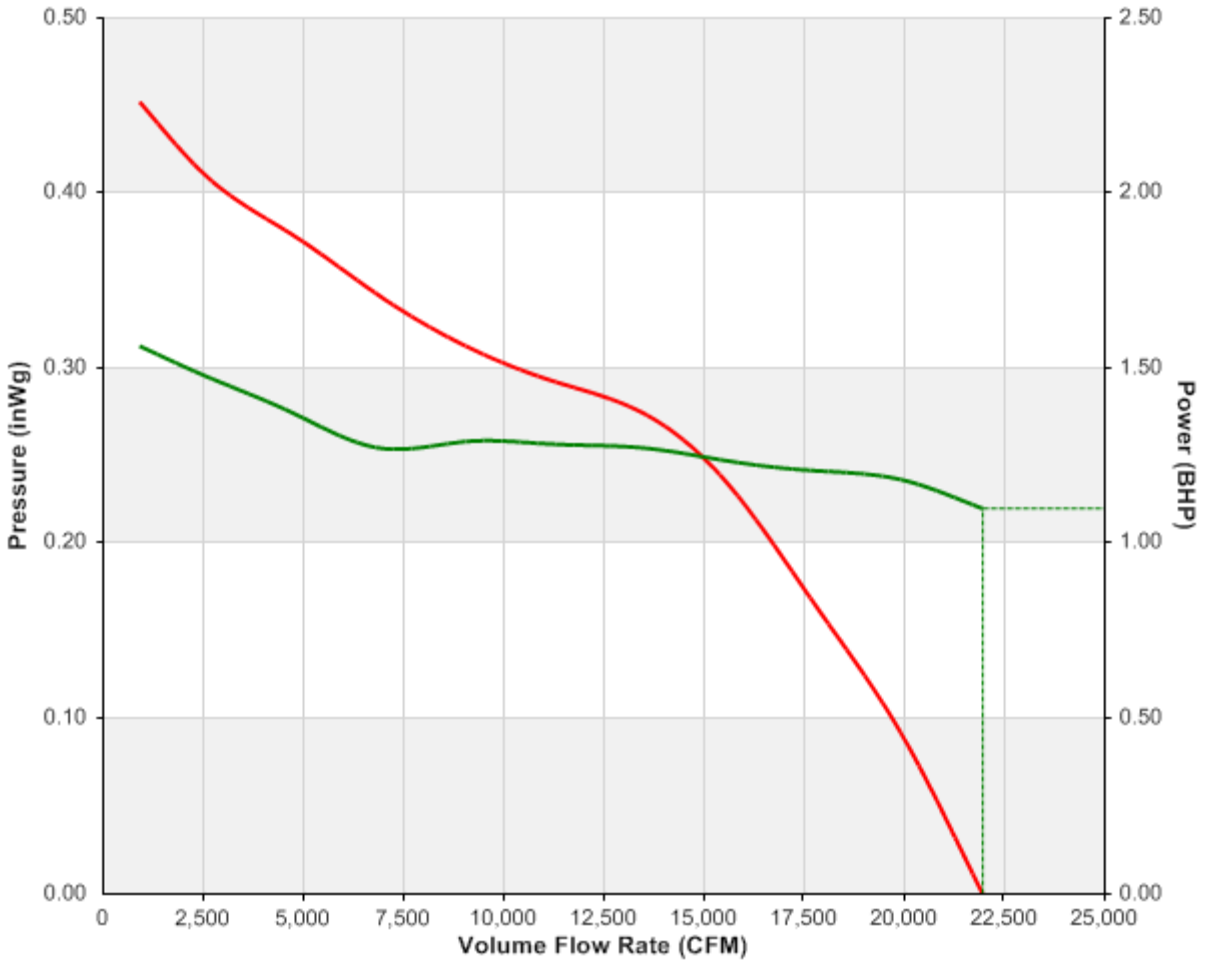
American Coolair Corporation certifies that the Type CBL units shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA certified Ratings Program.

REPRESENTATIVE

Phone:

Fax:

10/16/2013 | 2:32:06 PM



Model:	**CBL48LE1231**	Flow:	**21,952** CFM	Sones:	**17.2**	**Sound Power Levels (Lw)**					
Size:	**48**	SP:	**0.000** inWg	LwA:	**79** dB	63 Hz:	**86** dB	1000 Hz:	**72** dB		
Drive:	**Belt**	Power:	**1.10** BHP	dBA @ 5':	**68** dB	125 Hz:	**87** dB	2000 Hz:	**70** dB		
Blades:	**6**	Density:	**0.075** lbs/ft^3	dBA @ 10':	**62** dB	250 Hz:	**80** dB	4000 Hz:	**63** dB		
Pitch:	**26.0°**	Temp:	**70°** F	dBA @ 20':	**56** dB	500 Hz:	**76** dB	8000 Hz:	**53** dB		
Speed:	**403**	Elevation:	**0** ft								
Tag:											

AMCA Licensed for Sound and Air Performance
Power rating (BHP) does not include transmission losses. Bearing losses are included.
Performance ratings do not include the effects of appurtenances (accessories).
Performance shown is for Installation Type 'A' : Free inlet, Free outlet
The sound ratings shown are loudness values in hemispherical sones at 1.5 m (5 ft.) in a hemispherical free field calculated per AMCA Standard 301.
Values shown are for Installation Type 'A' : Free inlet hemispherical sone levels
Sound ratings apply to sones only.

AMERICAN COOLAIR CORPORATION

Type: **CBH**

Welded steel construction -- Rugged angle frame -- Deep spun panel orifice -- Unique drive assembly provides longer bearing life -- Six die-formed steel propeller blades -- Bearings permanently lubricated and sealed -- Variable pitch pulleys (most models) -- Motor shipped with fan for field mounting -- UL Listed for Standard 705 (most models)

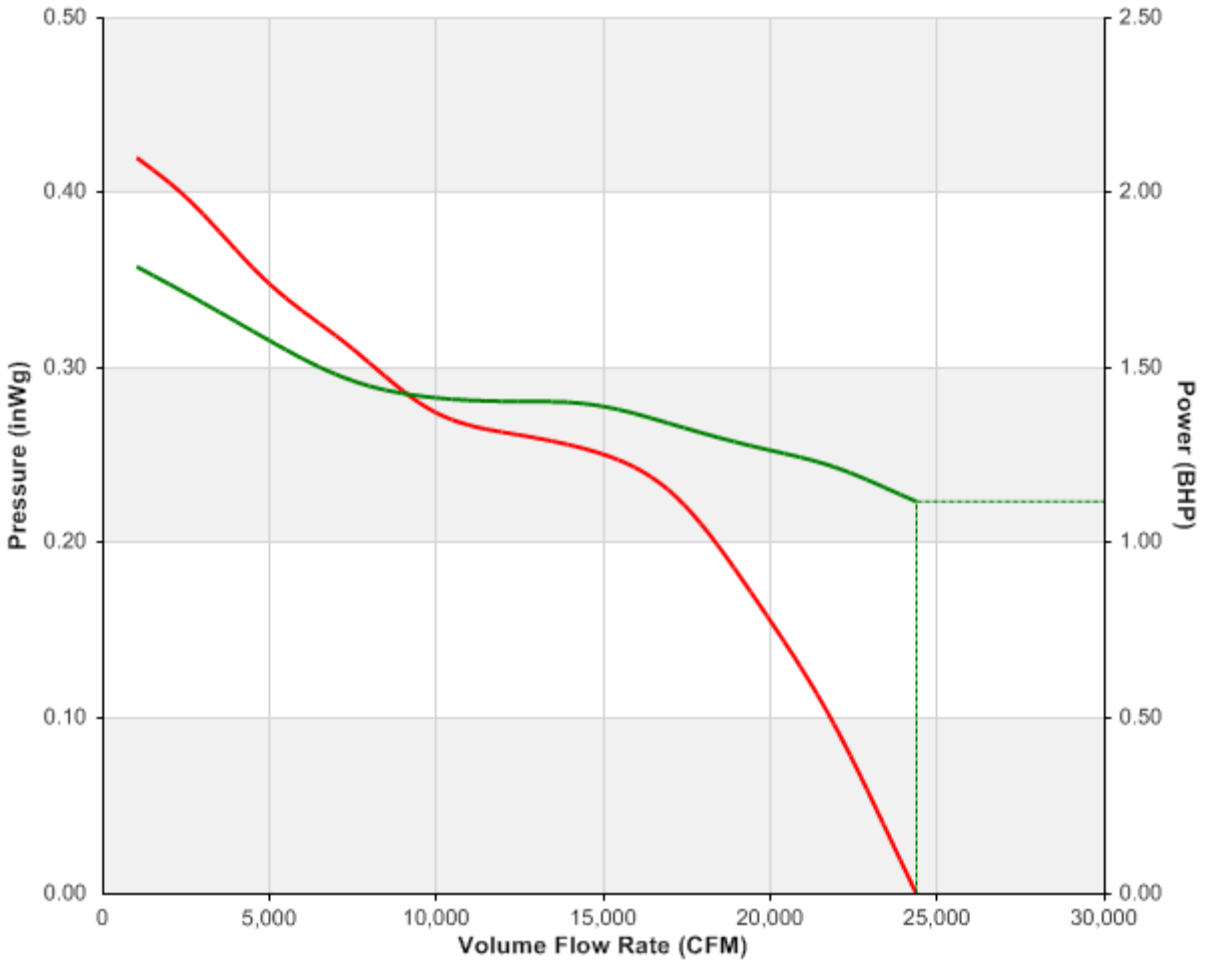
American Coolair Corporation certifies that the Type CBH units shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA certified Ratings Program.

REPRESENTATIVE

Phone:

Fax:

10/16/2013 | 2:31:38 PM



Model:	**CBH54LE1231**	Flow:	**24,359** CFM	Sones:	**16.8**	**Sound Power Levels (Lw)**			
Size:	**54**	SP:	**0.000** inWg	LwA:	**80** dB	63 Hz:	**85** dB	1000 Hz:	**73** dB
Drive:	**Belt**	Power:	**1.12** BHP	dBA @ 5':	**68** dB	125 Hz:	**85** dB	2000 Hz:	**72** dB
Blades:	**6**	Density:	**0.075** lbs/ft^3	dBA @ 10':	**62** dB	250 Hz:	**80** dB	4000 Hz:	**64** dB
Pitch:	**18.7°**	Temp:	**70°** F	dBA @ 20':	**56** dB	500 Hz:	**77** dB	8000 Hz:	**54** dB
Speed:	**381**	Elevation:	**0** ft						
Tag:									

AMCA Licensed for Sound and Air Performance
Power rating (BHP) does not include transmission losses. Bearing losses are included.
Performance ratings do not include the effects of appurtenances (accessories).
Performance shown is for Installation Type 'A' : Free inlet, Free outlet
The sound ratings shown are loudness values in hemispherical sones at 1.5 m (5 ft.) in a hemispherical free field calculated per AMCA Standard 301.
Values shown are for Installation Type 'A' : Free inlet hemispherical sone levels
Sound ratings apply to sones only.

May 21, 2020

Attn: Jim Stukel; The Stukel Group LLC (Contractor on behalf of applicant)
Hennep Cultivation LLC (Applicant)
160 Grove Street
Franklin, MA 02038
APN: 306-002-000

Re: Addendum to November 2019 Odor Plan; Response to Epsilon Letter

This addendum should be included with the original submitted Odor plan dated November 22, 2019. The following are our responses to the reviewed items from the Epsilon Noise and Odor report dated March 13, 2020.

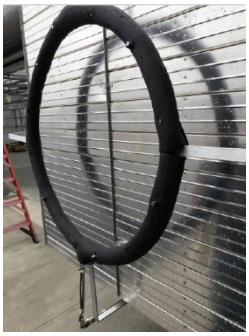
Page 4; *"The odor control plan should describe how it intends to determine the correct ratio of neutralizer to odor molecule in order to prevent odorous conditions from occurring from this system."*

> **Response:** Per the manufacturer's recommendation, the ratio of neutralizer delivery is a range between 400-500:1 and can be adjusted depending on the odor intensity.

Page 4: *"The Hennep facility should describe how it intends to ensure that negative pressure is maintained in order to prevent odors from escaping the growing room."*

> **Response:** The structures are closed, however they not air tight and will allow makeup air to infiltrate through the least path of resistance. The negative pressure within the building will be created by the exhaust fans rated at approximately ~24,000CFM. The negative pressure will be measured using a digital manometer relative to the outdoor conditions. Although there is no standard for the minimum negative pressure for cannabis odor reduction, based on infection control environments (-2.5Pa) along with environmental abatement regulations (-5Pa), our objective is to maintain a negative pressure of -1Pa (Pascals).

Page 4: *"The proponent should describe any heat tracing on the system in order to ensure the system remains operational during winter periods"*



Response: The rings will be wrapped in a rubber pipe insulation covering Brisk Heat Trace (120V). The Heat Trace will surround the SS fog rings to prevent water/chemical freezing in the line. See attached specifications.

Page 5: *"The proponent should describe in detail the mechanism they intend to use to determine how much of the activated carbon has been used to trap odor in order to adequately determine a site specific replacement schedule for the spent carbon."*

Response: The use of activated carbon filters is intended to supplement the Fogco system. According to the manufacturer, the replacement schedule of the media is dependent on the intensity of the odors being controlled. From experience with other similar cannabis grow facilities utilizing the same canfilters, it is anticipated that the change out schedule of the filters will be approximately every 6-9 months. According to the manufacturer, the filters are rated between 1 - 3 years, depending on the VOC load.

Page 5: *"The odor mitigation plan did not include a detailed discussion of other technologies that may be feasible for controlling odor from the proposed operation".*

Response: The evaluation of odor mitigation technologies was limited and not exhaustive of all technologies. As it relates to Biofilter technology, at this time, CEI is familiar with the proposed technologies and cannot provide an opinion or recommendation for the Biofilter technology until more studies and research have be performed it is CEI's position that that this technology has the potential to assist in cannabis odor reduction.

Page 5: *"The odor plan should also discuss potential measures that could be implemented if the proposed odor mitigation systems are ineffective at mitigating odor from the proposed facility."*

Response: Hennep is committed to perform daily olfactory monitoring along the property line, downwind of the odor-emitting sources. This monitoring will help determine if potential adjustments to the proposed odor mitigation equipment and/or processes are needed. These modifications may be to increase the

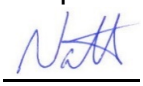
delivery ratio of the neutralizer or change activated carbon filters.

Page 5: *"One additional measure that should be considered is logging the meteorological conditions that occurred that led to the complaint."*

Response: Hennep will install a weather station capable of logging wind speed, wind direction and temperature to assist in identification of odor complaint tracking.

If you have any questions or concerns regarding the information provided, please do not hesitate to call us at 805.644.8347 or my cell phone at 805.432.4888.

Respectfully submitted,



Nate Seward, PE, CIH
Professional Mechanical Engineer (M31978)
Certified Industrial Hygienist (9582 CP)

BriskHeat® Corporation

English

SpeedTrace Extreme

Pre-Assembled Self-Regulating Heating Cable

Instruction Manual

⚠	Read and understand this manual before operating or servicing this heating cable. Failure to understand how to safely operate these heating cables could result in an accident causing serious injury or death. These heating cables should only be operated by qualified personnel.

TABLE OF CONTENTS

INTRODUCTION

Thank you for purchasing a BriskHeat® SpeedTrace Extreme Pre-Assembled Self-Regulating Heating Cable. Your heating cable is designed to provide a long and efficient service life with function, reliability, and safety in mind. For additional information or other BriskHeat® products, please contact BriskHeat® at1-800-848-7673 (toll free, U.S. / Canada) or 614-294-3376.

SAVE THESE INSTRUCTIONS!
Additional copies of this manual are available upon request.

SAFETY ALERT SYMBOL

The symbol above is used to call your attention to instructions concerning your personal safety. It points out important safety precautions. It means **"ATTENTION! Become Alert! Your Personal Safety is involved!"** Read the message that follows and be alert to the possibility of personal injury or death.

⚠ DANGER
Immediate hazards which **WILL** result in severe personal injury or death.

⚠ WARNING
Hazards or unsafe practices that **COULD** result in severe personal injury or death.

⚠ CAUTION
Hazards or unsafe practices that **COULD** result in minor personal injury or property damage.

IMPORTANT SAFETY INSTRUCTIONS

⚠ DANGER

A person who has not read and understood all operating Instructions is not qualified to operate this product.

⚠ DANGER

- Do not immerse heater in liquid.
- Keep volatile or combustible material away from heater when in use.
- Use heater only in approved locations.
- Keep sharp metal objects away from heater.

Failure to observe these warnings may result in electric shock, risk of fire, and personal injury.

⚠ WARNING

End-User Must Comply to the Following:

- Only qualified personnel are allowed to connect electrical wiring.
- Disconnect all supply power at the source before making any power connections.
- All electrical wiring must follow local electrical codes.
- The person who performs the final installation / wiring must be qualified for this work.
- The end-user is responsible for providing a suitable disconnecting device.
- The end-user is responsible for providing a suitable electrical protection device. It is highly recommended that a ground fault circuit breaker is used.

Failure to observe these warnings may result in personal injury or damage to the heater.

Agency Approvals

ETL Listed c US
Intertek

⚠ CAUTION

- Never handle the heating cable while it is in operation; always disconnect the heating cable from the power source and allow to cool prior to handling.
- Inspect heating cable before use.
- If spillage of foreign matter onto heater occurs, disconnect from power source and clean after heating cable has been allowed to cool.
- Fasten heating cable to pipes using approved methods only.
- Do not repair damaged or faulty heating cable.
- Do not crush or apply severe physical stress on heating cable or cord assembly.
- Unplug heating cable when not in use.
- Do not use for other applications.

Failure to observe these warnings may result in personal injury or damage to the heater.

BriskHeat® Corporation
SpeedTrace Extreme Self-Regulating Heating Cable

⚠ WARNING

Read and understand this entire manual before operating this heating cable.

SUMMARY OF OPERATION

1. BriskHeat® SpeedTrace Extreme Heating Cables are designed for freeze protection on metal and plastic pipes.
2. Suitable for indoor or outdoor use.
3. Easy-to-install: pre-assembled with power cord and plug. (230V models have bare wire leads).
4. Safe to overlap and insulate.
5. Automatically adjusts heat output based on surface and ambient temperature.
6. No temperature controller is required.

DESCRIPTION

SpeedTrace Extreme pre-assembled, self-regulating heating cables are designed for commercial metal and plastic pipe freeze protection.

SpeedTrace Extreme heating cables are available in 6, 12, 24, 50, 75, and 100 foot lengths, and each comes assembled with a 30-inch power cord and plug. (230V models have bare wire leads).

KIT CONTENTS

1. SpeedTrace Extreme pre-assembled, self-regulating heating cable.
2. Electrical tracing pipe labels.

Additional items required, but not supplied for pipe applications

Adhesive tape, select from fiberglass or aluminum:

- Fiberglass tape, PSAT36A, 0.5 in wide, 36 yards long.
- Aluminum tape, AAT260, 2.0 in wide, 60 yards long.

Insulation:

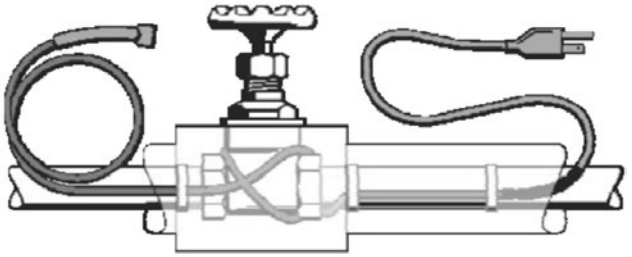
- INSUL-LOCK DS Flexible Closed Cell Pipe Insulation.

⚠ WARNING

Fire and shock hazard. This product is an electrical device that must be installed correctly to ensure proper operation and to prevent shock or fire. Read these important warnings and carefully follow all the installation instructions.

- To minimize the danger of fire from sustained electrical arcing if the heating cable is damaged or improperly installed, and to comply with the requirements of BriskHeat and national electrical codes, ground-fault equipment protection must be used on each heating cable branch circuit. Arcing may not be stopped by conventional circuit protection.
- For pipe freeze protection applications, use only fire-resistant insulation materials such as preformed foam or fiberglass.
- Do not damage the heating cable and power cord or plug. Remove any damaged cables from service immediately.
- Do not use any wire or metal clamps to attach the cable to the pipe. Use tape (1/2 inch wide to 2 inch wide) or plastic cable ties.
- Leave these installation instructions with the user for future reference.
- De-energize all power circuits before installation or servicing.
- The conductive layer of this heating device must be connected to a suitable grounding terminal.

PIPE FREEZE PROTECTION



General requirements for pipe freeze protection:

- SpeedTrace Extreme heating cables may be used on metal and plastic water pipes, but not on flexible vinyl tubing, (such as garden hoses).
- SpeedTrace Extreme heating cables are not intended for use inside any pipes, for freeze protection of liquids other than water, or for use in classified hazardous locations.
- Install with a minimum of ½" fire-resistant, waterproof thermal insulation.
- Never use on any pipes that may exceed 150°F (65°C).
- Extension cord may not be used for permanent installations. For temporary installations consult local electrical and fire codes.

GENERAL INSTRUCTIONS

- Install only in accessible locations; do not install behind walls or where the cable would be hidden.
- Do not run the heating cable through walls, ceilings, or floors.
- Connect only to ground-fault protected outlets that have been installed in accordance with all prevailing national and local codes and standards and are protected from rain and other water.

ELECTRICAL CODES

Articles 422, 426 and 427 of the National Electrical Code (NEC), and Part 1, Section 62 of the Canadian Electrical Code (CEC) govern the installation of SpeedTrace Extreme heating cable for pipe freeze protection and must be followed.

Important: For the BriskHeat® SpeedTrace Extreme heating cable warranty to be valid, you must comply with all the requirements outlined in these guidelines.

All thermal and design information provided here is based upon a standard installation with heating cable fastened to an insulated pipe. For any other application or method of installation, please contact BriskHeat® at 1-800-848-7673 (U.S. / Canada), or 1-614-294-3376 (worldwide).

CABLE SELECTION

Use the tables below to select the correct heating cable. Add 1ft (30cm) to your pipe length for each valve or spigot on your pipe system.

The charts assume the lowest outside temper-thick waterproof, fire-resistant thermal insulation. (preformed foam). For protection to -20°F (-29°C), use 1" (25mm) thick insulation.

Table 1 Metal Pipes

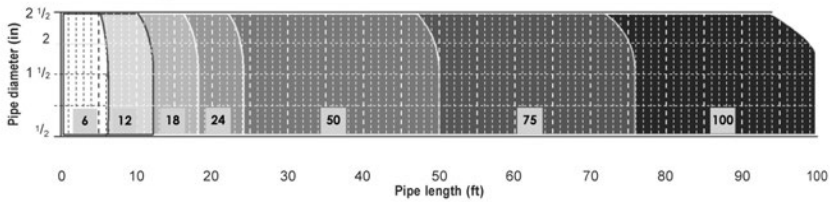
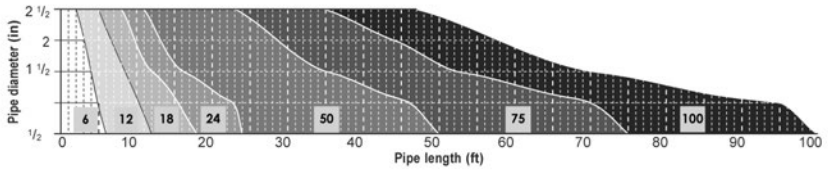


Table 2 Plastic Pipes

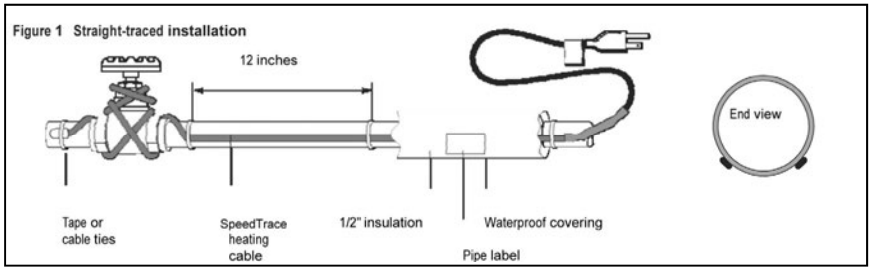


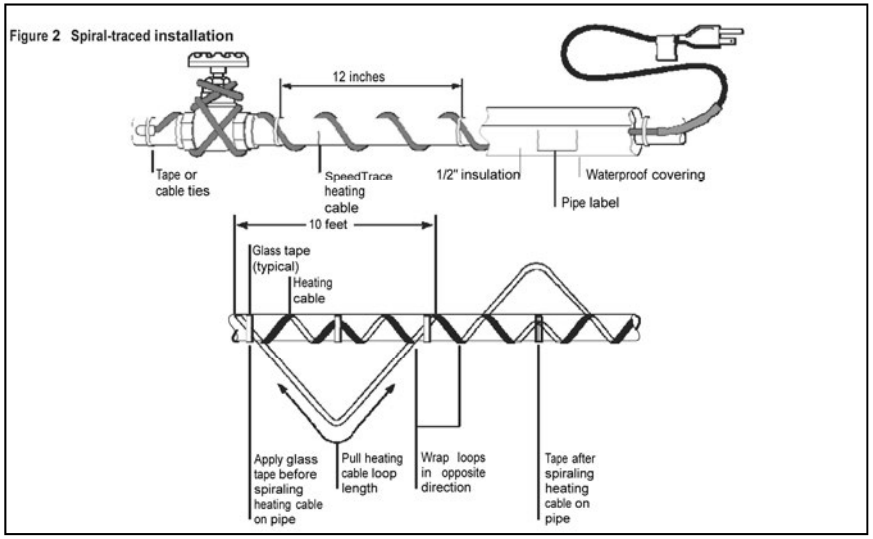
Add 1 foot to the pipe length for each valve or spigot on your pipe system. If cable selected is longer than the pipe, spiral it evenly along the entire pipe.

Important: All thermal and design information provided here is based upon a standard installation. For any other application or method of installation, please contact BriskHeat® at 1-800-848-7673 (U.S. / Canada), or 1-614-294-3376 (worldwide).

BriskHeat® Corporation
SpeedTrace Extreme Self-Regulating Heating Cable

HEATING CABLE INSTALLATION





1. Prepare for installation

- Store the heating cable in a clean, dry place.
- Complete piping pressure test.
- Prior to installing the cable, remove any sharp surfaces on the pipe that might damage the heating cable.
- Review the SpeedTrace Extreme heating cable design and compare to materials received to verify that you have the proper SpeedTrace Extreme heating cable.
- Walk the system and plan the routing of the SpeedTrace Extreme heating cable on the pipe.
- 230V models only: Install approved electrical plug device suitable for 208-277VAC prior to installation of heating cable.

2. Position and attach heating cable to pipe

- Be sure all piping to be traced is dry.
- Install heating cable, using straight tracing Figure 1, or spiraling Figure 2.

Figure 3 Insulation

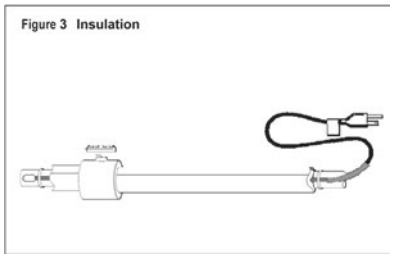
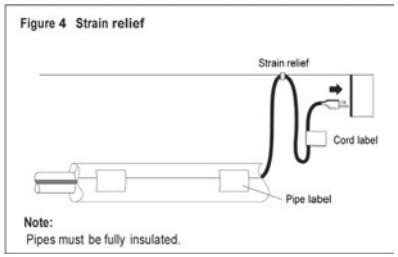


Figure 4 Strain relief



- For straight tracing, install the heating cable on a lower half of the pipe; for example, in the 4 o'clock or 8 o'clock position.
- Be sure to install the additional heating cable required for valves, flanges, etc. as shown in Figures 1 and 2.
- When the design calls for spiraling, begin by suspending a loop every 10 feet as shown in Figure 2. To determine the loop length, divide the SpeedTrace Extreme heating cable length by your pipe length and multiply by 10. For example, if you are using a 50 ft. SpeedTrace Extreme heating cable on a 40 foot pipe, leave a 12 foot loop of heating cable at every 10 foot section of pipe. Grasp the loop in its center and wrap it around the pipe. Even out the distance between spirals by sliding the wraps along the pipe. Use recommended fiberglass or aluminum adhesive tape to secure the center of the loop to the pipe.
- Fasten SpeedTrace Extreme heating cable to the pipe at 1- foot intervals using PSAT36A fiberglass tape or AAT260 aluminum tape. Do not use vinyl electrical tape, duct tape, metal bands, or wire.
- If excess cable remains at the end of the pipe, double it back along the pipe.

3. Check the installation

- Prior to installing thermal insulation make sure the heating cable is free of mechanical damage (from cuts, clamps, etc.) and thermal damage (from solder, overheating etc.).

4. Install thermal insulation

- A reliable SpeedTrace Extreme heating cable system depends on properly installed and dry, weatherproofed thermal insulation like the INSUL-LOCK DS Flexible Closed Cell Pipe Insulation.
- Ensure that at least ½" of preformed foam or equivalent thermal insulation is used and that all piping, including valves, joints, and wall penetrations, has been fully insulated as shown in Figure 3.
- For protection to -20°F (-29°C), use 1" (25mm) thick insulation.
- Install the insulation on the piping as soon as possible to minimize the potential for mechanical damage after installation.
- Be sure the SpeedTrace Extreme heating cable label is visible on the outside of the thermal insulation.

5. Finishing the installation

- To prevent damage to the heating cable or cord, secure the power cord (cold lead) with a plastic cable tie, glass cloth tape, or duct tape as shown in Figure 4.
- Electrical tracing labels indicating the presence of electric pipe heating cable are included with the heating cable. Attach the supplied "Electrical Tracing" labels on the outer surface of the pipe insulation at an interval of one label for every 10 ft (3 m) of pipe to indicate the presence of the SpeedTrace Extreme heating cable.

6. Starting the system

- BriskHeat® recommends that the system be tested per the "Cable testing and maintenance" section below.
- Plug the heating cable into a ground-fault protected outlet.
- Check the circuit breaker to verify power to the cable.
- Standing water in the pipe should feel warm within an hour.

7. Ground fault protection

- BriskHeat® and national electrical codes require ground-fault equipment protection on each heating cable branch circuit.
- To reduce the risk of fire caused by damage or improper installation, circuit breakers or equivalent, with a 30-mA trip level, should be used. Alternative designs providing comparable levels of ground-fault protection may also be acceptable. For technical assistance, please contact BriskHeat at 1-800-848-7673 (U.S. / Canada), or 1-614-294-3376 (worldwide).

⚠ WARNING

- Conditions of maintenance and supervision ensure that only qualified persons service the installed systems.
- Continued circuit operation is necessary for safe operation of equipment.

CABLE TESTING AND MAINTENANCE

- Using a 2500-Vdc megohmmeter, check the insulation resistance between both of the rectangular (power) prongs on the plug and the round (ground) prong after installing the heating cable. Minimum reading should be 1000 megohms.
- Record the original values for each circuit, and compare subsequent readings taken during regular maintenance schedules to the original values.
- If the readings fall below 1000 megohms, replace the SpeedTrace Extreme heating cable with a new unit. Do not attempt to repair the unit.

⚠ WARNING

Fire and shock hazard. Damaged heating cable can cause electrical shock, arcing, and fire. Do not attempt to repair or energize damaged heating cable. Remove it at once and replace with a new length.

PRODUCT SPECIFICATIONS

Cable (120V)	Cable (230V)	Cable Length (feet)	Min. power output at 50°F (10°C) on pipe (watts)	Nominal power output at 32°F (0°C) in ice and snow (watts)
FFSL81-6	**FFSL82-6**	6	48	96
FFSL81-12	**FFSL82-12**	12	96	192
FFSL81-18	**FFSL82-18**	18	144	288
FFSL81-24	**FFSL82-24**	24	192	384
FFSL81-50	**FFSL82-50**	50	400	800
FFSL81-75	**FFSL82-75**	75	600	1,200
FFSL81-100	**FFSL82-100**	100	800	1,600

General Specifications for all FFSL8 Products

Nominal cable width (in)	0.42
Nominal cable thickness (in)	0.22
Heating cable bus wire gauge (AWG)	16
Cold lead length (in)	30
Voltage rating (120V)	110-120
Voltage rating (230V)	208-277
Plug rating (amps)	15
Circuit breaker sizing minimum (amps)	15
Max. exposure temperature	150°F (65°C)
Electrical classification	Nonhazardous areas only
Exposure to chemicals	None
Watts/foot at 50°F (10°C)	8
Watts/foot at 32°F (0°C) in ice and snow	16
Outer Jacket Type	Moisture and flame resistant thermoplastic elastomer

TROUBLESHOOTING GUIDE

Please read this guide prior to contacting BriskHeat®. This guide is designed to answer the most commonly asked questions. If you are unable to identify the problem or need additional assistance, please contact your local distributor/ representative or us at **1-800-848-7673, 614-294-3376,** or **bhtsales1@briskheat.com.**

PROBLEM	SOLUTION(S)
Entire heating cable does not heat	Verify heater is connected to proper voltage. Check to see if there is a resistance reading (not an open circuit) in heater using an ohm meter.
Portion of heating cable does not heat	Examine unheated cable for damage.
Circuit breaker is tripping	Validate that the circuit breaker is capable of handling the amp requirement of heater. Examine heater and cord for any damage.

WARRANTY INFORMATION

BriskHeat warrants to the original purchaser of this product for the period of eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever comes first. BriskHeat's obligation and the exclusive remedy under this warranty shall be limited to the repair or replacement, at BriskHeat's option, of any parts of the product which may prove defective under prescribed use and service following BriskHeat's examination, is determined by BriskHeat to be defective. The complete details of the warranty can be found online at www.briskheat.com or by contacting us at 1-800-848-7673 (toll free, U.S. / Canada) or 1-614-294-3376 (Worldwide).

BriskHeat® Corporation

4800 Hilton Corporate Dr. Columbus, OH 43232
Toll Free: 800-848-7673
Phone: 614-294-3376
Fax: 614-294-3807
Email: bhtsales1@briskheat.com

BriskHeat® Corporation

Spanish (Español)

SpeedTrace Extreme

Cable calefactor autorregulable preensamblado

Manual de instrucciones

⚠	Antes de operar o realizar mantenimiento de este cable calefactor, lea y comprenda este manual. Si no logra entender cómo operar con seguridad estos cables calefactores, se podría producir un accidente que cause lesiones graves o la muerte. Estos cables calefactores solo deben ser utilizados por personal cualificado.

ÍNDICE

INTRODUCCIÓN

Gracias por comprar un cable calefactor autorregulable y preensamblado SpeedTrace Extreme de BriskHeat® . Su cable calefactor se ha diseñado para proporcionar una larga y eficiente vida de servicio, con aspectos como funcionamiento, fiabilidad y seguridad en mente. Para obtener información adicional o información sobre otros productos de BriskHeat®, le recomendamos que se ponga en contacto con BriskHeat® en el teléfono 1-800-848-7673 (línea gratuita, EE.UU./ Canadá) o 614-294-3376.

¡CONSERVE ESTAS INSTRUCCIONES!
Existen copias adicionales de este manual si lo solicita.

SÍMBOLO DE ALERTA DE SEGURIDAD

El símbolo de arriba se usa para que preste atención a instrucciones que conciernen a la seguridad personal. Indica precauciones importantes relativas a la seguridad. Significa "**¡ATENCIÓN! ¡Esté alerta! ¡Su seguridad personal está en riesgo!"** Lea el mensaje que sigue y esté alerta a la posibilidad de lesiones personales o riesgo de muerte.

⚠ PELIGRO

Peligros inmediatos que **RESULTARÁN** en lesiones personales o muerte.

⚠ ADVERTENCIA

Peligros o prácticas no seguras que **PODRÍAN** resultar en lesiones personales graves o muerte.

⚠ PRECAUCIÓN

Peligros o prácticas no seguras que **PODRÍAN** resultar en lesiones personales leves o daños a la propiedad.

INSTRUCCIONES IMPORTANTES DE SEGURIDAD

⚠ PELIGRO

Una persona que no haya leído y comprendido todas las instrucciones de instalación no está cualificada para instalar el producto.

⚠ PELIGRO

- No sumerja el calentador en líquido.
- Mantenga material volátil o combustible lejos del calefactor cuando se está utilizando.
- Utilice el calentador solamente en los lugares aprobados
- Mantenga los objetos metálicos afilados lejos del calentador.

No respetar estas advertencias puede resultar en descarga eléctrica, riesgo de incendio y lesiones personales.

⚠ ADVERTENCIA

Usuario final debe cumplir lo El siguiente:

- Solamente personal cualificado está autorizado para conectar los cables eléctricos.
- Antes de realizar cualquier conexión de alimentación eléctrica, desconecte toda la energía eléctrica desde su fuente.
- Todo el cableado eléctrico debe cumplir las normativas eléctricas locales.
- La persona que realice la instalación/cableado finales debe estar cualificada para dicho trabajo.
- El usuario final es responsable de proporcionar un dispositivo de desconexión adecuado.
- El usuario final es responsable de proporcionar un dispositivo de protección eléctrica adecuado. Se recomienda encarecidamente utilizar un interruptor de circuito para fallos de toma a tierra.

No prestar atención a estas advertencias puede resultar en lesiones personales o daños al cable calefactor.

Aprobaciones de agencias

ETL Listed c US Intertek

⚠ PRECAUCIÓN

- Nunca manipule el cable calefactor mientras está funcionando; desconecte siempre el cable calefactor de su fuente de suministro eléctrico y deje que se enfríe antes de manipularlo.
- Inspeccione el cable calefactor antes de usarlo.
- Si se produce alguna salpicadura de materia extraña sobre el calentador, desconéctelo de la fuente eléctrica y límpielo después de que el cable calefactor se haya enfriado.
- Sujete el cable calefactor a los tubos utilizando solamente los métodos aprobados.
- No repare un cable calefactor que esté dañado o defectuoso.
- No aplaste ni aplique una presión física excesiva sobre el cable calefactor o conjunto de cables.
- Desenchufe el cable calefactor cuando no se esté utilizando.
- No lo utilice para ninguna otra aplicación.

No prestar atención a estas advertencias puede resultar en lesiones personales o daños al cable calefactor.

⚠ ADVERTENCIA

Antes de utilizar este cable calefactor, lea y comprenda el manual entero.

RESUMEN DE FUNCIONAMIENTO

1. Los cables calefactores SpeedTrace Extreme de BriskHeat® están diseñados para la protección contra congelación de tubos metálicos y de plástico.
2. Adecuado para uso en interiores y exteriors.
3. Fácil de instalar: viene preensamblado con cable de alimentación y conector. (Los modelos de 230 V tienen simples conductores de hilos).
4. Se puede traslapar y aislar con seguridad.
5. Ajusta automáticamente la potencia de calentamiento en función de la superficie y temperatura ambiental.
6. No se necesita ningún controlador de temperatura.

DESCRIPCIÓN

Los cables calefactores autorregulables y preensamblados SpeedTrace Extreme están diseñados para proteger contra congelación los tubos comerciales de metal y de plástico.

Los cables calefactores SpeedTrace Extreme están disponibles en longitudes de 1,8 m, 3,6 m, 7,2 m, 15,2 m, 22,8 m y 30,4 m; y cada uno de ellos viene en conjunto preensamblado de cable de alimentación de 30 pulgadas y conector. (Los modelos de 230 V tienen simples conductores de hilos).

CONTENIDO DEL KIT

1. Cable calefactor autorregulable y preensamblado SpeedTrace Extreme.
2. Etiquetas para tubos de seguimiento eléctrico.

Elementos adicionales necesarios, pero no suministrados, para aplicaciones con tubos

Cinta adhesiva; seleccione entre fibra de vidrio o aluminio:

- Cinta de fibra de vidrio, PSAT36A, 12,7 mm de anchura, 32,7 m de longitude.
- Cinta de aluminio, AAT260, 50,8 mm de anchura, 54,6 m de longitude.

Aislamiento:

- Aislamiento de tubo flexible de celda cerrada INSUL-LOCK DS.

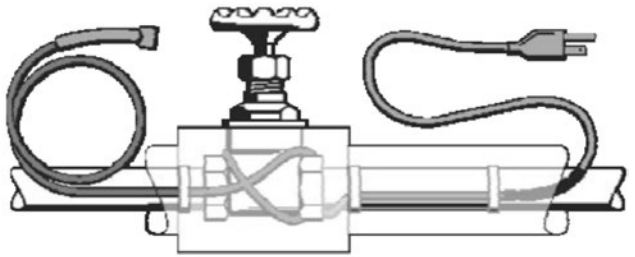
⚠ADVERTENCIA

Peligro de incendio y descarga eléctrica. Este producto es un aparato eléctrico que debe instalarse correctamente para garantizar su funcionamiento apropiado y para prevenir descargas eléctricas o incendio. Lea estas advertencias importantes y siga atentamente todas las instrucciones de instalación.

- Para minimizar el peligro de incendio como consecuencia de la formación continua de un arco eléctrico si se daña o se instala incorrectamente el cable calefactor, y para cumplir los requisitos de BriskHeat y las normativas eléctricas nacionales, se debe utilizar protección de equipo contra fallos de toma a tierra en el circuito de derivación de cada cable calefactor. La formación de arco eléctrico no puede evitarse mediante protección de circuitos convencional.
- Para aplicaciones de protección contra congelación de tubos, utilice solamente materiales de aislamiento resistente al fuego como, por ejemplo, espuma previamente modelada o fibra de vidrio.
- Procure no dañar el cable calefactor y el cable de alimentación o conector. Cualquier cable dañado debe ser retirado del servicio inmediatamente.
- No utilice abrazaderas de alambre o de metal para sujetar el cable al tubo. Utilice cinta (de una anchura entre 1/2 y 2 pulgadas) o abrazaderas de plástico para cables.
- Deje estas instrucciones de instalación a disposición del usuario para referencia en el futuro.
- Antes de realizar la instalación o cualquier servicio de reparación o mantenimiento, desactive la corriente de todos los circuitos eléctricos.
- La capa conductora de este dispositivo de calentamiento debe estar conectada a una toma a tierra adecuada.

BriskHeat® Corporation
Cable calefactor SpeedTrace Extreme

PROTECCIÓN CONTRA CONGELACIÓN DEL TUBO



Requisitos generales de protección contra congelación del tubo:

- Los cables calefactores SpeedTrace Extreme pueden utilizarse con tuberías de agua metálicas o de plástico, pero no con tubos flexibles de vinilo (por ejemplo, mangueras de jardín).
- Los cables calefactores SpeedTrace Extreme no están diseñados para utilizarse en el interior de tubos ni para protección contra congelación de líquidos que no sean agua, y tampoco para utilizarse en ubicaciones clasificadas como peligrosas.
- Instálelo con un mínimo de aislamiento térmico hermético y resistente al fuego de ½".
- Nunca lo utilice en tubos que puedan superar la temperatura de 150 °F (65 °C).
- La extensión eléctrica no se puede utilizar para instalaciones permanentes. Para instalaciones temporales consultar los códigos eléctricos y de incendio locales.

INSTRUCCIONES GENERALES

- Haga la instalación solamente en ubicaciones accesibles; no lo instale detrás de paredes ni de forma que el cable quede oculto.
- No haga pasar el cable calefactor a través de paredes, techos o suelos.
- Conéctelo solamente a enchufes que tengan protección contra fallos de toma a tierra, que hayan sido instalados de conformidad con todos los códigos y normas nacionales y locales y que estén protegidos de la lluvia y otros efectos del agua.

CÓDIGOS ELÉCTRICOS

Deberán acatarse los artículos 422,426 y 427 del Código nacional eléctrico (NEC) y la Parte 1, Sección 62 del Código eléctrico canadiense (CEC) que regulan la instalación del cable calefactor SpeedTrace Extreme para protección contra la congelación de los tubos.

Importante: Para que la garantía del cable calefactor SpeedTrace Extreme de BriskHeat® sea válida, deberá cumplir todos los requisitos que se describen en estas directrices.

Toda la información térmica y de diseño que aquí se proporciona, está basada en una instalación estándar con el cable calefactor sujeto firmemente a una tubería dotada de aislamiento. Para cualquier otra aplicación o método de instalación, póngase en contacto con BriskHeat® llamando al teléfono 1-800-848-7673 (EE. UU. / Canadá), o 1-614-294-3376 (resto del mundo).

SELECCIÓN DE CABLES

Utilice las tablas siguientes para seleccionar el cable calefactor correcto. Añada 30 cm a la longitud del tubo por cada válvula o espita que haya en su sistema de tuberías.

En los gráficos se da por sentado que se utiliza el menor grosor de aislamiento térmico exterior, hermético y resistente al fuego (espuma premodelada). Para protección hasta -20°F (-29 °C), utilice aislamiento de 1" (25mm) de grosor.

Importante: Toda la información térmica y de diseño que aquí se proporciona, está basada en una instalación estándar. Para cualquier otra aplicación o método de instalación, póngase en contacto con BriskHeat® llamando al teléfono 1-800-848-7673 (EE. UU. / Canadá), o 1-614-294-3376 (resto del mundo).

Tabla 1 Tubos de metal

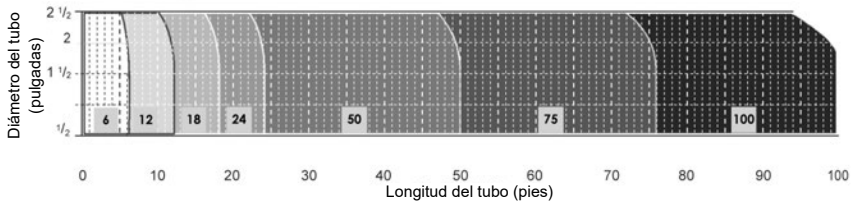
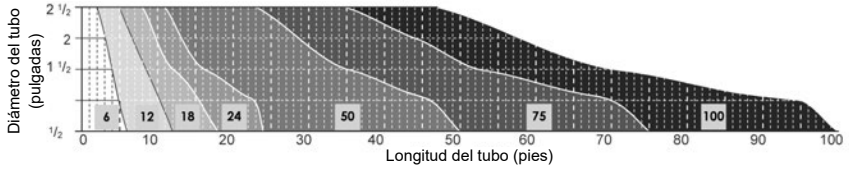


Tabla 2 Tubos de plástico



Añada 30 cm a la longitud del tubo por cada válvula o espita que haya en su sistema de tuberías. Si el cable seleccionado es más largo que la tubería, enróllelo en espiral uniformemente a lo largo de toda la tubería.

INSTALACIÓN DEL CABLE CALEFACTOR

Figura 1 Instalación de trazado recto

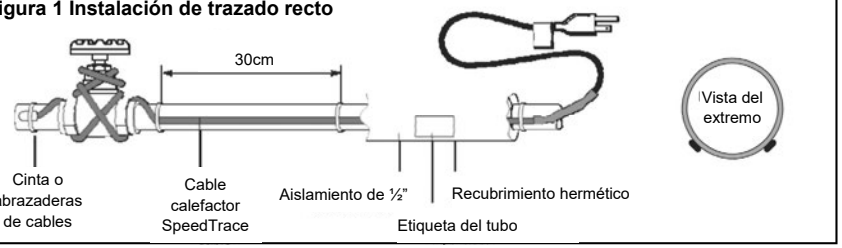
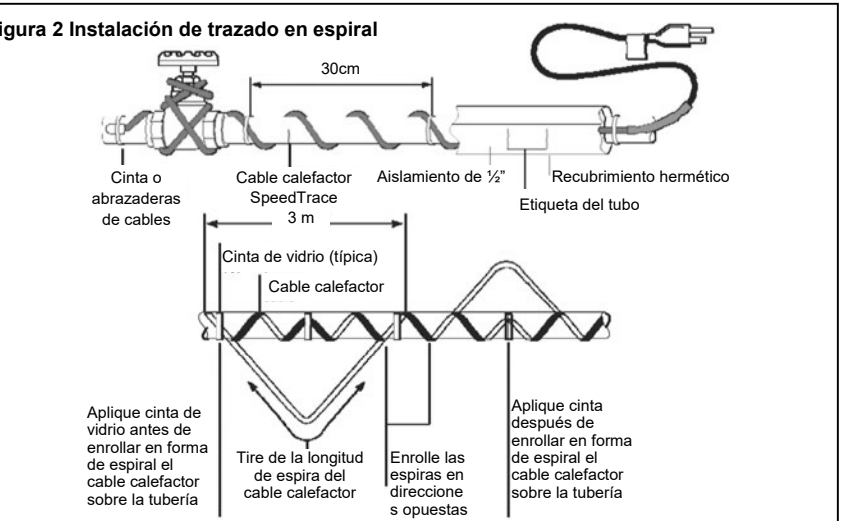


Figura 2 Instalación de trazado en espiral



1. Prepárese para la instalación

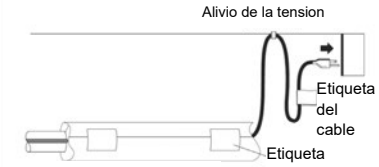
- Guarde el cable calefactor en un lugar limpio y seco.
- Prueba completa de presión de las tuberías.
- Antes de instalar el cable, retire cualquier superficie afilada que podría dañar el cable calefactor.
- Examine el diseño del cable calefactor SpeedTrace Extreme y compare los materiales que ha recibido para verificar que tiene el cable calefactor SpeedTrace Extreme adecuado.
- Haga un recorrido por el sistema y planifique el encaminamiento del cable calefactor SpeedTrace Extreme sobre la tubería.
- Para modelos de 230 V solamente: instale el dispositivo conector eléctrico aprobado para 208-277 V CA antes de instalar el cable calefactor.

2. Coloque en posición y sujete el cable calefactor a la tubería

- Asegúrese de que todas las tuberías que se van a rastrear están secas.
- Instale el cable calefactor utilizando la Figura 1 de trazado recto, o la figura 2 de trazado en espiral.

Figura 3 Aislamiento

Figura 4 Alivio de la tensión



Nota: los tubos deben estar completamente aislados.

- Para el trazado recto, instale el cable calefactor sobre la mitad inferior de la tubería; por ejemplo, en la posición de las 4 en punto o de las 8 en punto.
- Asegúrese de instalar el cable calefactor adicional necesario para las válvulas, bridas, etc., como se muestra en las figuras 1 y 2.
- Cuando el diseño exige un trazado en espiral, comience suspendiendo una espira cada 3 metros, como se muestra en la Figura 2. Para determinar la longitud de la espira, divida la longitud del cable calefactor SpeedTrace Extreme entre la longitud de su tubería y multiplíquelo por 10. Por ejemplo, si está utilizando un cable calefactor SpeedTrace Extreme de 15 metros sobre una tubería de 12 metros, deje una espira de 3,6 m de cable calefactor en cada sección de 3 m de tubería. Agarre la espira por el centro y enróllela alrededor de la tubería. Iguale la distancia entre espiras deslizando las partes enrolladas a lo largo de la tubería. Utilice la cinta adhesiva recomendada, de fibra de vidrio o de aluminio, para fijar el centro de la espira a la tubería.
- Sujete firmemente el cable calefactor SpeedTrace Extreme a la tubería en intervalos de 30 cm utilizando cinta de fibra de vidrio PSAT36A o cinta de aluminio AAT260. No utilice cinta de vinilo para aplicaciones eléctricas, ni cinta adhesiva de embalaje, bandas de metal ni alambre.
- Si queda cable sobrante al final de la tubería, encamínelo de vuelta a lo largo de la tubería.

3. Compruebe la instalación

- Antes de instalar el aislamiento térmico, asegúrese de que el cable calefactor no tenga ningún daño o desperfecto de origen mecánico (debido a cortes, pinzamientos, etc.) ni daño térmico (de soldadura, sobrecalentamiento, etc.).

4. Instale el aislamiento térmico

- La fiabilidad de un sistema de cable calefactor SpeedTrace Extreme depende de un aislamiento térmico hermético, correctamente instalado y seco, como el aislamiento de tuberías flexible y de celda cerrada INSUL-LOCK DS.
- Asegúrese de usar espuma premodelada o un aislamiento térmico equivalente de ½" y que todas las tuberías, incluidas válvulas, juntas y penetraciones en paredes, hayan sido completamente aisladas, tal y como se muestra en la Figura 3.
- Para protección hasta -20°F (-29°C), utilice aislamiento de 1" (25mm) de grosor.
- Instale el aislamiento en la tubería tan pronto como sea posible para minimizar la posibilidad de daños de origen mecánico después de la instalación.
- Asegúrese de que el cable calefactor SpeedTrace Extreme sea visible en la parte exterior del aislamiento térmico.

5. Finalización de la instalación

- Para prevenir daños al cable calefactor, sujete el cable de alimentación (conductor frío) con una abrazadera de plástico para cables, una cinta de tejido para cables o cinta de embalaje, tal y como se muestra en la Figura 4.
- Las etiquetas de rastreo eléctrico que indican la presencia de cable calefactor de tuberías se incluyen con el cable calefactor. Fije las etiquetas de «rastreo eléctrico» sobre la superficie exterior del aislamiento de tubería, a intervalos de una etiqueta cada 3 metros de tubería para indicar la presencia del cable calefactor SpeedTrace Extreme.

6. Arranque del sistema

- BriskHeat® recomienda que se someta al sistema a prueba, conforme a la sección "Pruebas y mantenimiento del cable" que aparece más adelante.
- Conecte el cable calefactor a una toma de corriente de con protección ante fallos de toma a tierra.
- Compruebe el interruptor de circuito para verificar si llega corriente al cable.
- El agua existente en la tubería debería sentirse tibia en una hora.

7. Protección contra fallos de toma a tierra

- BriskHeat® y los códigos eléctricos nacionales exigen que haya una protección contra fallos de toma a tierra en el circuito de derivación de cada cable calefactor.
- Para reducir el riesgo de incendios derivados de desperfectos o de una instalación inapropiada, se deben utilizar interruptores de circuito o algo equivalente, con un nivel de desconexión de 30 mA. También son aceptables diseños alternativos que proporcionen niveles comparables de protección contra fallos de toma a tierra. Para obtener asistencia técnica, póngase en contacto con BriskHeat en el teléfono 1-800-848-7673 (EE. UU. / Canadá), o 1-614-294-3376 (resto del mundo).

⚠ ADVERTENCIA

- Las condiciones de mantenimiento y supervisión garantizan que solamente personas cualificadas realicen trabajos de reparación o mantenimiento en los sistemas instalados.
- Para el funcionamiento del equipo en condiciones de seguridad es necesario el continuo funcionamiento del circuito.

PRUEBAS Y MANTENIMIENTO DE CABLES

- Utilizando un ohmímetro de 2500 V CC, compruebe la resistencia del aislamiento entre ambas clavijas rectangulares (de alimentación) en el conector y la clavija redonda (tierra) después de instalar el cable calefactor. La lectura mínima debería ser de 1000 megaohmios.
- Anote los valores originales de cada circuito y compare las lecturas subsiguientes que se tomen durante los intervalos de mantenimiento periódicos con los valores originales.
- Si las lecturas caen por debajo de 1000 megaohmios, sustituya el cable calefactor SpeedTrace Extreme por una nueva unidad. No intente reparar la unidad.

⚠ADVERTENCIA

Peligro de incendio y descarga eléctrica. Un cable calefactor dañado puede causar descarga eléctrica, arco eléctrico e incendio. No intente reparar ni energizar un cable calefactor dañado. Retírelo de inmediato y sustitúyalo por uno nuevo.

ESPECIFICACIONES DEL PRODUCTO

Cable (120V)	Cable (230V)	Longitud del cable (m)	Mínima potencia de salida a 50 °F (10 °C) en la tubería (vatios)	Potencia de salida nominal a 32 °F (0 °C) en hielo y nieve (vatios)
FFSL81-6	**FFSL82-6**	1,8	48	96
FFSL81-12	**FFSL82-12**	3,6	96	192
FFSL81-18	**FFSL82-18**	5,4	144	288
FFSL81-24	**FFSL82-24**	7,3	192	384
FFSL81-50	**FFSL82-50**	15	400	800
FFSL81-75	**FFSL82-75**	22,8	600	1,200
FFSL81-100	**FFSL82-100**	30,4	800	1,600

Especificaciones generales para todos los productos FFSL8

Anchura nominal del cable (mm)	10,6
Grosor nominal del cable (mm)	5,6
Calibre del conductor de la barra colectora del cable calefactor (AWG)	16
Longitud del conductor frío (m)	0,76
Tensión nominal (120V)	110-120
Tensión nominal (230V)	208-277
Corriente nominal del conector (amperios)	15
Calibración de interruptor de circuito, mínima (amperios)	15
Máxima temperatura de exposición	65 °C (150 °F)
Clasificación eléctrica	Solamente ubicaciones no peligrosas
Exposición a productos químicos	Ninguna
Vatios/pie a 50 °F (10 °C)	8
Vatios/pie a 32 °F (0 °C) en hielo y nieve	16
Tipo de funda exterior	Elastómero termoplástico resistente a la humedad y a las llamas

BriskHeat® Corporation
Cable calefactor SpeedTrace Extreme

GUÍA PARA SOLUCIÓN DE PROBLEMAS

Por favor, lea esta guía antes de ponerse en contacto con BriskHeat®. Esta guía está diseñada para responder a las preguntas más comunes. Si no puede identificar el problema o necesita asistencia adicional, póngase en contacto con su distribuidor local de BriskHeat® o con nosotros utilizando la línea gratuita 1-800-848-7673 (EE. UU. / Canadá solamente) o 614-294-3376 o por correo electrónico a **bhtsales1@briskheat.com.**

PROBLEMA	SOLUCIÓN
El conjunto del cable calefactor no calienta	Verifique que el calentador está conectado a la tensión adecuada. Compruebe si hay una lectura de resistencia (no un circuito abierto) en el calentador utilizando un ohmímetro.
Una parte del cable calefactor no calienta	Examine el cable no calentado por si estuviera dañado.
El interruptor de circuito se está desconectando	Confirme que el interruptor de circuito es capaz de soportar los requisitos de amperaje del calentador. Examine el calentador y el cable por si estuvieran dañados.

INFORMACIÓN SOBRE LA GARANTÍA

BriskHeat concede una garantía al comprador original durante un periodo de dieciocho (18) meses desde la fecha del envío o doce (12) meses desde la fecha de instalación, la que llegue antes. La obligación y remedio exclusivo de BriskHeat, sujetos a esta garantía, estarán limitados a la reparación o sustitución, a discreción de BriskHeat, de cualquier pieza del producto que se haya demostrado estar defectuosa en las condiciones de uso y servicio establecidas, después de una inspección realizada por BriskHeat y de que BriskHeat haya determinado que está defectuosa. Los detalles completos de la garantía están disponibles en línea en www.briskheat.com o poniéndose en contacto con nosotros en el teléfono 1-800-848-7673 (línea gratuita, En EE. UU. / Canadá), o 1-614-294-3376 (resto del mundo).

BriskHeat® Corporation

4800 Hilton Corporate Dr. Columbus, OH 43232
Línea gratuita: 800-848-7673
Número de teléfono: 614-294-3376
Fax: 614-294-3807
Correo electrónico: bhtsales1@briskheat.com

BriskHeat® Corporation

French (Français)

SpeedTrace Extreme

Câble chauffant autorégulant Pré-assemblé

Manuel d'instructions

⚠	Lissez et assimilez ce document avant d'utiliser ou d'intervenir sur ce câble chauffant. Ne pas savoir comment utiliser sans risque ces câbles chauffants peut entraîner un accident, cause possible de blessure ou même de mort. Ces câbles chauffants ne doivent être utilisés que par du personnel qualifié.

TABLE DES MATIÈRES

INTRODUCTION

Merci d'avoir acheté un câble chauffant autorégulé pré-assemblé SpeedTrace Extreme de BriskHeat®. Votre câble chauffant est conçu pour fournir une longue durée de service efficace, avec fonctionnalité, fiabilité et sécurité à l'esprit. Pour plus d'informations, ou pour d'autres produits de BriskHeat®, veuillez nous contacter au 1-800-848-7673 (appel sans frais des USA et du Canada) ou au 614-294-3376.

CONSERVER CES INSTRUCTIONS !
Des exemplaires supplémentaires de ce manuel sont disponibles sur demande.

⚠

SYMBOLE D'AVERTISSEMENT DE SÉCURITÉ

Le symbole ci-dessus est utilisé pour attirer votre attention sur des instructions concernant votre sécurité personnelle. Il souligne des consignes de sécurité importantes. Il signifie **« ATTENTION ! Restez vigilant ! Il en va de votre sécurité ! »** Lisez le message qui suit et soyez vigilant quant aux risques de blessures corporelles graves ou mortelles.

⚠ DANGER

Indique des dangers immédiats qui **ENTRAINERONT** des blessures graves, voire mortelles.

⚠ AVERTISSEMENT

Indique des dangers ou des pratiques dangereuses **POUVANT ENTRAÎNER** des blessures graves ou mortelles.

⚠ ATTENTION

Indique des dangers ou des pratiques dangereuses **POUVANT ENTRAÎNER** des blessures graves ou mortelles.

IMPORTANTES INFORMATIONS DE SÉCURITÉ

⚠ DANGER

Une personne qui n'a pas lu et assimilé toutes les instructions d'utilisation n'est pas qualifiée pour faire fonctionner ce produit.

Homologations

cETLus Intertek

⚠ DANGER

- N'immergez pas un élément chauffant dans un liquide.
- Gardez les matières combustibles ou volatiles à distance de l'élément chauffant pendant son utilisation.
- N'utilisez un élément chauffant que dans des endroits approuvés.
- Gardez les objets métalliques tranchants à l'écart de l'élément chauffant.

Le non-respect de ces avertissements peut entraîner un choc électrique, un risque d'incendie et des blessures corporelles.

⚠ ATTENTION

- Ne manipulez jamais le câble chauffant quand il est en fonctionnement. Débranchez-le toujours de sa source d'alimentation et laissez-le refroidir avant de le toucher.
- Inspectez le câble chauffant avant de vous en servir.
- Si un déversement de matière se produit sur ces éléments chauffants, débranchez-les de leur source d'alimentation et nettoyez-les après leur refroidissement.
- Fixez le câble chauffant aux tuyaux en n'utilisant que des méthodes approuvées.
- N'essayez pas de réparer des câbles chauffants endommagés ou présentant un dysfonctionnement.
- N'écrasez pas et n'appliquez pas de contrainte physique sévère au câble chauffant ou à son cordon.
- Débranchez le câble chauffant quand il n'est pas en utilisation.
- Ne l'utilisez pas pour une autre application.

À défaut d'observation de ces mises en garde il y a un risque de blessure corporelle ou de dommages au câble chauffant.

⚠ AVERTISSEMENT

L'utilisateur final doit respecter les règles suivantes :

- Seulement du personnel qualifié a le droit d'effectuer le câblage électrique.
- Débranchez le secteur en amont avant de réaliser des connexions électriques quelconques.
- Tout câblage électrique doit respecter les normes électriques locales.
- La personne qui réalise l'installation / le câblage final doit être qualifié pour cette tâche.
- L'utilisateur final est responsable de la fourniture d'un dispositif de coupure d'alimentation électrique adéquat.
- L'utilisateur final est responsable de la fourniture d'un dispositif de protection électrique adéquat. Il est fortement recommandé d'utiliser un disjoncteur différentiel.

À défaut d'observation de ces mises en garde il y a un risque de blessure corporelle ou de dommages à l'élément chauffant.

BriskHeat® Corporation
Câble chauffant autorégulé pré-assemblé
SpeedTrace Extreme

⚠ AVERTISSEMENT

Lisez et assimilez tout le contenu du manuel avant de faire fonctionner ce câble chauffant.

RÉSUMÉ DU FONCTIONNEMENT

1. Les câbles SpeedTrace Extreme de BriskHeat® sont conçus pour une protection contre le gel sur des tuyaux en métal ou en plastique.
2. Ils peuvent s'utiliser à l'intérieur ou à l'extérieur.
3. Ils sont faciles à installer : Pré-assemblés avec cordon. (Modèles 230V ont des fils conducteurs nus).
4. Ils se recouvrent et s'isolent sans risque.
5. Ils ajustent automatiquement la puissance de chauffe en fonction de la surface et de la température ambiante.
6. Ils ne nécessitent pas de contrôleur de temperature.

DESCRIPTION

Les câbles chauffants autorégulés pré-assemblés sont conçus pour protéger du gel la tuyauterie commerciale en métal et en plastique.

Ils sont disponibles dans des longueurs de 6, 12, 24, 50, 75 et 100 pieds (de 1,8 à 30 mètres), chacun arrive assemblé avec un cordon d'alimentation de 30 pouces (76 cm) muni d'une fiche. (Modèles 230V ont des fils conducteurs nus).

CONTENU DU KIT

1. Câble chauffant pré-assemblé à autorégulation SpeedTrace Extreme.
2. Étiquettes de repérage électrique pour tuyaux.

Articles additionnels nécessaires, mais non fournis, pour les applications sur tuyaux

Bande adhésive, à choisir entre fibre de verre et aluminium :

- Bande de fibre de verre, PSAT36A, un demi pouce de large, 36 verges de long (12,7 mm x 33 m).
- Bande d'aluminium, AAT260, deux pouces de large, 60 verges de long (50,8 mm x 54,8 m).

Isolation :

- Isolant pour tuyaux INSUL-LOCK DS, flexible à alvéoles fermées.

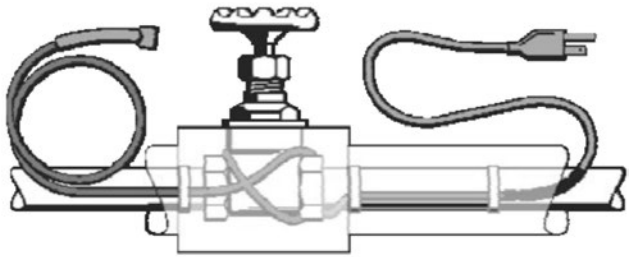
⚠ AVERTISSEMENT

Risque de départ d'incendie et de commotion électrique : Ce produit est un composant électrique qui doit être installé correctement pour assurer son bon fonctionnement et pour éviter une commotion électrique ou un départ d'incendie. Lisez ces avertissements importants et suivez soigneusement toutes les instructions d'installation.

- Pour minimiser le danger de feu provenant d'arcs électriques soutenus dans le câble chauffant endommagé ou mal installé, et pour satisfaire les exigences de BriskHeat® et des normes électriques nationales, une équipement de protection sur fuite à la terre doit être utilisé sur chaque branche de secteur alimentant des câbles chauffants. La production d'arcs électriques peut être stoppée par un circuit de protection conventionnel.
- Pour des applications de protection de tuyaux contre le gel, n'utilisez que des matériaux d'isolation résistant au feu, tels que de la mousse préformée ou de la fibre de verre.
- N'endommagez pas le câble chauffant ou son cordon et sa fiche d'alimentation. Mettez immédiatement hors service des câbles chauffants endommagés.
- N'utilisez ni fils ni attaches métalliques pour fixer le câble chauffant sur le tuyau. N'utilisez que de la bande autocollante (en largeur d'un demi à deux pouces) ou des attaches pour câbles en plastique.
- Laissez ces instructions d'installation à l'utilisateur comme référence ultérieure.
- Désactivez tous les circuits d'alimentation avant toute intervention d'installation ou de service.
- La couche conductrice de ce composant chauffant doit être connectée à une borne de terre convenable.

BriskHeat® Corporation
Câble chauffant autorégulé pré-assemblé
SpeedTrace Extreme

PROTECTION DE TUYAU CONTRE LE GEL



Exigences générales pour la protection de tuyaux contre le gel :

- Des câbles chauffants SpeedTrace Extreme peuvent s'utiliser sur des conduites d'eau en métal ou en plastique, mais pas sur des tubulures flexibles en vinyle (comme des tuyaux d'arrosage).
- Les tuyaux chauffants SpeedTrace Extreme ne sont pas prévus pour être utilisés à l'intérieur d'un tuyau quelconque, pour la protection contre le gel de liquides autres que de l'eau, ou pour être activés dans des endroits classés comme dangereux.
- Leur installation doit se faire avec au moins 1/2" (13mm) d'isolant thermique étanche et résistant au feu.
- Ne les utilisez jamais sur des conduites quelconques dont la température pourrait dépasser 150°F (65°C).
- Le cordon prolongateur ne doit pas être utilisé pour des installations permanentes. Pour les installations temporaires, consultez les codes de prévention électriques et incendie locaux.

INSTRUCTIONS GÉNÉRALES

- N'installez ces câbles chauffants que dans des lieux restant accessibles, ne les placez pas derrière des murs ou à un endroit où ils seraient cachés.
- Ne faites pas passer de câbles chauffants au travers de murs, plafonds ou planchers.
- Ne les branchez que sur des prises secteur avec protection contre défaut de terre, installées en conformité avec toutes les normes et réglementations nationales et locales en vigueur, avec une protection contre la pluie ou une autre exposition à de l'eau.

NORMES ÉLECTRIQUES

Les articles 422, 426 et 427 de la norme électrique américaine (NEC), et la Partie 1 / Section 62 de la norme électrique canadienne (CEC) régissent l'installation du câble chauffant SpeedTrace Extreme pour la protection de tuyau contre le gel, et sont à respecter.

Important : Pour que la garantie des SpeedTrace Extreme de BriskHeat® reste valide, vous devez satisfaire à toutes les exigences mentionnées dans ces recommandations.

Toutes les informations données ici concernant les aspects thermiques et de conception sont basées sur une installation standard, avec le câble chauffant fixé sur un tuyau isolé. Pour toute autre application ou méthode d'installation, veuillez contacter BriskHeat® au 1-800-848-7673 (USA / Canada), ou au 1-614-294-3376 (autres pays).

SÉLECTION DES CÂBLES

Utilisez les tableaux qui suivent pour choisir le câble chauffant qui convient. Ajoutez 1 pied (30 cm) à la longueur de tuyau pour toute vanne ou robinet dans votre système de tuyauterie.

Ces tableaux assument une isolation thermique extérieure, étanche et résistante au feu, de l'épaisseur minimale (mousse préformée). Pour une protection allant jusqu'à -20°F (-29°C), utilisez de l'isolant d'épaisseur 1" (25mm).

Tableau 1 – Tuyaux métalliques

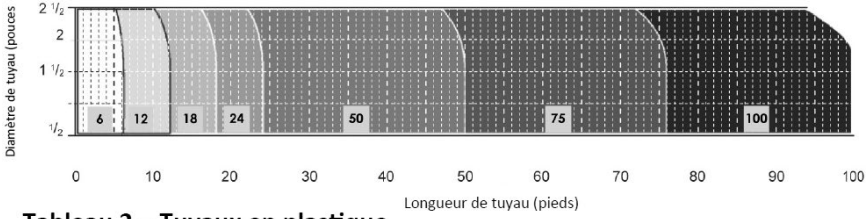
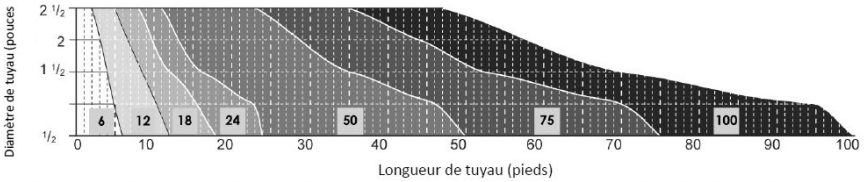


Tableau 2 – Tuyaux en plastique



Ajoutez 1 pied (30 cm) à la longueur de tuyau pour toute vanne ou robinet dans votre système de tuyauterie. Si un câble sélectionné est plus long que le tuyau, enroulez-le régulièrement en spirale tout le long du tuyau.

Important : Toutes les informations données ici concernant les aspects thermiques et de conception sont basées sur une installation standard. Pour toute autre application ou méthode d'installation, veuillez contacter BriskHeat® au 1-800-848-7673 (USA / Canada), ou au 1-614-294-3376 (autres pays).

BriskHeat® Corporation
Câble chauffant autorégulé pré-assemblé
SpeedTrace Extreme

INSTALLATION DE CÂBLE CHAUFFANT

Figure 1 – Installation en ligne droite

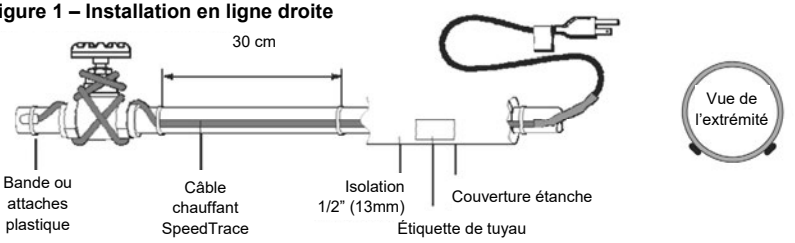
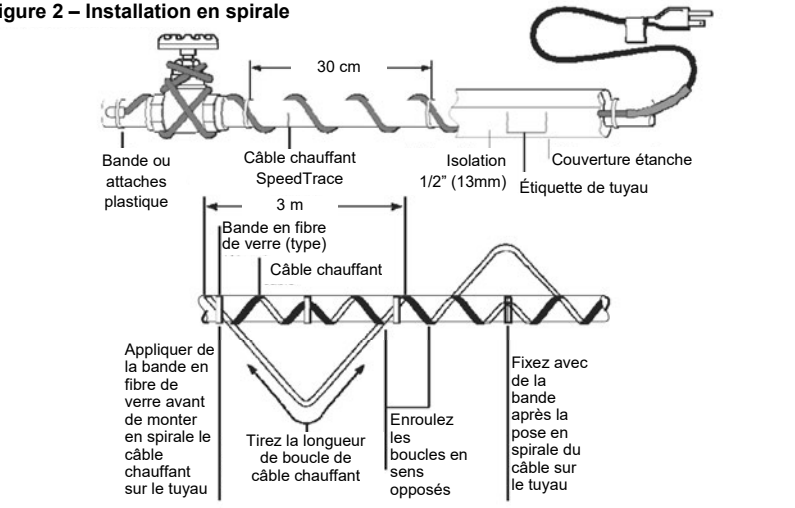


Figure 2 – Installation en spirale



1. Préparation de l'installation.

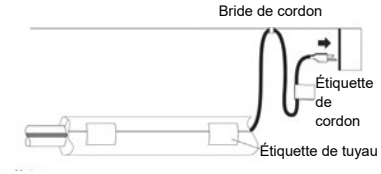
- Gardez le câble chauffant dans un endroit propre et sec.
- Effectuez le test en pression du tuyau.
- Avant d'installer le câble chauffant, éliminez toute partie coupante de la surface du tuyau qui pourrait l'endommager.
- Passez en revue la conception du câble chauffant SpeedTrace Extreme et comparez-la avec ce que vous avez reçu pour vous assurer que vous allez placer le bon câble.
- Parcourez le système et planifiez le passage du câble chauffant SpeedTrace Extreme le long du tuyau.
- Seulement pour le modèle 230V: installez une prise électrique adaptée pour 208-277 VAC avant d'installation du câble chauffant.

2. Positionnement et fixation du câble chauffant sur le tuyau.

- Assurez-vous que toute la partie de tuyau à équiper est sèche.
- Installez le câble chauffant, en utilisant la pose en ligne droite (Figure 1) ou spiralée (Figure 2).

Figure 3 – Isolation

Figure 4 – Bride de cordon



Remarque : Les tuyaux doivent être complètement isolés

- Pour de la pose en ligne droite, installez le câble chauffant sur la partie inférieure du tuyau, comme par exemple en position à 4 ou à 8 heures.
- Assurez-vous d'installer le supplément de câble chauffant nécessité par les vannes, brides, etc. comme c'est montré aux Figures 1 et 2.
- Quand la conception demande des spirales, commencez par suspendre une boucle tous les 10 pieds (3 m) comme c'est montré en Figure 2. Pour déterminer la longueur de boucle, divisez la longueur de câble chauffant SpeedTrace Extreme par la longueur de votre tuyau, et multipliez par 10. Par exemple si vous utilisez un câble chauffant SpeedTrace Extreme de 50 pieds sur un tuyau de 40 pieds, laissez une boucle de 12 pieds de câble chauffant toutes les sections de 10 pieds de tuyau. Prenez la boucle par son milieu et entourez-la sur le tuyau. Équilibrez la distance entre les spirales en faisant glisser ces entourages le long du tuyau. Utilisez de la bande recommandée en fibre de verre ou aluminium pour faire tenir le milieu de la boucle sur le tuyau.
- Fixez le câble chauffant SpeedTrace Extreme sur le tuyau à des intervalles de 1 pied (30 cm) en utilisant de la bande en fibre de verre (PSAT36A) ou en aluminium (AAT260). N'utilisez pas de bande en vinyle pour électricien, de ruban pour canalisations, de bandes métalliques ni de fils.
- S'il reste un excédent de câble en bout de tuyau, ramenez-le en sens inverse le long du tuyau.

3. Contrôle de l'installation.

- Avant d'installer une isolation thermique, assurez-vous que le câble chauffant est exempt de dommages mécaniques (coupures, pincements, etc.) ou thermiques (soudure, surchauffe, etc.).

4. Installation d'une isolation thermique

- Un système avec câbles chauffants SpeedTrace Extreme sera stable grâce à une bonne installation d'isolation thermique résistant aux intempéries, comme de l'isolant pour tuyau flexible à cellules fermées INSUL-LOCK DS.
- Assurez-vous qu'au moins 1/2" (13mm) de mousse préformée ou d'isolant thermique équivalent soit utilisé, et que toute la tuyauterie, incluant les vannes, joints et pénétrations murales, soit complètement isolée comme c'est montré en Figure 3.
- Pour une protection allant jusqu'à -20°F (-29°C), utilisez de l'isolant d'épaisseur 1" (25 mm).
- Installez cette isolation sur la tuyauterie dès que possible pour minimiser les dommages mécaniques potentiels après l'installation des câbles chauffants.
- Assurez-vous que l'étiquette de câble chauffant SpeedTrace Extreme reste bien visible à l'extérieur de l'isolation thermique posée.

BriskHeat® Corporation
Câble chauffant autorégulé pré-assemblé
SpeedTrace Extreme

5. Achèvement de l'installation.

- Pour éviter d'endommager le câble chauffant ou son cordon, fixez le cordon d'alimentation (extrémité froide) avec une attache pour câble en plastique, de la bande en fibre de verre ou de la bande pour conduite, comme c'est montré en Figure 4.
- Des étiquettes de traçage électrique indiquant la présence d'un câble chauffant électrique pour tuyau sont incluses avec le câble chauffant. Fixez ces étiquettes de traçage électrique fournies sur la surface externe de l'isolation thermique, avec un intervalle de 10 pieds (3 m) de tuyau, pour indiquer la présence de câbles de chauffage SpeedTrace Extreme.

6. Démarrage du système.

- BriskHeat® recommande que le système soit testé en suivant les indications de la section Test et entretien des câbles qui suit.
- Branchez le câble chauffant dans une prise secteur avec protection à la terre.
- Contrôlez au niveau du disjoncteur l'envoi du secteur vers le câble chauffant.
- L'eau stationnaire dans le tuyau devrait être réchauffée au bout avant qu'une heure ne s'écoule.

7. Protection contre défaut de terre :

- BriskHeat® et les normes électriques américaines exigent une protection par équipement pour défaut de terre sur chaque branche de circuit secteur alimentant des câbles chauffants.
- Pour réduire le risque d'un départ d'incendie suite à des dommages ou à une mauvaise installation, il faut utiliser des disjoncteurs différentiels déclenchant à 30 mA, ou l'équivalence. Des dispositifs procurant un niveau équivalent de protection contre défauts de terre sont également acceptables. Pour de l'assistance technique, veuillez contacter BriskHeat® au 1-800-848-7673 (USA / Canada), ou au 1-614-294-3376 (autres pays).

⚠ AVERTISSEMENT

- Les conditions des entretiens et de la supervision font que seules des personnes de service qualifiées peuvent intervenir sur les systèmes installés.
- Un fonctionnement de circuit en continu est nécessaire pour la sûreté et la bonne marche de l'équipement.

TEST ET ENTRETIEN DES CÂBLES

- En utilisant un mégohmmètre de 2 500 V CC, contrôlez la résistance d'isolement entre les deux broches rectangulaires de la fiche d'alimentation et la broche ronde de terre, après l'installation du câble chauffant. La mesure doit faire au moins 1 000 MΩ.
- Enregistrez ces valeurs d'isolement d'origine, et comparez avec les mesure suivantes prises durant les entretiens périodiques planifiés.
- Si les valeurs d'isolement descendent sous 1 000 MΩ, remplacez le câble chauffant SpeedTrace Extreme concerné par un neuf. N'essayez pas de le réparer.

⚠ AVERTISSEMENT

Risque de départ d'incendie et de commotion électrique : Un câble chauffant endommagé peut provoquer une commotion électrique, produire des arcs électriques ou provoquer un départ de feu. N'essayez pas de réparer ou d'activer un câble chauffant endommagé. nlevez-le immédiatement et remplacez-le par un câble chauffant neuf de longueur appropriée.

SPÉCIFICATIONS DU PRODUIT

Câble (120V)	Câble (230V)	Longueur de câble (m)	Puissance de chauffe minimale à 50 °F (10 °C) sur tuyau (watts)	Puissance de chauffe minimale à 32 °F (0 °C) dans glace et neige (watts)
FFSL81-6	**FFSL82-6**	1,8	48	96
FFSL81-12	**FFSL82-12**	3,6	96	192
FFSL81-18	**FFSL82-18**	5,4	144	288
FFSL81-24	**FFSL82-24**	7,3	192	384
FFSL81-50	**FFSL82-50**	15	400	800
FFSL81-75	**FFSL82-75**	22,8	600	1,200
FFSL81-100	**FFSL82-100**	30,4	800	1,600

Spécifications générales pour tous les produits FFSL8

Largeur de câble nominale (mm)	10,6
Épaisseur de câble nominale (mm)	5,6
Calibre de fil du câble (AWG)	16
Longueur d'extrémité froide (m)	0,76
Tension secteur nominale (120 volts)	110-120
Tension secteur nominale (230 volts)	208-277
Spécification de fiche (ampères)	15
Calibre minimal de disjoncteur (ampères)	15
Température maximale d'exposition	65 °C (150 °F)
Classification électrique	En zones non dangereuses seulement
Exposition aux produits chimiques	Aucune
Watts/pied à 50 °F (10 °C)	8
Watts/pied à 32 °F (0 °C) dans glace et neige	16
Type de gaine extérieure	Élastomère thermoplastique résistant au feu et à l'humidité

BriskHeat® Corporation
Câble chauffant autorégulé pré-assemblé
SpeedTrace Extreme

GUIDE DE DÉPANNAGE

Veuillez bien lire ce guide avant de contacter BriskHeat®. Il a été conçu pour répondre aux questions les plus fréquentes. Si vous n'arrivez pas à identifier le problème ou avez besoin d'une assistance supplémentaire, veuillez nous appeler au 1-800-848-7673 (USA / Canada), au 614-614-294-3376 (reste du monde), ou contactez-nous sur **bhtsales1@briskheat.com.**

PROBLÈME	SOLUTION(S)
L'ensemble du câble chauffant ne chauffe pas	Vérifiez que l'élément chauffant est branché sur la tension secteur adéquate. Contrôlez pour savoir s'il y a une lecture de résistance à l'ohmmètre (donc pas de circuit ouvert).
Une partie du câble chauffant ne chauffe pas	Examinez la partie déficiente pour déceler un éventuel dommage.
Un disjoncteur a déclenché	Validez le fait que le disjoncteur peut supporter l'ampérage tiré par l'élément chauffant. Examinez l'élément chauffant et son cordon pour des dommages éventuels.

INFORMATIONS SUR LA GARANTIE

BriskHeat® garantit ce produit pour son acheteur d'origine pendant une période de dix-huit (18) mois à partir de sa date d'expédition, ou de douze (12) mois à partir de sa date d'installation (la première de ces deux échéances). L'obligation de BriskHeat®, qui constitue l'unique remède dans le cadre de cette garantie, se limite à la réparation ou au remplacement, au choix exclusif de BriskHeat®, de toutes les pièces du produit prouvées défectueuses dans le contexte d'une utilisation prescrite et d'un service suivant l'examen de BriskHeat®, qui détermine qu'il y a bien une défaillance. Les détails complets de la garantie peuvent se trouver en ligne sur le site www.briskheat.com, ou en nous contactant au 1-800-848-7673 (appel sans frais pour USA / Canada) ou au 1-614-294-3376 reste du monde).

BriskHeat® Corporation

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E-mail : bhtsales1@briskheat.com

BriskHeat® Corporation

German (Deutsch)

SpeedTrace Extreme

Vormontiertes selbst regelndes Heizkabel

Bedienungshandbuch

⚠	Lesen und verstehen Sie dieses Handbuch, bevor Sie die Heizung installieren. Mangelndes Verständnis für die sichere Installation dieser Heizung kann zu einem Unfall mit schweren Verletzungen oder zum Tod führen. Diese Heizung darf nur von qualifiziertem Personal bedient werden.

INHALTSVERZEICHNIS

EINFÜHRUNG

Vielen Dank, dass Sie sich für den Kauf eines BriskHeat® SpeedTrace selbst regelndem Heizkabel entschieden haben. Ihr Heizkabel wurde entwickelt, um eine effiziente Lebensdauer unter Berücksichtigung von Funktion und Zuverlässigkeit zu schaffen. Für weitere Informationen oder über andere BriskHeat® Produkte wenden Sie sich bitte an BriskHeat® 1-800-848-7673 (gebührenfrei, USA / Kanada) oder +1 614-294-3376.

BEWAHREN SIE DIESE BEDIENUNGSANLEITUNG AUF.
Zusätzliche Exemplare dieser Anleitung sind auf Anfrage erhältlich.

SICHERHEITSWARNSYMBOL

Das obige Symbol wird verwendet, um Ihre Aufmerksamkeit auf Anweisungen zu richten, die Ihrer Sicherheit dienen. Es weist auf wichtige Sicherheitshinweise hin und bedeutet: **ACHTUNG! Aufpassen! Ihre persönliche Sicherheit ist gefährdet!** Lesen Sie die nachfolgende Mitteilung und seien Sie wachsam, um die Möglichkeit von Verletzungen oder den Tod zu vermeiden.

⚠ GEFAHR

Unmittelbare Gefahrenquelle, die zu schweren Verletzungen oder den Tod führen **WIRD.**

⚠ WARNUNG

Gefahren oder unsichere Praktiken, die zu schweren Verletzungen führen **KÖNNEN.**

⚠VORSICHT

Gefahren oder gefährliche Verhaltensweisen, die zu leichten Verletzungen oder Sachschaden führen **KÖNNEN.**

WICHTIGE SICHERHEITSHINWEISE

⚠ GEFAHR

Eine Person, die diese Installationsanweisungen nicht gelesen und nicht verstanden hat, ist für die Installation dieses Produkts nicht qualifiziert.

Behördliche Zulassungen

ETL c US Intertek

⚠ GEFAHR

- Tauchen Sie die Heizung nicht in Flüssigkeiten.
- Halten Sie flüchtige oder brennbare Stoffe von der Heizung entfernt, wenn sie im Einsatz ist.
- Verwenden Sie die Heizung nur an zugelassenen Stellen.
- Halten Sie scharfe Metallgegenstände von der Heizung entfernt.

Nichtbeachtung dieser Warnhinweise kann zu einem elektrischen Schlag, Brandgefahr und/oder Verletzungen führen.

⚠ WARNUNG

Der Endbenutzer muss folgende Anforderungen erfüllen:

- Nur qualifiziertes Personal darf die elektrische Verdrahtung anschließen.
- Unterbrechen Sie die Versorgungsspannung an der Quelle, bevor Sie Stromanschlüsse vornehmen.
- Die Verkabelung muss den lokalen Elektrovorschriften entsprechen.
- Die Person, welche die endgültige Installation / Verdrahtung ausführt, muss für diese Arbeit qualifiziert sein.
- Der Endbenutzer ist für die Bereitstellung eines geeigneten Trennschalters verantwortlich.
- Der Endbenutzer ist für die Bereitstellung einer geeigneten Trenneinrichtung verantwortlich. Die Installation eines Fehlerstromschutzschalters wird dringend empfohlen.

Die Nichtbeachtung dieser Warnhinweise kann zu Verletzungen oder Schäden am Heizkabel führen.

⚠VORSICHT

- Handhaben Sie das Heizkabel nie, während es in Betrieb ist. Trennen Sie das Heizkabel von der Stromquelle und lassen Sie es vor der Handhabung abkühlen.
- Kontrollieren Sie das Heizkabel vor dem Gebrauch.
- Wenn Verunreinigungen durch Fremdkörper an dem Heizkabel auftreten, trennen Sie es von der Stromquelle und säubern Sie das Heizkabel nach dem Abkühlen.
- Befestigen Sie das Heizkabel am Rohr nur unter Verwendung erprobter Verfahren.
- Reparieren Sie keine beschädigten oder fehlerhaften Heizkabel.
- Wenden Sie keine schwere Belastung an dem Heizkabel oder Netzkabel an und zerquetschen Sie es nicht.
- Ziehen Sie den Netzstecker, wenn das Kabel nicht in Gebrauch ist.
- Verwenden Sie es nicht für andere Anwendungen.

Die Nichtbeachtung dieser Warnhinweise kann zu Verletzungen oder Schäden am Heizkabel führen.

⚠ WARNUNG

Lesen und verstehen Sie vor der Inbetriebnahme dieses Heizkabels das gesamte Handbuch.

ÜBERSICHT ÜBER DIE ANWENDUNG

1. BriskHeat® SpeedTrace-Heizkabel sind für den Frostschutz von Metall- und Kunststoffrohren konzipiert.
2. Geeignet für Innen- und Außenbereiche.
3. Leichte Installation: vormontiert mit Netzkabel. (230V Modelle werden nur mit Aderendhülsen und ohne Stecker geliefert).
4. Sicher zu überlappen und zu isolieren.
5. Automatische Einstellung der Wärmeleistung basierend auf Oberfläche und Umgebungstemperatur.
6. Keine Temperaturregelung erforderlich.

BESCHREIBUNG

SpeedTrace sind vormontierte selbstregelnde Heizkabel, die für den Frostschutz an kommerziellen Metall- und Kunststoffrohren ausgelegt sind.

SpeedTrace-Heizkabel stehen in Längen von 6, 12, 24, 50, 75 und 100 Fuß (1,8, 3,6, 7,3, 15,3, 22,8, 30,5 m) zur Verfügung. Jedes Kabel ist mit einem 7,6 m Netzkabel versehen. (230V Modelle werden nur mit Aderendhülsen und ohne Stecker geliefert).

KIT-INHALTE

1. Vormontiertes selbstregelndes SpeedTrace-Heizkabel.
2. Begleitheizungsetikett.

Zusätzliche benötigte Artikel, die aber nicht für die Rohranwendungen geliefert wurden

Glasfaserverstärktes Klebeband oder Aluminiumband:

- Glasfaserverstärktes Band, PSAT36A, 13 mm breit, 33 m lang.
- Aluminiumband, AAT260, 50 mm breit, 55 m lang.

Dämmung:

- INSUL-LOCK DS, flexible Rohrdämmung.

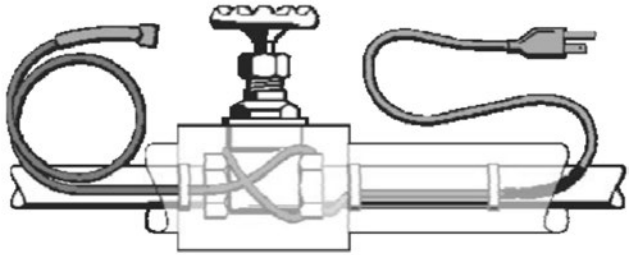
⚠ WARNUNG

Brand- und Stromschlaggefahr. Dieses Produkt ist ein elektrisches Gerät, das korrekt installiert werden muss, um den ordnungsgemäßen Betrieb zu gewährleisten und um einen Stromschlag oder einen Brand zu verhindern. Lesen Sie diese wichtigen Warnhinweise und befolgen Sie die Installationsanweisungen.

- Um die Gefahr von Feuer durch anhaltende elektrische Lichtbogenbildung zu minimieren, wenn das Heizungskabel beschädigt oder nicht ordnungsgemäß installiert ist, und um den Anforderungen von BriskHeat® und nationalen Vorschriften zu entsprechen, müssen FI-Schutzschalter an jeder Heizkabel-Verzweigungsschaltung vorgesehen werden. Lichtbogenbildung kann durch konventionellen Leitungsschutz nicht gestoppt werden.
- Für Rohrfrostschutz-Anwendungen nur feuerfeste Dämmstoffe, wie vorgeformten Schaumstoff oder Glasfaser verwenden.
- Beschädigen Sie nicht das Heizkabel, das Netzkabel oder den Netzstecker. Setzen Sie jedes beschädigte Kabel außer Betrieb.
- Verwenden Sie keinen Draht oder Metallklammern, um das Kabel an dem Rohr zu befestigen. Verwenden Sie ein Band (13 bis 50 mm breit) oder Kunststoffkabelbinder.
- Lassen Sie diese Einbauanleitung bei dem Benutzer für zukünftige Bezugnahme.
- Machen Sie alle Stromkreise stromlos vor der Installation oder Wartung.
- Die leitfähige Schicht dieses Heizgeräts muss an einem geeigneten Erdungsanschluss angeschlossen werden.

BriskHeat® Corporation
SpeedTrace selbstregeldes Heizkabel

ROHRFROSTSCHUTZ



Allgemeine Anforderungen an den Rohrfrostschutz:

- SpeedTrace-Heizkabel können auf Metall- und Kunststoffwasserrohren verwendet werden, aber nicht auf flexiblen Vinyl Schläuchen, wie Gartenschläuche.
- SpeedTrace-Heizkabel sind nicht für den Einsatz innerhalb irgendwelcher Rohrleitungen, für den Frostschutz anderer Flüssigkeiten als Wasser oder für den Einsatz in explosionsgefährdeten Bereichen vorgesehen.
- Mit einem Minimum von 13 mm feuer- und wasserfester Wärmedämmung installieren.
- Niemals an irgendwelchen Rohren verwenden, die 65 °C überschreiten.
- Verlängerungskabel dürfen nicht für feste Installationen verwendet werden. Bei vorübergehenden Installationen sind die örtlichen Elektro- und Brandschutzvorschriften zu beachten.

ALLGEMEINE ANWEISUNGEN

- Nur an zugänglichen Stellen; nicht hinter Mauern oder wo das Kabel versteckt ist installieren
- Das Heizkabel nicht durch Wände, Decken oder Böden führen.
- Schließen Sie nur an Steckdosen an, die mit FI-Schutzschalter versehen sind und die in Übereinstimmung mit allen geltenden nationalen und örtlichen Vorschriften und Normen installiert wurden und vor Regen oder Wasser geschützt sind.

ELEKTROSTECHNISCHE VORSCHRIFTEN

Die Artikel 422, 426 und 427 des National Electrical Code (NEC) und Teil 1, Abschnitt 62 des Canadian Electrical Code (CEC) welche die Installation von SpeedTrace-Heizkabel für Rohrfrostschutz regeln, sind zu beachten.

Wichtig: Für die Gültigkeit der BriskHeat® SpeedTrace-Heizkabel Garantie müssen alle Anforderungen dieser Richtlinien erfüllt sein.

Alle hier angegebenen thermischen und Design-Informationen basieren auf einer Standard-Installation eines Heizkabels, das an einem isolierten Rohr befestigt ist. Für alle anderen Anwendungen oder Installationsarten wenden Sie sich bitte an BriskHeat® 1-800-848-7673 (USA / Kanada) oder 1-614-294-3376 (weltweit).

KABELAUSWAHL

Verwenden Sie ZUR Auswahl des richtigen Heizkabels die folgenden Tabellen. Addieren Sie 30 cm zu der Rohrlänge für jedes Ventil oder Zapfhahn am Rohrleitungssystem.

Die Diagramme berücksichtigen die geringste wasser- und feuerfeste Wärmedämmung (vorgeformter Schaumstoff). Für den Schutz bis zu –29 °C (20 °F) verwenden Sie eine 25 mm dicke Dämmung.

Tabelle 1: Metallrohre

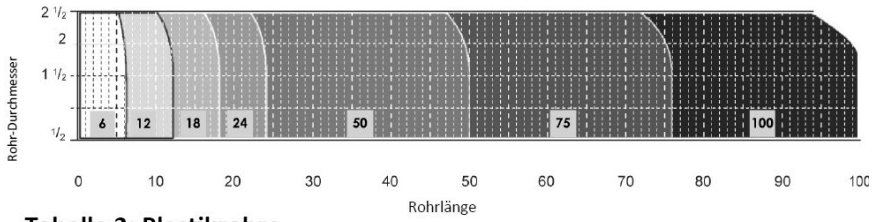
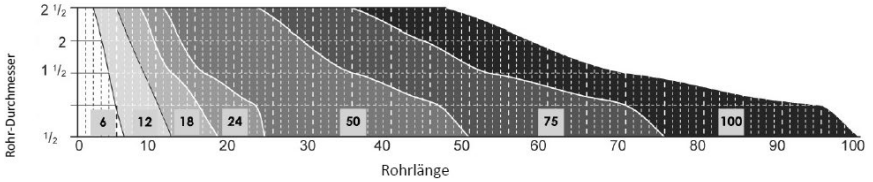


Tabelle 2: Plastikrohre



Addieren Sie für jedes Ventil und jeden Ablasshahn an Ihrem Rohrsystem zu der Rohrlänge 30 cm. Wenn das gewählte Kabel länger als das Rohr ist, legen Sie es in Spirale entlang dem gesamten Rohr.

Wichtig: Alle hier angegebenen thermischen und Design-Informationen basieren auf der Standard-Installation eines Heizkabels. Für alle anderen Anwendungen oder Installationsarten wenden Sie sich bitte an BriskHeat® 1-800-848-7673 (USA / Kanada) oder 1-614-294-3376 (weltweit).

HEIZKABELINSTALLATION

Abbildung 1: Installation in geradem Verlauf

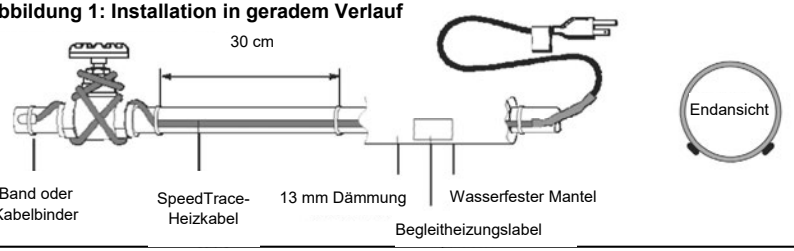
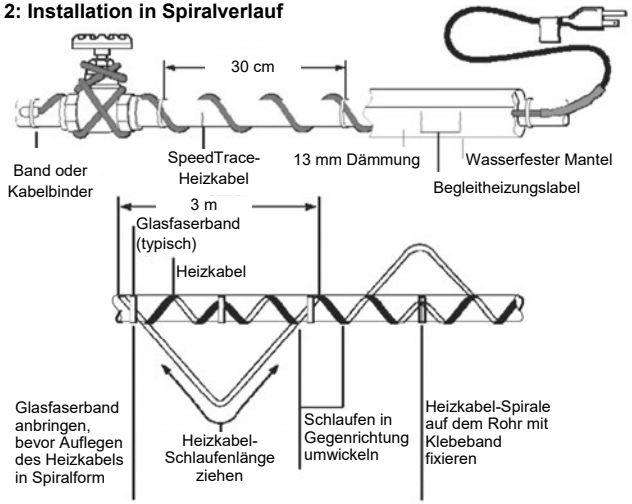


Abbildung 2: Installation in Spiralverlauf



1. Vorbereitung der Installation

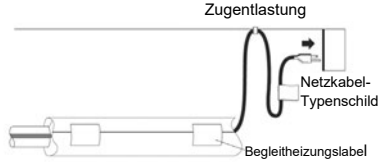
- Lagern Sie das Kabel an einem sauberen trockenen Platz.
- Nehmen Sie die Rohrleitungsdruckprüfung vor.
- Vor der Installation des Kabels, entfernen Sie alle scharfen Oberflächen auf dem Rohr, welche das Heizkabel beschädigen könnten.
- Überprüfen Sie die vorgesehene Ausführung des SpeedTrace-Heizkabels und vergleichen Sie sie mit dem erhaltenen Material, um sicherzustellen, dass Sie das richtige SpeedTrace-Heizkabel haben.
- Begehen Sie das System und planen Sie den Verlauf des SpeedTrace-Heizkabels am Rohr.
- Nur bei 230-V-Modellen: Installieren Sie am Heizkabel vor der Installation einen für 208-277 VAC zugelassenen Stecker.

2. Positionieren und befestigen Sie das Heizkabel am Rohr

- Überzeugen Sie sich, dass der gesamte Rohrverlauf trocken ist.
- Installieren Sie das Heizkabel und verwenden Sie entweder den geraden (Abb. 1) oder den Spiralverlauf (Abb. 2).

Abbildung 3: Wärmedämmung

Abbildung 4: Zugentlastung



Hinweis: Rohre müssen vollständig isoliert sein

- Für den geraden Verlauf installieren Sie das Heizkabel auf der unteren Hälfte des Rohrs; beispielsweise in der 4-Uhr oder 8-Uhr-Position.
- Achten Sie darauf, die für Ventile, Flansche usw. benötigte zusätzliche Heizkabellänge zu installieren, wie in Abb. 1 und 2 dargestellt.
- Wenn das Design einen Spiralverlauf fordert, beginnen Sie mit einer frei hängenden Schleife alle 3 m wie in Abb. 2 gezeigt. Um die Schleifenlänge zu bestimmen, dividieren Sie die Länge des SpeedTrace -Heizkabels durch die Rohrlänge und multiplizieren Sie mit 10. Wenn Sie zum Beispiel ein 15 m Heizkabel an ein 12 m Rohr anlegen, sehen Sie eine 3,7 m Schleife für jeden 3 m Rohrabschnitt vor. Greifen Sie die Schleife in der Mitte und legen sie diese um das Rohr. Gleichen Sie die Abstände zwischen Spiralen durch Verschieben der Umwicklungen entlang des Rohres aus. Verwenden Sie das empfohlene Glasfaser- oder Aluminiumklebeband und sichern Sie damit die Mitte der Schleife auf dem Rohr.
- Befestigen Sie das SpeedTrace-Heizkabel auf dem Rohr in 30 cm Abständen mit PSAT36A Glasfaserband oder AAT260 Aluminiumband. Verwenden Sie kein Vinyl-Isolierband, keine Klebebänder, Metallbänder und keinen Draht.
- Wenn überschüssiges Kabel am Ende des Rohres verbleibt, legen Sie es verdoppelnd zurück entlang des Rohres.

3. Prüfen der Installation

- Vor der Installation von Wärmeisolierung ist sicherzustellen, dass das Heizkabel frei von mechanischen Beschädigungen (von Schnitten, Klemmen etc.) und thermischen Schäden durch Löten, Überhitzung etc. ist.

4. Installation der Wärmedämmung

- Die Zuverlässigkeit eines SpeedTrace-Heizkabel-Systems hängt ab von ordnungsgemäß installierter, trockener und wetterfester Wärmedämmung wie INSUL-LOCK DS flexible Rohrisolierung mit geschlossenen Zellen.
- Stellen Sie sicher, dass mindestens 13 mm starker vorgeformter Schaumstoff oder gleichwertige Wärmeisolierung verwendet wird und dass die gesamte Rohrleitung einschließlich Ventile, Gelenke und Wanddurchführungen wie in Abb. 3 gezeigt vollständig isoliert ist.
- Für den Schutz bis zu –29 °C (20 °F) verwenden Sie eine 25 mm dicke Dämmung.
- Installieren Sie so bald wie möglich die Dämmung an der Rohrleitung, um das Potenzial für mechanische Beschädigungen nach der Installation zu minimieren.
- Achten Sie darauf, das SpeedTrace-Heizkabel-Begleitheizungsetikett auf der Außenseite der Wärmedämmung sichtbar ist.

5. Installation abschließen

- Um eine Beschädigung des Heiz- oder Netzkabels zu vermeiden, sichern Sie das Netzkabel (Kaltleiter) mit einem Kunststoff-Kabelbinder, Glasgewebeband oder Klebeband, wie in Abb. 4 dargestellt.
- Begleitheizungsetiketten zur Anzeige des Vorhandensein eines elektrischen Rohrheizkabels sind im Lieferumfang des Heizkabels enthalten. Bringen Sie die mitgelieferten Begleitheizungsetiketten auf der äußeren Oberfläche der Rohrisolierung im Abstand zwischen den Etiketten von 3 m an, um das Vorhandensein des SpeedTrace-Heizkabels anzuzeigen.

6. Inbetriebnahme des Systems

- BriskHeat® empfiehlt, dass das System gemäß dem Abschnitt "Kabeltest und Wartung" weiter unten geprüft wird.
- Schließen Sie das Heizkabel an eine durch FI-Schutzschalter geschützte Steckdose an.
- Überprüfen Sie den Trennschalter, um die Stromversorgung des Kabels zu verifizieren.
- Stehendes Wasser im Rohr sollte sich innerhalb einer Stunde erwärmen.

7. Erdschlussschutz

- BriskHeat® und nationale Vorschriften erfordern Erdschluss-Geräteschutz in jedem Heizkabelstromkreis.
- Um die Brandgefahr durch Beschädigung oder unsachgemäße Installation zu reduzieren, sollten Fehlerstromschutzschalter mit einem 30-mA-Auslösepegel verwendet werden. Alternative Designs mit vergleichbarer Höhe des Erdschlussschutzes können auch akzeptiert werden. Für technische Unterstützung wenden Sie sich bitte telefonisch an BriskHeat® 1-800-848-7673 (USA / Kanada) oder 1-614-294-3376 (weltweit).

⚠ WARNUNG

- Bedingungen für Wartung und Überwachung fordern, dass nur qualifizierte Personen Dienstleistungen an den installierten Systemen vornehmen.
- Unterbrechungsfreie Funktion ist für den sicheren Betrieb des Gerätes notwendig.

KABELTEST UND WARTUNG

- Überprüfen Sie mit einem 2500-VDC Megaohmmeter den Isolationswiderstand zwischen dem jeweiligen Stromversorgungsanschluss des Netzsteckers und dem Schutzleiter. Der minimale Messwert sollte 1000 Megaohm betragen.
- Notieren Sie die ursprünglichen Messwerte von jedem Stromkreis und vergleichen Sie damit nachfolgende Messwerte während der regulären Wartungseinsätze mit den ursprünglichen Werten.
- Wenn die Messwerte unter 1000 Megaohm fallen, ersetzen Sie das SpeedTrace- Heizkabel mit einem neuen Kabel und versuchen Sie nicht das Kabel zu reparieren.

⚠ WARNUNG

Brand- und Stromschlaggefahr. Beschädigte Heizkabel können einen elektrischen Schlag, Lichtbogenbildung und Brand verursachen. Versuchen Sie nicht ein beschädigtes Heizkabel zu reparieren oder zu bestromen. Entfernen Sie es sofort und ersetzen Sie es durch ein neues Kabel.

TECHNISCHE PRODUKTDATEN

Kabel (120V)	Kabel (230V)	Kabel-Länge in m	Minimale Leistungs-abgabe an das Rohr (Watt) bei 10 °C	Nominale Leistungs-abgabe bei 0 °C in Eis und Schnee (Watt)
FFSL81-6	**FFSL82-6**	1,8	48	96
FFSL81-12	**FFSL82-12**	3,6	96	192
FFSL81-18	**FFSL82-18**	5,4	144	288
FFSL81-24	**FFSL82-24**	7,3	192	384
FFSL81-50	**FFSL82-50**	15	400	800
FFSL81-75	**FFSL82-75**	22,8	600	1,200
FFSL81-100	**FFSL82-100**	30,4	800	1,600

Allgemeine technische Daten für alle FFSL8-Produkte

Nominale Kabelbreite (mm)	10,6
Nominale Kabeldicke (mm)	5,6
Heizkabelbus-Drahtstärke (AWG)	16
Kaltkabellänge (m)	0,76
Spannungsauslegung (120V)	110-120
Spannungsauslegung (230V)	208-277
Steckerauslegung (A)	15
Trennschalterauslegung min. (A)	15
Max. Aussetzungstemperatur	65 °C (150 °F)
Elektrische Klassifizierung	Nur Nicht– EX-Bereiche
Verwendung in Verbindung mit Chemikalien	Keine
Watt/30 cm bei 10 °C (50 °F)	8
Watt/30 cm bei 0 °C (32 °F) in Eis und Schnee	16
Außenmantel	Feuchtigkeits- und feuerfestes Thermoplastik- Elastomer

BriskHeat® Corporation
SpeedTrace selbstregeldes Heizkabel

ANLEITUNG ZUR FEHLERBEHEBUNG

Bitte lesen Sie diese Anleitung, bevor Sie BriskHeat® kontaktieren. Diese Anleitung beantwortet die am häufigsten gestellten Fragen. Wenn Sie nicht in der Lage sind, das Problem zu identifizieren oder weitere Hilfe benötigen, wenden Sie sich bitte an Ihren lokalen Vertriebspartner von BriskHeat® oder kontaktieren Sie uns gebührenfrei an +1-800-848-7673 (nur USA / Kanada) oder +1 614-294-3376 (weltweit) oder per E-Mail an **bhtsales1@briskheat.com.**

PROBLEM	LÖSUNG(EN)
Das gesamte Heizkabel erwärmt sich nicht.	Stellen Sie sicher, dass die Heizung an eine ordnungsgemäße Spannung angeschlossen ist. Überprüfen Sie mit einem Ohmmeter ob Widerstandsmesswert (keine Stromkreisunterbrechung) in der Heizung vorliegt.
Ein Teil des Heizkabels erwärmt sich nicht.	Untersuchen Sie den ungeheizten Teil des Kabels auf Beschädigungen.
Schutzschalter löst aus	Überprüfen Sie, ob der Schaltungsunterbrecher für die Stromanforderung der Heizung geeignet ist. Untersuchen Sie die Heizung und das Kabel auf Beschädigungen.

GARANTIEINFORMATION

BriskHeat® garantiert dem ursprünglichen Käufer dieses Produkts für den Zeitraum von achtzehn (18) Monaten ab Versanddatum oder zwölf (12) Monaten ab Installationsdatum, je nachdem, was zuerst eintritt. Die Verpflichtung von BriskHeat® und das ausschließliche Rechtsmittel gemäß dieser Garantie ist nach Wahl von BriskHeat® auf die Reparatur oder den Ersatz für jegliche Teile des Produkts beschränkt, die sich unter vorgeschriebenen Verwendung und Wartung gemäß Prüfung durch BriskHeat® als defekt erweisen und nachdem die Mängel durch BriskHeat® festgestellt wurden. Die vollständigen Einzelheiten dieser Garantie erfahren Sie im Internet unter www.briskheat.com oder indem Sie uns kontaktieren unter +1-800-848-7673 (gebührenfrei in U.S.A. und Kanada) oder unter +1-614-294-3376 (weltweit).

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Email: bhtsales1@briskheat.com

BriskHeat® Corporation

Italian (Italiano)

SpeedTrace Extreme

Cavo scaldante pre-assemblato, autoregolante

Manuale di istruzioni

⚠	Leggere e comprendere questo manuale prima di utiliz-zare o effettuare la manutenzione di questo cavo scaldante. La mancata comprensione del modo di utiliz-zare in sicurezza questo riscaldatore potrebbe causare incidenti conducendo a lesioni gravi o mortali.

SOMMARIO

INTRODUZIONE

Grazie per aver acquistato un cavo scaldante pre-assemblato autoregolante BriskHeat® SpeedTrace Extreme. Il cavo scaldante è progettato per fornire una vita lunga ed efficiente, avendo ben chiare in mente i principi della funzionalità, affidabilità e sicurezza. Per ulteriori informazioni o altri prodotti BriskHeat®, si prega di contattare BriskHeat® a 1-800-848-7673 (numero verde, Stati Uniti/Canada) o 614-294-3376.

CONSERVARE QUESTE ISTRUZIONI!
Ulteriori copie di questo manuale sono disponibili su richiesta.

SIMBOLO DI PERICOLO

Il simbolo di cui sopra è utilizzato per richiamare la vostra attenzione alle istruzioni per la sicurezza personale. Tale simbolo rileva importanti precauzioni di sicurezza. Significa **"ATTENZIONE! Sia attento! La sicurezza personale è coinvolta! "** Leggere il messaggio che segue e fare attenzione alla possibilità di lesioni personali o di morte.

⚠ PERICOLO

Rischi immediati che **CAUSERANNO** gravi lesioni personali o la morte.

⚠ AVVERTIMENTO

Pericoli o pratiche non sicure che **POTREBBERO CAUSARE** gravi lesioni personali.

⚠ ATTENZIONE

Pericoli o pratiche non sicure che **POTREBBERO CAUSARE** gravi lesioni personali.

IMPORTANTI ISTRUZIONI DI SICUREZZA

⚠ PERICOLO

La persona che non ha letto e compreso tutte le istruzioni di installazione non è qualificata per poter installare questo prodotto.

Approvazioni Agenzia

c ETL us Listed
Intertek

⚠ PERICOLO

- Do not immerse heater in liquid.
- Non immergere il riscaldatore nel liquido.
- Tenere il materiale volatile o combustibile lontano dal riscaldatore durante l'uso.
- Utilizzare il riscaldatore solo in luoghi approvati.
- Tenere gli oggetti metallici appuntiti lontano dal riscaldatore.

La mancata osservanza di queste avvertenze può provocare scosse elettriche, rischio di incendio e lesioni personali.

⚠ ATTENZIONE

- Non maneggiare il riscaldatore mentre è in funzione; staccare sempre il riscaldatore dalla presa di corrente e lasciarlo raffreddare prima di maneggiarlo.
- Ispezionare il cavo scaldante prima dell'uso.
- In caso di fuoriuscita di sostanze estranee sul riscaldatore, togliere l'alimentazione elettrica e pulire dopo aver consentito al cavo scaldante di raffreddarsi.
- Fissare il riscaldatore al dispositivo con metodi approvati.
- Non riparare il cavo scaldante danneggiato o difettoso.
- Non schiacciare o applicare stress fisico forte sul cavo scaldante o gruppo cavo.
- Staccare il cavo scaldante quando non in uso.
- Non usare per altre applicazioni.

La mancata osservanza di queste avvertenze può causare lesioni personali o danni al riscaldatore.

⚠ AVVERTIMENTO

L'utente finale deve rispettare le seguenti:

- Solo il personale qualificato è autorizzato a collegare i cavi elettrici.
- Prima di effettuare i collegamenti elettrici, scollegare tutti i cavi di alimentazione dalla fonte elettrica.
- Tutti i collegamenti elettrici devono seguire le norme elettriche locali.
- La persona che esegue l'installazione/il cablaggio finale deve essere qualificata per questo lavoro.
- L'utente finale è responsabile di fornire un dispositivo di sezionamento adatto.
- L'utente finale è responsabile di fornire un dispositivo di protezione elettrica adeguato. Si consiglia vivamente di usare un interruttore guasto a terra.

La mancata osservanza di queste avvertenze può provocare lesioni personali o danni al riscaldatore.

BriskHeat® Corporation
Cavo scaldante autoregolante
SpeedTrace Extreme

⚠ AVVERTIMENTO

Leggere e comprendere l'intero manuale prima di utilizzare questo cavo scaldante.

PRINCIPI DI FUNZIONAMENTO

1. I cavi scaldanti BriskHeat® SpeedTrace Extreme sono progettati per la protezione antigelo su tubi in metallo e plastic.
2. Adatto per uso interno o esterno.
3. Facile da installare: pre-assemblato con cavo di alimentazione e la spina. (I modelli 230 V hanno cavi scoperti).
4. Sicuro a sovrapposizione e isolamento.
5. Regola automaticamente la potenza termica in base alla superficie e alla temperatura ambiente.
6. Non è necessario alcun regolatore di temperatura.

DESCRIZIONE

I cavi scaldanti autoregolanti pre-assemblati SpeedTrace Extreme sono progettati per la protezione antigelo delle tubature commerciali in metallo e plastica.

I cavi scaldanti SpeedTrace Extreme sono disponibili con le lunghezze di 6, 12, 24, 50, 75 e 100 piedi e vengono forniti assemblati con un cavo di alimentazione da 30 pollici e una spina. (I modelli 230 V hanno cavi scoperti).

CONTENUTI DEL KIT

1. Cavo scaldante pre-assemblato, autoregolante SpeedTrace Extreme.
2. Etichette tubazione tracciamento elettrico.

Ulteriori elementi necessari, ma non forniti per applicazioni di tubazioni

Nastro adesivo, selezionare vetroresina o alluminio:

- Nastro in fibra di vetro, PSAT36A, 0,5 di larghezza, lungo 36 iarde.
- Nastro di alluminio, AAT260, 2,0 di larghezza, lungo 60 iarde.

Isolamento:

- Isolamento di tubazioni flessibile a cellule chiuse INSUL-LOCK DS.

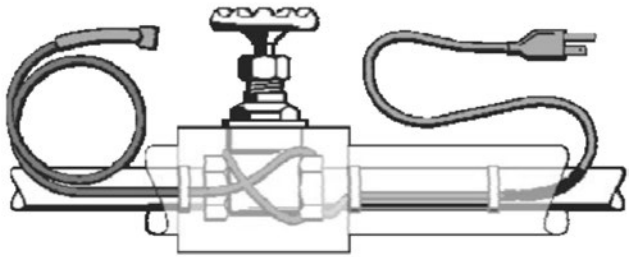
⚠ AVVERTIMENTO

Pericolo di incendio e scossa Questo prodotto è un dispositivo elettrico che deve essere installato correttamente per garantirne il corretto funzionamento e per evitare scosse o incendi. Leggere queste importanti avvertenze e seguire attentamente tutte le istruzioni di installazione.

- Per ridurre al minimo il pericolo di incendi da archi elettrici sostenuti nel caso il cavo scaldante fosse danneggiato o non correttamente installato e per rispettare i requisiti di BriskHeat® e le normative elettriche nazionali, deve essere utilizzata una protezione messa a terra per guasti su ogni circuito ramo del cavo scaldante. L'apparizione di archi non può essere fermata dalla protezione convenzionale del circuito.
- Per le applicazioni di protezione al congelamento delle tubazioni, utilizzare solo materiali isolanti resistenti al fuoco come la schiuma preformata o la fibra di vetro.
- Non danneggiare il cavo scaldante e il cavo di alimentazione o la spina. Rimuovere immediatamente i cavi danneggiati dal servizio.
- Non utilizzare fascette metalliche o filo in metallo per collegare il cavo al tubo. Utilizzare nastro (1/2 pollici - 2 pollici di larghezza) o fascette in plastica.
- Lasciare queste istruzioni di montaggio presso l'utente per riferimento futuro.
- Diseccitare tutti i circuiti di alimentazione prima di eseguire l'installazione o la manutenzione.
- Lo strato conduttivo di questo dispositivo di riscaldamento deve essere collegato ad un terminale di terra adatto.

BriskHeat® Corporation
Cavo scaldante autoregolante
SpeedTrace Extreme

PROTEZIONE DAL CONGELAMENTO DELLE TUBAZIONI



Requisiti generali per la protezione da congelamento della tubazione:

- I tubi scaldanti SpeedTrace Extreme, possono essere usati su tubazioni d'acqua in mettalo o plastica, ma non per tubazioni flessibili in vinile (tubi per giardino).
- I cavi scaldanti SpeedTrace Extreme non sono destinati per l'uso all'interno delle condotte, per la protezione dal congelamento dei liquidi diversi dall'acqua o per l'uso in ambienti classificati come pericolosi.
- Installare con un isolamento termico, impermeabile, resistente al fuoco di minimo di ½".
- Non utilizzare su tubi che possono superare i 150 °F (65 °C).
- Prolunga non può essere utilizzato per installazioni permanenti. Per installazioni temporanee consultare codici elettrici e antincendio locali.

INFORMAZIONI GENERALI

- Installare solo in luoghi accessibili; non installare dietro muri o in luoghi in cui il cavo potrebbe essere nascosto.
- Non far passare il cavo scaldante attraverso pareti, soffitti o pavimenti.
- Collegare solo a prese protetta da guasti con messa a terra, che sono state installate in conformità con i codici e le norme nazionali e locali vigneti e che sono protette dalla pioggia e altre fonti d'acqua.

CODICI ELETTRICI

Gli articoli 422, 426 e 427 del National Electrical Code (NEC) e Parte 1, Sezione 62 del Canadian Electrical Code (CEC) regolano l'installazione del cavo scaldante SpeedTrace Extreme per la protezione da congelamento delle tubazioni e devono essere rispettati.

Importante: Per la validità della garanzia del cavo scaldante BriskHeat ® SpeedTrace Extreme assicurare la conformità con tutti i requisiti indicati in queste linee guida.

Tutte le informazioni termiche e di progettazione fornite qui si basano su un'installazione standard del cavo scaldante fissato ad una tubazione isolata. Per qualsiasi altra applicazione o metodo di installazione, si prega di contattare BriskHeat® a 1-800-848-7673 (USA / Canada) o 1-614-294-3376 (tutto il mondo).

SELEZIONE DEL CAVO

Usare le tabelle di seguito per selezionare il cavo scaldante corretto. Aggiungere 1 piede alla lunghezza del tubo per ogni valvola o rubinetto sul vostro sistema di tubazioni.

I grafici assumono il più basso isolante termico, esterno impermeabile, con spessore temperato e resistente al fuoco. (schiuma preformata). Per la protezione a -20 °F (-29 °C), usare isolante di spesso di 1” (25mm).

Tabella 1 Tubi metallici

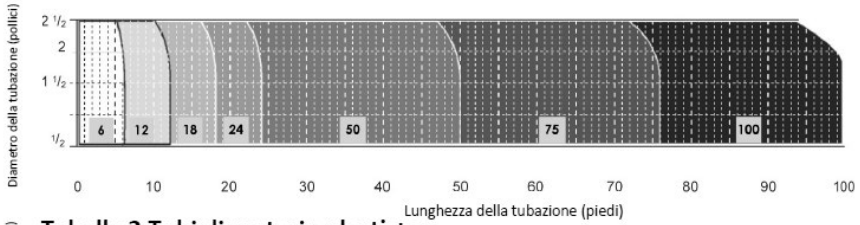
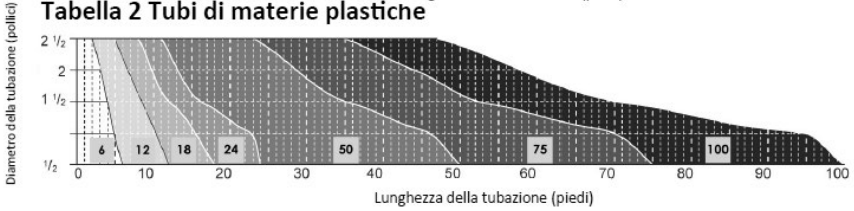


Tabella 2 Tubi di materie plastiche



Aggiungere 1 piede alla lunghezza del tubo per ogni valvola o rubinetto sul vostro sistema di tubazioni. Se il cavo selezionato è più lungo della tubazione, girarlo a spirale uniformemente lungo tutto il tubo.

Importante: Tutte le informazioni termiche e di progettazione fornite qui si basano su un'installazione standard. Per qualsiasi altra applicazione o metodo di installazione, si prega di contattare BriskHeat® a 1-800-848-7673 (USA / Canada), o 1-614-294-3376 (in tutto il mondo).

BriskHeat® Corporation
Cavo scaldante autoregolante
SpeedTrace Extreme

INSTALLAZIONE DEL CAVO SCALDANTE

Figura 1 installazione instradamento dritto

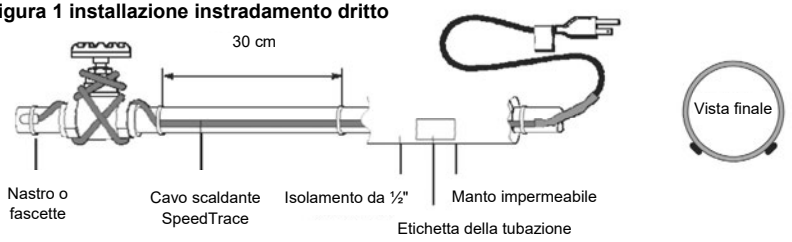
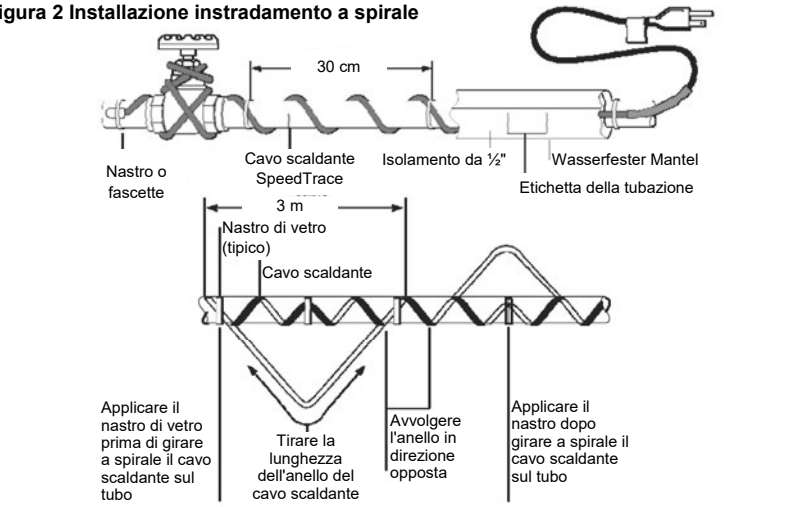


Figura 2 Installazione instradamento a spirale



1. Prepararsi per l'installazione

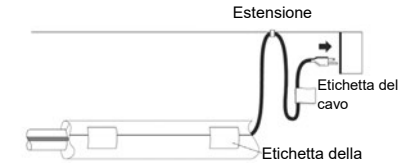
- Stoccare il cavo scaldante in un luogo asciutto e pulito.
- Prova completa della pressione nella tubazione.
- Prima di installare il cavo, rimuovere tutte le superfici taglienti sulla tubazione, che potrebbero d5anneggiare il cavo scaldante.
- Rivedere la progettazione del cavo scaldante SpeedTrace Extreme e confrontarla con il materiale ricevuto per verificare di avere il cavo scaldante SpeedTrace Extreme corretto.
- Ripercorrere le tubazioni e pianificare l'instradamento del cavo scaldante SpeedTrace Extreme sulla tubazione.
- Solo per i modelli 230 V: Prima dell'installazione del cavo scaldante, installare il dispositivo con spina elettrica approvata adatto per 208-277 V c.a.

2. Posizionare e collegare il cavo scaldante alla tubazione

- Assicurarsi che tutte le tubazioni da tracciare siano asciutte.
- Installare il cavo scaldante, utilizzando l'instradamento dritto come nella Figura 1 o a spirale come nella Figura 2.

Figura 3 Isolamento

Figura 4 Estensione



Nota: Le tubazioni devono essere completa-mente isolate.

- Per l'instradamento dritto, installare il cavo scaldante su una metà inferiore della tubazione; per esempio, nella posizione le ore 4 o le ore 8.
- Assicurarsi di installare il cavo scaldante supplementare necessario per valvole, flange, ecc come mostrato nelle Figure 1 e 2.
- Quando la progettazione richiede l'instradamento a spirale, cominciare sospendendo un anello ogni 10 piedi, come mostrato in Figura 2. Per determinare la lunghezza dell'anello, dividere la lunghezza del cavo scaldante SpeedTrace Extreme alla lunghezza della vostra tubazione e moltiplicare per 10. Ad esempio, se si utilizza un cavo scaldante SpeedTrace Extreme da 50 piedi su una tubazione di 40 piedi, lasciare un anello di 12 piedi di cavo scaldante su ciascuna sezione di 10 piedi della tubazione. Afferrare l'anello nel suo centro e avvolgerlo intorno alla tubazione. Livellare la distanza tra le spirali facendo scorrere le coperture lungo il tubo. Utilizzare nastro adesivo in vetroresina o alluminio raccomandati per fissare il centro dell'anello alla tubazione.
- Fissare il cavo scaldante SpeedTrace alla tubazione a intervalli di 1 piede con nastro in fibra di vetro PSAT36A o nastro di alluminio AAT260. Non usare nastro elettrico in vinile, nastro adesivo, fasce di metallo o filo.
- Se del cavo in eccesso rimane all'estremità della tubazione, raddoppiare indietro lungo la tubazione.

3. Controllare l'installazione

- Prima di installare l'isolamento termico assicurarsi che il cavo scaldante sia esente da danni meccanici (da tagli, morsetti, ecc) e da danni termici (da saldatura, surriscaldamento, ecc.).

4. Installare l'isolamento termico

- Un sistema di cavo scaldante SpeedTrace Extreme affidabile dipende dalla corretta installazione e l'isolamento termico, secco, impermeabile, come l'isolamento di tubazioni flessibile a cellule chiuse INSUL-LOCK DS.
- Garantire che almeno ½" di schiuma preformata o isolamento termico equivalente viene utilizzato e che tutte le tubazioni, comprese le valvole, giunti e penetrazioni nella parete, siano state completamente isolate come mostrato in Figura 3.
- Per la protezione a -20 °F (-29 °C), usare isolante di spesso di 1” (25mm).
- Installare l'isolamento sulla tubazione appena possibile per minimizzare il rischio di danni meccanici dopo l'installazione.
- Assicurarsi che l'etichetta cavo scaldante SpeedTrace Extreme sia visibile all'esterno dell'isolamento termico.

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Cavo scaldante autoregolante
SpeedTrace Extreme

5. Completamento dell'installazione.

- Per evitare di danneggiare il cavo scaldante, fissare il cavo di alimentazione (cavo freddo) con una fascetta di plastica, nastro in fibra di vetro o nastro adesivo come mostrato in Figura 4.
- Le etichette di tracciamento elettrico che indicano la presenza del cavo scaldante sul tubo elettrico sono fornite insieme al cavo scaldante. Applicare le etichette fornite "Tracciamento elettrico" sulla superficie esterna dell'isolamento della tubazione ad un intervallo di una etichetta per ogni 10 piedi(3 m) di tubazione per indicare la presenza del cavo scaldante SpeedTrace Extreme.

6. Avvio del sistema.

- BriskHeat® raccomanda di sottoporre il sistema a test secondo la sezione "Test e manutenzione del cavo" di seguito.
- Collegare il cavo scaldante in una presa di corrente protetta messa a terra da
- Controllare l'interruttore di alimentazione per verificare se il cavo è alimentato.
- L'acqua stagnante nella tubazione dovrebbe riscaldarsi nel giro di un'ora.

7. Protezione messa a terra:

- BriskHeat® ed i codici elettrici nazionali richiedono una protezione messa a terra delle attrezzature su ogni circuito ramo del cavo scaldante.
- Per ridurre il rischio di incendio causato da danni o un'installazione non corretta, utilizzare interruttori o equivalenti, con un livello di scatto di 30 mA. Le progettazioni alternativi che forniscono livelli comparabili di protezione a guasto con messa a terra può anche essere accettabile. Per l'assistenza tecnica, si prega di contattare BriskHeat® a 1-800-848-7673 (Stati Uniti/Canada) o 1-614-294-3376 (tutto il mondo).

⚠ AVVERTIMENTO

- Le condizioni di manutenzione e controllo assicurano che solo le persone qualificate devono intervenire sui sistemi installati.
- Il funzionamento continuo del circuito è necessario per il funzionamento sicuro delle apparecchiature.

TEST E MANUTENZIONE DEL CAVO

- Utilizzando un megaohmetro 2500 V cc, controllare la resistenza di isolamento tra entrambi i poli rettangolari (di potenza) della spina ed il polo rotondo (massa) dopo l'installazione del cavo scaldante. Lettura minima dovrebbe essere 1000 megaohm.
- Registrare i valori originali per ogni circuito, e confrontare le successive letture effettuate durante i programmi di manutenzione regolari rispetto ai valori originali.
- Se le letture scendono al di sotto di 1000 megaohm, sostituire il cavo scaldante SpeedTrace con uno nuovo. Non tentare di riparare l'unità.

⚠ AVVERTIMENTO

Pericolo di incendio e scossa Il cavo scaldante danneggiato può causare scosse elettriche, archi elettrici ed incendi. Non tentare di riparare o energizzare un cavo scaldante danneggiato. Rimuovere in una sola volta e sostituirlo con uno nuovo.

SPECIFICHE DEL PRODOTTO

Cavo (120V)	Cavo (230V)	Lunghezza del cavo (m)	Potenza min. a 50 °F (10 °C) sulla tubazione (watt)	Potenza nominale a 32 °F (0 °C) in ghiaccio e neve (watt)
FFSL81-6	FFSL82-6	1,8	48	96
FFSL81-12	FFSL82-12	3,6	96	192
FFSL81-18	FFSL82-18	5,4	144	288
FFSL81-24	FFSL82-24	7,3	192	384
FFSL81-50	FFSL82-50	15	400	800
FFSL81-75	FFSL82-75	75	600	1,200
FFSL81-100	FFSL82-100	100	800	1,600

Specifiche generali per tutti i prodotti FFSL8

Larghezza nominale del cavo (in)	0,42
Spessore nominale del cavo (in)	0,22
Calibro bus cavo scaldante (AWG)	16
Lunghezza del cavo freddo (a)	30
Tensione nominale (120V)	110-120
Tensione nominale (230V)	208-277
Valore nominale presa (ampere)	15
Dimensionamento minimo dell'interruttore di circuito (ampere)	15
Temperatura massima di esposizione	150°F (65°C)
Classificazione elettrica	Solo in zone non pericolose
Esposizione a sostanze chimiche	Nessuna
Watt/piede a 50 °F (10 °C)	8
Watt/piede a 32 °F (0 °C) in ghiaccio e neve	16
Tipo rivestimento esterno	Elastomero termoplastico resistente ad umidità e fiamme

BriskHeat® Corporation
Cavo scaldante autoregolante
SpeedTrace Extreme

GUIDA ALLA RISOLUZIONE DEI PROBLEMI

Si prega di leggere questa guida prima di contattare la BriskHeat®. Questa guida è stata progettata per rispondere alle domande più frequenti. Se non si riesce a identificare il problema o si ha bisogno di ulteriore assistenza, si prega di contattare il distributore locale BriskHeat® o contattarci al numero verde (USA/Canada) 1-800-848-7673 o 614-294-3376 o **bhtsales1@briskheat.com.**

PROBLEMA	SOLUZIONE(I)
L'intero cavo scaldante non si riscalda	Verificare se il riscaldatore è collegato alla tensione corretta. Verificare se c'è una lettura di resistenza (non un circuito aperto) nel riscaldatore utilizzando un ohmmetro.
Porzione di cavo scaldante non si riscalda	Esaminare il cavo non riscaldato se presenta danni.
L'interruttore del circuito è scattato	Assicurarsi che l'interruttore del circuito sia in grado di gestire l'amperaggio richiesto del riscaldatore. Accertarsi che non ci siano danni al riscaldatore e al cavo.

INFORMAZIONI SULLA GARANZIA

BriskHeat assicura la garanzia di questo prodotto all'acquirente originale per il periodo di diciotto (18) mesi dalla data di spedizione o di dodici (12) mesi dalla data di installazione, a seconda di quale viene prima. L'obbligo di il rimedio esclusivo da parte di BriskHeat ai sensi della presente garanzia sono limitati alla riparazione o alla sostituzione, a discrezione di BriskHeat, di qualsiasi parte del prodotto che può rivelarsi difettosa in condizioni di uso e manutenzione conformi in seguito alla verifica da parte di BriskHeat e che è determinato difettosa da parte di BriskHeat. I dettagli completi della garanzia si possono trovare online all'indirizzo www.briskheat.com o contattandoci al numero 1-800-848-7673 (numero verde, Stati Uniti / Canada) o 1-614-294-3376 (tutto il mondo).

BriskHeat® Corporation

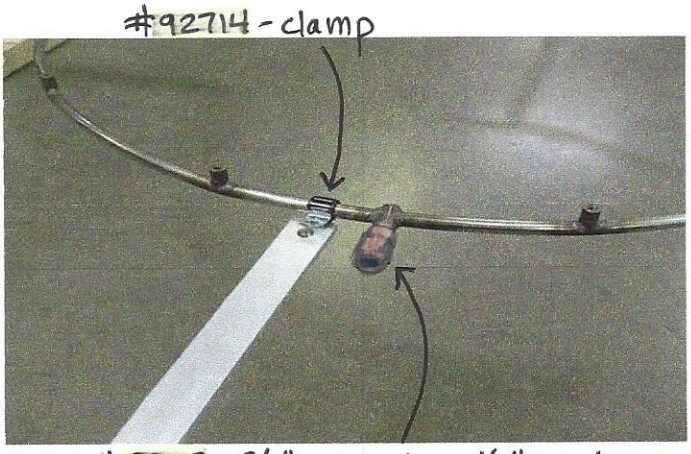
4800 Hilton Corporate Dr. Columbus, OH 43232
Numero verde: 800-848-7673
Telefono: 614-294-3376
Fax: 614-294-3807
E-mail: bhtsales1@briskheat.com

PN:11889 RevC

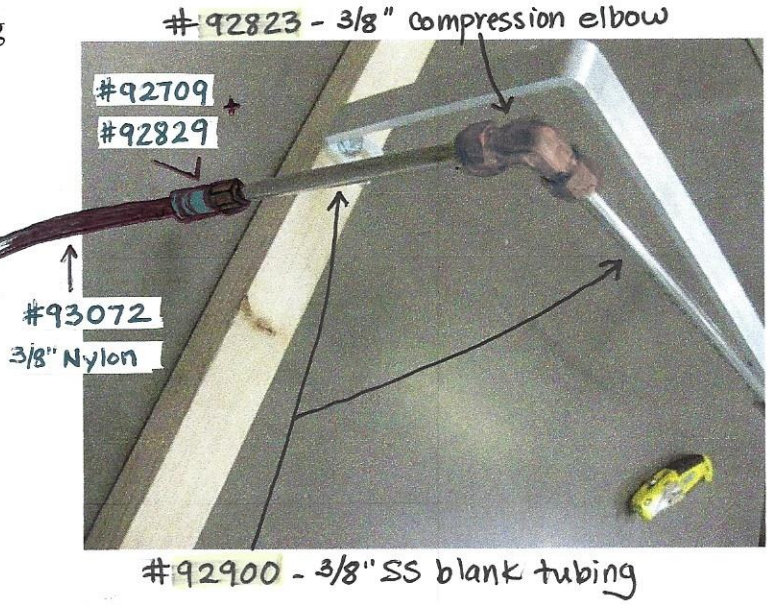
1. Use existing mounting hardware on the louver housing to install fan ring brackets at 12, 3, 6, and 9 o'clock. The short length of the bracket should be mounted to the louver housing with the long section facing inward. Hand tighten only at this point.

2. Place part #92714 (mounting clamps) with the screw hole facing outward around the fog ring at 12, 3, 6, and 9 o'clock.

3. Place the ring onto the brackets with the nozzles pointing away from the fan and the inlet fitting for the fog ring pointing downward. Secure the mounting clamps to the brackets using the supplied ¼-20 bolt. Mounting clamps should be square to the brackets to ensure a secure mounting. Once the fog ring is in the proper position, tighten all bolts on the brackets.



4. Install the stainless steel 1/8" MNPT x 3/8" compression fitting into the fog ring inlet fitting. Use the provided part # 92823 (3/8" compression elbow) and cut required lengths of stainless steel to connect the fog ring and stainless feed line to the nylon pump feed line inside the greenhouse. To transition from the stainless to the nylon, use part # 92829 (3/8" brass compression x 3/8" MNPT) and connect to part # 92709 (3/8" sliplok x 3/8" FNPT). The sliplok goes on the nylon and the compression on the stainless steel.



5. Prepare the needed length of heat trace for the exposed fog ring, stainless feed line, and distance to power supply per the Heat Trace Instructions. 30" fog ring = approx. 8' (plus the length of feed line and length to the power supply). 18" fog ring= approx. 4.5' (plus the length of feed line and length to the power supply). Each fog ring will have its own power source. **The power supply should be located as close as possible to the fog rings.**

6. Using the special heat trace tape to secure the end cap of the heat trace to the inside edge of the fog ring directly behind the inlet fitting. Continue attaching the heat trace along the inside of the fog ring securing it between each nozzle. (electrical tape can also be used)

7. Once a full circle is made on the inside of the fog ring, twist and bend the heat trace wire 90 degrees to follow the feed line back into the greenhouse and to the power supply. Secure as needed.

8. Cut 4 lengths of insulation (approximately 24" each for 30" rings and approx. 14" each for 18" ring). Wrap each length of insulation around the fog ring/heat trace between each of the clamps. The opening on the insulation should face away from the fan. Remove the plastic sheet and seal the insulation. Cut smaller pieces as needed to insulate all exposed tubing or heat trace wire especially around the mounting brackets.

9. Continue with the insulation until all outdoor feed line and heat trace wire is fully insulated. Wrap tape tightly around the insulation on either side of each nozzle to ensure the insulation does not interfere with the nozzle spray.

#93076 - Rubber pipe insulation

10. Follow the Heat Trace Instructions to complete the installation and connections for the heat trace wiring. The transition from the heat trace wiring to the electrical supply should be contained in a junction box and with the appropriate connections supplied by others electrician.

Land Planning Inc

May 20, 2020

Anthony Padula, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Hennep Cultivation – Response to March 6, 2020 Peer Review

Dear Mr. Padula:

Land Planning, Inc. has received the peer review prepared by BETA Group, Inc., dated March 6, 2020. In response to BETA's remaining concerns, we have revised the plans and documents as needed, and provide additional information and comments as follows: (the original comments have been included in italics)

G1. Provide details for pavement, sidewalks, wheelchair ramps, retaining walls, erosion controls, curbs, signs, drainage structures, subsurface infiltration system, stormwater basin, utility installations, fences, dumpster pads, tree plantings, and other site features. PLT: The Revised Plans depict these details, with the exception of the dumpster pad detail, which will be added to the next revised set of plans. ***BETA2: Provide details for retaining walls, utility installations, dumpster pads, signs, and each style of wheelchair ramp proposed.***

The requested additional details have been provided.

G2. Provide legend/labels for all proposed site features including, but not limited to, walks, stairs, curbing, fence, etc. PLT: The Revised Plans address this comment. ***BETA2: Legend not provided – issue remains outstanding.***

The legend has been revised.

G3. Indicate source and methodology for obtaining existing survey data. PLT: A note referencing the source and methodology will be added to the next revised plan. ***BETA2: Issue remains outstanding.***

The note regarding the sources of survey information has been added to the General Notes on sheet 2, Existing Conditions Plan.

G5. Provide fire hydrants around the building to the satisfaction of the Fire Chief. PLT: The Revised Plans show the fire main service line coming into the building of the Facility. Engel Architects is designing additional specifications and will be working with the Franklin Fire Department. ***BETA2: BETA defers to the Fire Chief on this issue; however, notes that no hydrants are currently depicted on the plans.***

Hydrants have been added to the plans.

G6. Provide spot grades to identify grading along sidewalks, ramps, and building entrances. Detailed grading should be provided for accessible parking and routes to ensure compliance with Massachusetts Architectural Access Board requirements. PLT: The Plans comply with ADA and AAB requirements. Additional grades will be added to the next revised grading plan. ***BETA2: Issue remains outstanding. BETA notes that grading depicted on the plans indicates that slopes within the accessible parking areas exceed the maximum 2% permitted.***

The accessible parking area has been reconfigured and regraded to comply with the requirements of 521 CMR.

G7. Provide top and bottom elevations for all retaining walls. PLT: The retaining wall elevations and details will be shown on a revised set of plans. Please note that the Applicant proposes fencing along all proposed retaining walls. Moreover, all retaining walls require building permits, which will address the heights and structural requirements. ***BETA2: Issue remains outstanding.***

General details and elevations of the 3 proposed retaining walls have been added to sheet 16 of the plans. The specifics of the structural design and details will be provided by others as part of the building permit application for the retaining walls.

P3. Recommend providing ramps and crosswalks for the sidewalk connections to the rear parking area. Ensure there are reasonable pedestrian accommodations from all parking areas to building entrances. PLT: P1-P3 above have been addressed in the Revised Plans and in conjunction with the discussion with the Planning Board at its meeting of January 6, 2020. ***BETA2: Ramps provided. Recommend providing crosswalks for ramp connections. No pedestrian accommodations appear to be provided for the 25 spaces on the north side of the building. At a minimum, an access aisle should be provided between the parking spaces so pedestrians have unobstructed access to the building entrance.***

An access aisle has been provided as suggested.

P7. Provide typical dimensions for parking stalls, access aisles, and driveways. PLT: P5-P8 above have been addressed in the Revised Plans. ***BETA2: Provide typical dimension for parking aisles – issue remains outstanding.***

The widths of the parking aisles have been added to the Site Layout Plans.

P8. Provide an additional accessible parking space to meet Massachusetts Architectural Access Board (MAAB) requirements. PLT: P5-P8 above have been addressed in the Revised Plans. ***BETA2: Additional space provided. Relocate the two accessible spaces on the west side of the access aisle to the east to provide the shortest accessible route to the building, as required.***

The accessible parking area has been reconfigured to comply with the requirements of 521 CMR.

P9. Revise accessible parking spaces to include handicap parking designations and signs in conformance with MAAB requirements. PLT: Sign details/requirements will be added to the next plan revision. ***BETA2: Issue remains outstanding.***

Notes regarding the required accessible parking signage has been added to the plan. Details of the signs have been added to sheet 15, Details Plan.

P10. Provide ramps to the sidewalk at each shared aisle from accessible spaces. PLT: Additional sidewalk ramps will be added to the next revised set of plans. ***BETA2: Issue remains outstanding.***

The sidewalk adjacent to the accessible parking has been lowered to be flush with the adjacent pavement. Ramps at each access aisle will not be required.

ER1. Provide an estimate of the total earth removal from the site. PLT: The earthworks calculations will be updated to determine if there is a net cut/removal from the site. ***BETA2: Issue remains outstanding.***

The earthworks analysis has not been completed at this time. The cut/fill volumes will be provided at a later date.

C1. The Bylaw does not include any provisions for the installation of cape cod berm. Revise berm to be vertical granite or reinforced concrete curbing adjacent to parking areas. Granite curb is required within the Grove Street right-of-way. BETA defers to the preference of the Board for the use of vertical or slant curbing along access driveways and the radius at Grove Street. PLT: Additional notes regarding curbing materials will be added to the next revised set of plan. A vertical granite curbing detail will be added to the plan. ***BETA2: Issue remains outstanding.***

A vertical granite curb detail has been added to the detail sheet for the roundings adjacent to Grove Street. The remaining curbing on the site will be reinforced concrete. The linewidths have been adjusted on the plans and additional labels provided.

S2. Revise locus map to include zoning information §185-31.1.C.(3)(d). PLT: This will be added to the next set of revised plans. ***BETA2: Issue remains outstanding.***

The zoning information has been added to the locus map.

S4. Provide the location, size, and sketch for all proposed signs §185-31.1.C.(3)(j). PLT: This will be added to the next set of revised plans once determined. ***BETA2: Issue remains outstanding.***

Details for the proposed stop sign and accessible parking signs have been added to the plans.

S5. Provide a landscaping plan and depict the existing tree line along the frontage of the property §185-31.1.C.(3)(k). PLT: A landscape plan was included in the Revised Plans, subject to final review and change. ***BETA2: Landscaping Plan provided. Revise Note 2 to indicate that tree species shall be from the Town of Franklin Best Development Practices Guidebook and depict the existing tree line along the frontage of the property.***

A note referencing the Best Development Practices Guidebook for the selection of suitable planting materials has been added to the Landscaping Plan.

S6. Provide a photometric plan for proposed lighting §185-31.1.C.(3)(l). In consideration of the proposed use, lighting should at a minimum conform with the Illuminating Engineer Society's "Lighting for Parking Facilities" and have sufficient illuminance around the building perimeter for security. PLT: The Applicant is consulting with a photometric consultant for the selection of building and pole mounted fixtures. ***BETA2: Issue remains outstanding.***

A photometric plan has been provided with the revised plans.

S8. Provide a trip generation summary for total and peak trips, including deliveries/shipments §185-31.1.C.(3)(s). PLT: To be provided by the Applicant. ***BETA2: Issue remains outstanding.***

A Traffic Assessment report has been prepared by Ron Müller & Associates and has been included with the submittal of revised documents. The outstanding issues are addressed within the report.

S9. Provide sight line information at the proposed entrance/exit in accordance with §185-21.C.(7)(c) §185-31.1.C.(3)(t). BETA notes that the existing tree line and topography restrict sight distance to the north of the site. PLT: The available sight distance will be added to further revised plans. The Applicant expects some improvement to the existing sight distance as a result of clearing and grading adjacent to Grove Street. ***BETA2: Issue remains outstanding.***

A Traffic Assessment report has been prepared by Ron Müller & Associates and has been included with the submittal of revised documents. The outstanding issues are addressed within the report.

WR2. Clarify if there will be any storage or disposal (i.e. directed to septic) of toxic or hazardous materials, fertilizers, pesticides, process chemicals, or fuel oil on the site to verify compliance with §185-22.B. §185-40.D.(1)(a) and (d). PLT: No exterior storage of materials is proposed. The Applicant will provide additional information on any interior storage of materials. Moreover, all interior storage will be within the head-house, outside of the Water Resource District. ***BETA2: Issue remains outstanding.***

The applicant will provide additional information.

WR3. Provide a note requiring that any construction fill in excess of 15 cubic yards must be certified in accordance with the requirements of §185-40.E.(5). PLT: The requested note will be added to a further revised set of plans. ***BETA2: Issue remains outstanding.***

The requested note has been added to the General Notes found on sheets 3 and 4 of the plans.

U1. Provide information for proposed drainage, sewer, and water, including size, material, and invert elevations where appropriate. Identify locations of proposed gate valves, curb stops, fittings, and other appurtenances. PLT: The requested information will be provided following the anticipated March 3, 2020 soil tests and after consultation with the fire protection engineer and mechanical engineer for service sizing. ***BETA2: Information for drainage provided. Remaining issues outstanding.***

The additional utility information has been added to the Utility & Grading Plans and the Details Plan.

U2. Provide a note that where any utility installation detail conflicts with the Town of Franklin Department of Public Works Standards for Sewer and Water Materials and Installation (Town Standards) that the Town Standards shall govern. PLT: The requested note will be added to the utility notes on a further revised plan. ***BETA2: Issue remains outstanding.***

The requested note has been added to the Utility Notes on the Utility & Grading Plan.

SW1. Provide Class V RCP where cover is less than 42" (§300-11.B.(2)(a)).

A note requiring Class V pipe throughout the site has been added on the Driveway Plan & Profile sheets.

SW2. Provide roof leader and drain layout to show connections between roof areas and drainage systems.

Perimeter gutters and downspouts are not proposed. The roof drains are collected within the building and discharged through the foundation wall at 3 locations: to DMH-6A, DMH-3, and DMH-10. The details of the building's internal roof drainage system will be shown within the plans submitted for the application of a building permit.

SW3. Revise dimension table on Flared End Erosion Protection Detail to match rip rap apron sizing calculations in the Stormwater Report.

The table on sheet 13 has been revised to match the calculations within the Stormwater Report.

SW4. Provide rip rap on the downgradient side of level spreaders.

Riprap has been added to the level spreaders.

SW5. Provide additional spot grades throughout the parking areas to confirm positive drainage.

Spot grades have been added to the parking areas.

SW6. Recommend using a minimum Time of Concentration (TOC) of 6 minutes for Subcatchment areas S2a2 and S2b1. The minimal area of grass and woods used to calculate the TOC will likely underestimate the peak runoff rates from the significantly larger roof and parking areas.

A Tc of 6 minutes has been used for the 2 subcatchments as suggested.

SW7. Verify area of "Gravel Surface" used in pre-development model for Subcatchment S2b as well as length of "unpaved" surface used in flow path. Plans depict an area/length much lower than that used in the calculations.
SW8. Verify length of flow path in TOC calculations for Subcatchments S2a3, S2b1, and S2b2, which differ from lengths indicated on plans.

The discrepancies in the Tc lengths have been resolved within the revised Stormwater Report. The extent of the gravel surface has been revised on the Existing Conditions Plan to reflect recent survey information.

SW9. Model basin area as impervious to avoid "double-counting" infiltration potential.

The infiltration stage of the stormwater basin has been modeled as impervious within the revised Stormwater Report.

SW10. Provide summary table comparing pre-development and post-development runoff volumes, including Wetland C as a design point. Runoff volumes may not increase per §300-11.A.(3) and the Best Development Practices Guidebook.

The flow rate summary table has been revised to include Wetland C and a volume summary table has been added to the stormwater report.

SW11. Provide test pit logs. Also, conduct additional test pits within the limits of the proposed open-air infiltration basin.

The test pit logs have been added to the sheet 2, Existing Conditions Plan.

SW12. Specify soil media to be applied to the stormwater basin. Typical loam and turf grass is likely to restrict the infiltration potential of the basin. Consider a special loamy sand mixture with 50% sand and a restoration seed mixture.

The soil media for the stormwater basin has been added to the basin cross section on sheet 13, Details Plan.

SW13. Test pits conducted for Infiltration System 2 indicate groundwater within 4 feet of the system bottom. Revise system to provide 4 feet of separation or provide the required mounding analysis.

A mounding analysis has been added to the stormwater report for the subsurface infiltration system. The report demonstrates that the mound will not adversely impact the functioning of the system.

SW14. Revise sediment control barrier to remove silt fence, which is not permitted in the Town of Franklin per the BDPG and Conservation Commission.

The sediment barrier details have been revised to show a 12" compost sock.

SW15. In consideration of the overall development area and presence of wetland resources, straw wattles are not anticipated to be sufficient on their own. Recommend replacing the straw wattle with a compost filter tube (12" diameter minimum).

The sediment barrier details have been revised to show a 12" compost sock.

SW16. Provide detail for inlet sediment control protection.

A detail of the catch basin filter bag has been added to sheet 13, Details Plan.

SW17. Provide estimated operations and maintenance budget.

The operation and maintenance budget has been added to the Operation & Maintenance Plan within the stormwater report.

SW18. Provide maintenance requirements for deep sump catch basins.

The maintenance requirements for deep sump catch basins has been added to the Operation & Maintenance Plan within the stormwater report.

SW19. Revise infiltration basin maintenance/inspection requirements to include all activities and frequencies outlined in the Mass Stormwater Handbook.

The basin maintenance and inspection requirements have been revised within the stormwater report.

SW20. Remove text that does not appear to pertain to this project, e.g. "Pocket Wetland" and "Water Quality Swale." Revise Maintenance Log to include all proposed BMPs.

The references to "Pocket Wetland" and "Water Quality Swale" have been removed from the stormwater report.

SW21. Provide sufficient maintenance access area around the perimeter of the basin berm.

The proposed fence has been relocated off the top of the berm to allow maintenance access.

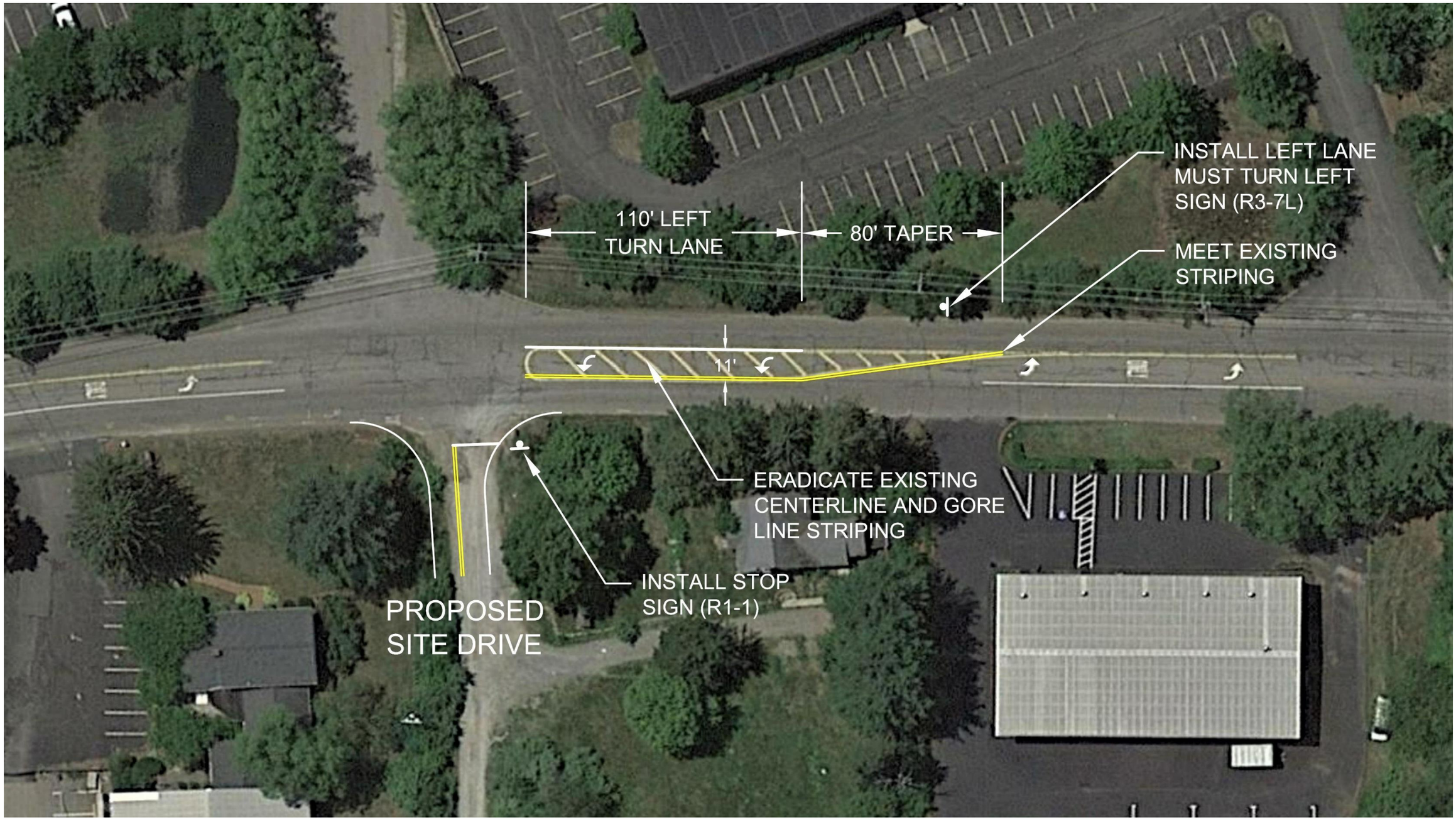
Please contact our office if you have any questions or require additional information.

Sincerely,
Land Planning, Inc.

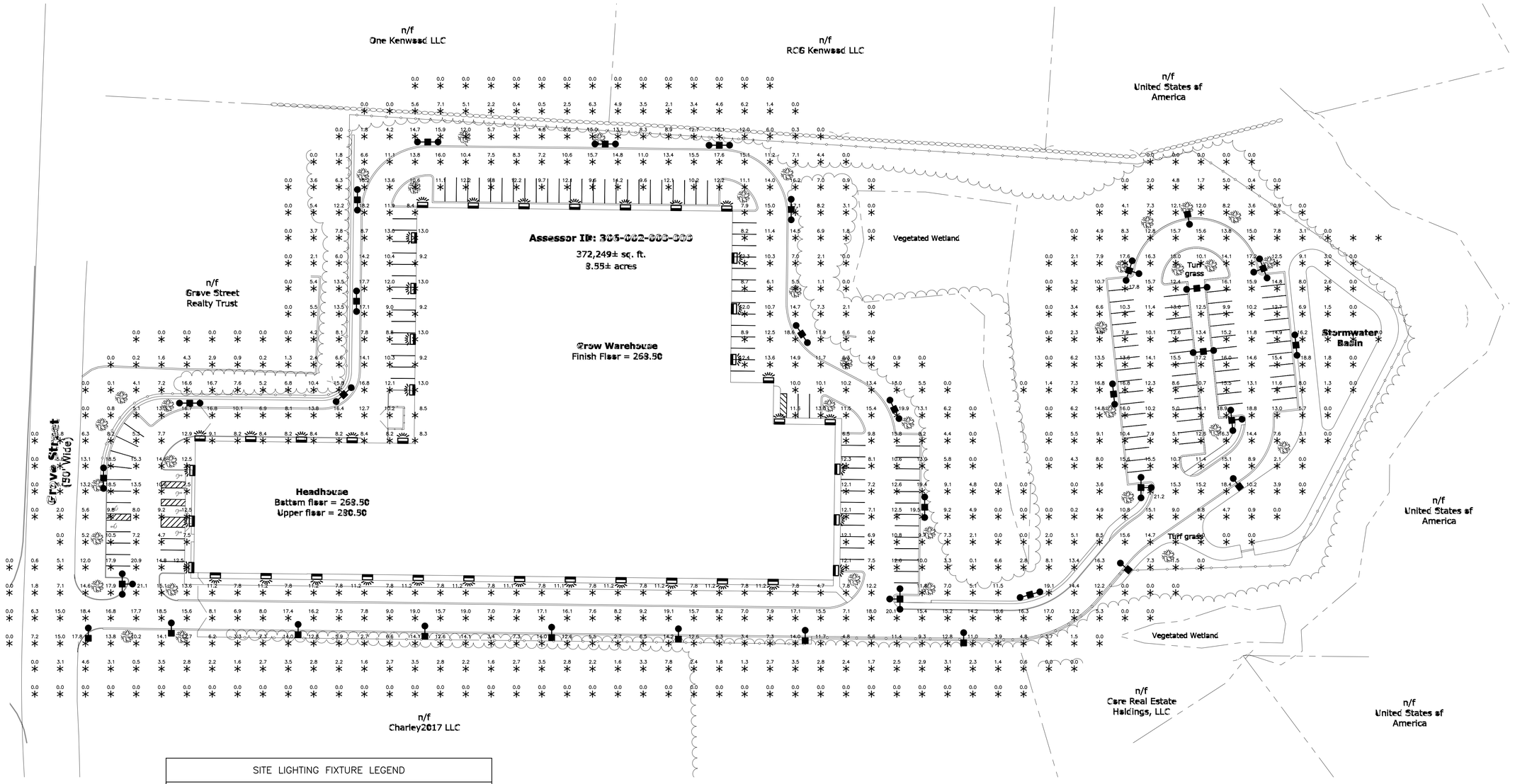
Norman G. Hill, P.E., P.L.S.
President

Ron Müller & Associates
Traffic Engineering and Consulting Services

Conceptual Improvement Plan
Proposed Left-Turn Lane, Grove Street at Site Drive




160 GROVE STREET



SITE LIGHTING FIXTURE LEGEND

WALL PACK; LED; HIGH INTENSITY; NOM. 55W; MVOLT DRIVER – 277V ANTICIPATED; 50% CUTOFF ACRYLIC LENS TYPE; PHOTOCELL; BRONZE; APPROXIMATE MOUNTING HEIGHT – 10'–0" ABOVE FINISH GRADE.

SINGLE–HEAD, POLE–MOUNT DRIVEWAY & PARKING LOT TYPE; LED ARRAY, FLAT PANEL "COBRA" STYLE; NOM. 150W; MVOLT DRIVER – 277 ANTICIPATED; CUTOFF ILLUMINATION PATTERN; 20 FEET, SQUARE, ANODIZED ALUMINUM BRONZE POLE ASSEMBLY WITH ADJUSTABLE FOCUS ARM & TENON; CONCRETE ELEVATED BASE BY GENERAL TRADES.

DUAL–HEAD, POLE–MOUNT DRIVEWAY & PARKING LOT TYPE; LED ARRAYS, FLAT PANEL "COBRA" STYLE; (2) ILLUMINATORS; NOM. 150W; MVOLT DRIVERS – 277 ANTICIPATED; CUTOFF ILLUMINATION PATTERN; 20 FEET, SQUARE, ANODIZED ALUMINUM BRONZE POLE ASSEMBLY WITH ADJUSTABLE FOCUS ARMS & TENONS; CONCRETE ELEVATED BASE BY GENERAL TRADES.

THREE–HEAD, POLE–MOUNT DRIVEWAY & PARKING LOT TYPE; LED ARRAYS, FLAT PANEL "COBRA" STYLE; (3) ILLUMINATORS; NOM. 150W; MVOLT DRIVERS – 277 ANTICIPATED; CUTOFF ILLUMINATION PATTERN; 20 FEET, SQUARE, ANODIZED ALUMINUM BRONZE POLE ASSEMBLY WITH ADJUSTABLE FOCUS ARMS & TENONS; CONCRETE ELEVATED BASE BY GENERAL TRADES.

1 / E0.1 SITE LIGHTING/PHOTOMETRICS PLAN
SCALE: 1"= 40'–0"

NORTH

SITE LIGHTING QUALIFICATION NOTES

A. LIGHT LEVEL ESTIMATES ARE PROJECTED WIT THE FOLLOWING CRITERIA:
   1. GRIDDED READING POINTS ARE ESTABLISHED USING DIMENSIONAL CONSIDERATION OF ±20'–0" IN BOTH DIRECTIONS.
   2. ANTICIPATED PERFORMANCE IS FOCUSED ON AN APPROXIMATE PHYSICAL HEIGHT OF ±5'–0" ABOVE FINISHED GRADE.
   3. NIGHTTIME EXPECTED CONDITIONS AREA T TOTAL DARKNESS WITH NO REFLECTANCE FACTORS SUCH AS PAVING TYPE, SIDEWALKS AND ADJACENT BUILDING MATERIAL OR OBSTRUCTIONS.

B. ACTUAL LIGHT LEVEL YIELD SHALL BE DEPENDENT ON THE SPECIFICALLY INSTALLED FIXTURE MANUFACTURER'S PERFORMANCE CAPABILITIES AS AFFECTED BY TYPES OF LAMPS AND LENSES; AND FILED–VERIFIABLE MOUNTING POSITIONS AND ELEVATIONS.

C. PURPOSE FOR PRESENTATION OF LIGHT LEVEL PROJECTIONS IS SOLELY INTENDED TO VALIDATE OBJECTIVE OF MINIMUM SAFE ILLUMINATION FOR PEDESTRIAN AND VEHICLE TRAFFIC; AND PROOF OF AVOIDING POLLUTION ONTO NEIGHBORING PROPERTIES.

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Lancaster, PA 17602
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Growing Facility for
HENNEP
160 Grove Street
Franklin, MA

SEAL

PROJECT NO.
18161

MANAGED BY
B. MOUL

DRAWN BY
L. SWEIGART

REVISIONS

DATE
MAY 13, 2020

DRAWING TITLE
SITE LIGHTING/ PHOTOMETRICS PLAN

SHEET NO.
E0.1