

BY MAIL and E-MAIL

Town Clerk
Lee Town Hall
32 Main Street,
Lee, MA 02138

Attn: Chris Brittain

Re: Application for a Site Plan Review and a Special Permit at 635 Laurel Street.

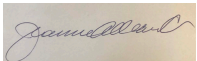
Dear Mr. Brittain,

Forest Wilde, LLC ("Forest Wilde") is submitting its application for a Site Plan Review and Special Permit at 635 Laurel Street in the Town of Lee. The owners of Forest Wilde are Cassandra Purdy, Jeanne Albano Carmichael and Jason Song. Forest Wilde plans to maintain the current site with a small addition for the proposed Marijuana Establishment that will consist of an Adult-Use Marijuana Retailer and Product Manufacturer. This application is being made in accordance with the requirements of the Town of Lee Bylaws §199 9.11, 13.3 and 13.4. Forest Wilde is submitting the following information:

- Application for Site Plan Review and Special Permit
- Evidence of Site Control
- Site Plan – Existing, Proposed and Lighting
- Plans -Architectural and Security Floor Plans
- Renderings
- Signage
- Security Plan
- Traffic Study
- Light Cut Sheets
- Odor Memo
- Odor Cut Sheets

We appreciate the Select Board's time and consideration of our application and look forward to hearing from you.

Sincerely,



Jeanne Albano Carmichael
Forest Wilde, LLC

E:artthebestinvestment@gmail.com

P: (203) 731-7548
75 Chestnut Street, Lee, MA

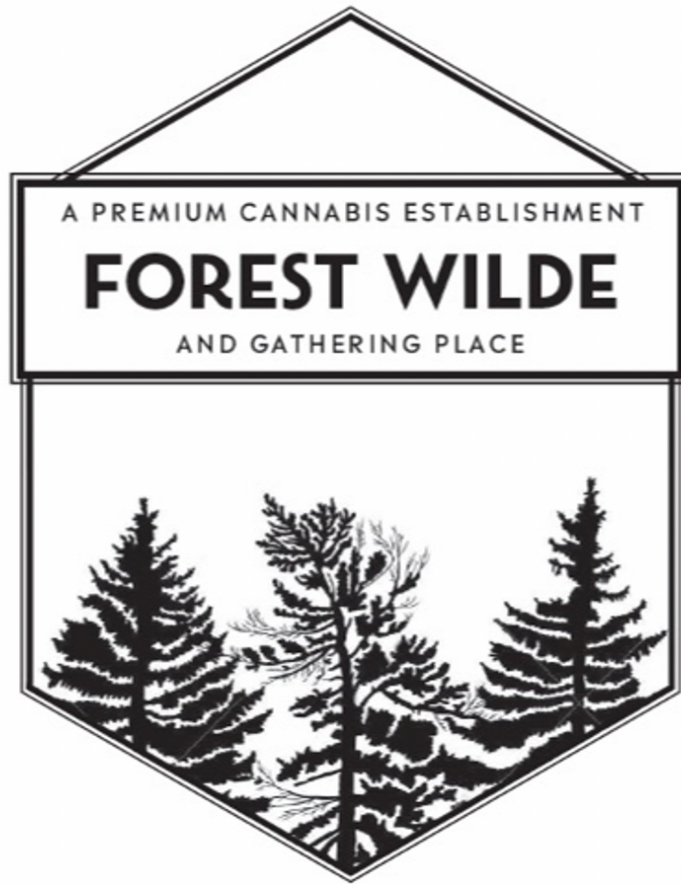
Cassandra Purdy
Forest Wilde, LLC

E:casserolepur@hotmail.com

P: (860) 350-1128
75 Chestnut Street, Lee, MA

Jason Song
Forest Wilde, LLC

E: jason.song@mac.com
75 Chestnut Street, Lee, MA



Application for Site Plan Review and Special Permit

**The Commonwealth of Massachusetts
TOWN OF LEE**

**Planning Board
Application for Site Plan Review/Approval**

January 22, 20 21

1. Name of Applicant: Forest Wilde, LLC

Address: 75 Chestnut Street, Lee, MA

Location of Property: 635 Laurel St, **MAP:** 7 , **LOT:** 9

2. Name of Architect, Engineer or Surveyor: Fuss & O'Neil

Address: 1550 Main Street, Suite 400, Springfield, MA 01103

I hereby request a meeting before the Planning Board with reference to the above application.

Signature of Owner  _____

Address _____

Estimated construction costs from Building Permit:

Cost	Fee
1. \$0 - \$5,000	\$ 25.00
2. \$5,000 - \$25,000	\$100.00
3. \$25,000 - \$50,000	\$250.00
4. Over \$50,000	\$500.00

Received \$ _____ Check # _____ from the applicant the fee to apply against administrative costs for the public meeting.

Received by: _____

Received Date: _____

THE COMMONWEALTH OF MASSACHUSETTS
TOWN OF LEE

BOARD OF SELECTMEN
APPLICATION FOR SPECIAL PERMIT HEARING

Name of Petitioner: Forest Wilde, LLC

Address: 75 Chestnut St, Lee, MA

Location of Property: 635 Laurel Street, Lee, MA

Applicant is Prospective Purchaser (owner, tenant, licensee, prospective purchaser) Nature of

Special Permit:

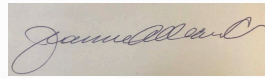
Forest Wilde, LLC is seeking a special permit for a proposed adult-use marijuana retailer and product manufacturer at 635 Laurel Street.

Applicable Section of Zoning By-Law:

199 - 9.11 Marijuana Establishments

I hereby request a hearing before the Special Permit Granting Authority with reference to the above-noted application:

Signed: _____



Signed: _____

Title: Manager

Received from above applicant, the sum of \$350.00**, to apply against advertising and Notice costs for this hearing.

Received by: _____

Received date: _____

**Costs incurred by the Town in excess of this fee will be paid by the applicant prior to the hearing date.

Evidence of Site Control

REAL ESTATE

PURCHASE AND SALE AGREEMENT

AGREEMENT dated as of March , 2020 between CHRISTOPHER RYAN and JASMINE K. RYAN, c/o Post Office Box 355, Lee, MA 01238 ("Individual Seller"), and CJR, INC., a Massachusetts corporation with its principal place of business located at 635 Laurel Street, Post Office Box 355, Lee, MA 01238 ("Corporate Seller") (together the Corporate Seller and the Individual Sellers are referenced herein as "Seller"), and Forest Wilde LLC a Massachusetts limited liability company with a place of business at 75 Chestnut Street, Lee, Massachusetts 01238 ("Buyer").

PRELIMINARY STATEMENT

The Corporate Seller owns and operates a restaurant under the name "CORK 'N HEARTH" (the "Business") located at 636 Laurel Street, Lee, Massachusetts 01238 ("Premises").

The Individual Seller holds legal title to the real estate, which is more particularly described in a deed annexed hereto as Exhibit A ("Real Estate").

Buyer desires to buy and the Sellers desire to sell the Real Estate and certain personal property of the Business upon the terms set forth hereinafter.

Buyer intends to operate a Registered Marijuana Dispensary and/or Marijuana Establishments at the Real Estate ("Buyer's Business").

IT IS THEREFORE AGREED AS FOLLOWS:

1. SALE OF PERSONAL PROPERTY. The Corporate Seller shall sell and the Buyer shall purchase all furniture, furnishings, fixtures, equipment, appliances, including stove, freezer, refrigerator, dinnerware, silverware and utensils, plates, glassware and cups, dishes, cooking implements and utensils , EXCEPT those items specifically *excluded* on Exhibit "B" attached hereto, ("Personal Property"). The Corporate Seller and Buyer shall compile an itemized list of the tangible Personal Property within 60 days after the execution of this Agreement, which they shall attach hereto as Bill of Sale at Closing, reasonable wear and tear, and breakage, excepted.

1.1 Inventory. Specifically omitted.

2. SALE OF REAL ESTATE. The Individual Seller shall sell and the Buyer shall purchase the Real Estate.

3. PURCHASE PRICE.

3.1 . For the Personal Property and the Real Estate, the Buyer shall pay a total purchase price of [REDACTED] (the "Purchase Price") as allocated in Exhibit C annexed hereto.

3.2 Deposit. Buyer has already provided a [REDACTED] *non-refundable* payment to Seller which shall be a credit to Buyer at closing. On May 21, 2020, Buyer shall deliver to Seller an additional *non-refundable* deposit of [REDACTED]. Moreover, if closing (see section 22.1) does not occur by September 30, 2020, Buyer agrees to make further *non-refundable* monthly deposit payments of [REDACTED] beginning on October 1, 2020 until closing, which, unless otherwise agreed, shall occur no later than April 1, 2021. Payments shall be held in escrow by Michael J. Considine Esq. ("Escrow Agent") and applied toward the Purchase Price at the Closing, defined in Section 22 ("Deposit").

3.2.1. Release of Deposit. The Deposits made hereunder shall be held in a non-interest-bearing escrow account, subject to the terms of this Agreement and shall be duly accounted for at the time for performance of this Agreement. The Deposits may not be released from escrow without the assent of the Buyer and the Seller. The recording of the Deed to the Real Estate shall constitute such assent. In the event of any disagreement, the Escrow Agent shall retain the Deposit, pending written instructions by both parties, or by a court of competent jurisdiction. So long as the Escrow Agent served in good faith, the parties agree to hold harmless the Escrow Agent from damages, losses or expenses, arising out of this Agreement or any action or failure to act, including reasonable attorney's fees, related thereto. The parties acknowledge that the Escrow Agent may be counsel or fiduciary to one of the parties and agree that Escrow Agent may continue to act as such counsel or fiduciary notwithstanding any dispute or litigation arising with respect to the Deposit or the Escrow Agent's duties.

4. PAYMENT OF PURCHASE PRICE. The Purchase Price together with any adjustments (the "Adjusted Purchase Price"), including adjustments pursuant to Section 8 shall be paid at the closing by cash, cashier or treasurer's check, IOLTA check, or wired funds.

5. CONDITIONS PRECEDENT.

5.1 Sale of Both Real Estate and Personal Property. The obligations of the Seller to sell, and the obligations of the Buyer to purchase the Personal Property and Real Estate are subject to the purchase by the Buyer, and the sale by the Seller of both the Real Estate and Personal Property on the Closing Date.

5.2 Financing Contingency. Intentionally omitted.

5.3 Inspection Contingency. The Buyer's obligations hereunder are contingent upon the Buyer's receipt, prior to 5:00 PM on May 21, 2020 ("Inspection Contingency Date"), of written inspection reports on the Real Estate and the Personal Property

satisfactory to the Buyer. Such reports may, at the Buyer's option and expense, include inspections for structural and mechanical matters, pests, including wood-boring insects, lead paint, asbestos, UFF1, radon gas, other hazardous substances, underground tanks, sewer and water. If the Buyer is not satisfied with the results of any such test, the Buyer may cancel this Agreement by notifying the Sellers or the Sellers' Attorney, in writing, no later than 5:00 PM on the Inspection Contingency Date. If the Buyer cancels the Agreement, as aforesaid, the parties shall have no liability to each other whatsoever. The Buyer's failure to give such notice shall be a waiver of the Buyer's right to cancel under this Section. The Buyer and its consultants shall have the right to access the Real Estate to conduct such inspections, at reasonable times, upon twenty-four (24) hours' advance notice to the Sellers.

5.4 Liquor License. Specifically omitted.

5.5 Licenses and Permits. Subject to the conditions of this Paragraph 5.5, Buyer's obligations under this Purchase and Sale Agreement are expressly contingent upon the Buyer obtaining prior to the Closing any , state and local license or permit required to operate Buyer's Business (the "Permits"). Buyer and Seller acknowledge that the Town of Lee must approve a host community agreement for Buyer's Business and that this process has been placed on a moratorium until resolution of a pending grand jury investigation. Buyer agrees to proceed with due diligence to obtain the Permits. The Deposits and the monthly payment of [REDACTED] shall proceed and shall be nonrefundable but Buyer may cancel this Agreement at any time, if in Buyer's sole discretion, Buyer determines that it will not proceed with the process required to obtain the Permits. If the Permits are denied, Buyer may cancel this Agreement without advance notice to Seller, and the obligations of Buyer hereunder, including the payment of the monthly fee of [REDACTED], shall cease immediately.

5.6 Review of Real Estate Maintenance/Expense records. If requested, Sellers agree to provide copies of any real estate costs and expenses, including maintenance/utility bills, in Sellers' possession for Buyer's review. The Buyer's obligations hereunder are contingent upon the Buyer's satisfaction of its review of these records. If the Buyer is not satisfied with their review of the records, Buyer may cancel this Agreement by notifying the Sellers or the Sellers' Attorney, in writing, no later than 5:00 PM on the Inspection Contingency Date, defined in Section 5.3.

5.7 Letter of Intent Superseded. The parties to this agreement executed an agreement entitled " Letter of Intent to Purchase 635 Laurel St., Lee MA 01238" (the LOI"). Page 3 of the LOI, under the section titled "Qualifying Conditions" the parties agreed that executed of a mutually agreeable Purchase and Sale Agreement would terminate the LOI. By execution of this Purchase and Sale Agreement, the parties hereby terminate the LOI, and it shall be null and void, and all the parties obligations thereunder are superseded by this Purchase and Sale Agreement.

6. CONFIDENTIALITY. The Sellers have, or shall have made available for inspection by the Buyer if requested, the records of the Sellers' real estate as defined in Section 5.6. The Buyer shall treat all records and documents received either orally

or in writing ("Information") in confidence and shall undertake the following additional obligations with respect thereto:

- (1) Use the Information only during the term of this Agreement; and for the sole purpose of effectuating the purchase of the Real Estate and Personal Property;
- (2) Limit dissemination of the Information to only those of Buyer's agents, servants or employees, lending institutions and potential investors, attorneys and accountants, who have a need to know; and
- (3) If requested, return all Information including all copies, records and representations thereof to the Sellers upon the expiration, termination or cancellation of this Agreement.

7. ACCOUNTS RECEIVABLE. Specifically omitted.

8. ADJUSTMENTS. At the Closing, the parties shall adjust for pre-paid or past due real estate taxes, water and sewer use charges, personal property taxes, rents, deposits, fees for licenses, including (if applicable) any contracts, leases and insurance that the Buyer may wish to acquire from the Sellers for the then current year ("Adjustments"). Leases include the following: Water Heater (Berkshire Gas Company); and Dish Washer (Eco-Lab). The net amount, if any, of the Adjustments shall be applied to the Purchase Price.

9. REPRESENTATIONS AND WARRANTIES BY THE PARTIES.

9.1 The Sellers' Representations and Warranties. The Sellers, jointly and severally, represent and warrant to the Buyer that:

(I) The Corporate Seller has or shall have at the Closing, good and marketable title to the Personal Property with the absolute right to sell, assign and transfer the same to the Buyer free and clear of all liens, pledges, security interests or encumbrances.

(ii) At the Closing, the Personal Property and Real Estate shall be in the same condition in which they now are, reasonable and ordinary wear excepted.

(iii) Neither the Seller nor the Corporate Seller has any debts or obligations other than those that will be discharged at the Closing.

(v) There are no existing contracts or commitments pertaining to the Seller or Corporate Seller, except as have been incurred in the ordinary course of business and disclosed to the Buyer on Schedule 9.1. At the Closing, Seller shall be deemed to have assigned to Buyer any service contracts, warranties and/or guarantees in Seller's possession covering any fixtures, equipment or Personal Property.

(vii) Except as disclosed in Schedule 9.1, neither the Seller nor the Corporate Seller is a party to any contract for the future purchase of materials, supplies, or equipment for a fixed contractual term exceeding one (1) month from the date of this Agreement. Neither the Seller nor the Corporate Seller is a party to any other contract or agreement which materially affects the Personal Property or the Real Estate, or which

has been entered into other than in the ordinary course of the business of the Seller or the Corporate Seller, except as disclosed in Schedule 9.1.

(viii) There is no litigation or proceeding pending, or to the knowledge of the Sellers, threatened against or relating to the Seller or Corporate Seller, the Real Estate or their Personal Property or Business, nor do the Sellers know of any basis for any such action, or of any governmental investigation relative to the Seller or Corporate Seller, or their Personal Property or Business.

(ix) The Corporate Seller is duly organized, validly existing and in good standing under the laws of the Commonwealth of Massachusetts, and has power and authority to own the Personal Property and carry on the business it presently conducts.

(x) Seller has received no notice from any municipal, state or federal agency asserting or alleging that the Real Estate is or may be in violation of any ordinances, statutes or regulations relating to zoning, building or health matters.

(xi) The execution and delivery of this Agreement to the Buyer and the sale contemplated hereby have been duly approved and authorized by the Corporate Seller's Board of Directors and shareholders.

(xii) The Real Estate is connected to a municipal sewer and water system.

(xiii) There are no underground storage tanks on the Premises. Upon information and belief, an underground tank was properly decommissioned and slurried prior to Sellers' ownership of the Premises.

(xiv) No Environmental Notice. The Sellers have received no notice that any inspection, audit, inquiry or investigation is pending or proposed regarding any Hazardous Substances or that the Real Estate is not in compliance with applicable Environmental Laws, as defined in Exhibit E.

9.2 The Buyer's Representations.

(i) The Buyer represents and warrants that the Buyer has not been influenced to enter into this transaction nor have they relied upon any warranties or representations not set forth or incorporated in this Agreement or previously made in writing.

(ii) Any Nominee or Corporate Buyer shall be duly organized, validly existing and in good standing under the laws of the Commonwealth of Massachusetts, and will have the corporate power and authority to purchase the Personal Property and Real Estate upon the terms set forth in this Agreement.

10. CONTINUED OPERATION. Between the date hereof and the Closing date:

(i) The Corporate Seller shall continue operating the Business in the Corporate Seller's customary practice.

(ii) The Corporate Seller shall not incur any additional debt except such indebtedness as may arise as a result of normal and usual transactions in the ordinary course of the Business.

(iii) No event or transaction shall occur which will adversely affect the financial condition of the Corporate Seller except such normal and usual transactions as occur in the ordinary course of the Business.

(iv) Unless otherwise agreed, the Corporate Seller shall not sell or dispose of, or in any manner encumber or hypothecate, any of the Personal Property except for the sale of inventory in the ordinary course of business.

(v) On the Closing Date or prior thereto, the Seller shall pay in full all business liabilities of the Business, including withholding, sales, excise, social security, unemployment and worker's compensation insurance taxes to the applicable taxing authority and shall obtain the release and discharge on all liens encumbering any of the Personal Property to be sold and transferred hereunder.

(vi) On the Closing Date, there shall be no judgment in existence against the Seller. 11. LIABILITIES OF BUSINESS.

11.1 The Buyer shall not assume any liabilities of the Seller, and all liabilities of the Seller applicable to the period prior to the Closing shall be and remain the responsibility of the Seller. The Seller specifically warrants and agrees that they have paid all federal and state income taxes, state and federal unemployment compensation taxes, federal and state withholding, and federal social security taxes, (hereinafter "Taxes"), pertaining to the period prior to the Closing. If any of the Taxes are not due and owing prior to the Closing Date and the amounts of which are not ascertainable, the Seller shall, jointly and severally, pay the same when and as the same shall become due.

11.2 Seller specifically warrants and agrees that the Seller shall pay all expenses, debts, and accounts payable incurred by or on behalf of the Seller and arising out of or in connection with the operation of the Business, the Personal Property and the Real Estate, incurred prior to the Closing, and further that such expenses, debts, and accounts payable shall be paid at or before Closing, provided that if the amounts of any expenses, debts, and accounts payable are not ascertainable prior to the Closing, the Seller shall pay the same when and as the same shall become due.

11.3 Indemnifications.

11.3.1 Indemnification by Seller. The Seller, shall, jointly and severally, indemnify the Buyer from and against, and shall hold the Buyer harmless from, any loss, liability, claim, damage or expense, including reasonable legal fees and expenses (a "Loss") suffered or incurred by them to the extent arising from (i) any breach of their representations or warranties contained in this Agreement, (ii) any failure to perform any covenant or agreement made or undertaken in this Agreement by it or in any other agreement delivered to the Buyer pursuant to this Agreement, (ii) any third party claim for brokerage or finders' fees or commissions based on any agreement between the

Seller and such third party that may have been made in connection with this transaction and (iv) the operation of the Business prior to the Closing Date.

11.3.3 Claims. If the Buyer seeks indemnification pursuant to the provisions of this Section, Buyer shall promptly notify Seller (the "Indemnitor") in writing of its claim ("Claim"), specifying in detail the nature of the misrepresentation, breach or nonperformance upon which such Claim for indemnification is based and the amount and nature of the Loss expected to be incurred in connection therewith. Failure to give such notice shall not relieve the Indemnitor of its obligations to the Buyer under this Section 11, except to the extent that the Indemnitor is prejudiced thereby. If the Indemnitor shall agree that it shall have responsibility to indemnify the Buyer for such Claim, the Buyer shall give the Indemnitor full authority to defend, adjust, compromise, or settle such Claim in any litigation arising therefrom, in the name of the Buyer or otherwise as the Indemnitor shall elect, provided that the Indemnitor or its counsel shall keep the Buyer fully informed of all developments and shall diligently and expeditiously defend such Claim. The Indemnitor shall not, without the consent of the Buyer, (i) consent to the entry of any judgment, or (ii) agree to any settlement which does not require as an unconditional term thereof that the opposing party deliver to the Buyer a release from all liability in respect of such Claim. Buyer may at its sole expense, have its counsel appear and act as co-counsel of record in any litigation where indemnitor has the responsibility to indemnify Buyer.

11.3.4 Cooperation. Upon the request of the Indemnitor, the Buyer shall give to the Indemnitor all information which is reasonably required to determine (or cause an independent third party acceptable to the Indemnitor to determine) the amount of indemnity due from the Indemnitor with respect to any Claim made by the Buyer under this Section 11.

12. NON-COMPETITION. N/A.

13. POSSESSION OF REAL ESTATE. The Seller shall deliver full possession of the Real Estate on the Closing Date (Section 21). The Real Estate shall be free of encroachments burdening the Real Estate and of improvements that encroach on adjoining property, including buildings and driveway.

14. TITLE. The Real Estate shall be conveyed by a good and sufficient quitclaim deed (the "Deed") conveying a good, clear, record, marketable and insurable title, free of all encumbrances and exceptions, except:

- a. Real Estate Taxes assessed or to be assessed on the Real Estate to the extent that such taxes then are not yet due or payable.
- b. Betterment assessments, if any, which are not a recorded lien on the Real Estate, as of the date of this Agreement.
- c. Federal, state and local laws, ordinances, by-laws and rules regulating the use of land, particularly environmental building, zoning, health, rent control and condominium conversion laws, if any, applicable as of the date of this Agreement.

d. Existing rights, if any, in party or partition walls;

e. Utility easements in the adjoining ways.

15. **USE OF PROCEEDS TO CLEAR TITLE.** The Seller may at the time of the delivery of the Deed, use the Purchase Price or any portion thereof to clear the title of any or all encumbrances or interests. Upon request, Seller shall promptly provide to Buyer's attorney written payoff instructions in accordance with G.L. c. 183, Section 1, et seq. Seller shall pay the cost of discharge(s) and reimburse Buyer's attorney the cost (if any) of overnight mail charges. The Seller shall record all instruments so procured simultaneously with the delivery of the Deed or at such later time as shall be reasonably acceptable to the Buyer. With respect to discharges of mortgages from insurance companies, banks and credit unions, the Seller may record such discharges within a reasonable time after the recording of the Deed.

16. **STANDARDS.** Any title matter or practice arising under or relating to this Agreement which is the subject of a Title Standard or a Practice Standard of the Real Estate Bar Association for Massachusetts shall be governed by said Standard to the extent applicable.

17. **CONDITION OF REAL ESTATE AND PERSONAL PROPERTY AT CLOSING.** Upon delivery of the Deed and the Bill of Sale, the Real Estate and the Personal Property shall be in their present condition, reasonable use and wear of same excepted, and the Real Estate shall be broom clean. With respect thereto, the Buyer shall have the right to examine the Real Estate and the Personal Property within twenty-four (24) hours before the Closing Date. If the Buyer completes the sale and accepts delivery of the Deed and Bill of Sale after conducting said inspection or if the Buyer waives the inspection, the Buyer shall be conclusively presumed to have accepted the Real Estate and Personal Property regardless of condition.

18. **NOMINEE.** The Buyer may require the conveyance of the Real Estate or Personal Property to be made to another person, persons, or entity ("Nominee"), upon notification in writing delivered to the Sellers or their attorney at least fourteen (14) days prior to the Closing Date. The appointment of a Nominee shall not relieve the Buyer of any obligation hereunder.

19. **RISK OF LOSS-INSURANCE AND DAMAGE BEFORE THE CLOSING.** Before the delivery of the Deed and the Bill of Sale, the risk of loss shall be on the Seller. The Seller shall maintain the fire and extended coverage insurance presently maintained on the Personal Property and the buildings on the Real Estate. Upon the written request of the Buyer, and at the Buyer's expense, the Seller shall maintain a greater amount as the Buyer may reasonably request. At the Buyer's request, the Seller shall provide a copy of the Sellers' existing insurance coverage to the Buyer. If the Personal Property or the Real Estate are damaged by fire or other casualty before the Closing Date in excess of [REDACTED] in the aggregate and the Seller has not restored the Personal Property and/or the Real Estate to their former condition, the Buyer have the option to

take an assignment of the Sellers' insurance proceeds or terminate this Agreement. If the Buyer elects to purchase or if the loss does not exceed [REDACTED] in the aggregate, the Seller shall assign all insurance proceeds to the Buyer and the Purchase Price shall be reduced by:

- a. The net amount of any insurance proceeds that a mortgagee has applied to the mortgage debt, less any amounts reasonably expended by the Sellers for partial renovation.
- b. The amount of any insurance proceeds received by the Sellers; and
- c. Any deductible amount under the Sellers' insurance policy. The Seller will credit the Buyer the amount of the deductible towards the Purchase Price.

20 ACCEPTANCE OF DEED AND BILL OF SALE. Acceptance of the Deed and the Bill of Sale to the Personal Property by the Buyer shall be a full performance and shall discharge every agreement and obligation of the Sellers herein except any agreements that by their terms are to be performed after the Closing.

21. CLOSING.

21.1 The Closing shall take place at the office of Buyer's counsel in Pittsfield, Massachusetts, or at some other place as the parties may agree, on or before thirty (30) days after the State and Local Licensing Boards issue to Buyer any and all requisite Permits for Buyer's Business. If the Buyer has not been issued the Permits by April 1, 2021, either party (the Buyer or the Seller) may terminate this Agreement, upon seven (7) days' notice to the other party ("Termination Notice Period"), except that the Buyer shall have the right to purchase the Real Estate and Personal Property without the Permits having been issued.

Time is of the essence.

21.2 At the Closing, the Sellers shall deliver to the respective Buyer:

- (i) A Bill of Sale of the Corporate Seller with warranty covenants with respect to the Personal Property.
- (ii) An affidavit from the Sellers that all debts of the Corporate Seller have been paid in full or will be paid in full out of the proceeds of the sale and that there are no written or verbal leases in effect for which the Corporate Seller is liable.
- (iii) A Corporate Tax Lien Waiver and Certificate of Good Standing from the Department of Revenue and the Secretary of State both bearing dates after the execution date of this Agreement for the Corporate Seller to be provided to Buyer at closing or, if necessary, within a reasonable time post-closing per agreement of the parties.
- (iv) A Resolution by all the shareholders and directors of the Corporate Seller duly authorizing the execution, delivery and performance of this Agreement and of all documents to be executed and delivered to the Buyer.

- (v) The Deed to the Real Estate executed by the Seller.
- (vi) Affidavits and indemnities from the Seller with respect to parties in possession and mechanic's liens and such other documents as may be reasonably required by Buyer's attorney or Buyer's lenders to induce the Real Estate Buyer's title insurance company to issue lender's and owner's policies of title insurance without exception for those matters;
- (vii) An affidavit, satisfying the requirements of Section 1445 of the Internal Revenue Code and regulations issued thereunder, which states, under penalty of perjury, the Seller's United States taxpayer identification number(s) and the Seller's address (the "1445 Affidavit"); and
- (viii) Internal Revenue Service Form W-8 or Form W-9, as applicable, with the tax identification number for the Shareholder(s), and an affidavit furnishing the information required for the filing of Form 1099S with the Internal Revenue Services and stating that the Shareholder is not subject to back-up withholding.

21.3 At the Closing, the Buyer shall deliver to the Sellers the Adjusted Purchase Price as provided in Section 4.

22 MERGER. The parties agree that this Agreement contains all of the terms and conditions of this transaction. It is mutually agreed that any oral or prior written representation made by either party before the execution of this Agreement is null and void.

23. SURVIVAL. Notwithstanding any presumption to the contrary, all covenants, conditions and representations contained in this Agreement, which by their nature, implicitly or explicitly, involve performance in any particular manner after the Closing and delivery of the Deed and Bill of Sale be ascertained to have been fully performed until after the Closing and delivery of the Deed and Bill of Sale, shall survive the Closing.

24. TERMINATION. In the event the Buyer rightfully terminates this Agreement in accordance with the provisions herein relating to (a) a failure of a Condition Precedent set forth in Section 5.1 through 5.9, (b) Section 20 or (c) default by one or more of the Sellers, the Escrow Agent shall forthwith refund any Deposit held in escrow to the Buyer together with accrued interest thereon (if applicable).

25. BUYER'S DEFAULT. If the Buyer defaults, the Buyer shall be liable to the Sellers in the amount of all Deposits, as liquidated damages, which shall be the Sellers' exclusive remedy in law or in equity. The escrowed Deposit shall be applied to the payment of said liquidated damages.

26. GOVERNING LAW/EFFECT. This Agreement shall be governed by the substantive laws of the Commonwealth of Massachusetts and shall be binding upon and inure to the benefit of the parties hereto their heirs, executors, administrators, successors and assigns.

27. CAPTIONS. Captions contained in this Agreement are inserted only as a matter of convenience and in no way define, limit the extent, or describe the content of this Agreement or the intent of any of the provisions thereof.

28. SEVERABILITY. If any provision of this Agreement is deemed by any court having jurisdiction thereon to be invalid or unenforceable, the balance of this Agreement shall remain in effect; if any provision of this Agreement is deemed by any such court to be unenforceable because such provision is too broad in scope, such provision shall be construed to be limited in scope to the extent such court shall deem necessary to make it enforceable; and if any provision shall be deemed inapplicable by any such court to any person or circumstances, it shall, nevertheless, be construed to apply to all other persons or circumstances.

29. NOTICES, CONSENTS AND COMMUNICATIONS. Any notice, consent or other communication under this Agreement shall be in writing and shall be considered given when delivered personally or mailed by registered or certified mail, return receipt requested, to the parties at the addresses indicated below (or at such other addresses as the parties may specify by notice to the others pursuant hereto).

(a) If to the Sellers, to them at: c/o P.O. Box 355, Lee, MA 01238 with a copy to:

Michael J. Considine, Esq.

49 Main Street, P.O. Box 378, Lee, MA 01238

If to the Buyer, to them at: 75 Chestnut Street, Lee, MA 01238 with a copy to:

Elisabeth C. Goodman, Esq.

Cain Hibbard & Myers PC

66 West Street, Pittsfield MA 01201

30. BROKER. Each party acknowledges, represents and warrants to the other that neither party has dealt with any broker other than MaCaro Real Estate, and that each of the parties further agrees to indemnify and hold harmless the other against commissions claimed by any other broker.

31. This Agreement may be executed in counterparts, and by digital signatures, and so executed shall constitute one complete Agreement.

Signed and sealed on the date first above written.

SELLERS :

CHRISTOPHER RYAN
(Individually and as Authorized Corporate Officer)

JASMINE K. RYAN
(Individually and as Authorized Corporate Officer)

BUYER:

Forest Wilde LLC
By its Managers:

Jeannie Albano Carmichael

Cassandra Purdy

EXHIBIT A

REAL ESTATE DESCRIPTION

The same premises conveyed to Jasmine K. Ryan by deed of Christopher J. Ryan recorded with the Berkshire Middle District Registry of Deeds in Book 3347, Page 27.

EXHIBIT B

Personal Property to be omitted:

EXHIBIT C

ALLOCATION OF PURCHASE PRICE

Real Estate	
Furniture, Fixtures & Inventory	—

TOTAL

EXHIBIT D

ENVIRONMENTAL LAWS

For purposes of this Agreement: "Environmental Laws" shall mean any federal, state or local statute, regulation or ordinance or any judicial or administrative decree or decision, whether existing or hereinafter enacted, promulgated or issued, with respect to any Hazardous Materials, drinking water, groundwater, wetlands, landfills, open dumps, storage tanks, solid waste, waste water, storm water runoff, waste emissions or wells.

"Hazardous Materials" means each of and every element, compound, chemical mixture, contaminant, pollutant, material, waste or other substance which is defined, determined or identified as hazardous or toxic under any Environmental Law. Without limiting the generality of the foregoing, the term shall mean and include:

"Hazardous Substances" as defined in CERCLA, the Superfund Amendments and Reauthorization Act of 1986, or Title III of the Superfund Amendment and Reauthorization Act, each as amended, and regulations promulgated thereunder including, but not limited to, asbestos or any substance containing asbestos, polychlorinated biphenyls, any explosives, radioactive materials, chemicals known or suspected to cause cancer or reproductive toxicity, pollutants, effluents, contaminants, emissions, infectious wasters, any petroleum or petroleum-derived waste or product or related materials and any items defined as hazardous; special or toxic materials, substances or waste;

"Hazardous Waste" as defined in the Resource Conservation and Recovery Act of 1976, as amended, and regulations promulgated thereunder;

Materials as defined as "Hazardous Materials" in the Hazardous Materials Transportation Act, as amended, and regulations promulgated thereunder; and

"Chemical Substance or Mixture" as defined in the Toxic Substances Control Act, as amended, and regulations promulgated thereunder.

"Governmental Authorities" means the United States, the Commonwealth of Massachusetts and any political subdivision thereof, and any and all agencies, departments, commissions, boards, bureaus, bodies, councils, offices, authorities, or instrumentality of any of them, of any nature whatsoever for any governmental unit (federal, state, county, district, municipal, city or otherwise) whether now or hereafter in existence.

"Release" shall mean any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, storing, escaping, leaching, dumping, discarding, burying, abandoning, or disposing into the environment.

Signed and sealed on the date first above written.

SELLERS:

Christopher Ryan 4-1-2020
CHRISTOPHER RYAN
(Individually and as Authorized Corporate Officer)

Jasmine K. Ryan 4/1/2020
JASMINE K. RYAN
(Individually and as Authorized Corporate Officer)

BUYER:

Forest Wilde LLC
By its Managers:

Jeanne A. Carmichael March 31, 2020
Jeanne Albano Carmichael

Cassandra Purdy 3/30/20
Cassandra Purdy

Site Plan – Existing, Proposed and Lighting

#	NAME	PARAMETER	MIN (FC)	MAX (FC)	AVERAGE (FC)	MEAN/MIN	MAX/MIN
1	Parking Lot	Horizontal Illuminance	0.40	4.20	1.79	4.48	10.50
2	Parking Lot #2	Horizontal Illuminance	0.00	5.70	0.62	N/A	N/A
3	Roadway	Horizontal Illuminance	0.00	0.90	0.03	N/A	N/A
4	Outside Property	Horizontal Illuminance	0.00	0.10	0.00	N/A	N/A

TYPE	SYMBOL	MANUFACTURER	CATALOG NUMBER	WATTAGE (W)	LUMEN OUTPUT	COLOR TEMP (K)
A		GARDCO	GL13-3-105LA-6453-N W-IS	101	9385	4000
B		GARDCO	GL13-4-105LA-6453-N W-IS	101	9388	4000
C		STONCO	LPW16-30-NW-G3-4-U NV	34.3	3,474	4000

NOTES:

1. FIXTURES "A" AND "B" SHALL BE PROVIDED WITH EXTERNAL HOUSE SIDE SHIELD.
2. FIXTURES "A" AND "B" TO BE MOUNTED ON A 20'-0" POLE.
3. WALL PACK "C" TO BE WALL MOUNTED AT 8'-6" ABOVE GROUND.



DESIGNER

REVIEWER

No.

DATE

DESCRIPTION

SCALE: HORIZ.: 1" = 20'

VERT.: 1" = 20'

DATUM: NAD83-96

HORIZ.: NAD83-96

VERT.: NAD83-96

GRAPHIC SCALE

FUSS & O'NEILL

1550 MAIN STREET, SUITE 400
STURBRIDGE, MA 01561
413.452.0445
www.fussandoneill.com

FOREST WILDE, LLC

SITE LIGHTING

635 LAUREL STREET (ROUTE 20)

MASSACHUSETTS

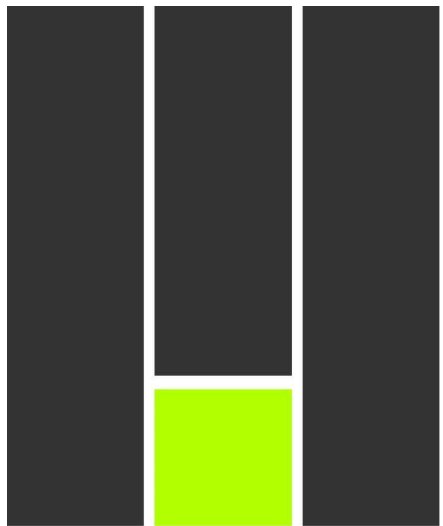
LEE

PROJ. No.: 20191372.A10

DATE: 12/10/2020

SL-01

Plans -Architectural and Security Floor Plans



McGeorge
Architecture Interiors

18 Fifth Avenue
East Greenwich, Rhode Island 02818
401.398.7606
mcgeorgeai.com

matthew@mcgeorgeai.com 401.215.0749 c
rebecca@mcgeorgeai.com 401.215.0869 c



PROJECT:

**FOREST WILDE
DISPENSARY**
635 LAUREL ST. (US 20)
LEE, MA 01238

CLIENT:

FUSS & O'NEILL
1550 MAIN STREET
SPRINGFIELD, MA 01103

REVISIONS:

NO.	DATE	DESCRIPTION

SCALE:

AS NOTED

DRAWN BY:

MM

DATE:

11.04.20

JOB NO.:

2020-22

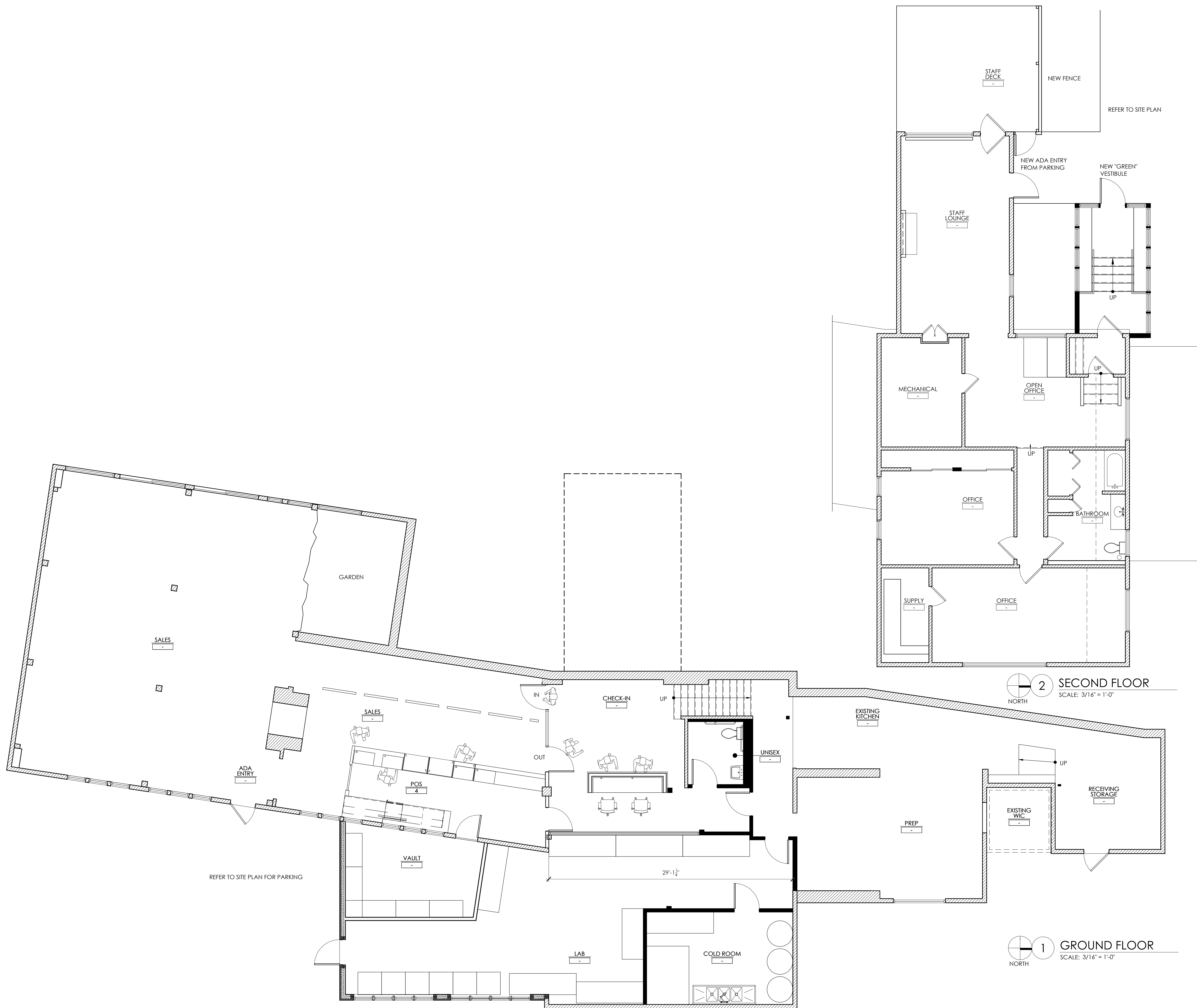
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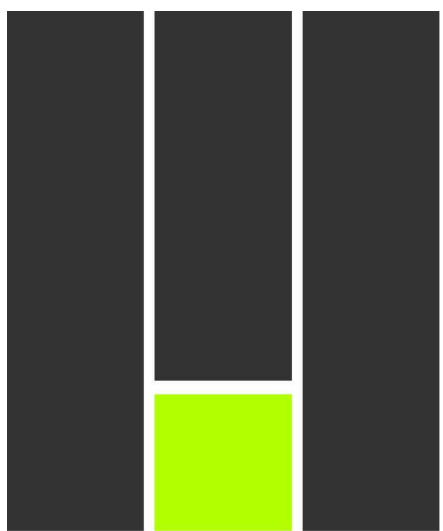
**FLOOR PLANS
EXHIBIT**

DWG NO.:

EX1.1

ISSUED FOR SPECIAL USE PERMIT





McGeorge
Architecture Interiors

18 Fifth Avenue
East Greenwich, Rhode Island 02818
401.398.7606
mcgeorgeai.com

matthew@mcgeorgeai.com 401.215.0749 c
rebecca@mcgeorgeai.com 401.215.0869 c



PROJECT:

**FOREST WILDE
DISPENSARY**
635 LAUREL ST. (US 20)
LEE, MA 01238

CLIENT:

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1550 MAIN STREET
SPRINGFIELD, MA 01103

REVISIONS:		
NO.	DATE	DESCRIPTION

SCALE:	AS NOTED	DRAWN BY:	MM
DATE:	11.04.20	JOB NO.:	2020-22

TITLE:

**FLOOR PLANS
EXHIBIT**

DWG NO.:

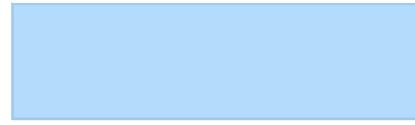
EX1.1

ISSUED FOR SPECIAL USE PERMIT

SECURITY DEVICE LEGEND			
	ALARM CONTROL & SECURITY RECORDING EQUIPMENT		ALARM DOOR/ WINDOW CONTACT
	ALARM CELLULAR COMMUNICATOR		EXTERIOR CAMERA
	ALARM KEYPAD		INTERIOR CAMERA
	ALARM MOTION DETECTOR		ACCESS CARD READER (LIMITED ACCESS DOOR)
	ALARM WALL VIBRATION DETECTOR		360 DEGREE CAMERA
	PANIC BUTTON		VAULT SYSTEM



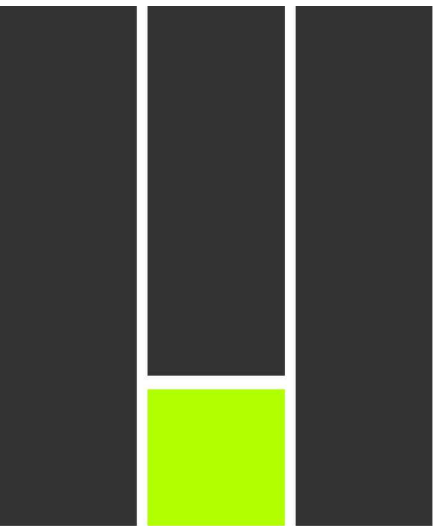
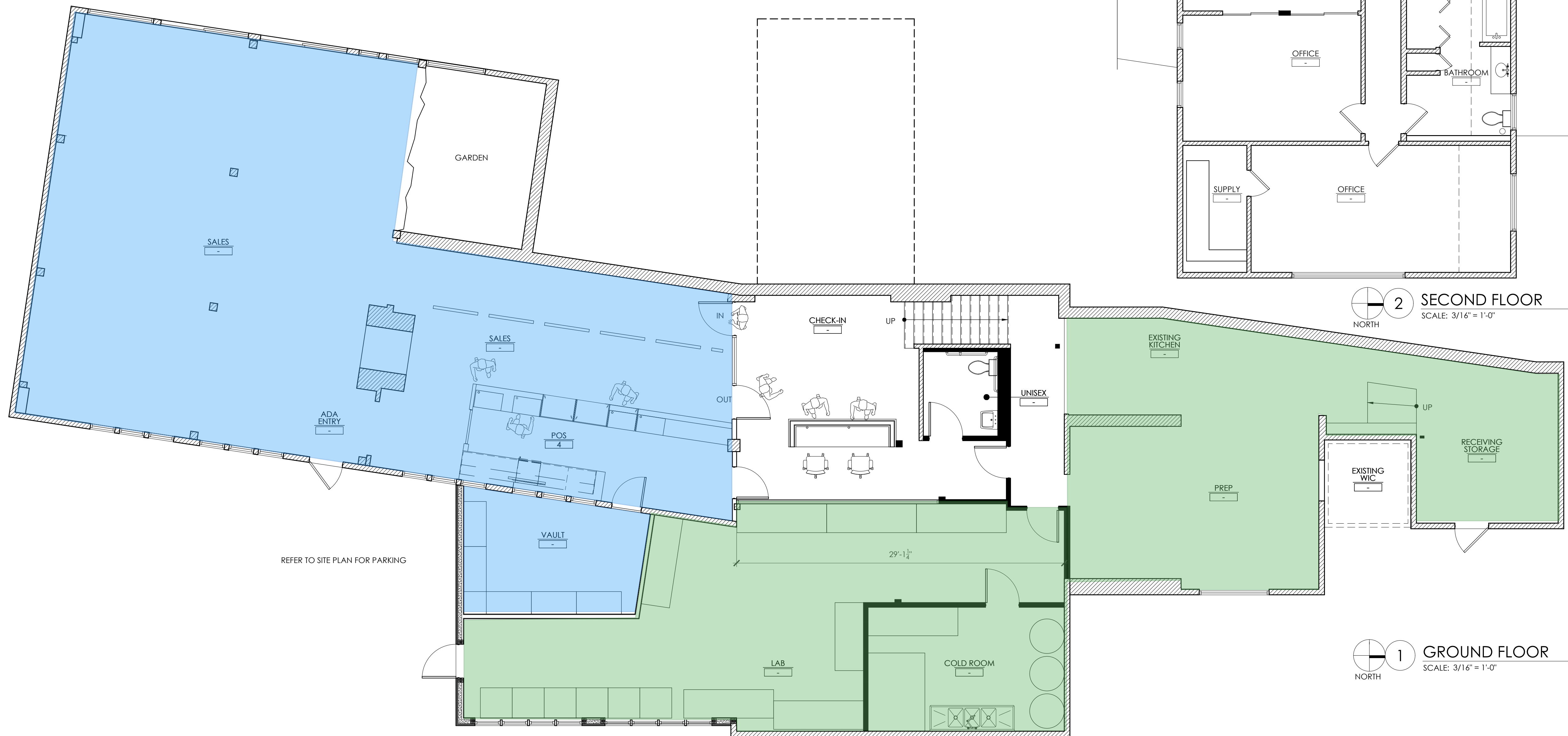
ODOR MITIGATION LEGEND



Retail Areas = Treated with Dynamic Air Equipment



Product Manufacturing = Treated with Max Filter Equipment



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matthew@mcgeorgeai.com 401.215.0749 c
rebecca@mcgeorgeai.com 401.215.0869 c



PROJECT:

**FOREST WILDE
DISPENSARY**
635 LAUREL ST. (US 20)
LEE, MA 01238

CLIENT:

FUSS & O'NEILL
1550 MAIN STREET
SPRINGFIELD, MA 01103

REVISIONS:		
NO.	DATE	DESCRIPTION

SCALE:	AS NOTED	DRAWN BY:	MM
DATE:	11.04.20	JOB NO.:	2020-22

TITLE:
**FLOOR PLANS
EXHIBIT**

DWG NO.:

EX1.1

ISSUED FOR SPECIAL USE PERMIT

Renderings



EXTERIOR MASSING ; NORTH VIEW



EXTERIOR MASSING ; WEST VIEW



EXTERIOR MASSING ; WEST VIEW (SIGNAGE)

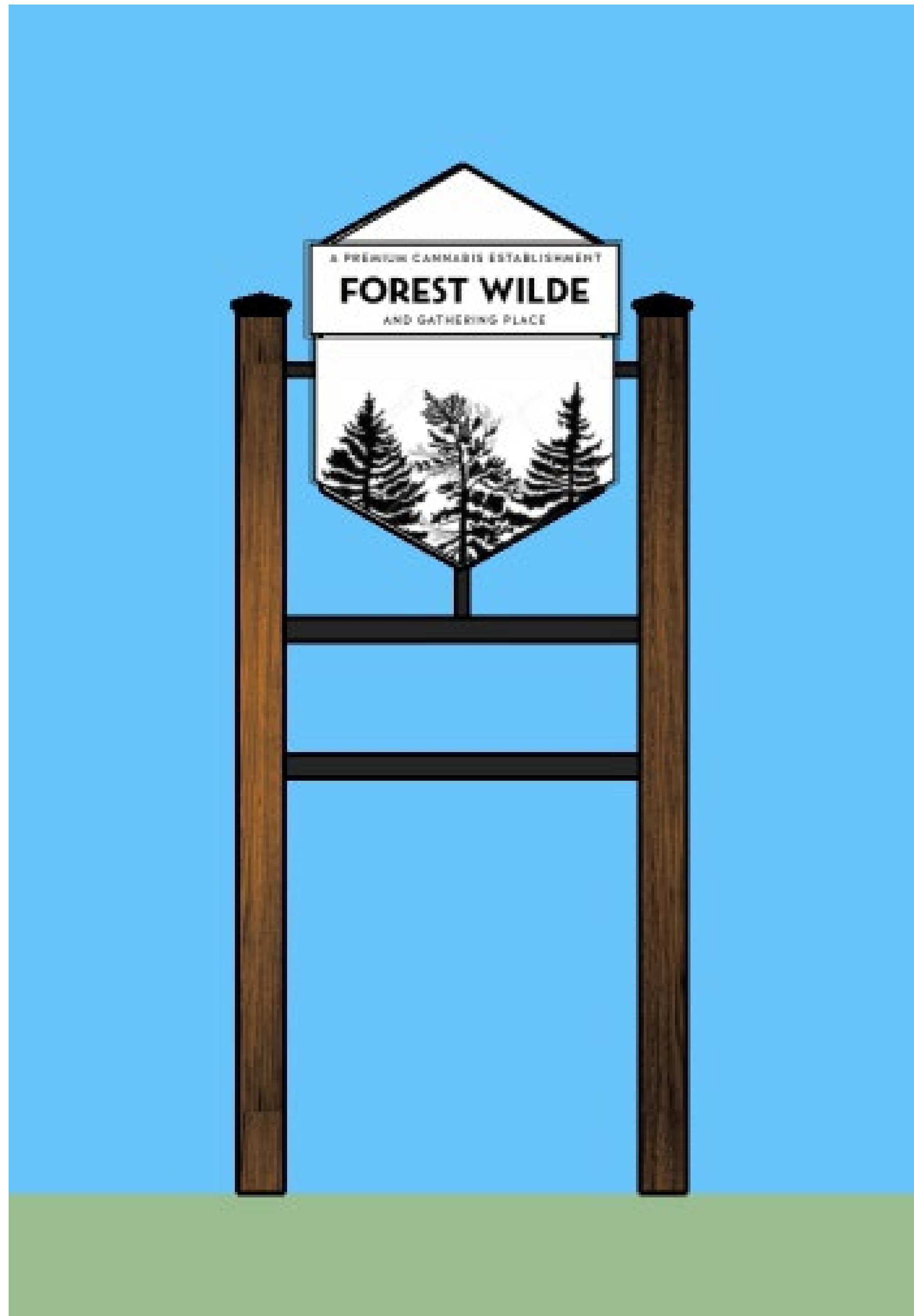


EXTERIOR MASSING ; SOUTH VIEW (FRONT ENTRY)



EXTERIOR MASSING ; SOUTH VIEW (BACK ENTRY)

Signage



PROPOSED ROUTED AND PAINTED WOOD SIGN
SIGN 'A' = 6 S.F.
HEIGHT TO BOTTOM = 4'-6"
HEIGHT TO TOP = 7'-5"



PROPOSED ROUTED AND PAINTED WOOD SIGN
SIGN 'B' = 16 S.F.
HEIGHT TO BOTTOM = 3'-6"
HEIGHT TO TOP = 8'-5"

Security Plan

Security Plan

Forest Wilde LLC (the “**Company**”) shall implement sufficient safety and security measures to deter theft of marijuana and marijuana products, prevent unauthorized access to the Marijuana Establishment, unauthorized entrance into areas containing marijuana, and ensure the safety of its employees, consumers, customers and the general public. The Company’s security measures shall be designed to protect the premises, employees, consumers, marijuana establishment agents, the general public and the community and provide a safe environment for the safe and discreet dispensing of marijuana and marijuana products. The Company shall implement policies and procedures designed to avoid diversion, theft, or loss of marijuana and marijuana products.

The Company’s security policies shall be established in accordance with the requirements under 935 CMR 500.110, and shall include, but not be limited to the following:

The Company shall:

1. Positively identify individuals seeking access to the premises of the Marijuana Establishment or to whom marijuana or marijuana products are being transported pursuant to 935 CMR 500.105(14) in order to limit access solely to individuals 21 years of age or older;
2. Adopt procedures to prevent loitering and ensure that only individuals engaging in activity expressly or by necessary implication permitted by 935 CMR 500.000: *Adult Use of Marijuana* and its enabling statute are allowed to remain on the premises;
3. Dispose of marijuana in accordance with 935 CMR 500.105(12) in excess of the quantity required for normal, efficient operation as established within 935 CMR 500.105;
4. Secure all entrances to the Marijuana Establishment to prevent unauthorized access;
5. Establish limited access areas pursuant to 935 CMR 500.110(4), which, after receipt of a final license from the Commission, shall be accessible only to specifically authorized personnel, limited to include only the minimum number of employees essential for efficient operation;
6. Store all finished marijuana products in a secure, locked safe or vault in such a manner as to prevent diversion, theft and loss;
7. Keep all safes, vaults, and any other equipment or areas used for the production, cultivation, harvesting, processing or storage, including prior to disposal, of marijuana and marijuana products securely locked and protected from entry, except for the actual time required to remove or replace marijuana;
8. Keep all locks and security equipment in good working order;

9. Prohibit keys, if any, from being left in the locks or stored or placed in a location accessible to persons other than specifically authorized personnel;
10. Prohibit accessibility of security measures, such as combination numbers, passwords or electronic or biometric security systems, to persons other than specifically authorized personnel;
11. Ensure that the outside perimeter of the Marijuana Establishment is sufficiently lit to facilitate surveillance, where applicable;
12. Ensure that all marijuana products are kept out of plain sight and are not visible from a public place without the use of binoculars, optical aids or aircraft;
13. Develop emergency policies and procedures for securing all product following any instance of diversion, theft or loss of marijuana, and conduct an assessment to determine whether additional safeguards are necessary;
14. Develop sufficient additional safeguards, as required by the Commission, for Marijuana Establishments that present special security concerns;
15. Establish procedures for safe cash handling and cash transportation to financial institutions to prevent theft, loss and associated risks to the safety of employees, customers and the general public;
16. Share the Company's security plan, floor plan or layout of the facility and procedures with local law enforcement authorities including police and fire departments, and updating law enforcement authorities including police and fire departments if the plans or procedures are modified in a material way, including the addition of plans to delivery directly to consumers in the case of receipt of a delivery endorsement;
17. Identifying when the use of flammable or combustible solvents, chemicals or other materials are in use at the Marijuana Establishment and sharing such information with law enforcement authorities including police and fire departments in the municipality where the facility is located, as required by the municipality; and
18. Require all employees of the Marijuana Establishment to visibly display an employee identification badge issued by the Marijuana Establishment at all times while at the Marijuana Establishment or transporting marijuana.

The Company shall establish limited access areas pursuant to 935 CMR 500.110(4), which shall be accessible only to specifically authorized personnel limited to include only the minimum number of employees essential for efficient operation. Said limited access areas will be identified by the posting of a sign that shall be a minimum of 12" x 12" and which states: "*Do Not Enter—Limited Access Area—Access Limited to Authorized Personnel Only*" in lettering no smaller than one inch in height. All limited access areas shall be clearly described in a diagram of the licensed premises reflecting entrances and exits, including loading areas, walls, partitions, counters,

propagation, vegetation, flowering, processing, production, storage, disposal and retail sales areas, to be filed with the Commission in a form and manner determined by the Commission.

At all times following receipt of a final license from the Commission, access to limited access areas shall be restricted to employees, agents or volunteers specifically permitted by the Marijuana Establishment, agents of the Commission, Commission delegees, and state and local law enforcement authorities acting within their lawful jurisdictions, police and fire departments, and emergency medical services acting in the course of their official capacity.

Following receipt of a final license from the Commission all outside vendors, contractors, and visitors shall obtain a visitor identification badge prior to entering a limited access area, and shall be escorted at all times by a marijuana establishment agent authorized to enter the limited access area. The visitor identification badge shall be visibly displayed at all times while the visitor is in any limited access area. All visitors must be logged in and out and that log shall be available for inspection by the Commission at all times. All visitor identification badges shall be returned to the Marijuana Establishment on exit.

The Company shall design and implement a security system designed to prevent and detect diversion, theft or loss of marijuana and/or unauthorized intrusion, utilizing commercial grade equipment which shall, at a minimum, include:

1. A perimeter alarm on all building entry and exit points and perimeter windows;
2. A failure notification system that provides an audible, text or visual notification to designated employees within five (5) minutes of any failure in the security system either by telephone, email or text message;
3. A duress alarm, panic alarm or hold-up alarm connected to local public safety or law enforcement authorities;
4. Video cameras in the following areas: (1) all areas that may contain marijuana; (2) vaults or safes used for the purpose of securing cash; and (3) at all points of entry and exit and in any parking lot, and in any case, which shall be appropriate for the normal lighting conditions of the area under surveillance. The cameras shall be directed at all safes, vaults, sales areas and areas where marijuana is cultivated, harvested, processed, prepared, stored, handled or dispensed or where cash is kept and processed. Cameras shall be angled so as to allow for the capture of clear and certain identification of any person entering or exiting the Marijuana Establishment or area;
5. Recordings from all video cameras, which shall be enabled to record twenty four (24) hours each day and be available for immediate viewing by the Commission on request for at least the preceding ninety (90) calendar days or the duration of a request to preserve the recordings for a specified period of time made by the Commission, whichever is longer. Video cameras may use motion detection sensors to begin recording, so long as the motion detection sensor system provides an alert to designated employees subject to the approval of the Commission or its delegee. If the Company receives notice that the motion

detection sensor is not working correctly, it shall take prompt action to make corrections and document those actions. Recordings shall not be destroyed or altered, and shall be retained as long as necessary if the Marijuana Establishment is aware of a pending criminal, civil or administrative investigation or legal proceeding for which the recording may contain relevant information;

6. The ability to immediately produce a clear, color still image whether live or recorded;
7. A date and time stamp shall be embedded in all recordings, which shall be synchronized and set correctly at all times and shall not significantly obscure the picture;
8. The ability to remain operational during a power outage for a minimum of four (4) hours and, if it appears likely that the outage will last for more than four (4) hours, the Company shall take sufficient steps to ensure security on the premises in consultation with the Commission; and
9. A video recording that allows for the exporting of still images in an industry standard image format, including .jpg, .bmp and .gif. Exported video shall have the ability to be archived in a proprietary format that ensures authentication of the video and guarantees that no alteration of the recorded image has taken place. Exported video shall also have the ability to be saved in an industry standard file format that may be played on a standard computer operating system. All recordings shall be erased or destroyed prior to disposal.

The Company shall have a back-up alarm system, with all the capabilities of the primary system, provided by a company supplying commercial grade equipment, which shall not be the same company supplying the primary security system.

The Company shall keep and maintain all security system equipment and recordings in a secure limited access area on site that shall remain locked and shall not be used for any other function, so as to prevent theft, loss, destruction and alterations. Access to said surveillance / security area shall be limited to persons that are essential to surveillance operations, law enforcement authorities, security system service personnel and the Commission. A current list of authorized employees and service personnel that have access to the surveillance room shall be available to the Commission upon request. All security equipment shall be in good working order and shall be inspected and tested at regular intervals, not to exceed 30 calendar days from the previous inspection and test.

The Company shall maintain all trees, bushes and other foliage outside of the Marijuana Establishment so as to prevent a person or persons from concealing themselves from sight.

Cash Handling and Transportation Procedures:

- (a) The Company shall implement adequate security measures and procedures for safe cash handling and cash transportation to financial institutions or Massachusetts Department of Revenue (the "DOR") facilities to prevent theft and loss, and to mitigate associated risks to the safety of employees, customers and the general public, including but not limited to:

1. An on-site secure locked safe or vault maintained in an area separate from retail sales areas used exclusively for the purpose of securing cash;
2. Video cameras directed to provide images of areas where cash is kept, handled and packaged for transport to financial institutions or DOR facilities, provided that the cameras may be motion-sensor activated cameras and provided, further, that all cameras be able to produce a clear, still image whether live or recorded;
3. A written process for securing cash and ensuring transfers of deposits to the Marijuana Establishment's financial institutions and DOR facilities on an incremental basis consistent with the requirements for deposit by the financial institution or DOR facilities, which shall include, at a minimum, the following:
 - a. The use of a locked bag for the transportation of cash from a Marijuana Establishment to a financial institution or DOR facility;
 - b. Any transportation of cash be conducted in an unmarked vehicle;
 - c. Two (2) registered Marijuana Establishment Agents employed by the Licensee shall be present in the vehicle at all times during transportation of deposits;
 - d. Real-time GPS tracking of the vehicle shall occur at all times when transporting cash;
 - e. Require access to two-way communications between the transportation vehicle and the Marijuana Establishment; and
 - f. Prohibit the transportation of Marijuana or Marijuana Products at the same time that cash is being transported for deposit to a financial institution or DOR facility; and
 - g. Use of an armored transport provider that is licensed pursuant to M.G.L. c. 147, § 25 (watch, guard or patrol agency) and has been approved by the financial institution or DOR facility.

Alternative Cash Handling and Transportation Procedures (if approved by the Commission and the financial institution or DOR facility) shall be included in this *Security Policy*, shared with law enforcement in the municipality in which the subject facility is licensed, and periodically updated as required under 935 CMR 500.110(1)(q).

The Company shall notify appropriate law enforcement authorities and the Commission of any breach of security or other reportable incident defined in 935 CMR 500.110(9) immediately and, in no instance, more than twenty-four (24) hours following discovery of the breach or incident. Notification shall occur, but not be limited to, during the following occasions:

1. Discovery of inventory discrepancies;
2. Diversion, theft or loss of any marijuana product;
3. Any criminal action involving or occurring on or in the Marijuana Establishment premises or involving the Company or its marijuana establishment agents;
4. Any suspicious act involving the sale, cultivation, distribution, processing or production of marijuana by any person;
5. Unauthorized destruction of marijuana;
6. Any loss or unauthorized alteration of records related to marijuana;
7. An alarm activation or other event that requires response by public safety personnel, including but not limited to local law enforcement, police and fire departments, public works or municipal sanitation departments, and municipal inspectional services departments, or security personnel privately engaged by the Company;
8. The failure of any security alarm system due to a loss of electrical power or mechanical malfunction that is expected to last more than eight (8) hours;
9. A significant motor vehicle crash that occurs while transporting or delivery marijuana or marijuana products and would require the filing of a motor vehicle crash operator report pursuant to M.G.L. c. 90 section 26, provided however that a motor vehicle crash that renders the Licensee's vehicle inoperable shall be reported immediately to state and local law enforcement so that the marijuana or marijuana product(s) may be adequately secured;
or
10. Any other breach of security.

The Company shall, within ten (10) calendar days, provide notice to the Commission of any incident described in 935 CMR 500.110(7)(a) by submitting an incident report in the form and manner determined by the Commission which details the circumstances of the event, any corrective action taken, and confirmation that the appropriate law enforcement authorities were notified.

All documentation related to an incident that is reportable pursuant to 935 CMR 500.110(9)(a) shall be maintained by the Company for not less than one year or the duration of an open investigation, whichever is longer, and made available to the Commission and law enforcement authorities upon request.

The Company shall, on an annual basis, obtain at its own expense, a security system audit by a vendor approved by the Commission. A report of such audit shall be submitted, in a form and manner determined by the Commission, no later than 30 calendar days after the audit is conducted. If the audit identifies concerns related to the Marijuana Establishment's security system, the

Company will submit a plan to mitigate those concerns within ten (10) business days of submitting the audit.

Notwithstanding anything contained herein to the contrary, if the Company implements other specific safeguards that may be regarded as an adequate substitute for the requirements set forth in 935 CMR 500.110(1), (5), (6) and (7), it will submit a request to the Commission for review and approval, in a form and manner as determined by the Commission. Any additional or other specific safeguards will also be submitted to the local law enforcement authorities and fire services for review and comment. For purposes of cash handling and cash transportation, only alternative safeguards that comply with the requirements of 935 CMR 500.110(7)(b) shall be considered to be adequate substitutes.

Access to the Commission, Emergency Responders and Law Enforcement.

1. The following individuals shall have access to a Marijuana Establishment or Marijuana Establishment transportation vehicle:
 - a. Representatives of the Commission in the course of responsibilities authorized by St. 2016, c. 334, as amended by St. 2017, c. 55, M.G.L. c. 94G, and 935 CMR 500.000: *Adult Use of Marijuana*;
 - b. Representatives of other state agencies of the Commonwealth; and
 - c. Emergency responders in the course of responding to an emergency.

Hours of Operation: The Company shall provide all hours of operation and after-hours contact information to the Commission, shall make the same information available to all law enforcement authorities upon request, and shall update it as required under 935 CMR 500.000: *Adult Use of Marijuana*.

The Company shall operate the Marijuana Establishment from the hours of 8:00am through 8:00pm, Sunday through Wednesday and 8:00am through 10:00pm, Thursday through Saturday.

The Company's after-hours contact information is:

Name: Jeanne Albano Carmichael

Cell: 203-731-7548

Email: artthebestinvestment@gmail.com

These written safety and security measures shall be treated as security planning documents, the public disclosure of which would jeopardize public safety.

This policy may also be referred to by the Company as the “**Security Policy**”.

Traffic Study



July 8, 2020

Cassandra Purdy &
Jeanine Albano Carmichael
Forest Wilde, LLC
75 Chestnut Street
Lee, MA 01238

Re: Traffic Review Letter
Cannabis Dispensary
635 Laurel Street, Lee, MA
Fuss & O'Neill Reference No. 20191372.A10

Dear Cassandra Purdy and Jeanine Albano Carmichael:

Forest Wilde, LLC proposes to remodel and expand the existing restaurant at 635 Laurel Street in Lee, MA and convert its use to 2,635 square feet of marijuana dispensary and 3,095 square feet of manufacturing space. The development space totals 5,730 square feet and is expected to open in 2021.

The existing property is situated on 0.796 acres of land on the eastern bank of Laurel Lake. Three existing driveways provide access to the parcel from Laurel Street (US Route 20) and are proposed to be maintained. Two driveways provide access on the north side of the existing building and one on the south side. On-site parking to the north and south of the building provide 46 total parking spaces, including one accessible space in the southern lot. On-street parking is not permitting in the vicinity of the site. The site is not accessible via transit and sidewalks are not present along Laurel Road in the vicinity of the site.

This parcel is bounded by the Lee/Lenox municipal line and the Lenox Town Beach to the north, Laurel Street (Route 20) to the east, The Lake House Inn to the south, and Laurel Lake to the west. The study area is location in the Rural Business (RB) District.

Fuss & O'Neill has been retained to study the impact of the proposed development on traffic conditions throughout the adjacent roadway network. This letter has been prepared to document the findings of the study and is being submitted to the Town of Lee in support of the project's land use applications.

108 Myrtle Street
Suite 502
Quincy, MA
02171
t 617.282.4675
800.286.2469
f 617.481.5885
www.fando.com

California
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 2

Traffic Volumes and Speeds

The greatest potential for traffic impact on the roadway network by the proposed development will occur during the morning and afternoon peak hours, the periods when commuter related trips are at their highest levels. Additionally, event traffic will be considered due to the proximity of the proposed site to Tanglewood, approximately four miles northwest.

In order to determine the traffic impact of the proposed development on adjacent street traffic, Fuss & O'Neill has utilized MassDOT Transportation Data Management System to obtain volume counts along the site frontage. A permanent count station exists on the Lee/Lenox municipal line, identified by location ID 1066. The most recent data was collected on Tuesday, June 26, 2018 in both the eastbound and westbound directions. Copies of the data have been attached to this letter.

This data was grown to an analysis year of 2027 according to MassDOT Transportation Impact Assessment (TIA) standards to develop a No-Build and Build condition. The growth rate was calculated to be one percent per year based on the average of the last three years of available AADT data, 2016 through 2018. The 2027 No-Build traffic volumes are depicted in Figure 2 of the attached Traffic Volumes Figures.

Trip Generation

The expected site generated traffic for the morning and afternoon peak hours was calculated using existing empirical data from the Institute of Transportation Engineers (ITE) publication Trip Generation, 10th edition, 2017. This publication is an industry-accepted resource for determining trip generation.

Land Use Code (LUC) 882, "Marijuana Dispensary" and LUC 140, "Manufacturing" were used for the analysis of the proposed development. These LUC are expected to provide a conservative estimate of the number of trips generated by this facility.

Based on 2,635 square feet of dispensary space, ITE Trip Generation indicates that the facility is expected to generate a total of 28 vehicle trips (15 entering, 13 exiting) in the morning peak hour, and 58 vehicle trips (29 entering, 29 exiting) in the afternoon peak hour.

Based on approximately 3,095 square feet of manufacturing space, ITE Trip Generation indicates that the facility is expected to generate a total of 4 vehicle trips (3 entering, 1 exiting) in the morning peak hour, and 3 vehicle trips (1 entering, 2 exiting) in the afternoon peak hour.

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 3

Therefore, a total of 32 vehicle trips (18 entering, 14 exiting) are expected to be generated by the proposed development during the morning peak hour and 61 vehicle trips (30 entering, 30 exiting) during the afternoon peak hour, as shown in Table 1 below.

Table 1 – Trip Generation Summary

Land Use	Total	Entering	Exiting
Marijuana Dispensary			
Morning Peak Hour	28	15	13
Afternoon Peak Hour	58	29	29
Manufacturing			
Morning Peak Hour	4	3	1
Afternoon Peak Hour	3	1	2
Total			
Morning Peak Hour	32	18	14
Afternoon Peak Hour	61	30	31
Previous Restaurant			
Morning Peak Hour	4	2	2
Afternoon Peak Hour	45	30	15

This trip generation does not account for the offset in trips that were generated by the restaurant that previously occupied this site. According to LUC 931, "Quality Restaurant", the existing 5,730 square foot restaurant could be expected to generate a total of 4 vehicle trips (2 entering, 2 exiting) during the morning peak hour, and 45 vehicle trips (30 entering, 15 exiting) during the afternoon peak hour. This data was not included as part of the forthcoming analysis in order to conduct a more conservative analysis.

Trip Distribution

The distribution of traffic entering and exiting the proposed site was applied to the road network based on the existing regional traffic distributions and the layout of the adjacent roadway network. During the peak hours, the following arrival distributions of traffic are anticipated:

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 4

- 50 percent from Laurel Street north of the site
- 50 percent from Laurel Street south of the site

A regional arrival/departure distribution for the new site generated traffic traveling to and from the project site is depicted in Figure No. 3 of the attached traffic volume figures.

Intersection Capacity Analysis

Capacity and queue analyses for the unsignalized site driveway was conducted using Synchro Professional Software, version 10.0.

In discussing intersection capacity analyses results, the term level of service (LOS) is used to describe the operating condition of the intersection.

LOS is a measure of the delay experienced by stopped vehicles at an intersection. LOS is rated on a scale from A to F, with A describing a condition of very low delay (less than 10 seconds per vehicle), and F describing a condition where delays will exceed 50 seconds per vehicle.

The definition for LOS, as well as the methodology for conducting unsignalized intersection capacity analyses, are taken from the "Highway Capacity Manual 6th Edition" published by the Transportation Research Board.

In discussing two way stop controlled unsignalized intersection capacity analyses, LOS is used to provide a description of the delay and operational characteristics of the turns from the minor street (stop sign controlled) to the major street, and turns from the major street to the minor street. Through vehicles are not delayed by the minor street and do not experience delay, therefore they are not rated with a level of service.

Using the above referenced methodologies, weekday morning and afternoon peak hour capacity analyses were conducted at the intersection of 635 Laurel Street (Route 20) and Laurel Street (Route 20).

For the design year of 2027, the eastbound approach from the site driveway is expected to operate at LOS B during the morning peak hour and LOS C during the afternoon peak hour. This rating correlates to approximately 15 and 20 seconds of delay per vehicle, respectively. The northbound approach is expected to continue to operate at LOS A during both the morning and afternoon peak hours with a maximum delay of less than ten seconds per vehicle.

The above capacity analysis has been conducted in accordance with MassDOT standards. Those standards require analysis to be performed during the morning and afternoon peak hours of

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 5

operation, simulating conditions during a typical weekday. In this case the dispensary will likely not generate any trips during the morning peak hour of commuter traffic, however the analysis was conducted conservatively to demonstrate that congestion will not be experienced during that peak hour.

Design for periods of especially high traffic demand, such as leading up to events at Tanglewood, is not in accordance with MassDOT standards, and it is not desirable to construct infrastructure to meet absolute peak demand at any site. However, it should be noted that southbound traffic in the vicinity of the site does not experience any major increase in volume leading up to events at Tanglewood, and as such, left turning vehicles into the site are not expected to experience any additional delay during those periods. Should vehicles leaving the site experience any additional delay finding a gap in northbound traffic, any queues would be contained within the site.

Queue Analysis

Build condition 95th percentile (design) queue lengths were also reviewed at the proposed site driveway. The 95th percentile vehicle queue lengths represent the maximum queue lengths that can be expected at each of the critical approach lanes of the study intersection. The queue lengths are provided in the attached Synchro capacity analysis worksheets.

During the 2027 Build condition, queues are expected to be one vehicle length or less on all approaches during both the morning and afternoon peak hours.

Intersection Sight Distance Analysis

Intersection sight distances were calculated at the proposed site driveway in accordance with criteria set forth in the 2006 Massachusetts Highway Department Project Development & Design Guide (PDDG). This sight distance is measured from a point 15 feet back from the edge of travel-way at a height of 3.5 feet, the standard height of a driver's eye.

The 85th percentile speed on Laurel Road is 45 miles per hour eastbound and 50 miles per hour westbound in the vicinity of the proposed site. In accordance with criteria set forth in the 2006 PDDG, Exhibit 3-11 demonstrates that 500 feet of intersection sight distance is required for a passenger car looking to the left and 555 feet is required for a passenger car looking right from the site driveway when approaching a two-lane roadway.

At the north site driveways, passenger vehicles have an excess of 600 and 900 feet of sight distance looking right (south) and left (north), respectively, from the driveway. At the south site driveway, passenger vehicles have approximately 380 feet of sight distance looking right (south) and 1,165 feet looking left (north).

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 6

For drivers looking left or right out of the north site driveways, the sight distance triangle is not obstructed and does not encroach upon abutting landowner property. The sight distances exceed MassDOT criteria for safe egress from the site.

For drivers looking left out of the south site driveway, the sight distance triangle is not obstructed and does not encroach upon abutting landowner property. The sight distances exceed MassDOT criteria for safe egress from the site. However, looking right from the south site driveway, intersection sight distance is lacking the additional 170 feet needed to comply with criteria set forth in the PDDG.

Stopping Sight Distance Analysis

Stopping sight distances were calculated along Laurel Street in the vicinity of the proposed site driveway in accordance with criteria set forth in the PDDG. Stopping sight distance is a function of the 85th percentile speed and the grade of the roadway.

Eastbound on Laurel Road, the 85th percentile speed is 45 miles per hour and, in the vicinity of the site, the roadway is sloped down at approximately three percent. In accordance with the criteria set forth in the 2006 PDDG, Exhibit 3-8 demonstrates that 378 feet of stopping sight distance is required for vehicles traveling eastbound on Laurel Road in the vicinity of the site.

Westbound on Laurel Road, the 85th percentile speed is 50 miles per hour and, in the vicinity of the site, the roadway is sloped up at approximately three percent. In accordance with the criteria set forth in the 2006 PDDG, Exhibit 3-8 demonstrates that 405 feet of stopping sight distance is required for vehicles traveling westbound on Laurel Road in the vicinity of the site.

For drivers approaching the site traveling eastbound, approximately 1,100 feet of stopping sight distance is provided. For drivers approaching the site traveling westbound, approximately 400 feet of stopping sight distance is provided. Both of these sight distances exceed MassDOT criteria.

Crash Analysis

Crash data was gathered from the MassDOT Interactive Mapping Portal and Crash Tracking (IMPACT) system approximately 1000 feet north and south of the site on Laurel Street (Route 20). The records were gathered for the most recent three years of available data, 2016 through 2018.

A total of four crashes were reported over this time period, one in 2016 and three in 2017, for an average of 1.3 crashes per year. Of these four crashes, only two were associated with personal

Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 7

injury, and all four were outside the peak hours of travel. A summary of the crash data per segment is attached as Table 2.

Conclusions

The purpose of preparing a traffic impact study is to identify the impact of the proposed development's site generated traffic. The study efforts have indicated that the proposed facility will generate a total of 32 vehicle trips (18 entering, 14 exiting) in the morning peak hour, and 61 vehicle trips (30 entering, 31 exiting) in the afternoon peak hour.

In order to determine the traffic impact of the proposed development on adjacent street traffic, Fuss & O'Neill has utilized MassDOT Transportation Data Management System to obtain volume counts within the study area. A permanent count station exists on the Lee/Lenox municipal line, identified by location ID 1066. Data was collected from Tuesday, June 26, 2018 in both the eastbound and westbound directions. Copies of the data have been attached to this letter.

This data was grown to an analysis year of 2027 according to MassDOT Transportation Impact Assessment (TIA) standards to develop a No-Build and Build condition. The growth rate was calculated to be one percent per year based on the average of the last three years of available AADT data, 2016 through 2018. The previously determined trips expected to be generated by the proposed dispensary were added to the No-Build volumes in order to determine a Build condition. The Build condition was analyzed for the weekday morning and afternoon peak hours.

Capacity and queue analysis indicates that on average, motorists can be expected to experience no more than one queueing vehicle egressing the site as well as in the northbound travel lane. The unsignalized site driveway is expected to operate at LOS B during the morning peak hour and LOS C during the afternoon peak hour, translating to approximately 15 and 20 seconds of delay per vehicle, respectively.

Intersection sight distances were calculated at the proposed site driveway in accordance with criteria set forth in the 2006 Massachusetts Highway Department Project Development & Design Guide (PDDG). For drivers egressing from the north site driveway, or looking left out of the south site driveway, the sight distance triangle is not obstructed and does not encroach upon abutting landowner property. The sight distances exceed MassDOT criteria for safe egress from the site. However, looking right from the south site driveway, intersection sight distance is lacking the additional 65 feet needed to comply with criteria set forth in the PDDG. It should be noted that the southern access driveway is proposed to provide access only to three accessible parking spaces.

Stopping sight distances were also calculated based on the 2006 PDDG. For drivers approaching the site traveling eastbound, approximately 1,100 feet of stopping sight distance is provided. For



Cassandra Purdy and Jeanine Albano Carmichael

July 8, 2020

Page 8

drivers approaching the site traveling westbound, approximately 400 feet of stopping sight distance is provided. Both of these sight distances exceed MassDOT criteria.

Crash data was gathered from the MassDOT Interactive Mapping Portal and Crash Tracking (IMPACT) system approximately 1000 feet north and south of the site on Laurel Street. A total of four crashes were reported over this time period, one in 2016 and three in 2017, for an average of 1.3 crashes per year. The type and frequency of crashes reported in the area of the proposed site are not considered abnormal for traffic volumes and geometric characteristics of the study area.

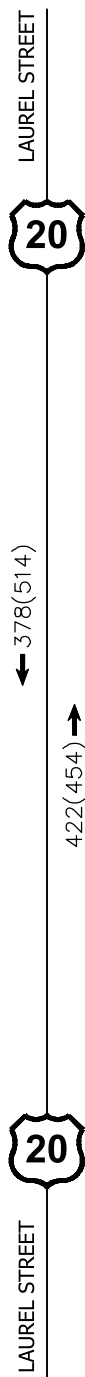
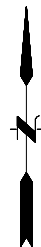
Based on the results of the foregoing analysis, it is the professional opinion of Fuss & O'Neill, Inc. that the proposed development will not have a significant impact to traffic operations within the study area.

We trust that this information will be sufficient for your review; however, if you should require additional information or have any questions, please contact me.

Sincerely,

Matthew Skelly, PE, PTOE
Project Manager

Attachments: Count Summary
Traffic Volume Figures



FUSS & O'NEILL

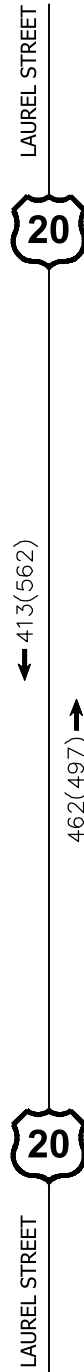
108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
www.fando.com

FIGURE 1: 2018 EXISTING CONDITIONS

PROJ. NO: 20191372.A10

635 LAUREL STREET - LEE, MA

JULY 2020



FUSS & O'NEILL

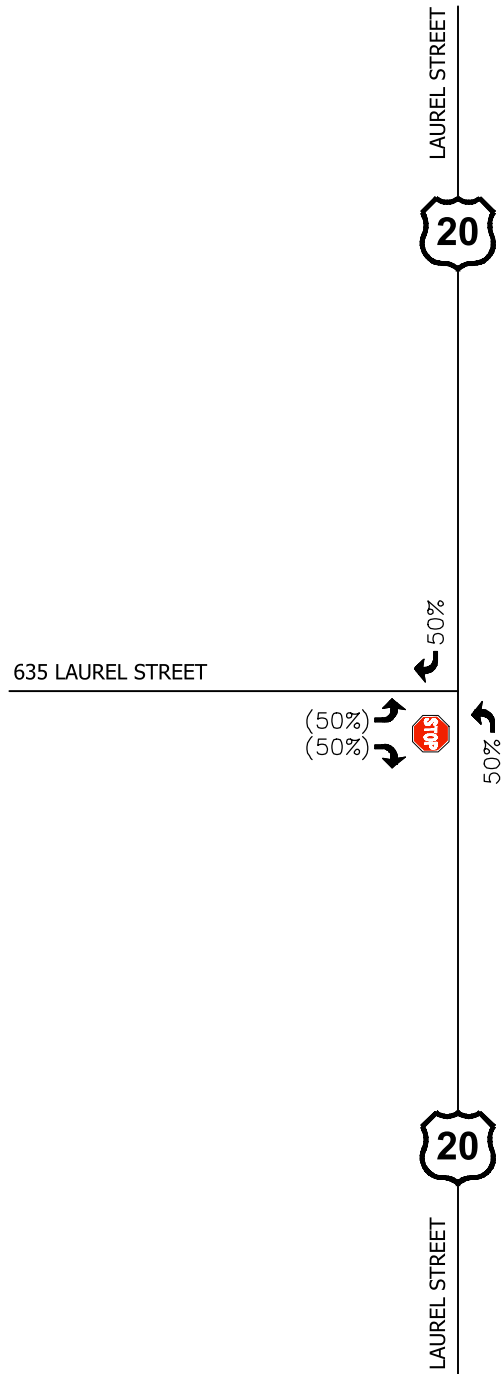
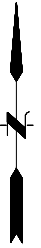
108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
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FIGURE 2: 2027 NO BUILD CONDITION

PROJ. NO: 20191372.A10

635 LAUREL STREET - LEE, MA

JULY 2020



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FIGURE 3: TRIP DISTRIBUTION

PROJ. NO: 20191372.A10

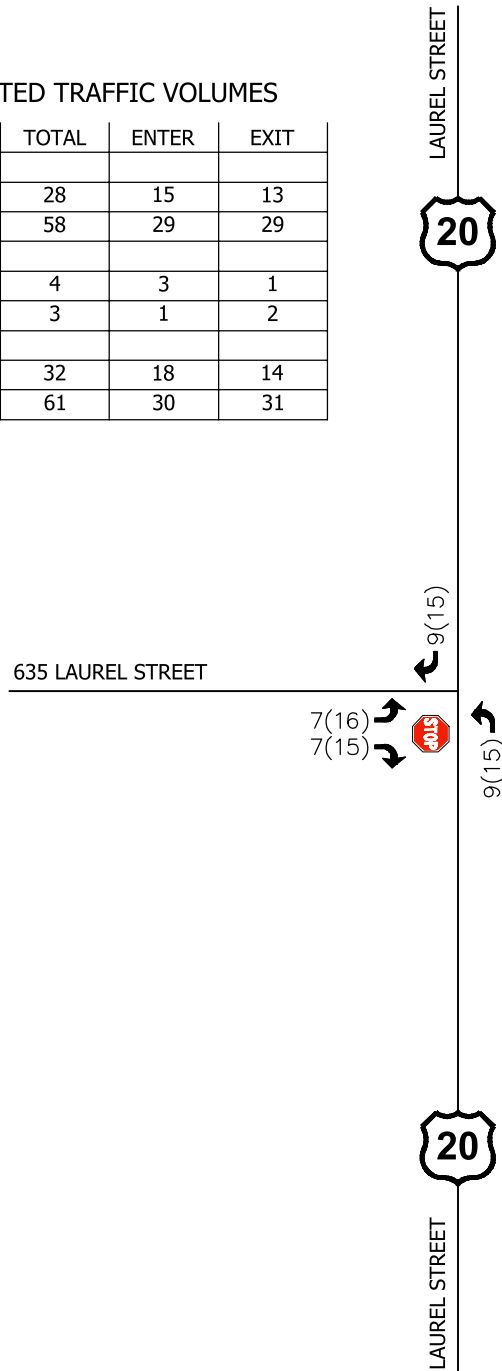
635 LAUREL STREET - LEE, MA

JULY 2020



SITE GENERATED TRAFFIC VOLUMES

	TOTAL	ENTER	EXIT
DISPENSARY			
MORNING	28	15	13
AFTERNOON	58	29	29
MANUFACTURING			
MORNING	4	3	1
AFTERNOON	3	1	2
TOTAL			
MORNING	32	18	14
AFTERNOON	61	30	31



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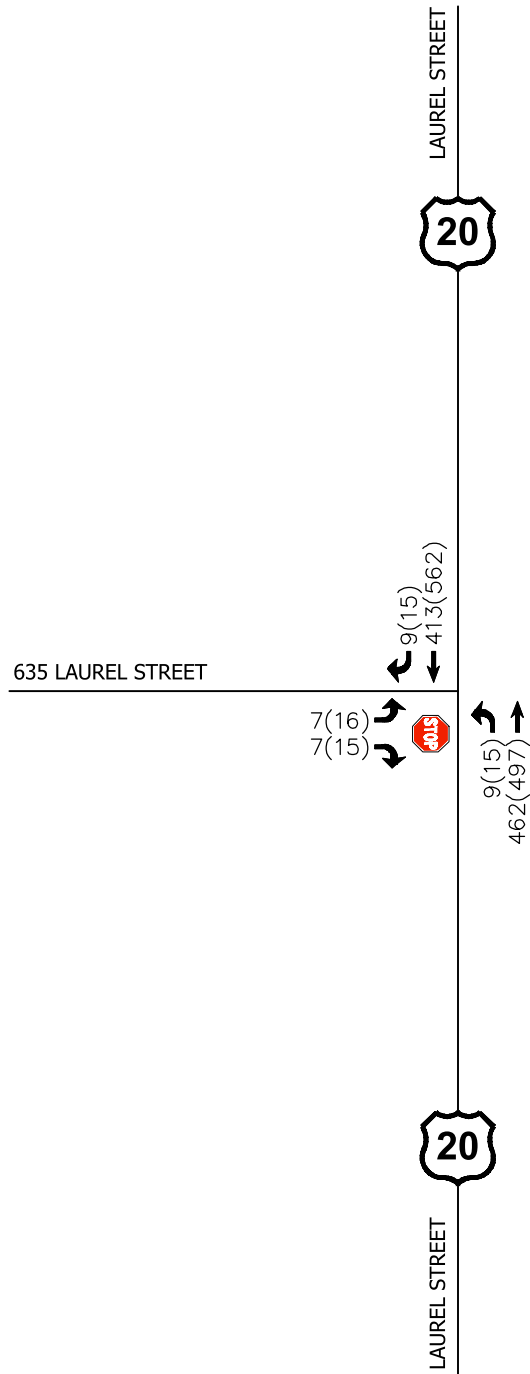
108 MYRTLE STREET, SUITE 502
QUINCY, MA 02171
617.282.4675
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FIGURE 4: TRIP GENERATION

PROJ. NO: 20191372.A10

635 LAUREL STREET - LEE, MA

JULY 2020



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FIGURE 5: 2027 BUILD CONDITION

PROJ. NO: 20191372.A10

635 LAUREL STREET - LEE, MA

JULY 2020










TABLE 2
CRASH DATA SUMMARY - 2016 to 2018




Criteria	1000 ft East and West of 635 Laurel Steet
YEAR	
2016	1
2017	3
<u>2018</u>	<u>0</u>
Total	4
Average No. of Crashes	1.33
Crash Rate	0.35
TYPE	
Angle	0
Rear-End	1
Head-On	0
Sideswipe	0
Pedestrian/Bicycle	0
Collision w/ Fixed Object	2
<u>Unknown/Other</u>	<u>1</u>
Total	4
SEVERITY	
Property Damage Only	2
Non-fatal Injury	2
Fatality	0
<u>Unknown/Other</u>	<u>0</u>
Total	4
WEATHER	
Clear	3
Wet	1
Snow/Ice	0
Clouds	0
Fog	0
<u>Unknown/Other</u>	<u>0</u>
Total	4
TIME	
Weekday 7:30 AM - 9:30 AM	0
Weekday 3:30 PM - 5:30 PM	0
<u>Other</u>	<u>4</u>
Total	4

District 1 Crash Rate 0.44 Unsignalized
Statewide Crash Rate 0.57 Unsignalized

Lanes, Volumes, Timings
1: Route 20 (Laurel Street) & Site Driveway

635 Laurel Street Dispensary
AM Build










						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	7	9	462	413	9
Future Volume (vph)	7	7	9	462	413	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.997	
Flt Protected	0.976			0.999		
Satd. Flow (prot)	1694	0	0	1861	1857	0
Flt Permitted	0.976			0.999		
Satd. Flow (perm)	1694	0	0	1861	1857	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	461			372	341	
Travel Time (s)	10.5			8.5	7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	8	10	502	449	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	512	459	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.5%			ICU Level of Service A		
Analysis Period (min)	15					




Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	7	9	462	413	9
Future Vol, veh/h	7	7	9	462	413	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	8	10	502	449	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	976	454	459	0	-	0
Stage 1	454	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	279	606	1102	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	275	606	1102	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.9	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1102	-	378	-	-	
HCM Lane V/C Ratio	0.009	-	0.04	-	-	
HCM Control Delay (s)	8.3	0	14.9	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings
1: Route 20 (Laurel Street) & Site Driveway

635 Laurel Street Dispensary

PM No Build

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	15	15	497	562	15
Future Volume (vph)	16	15	15	497	562	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935				0.997	
Flt Protected	0.975			0.999		
Satd. Flow (prot)	1698	0	0	1861	1857	0
Flt Permitted	0.975			0.999		
Satd. Flow (perm)	1698	0	0	1861	1857	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	461			372	341	
Travel Time (s)	10.5			8.5	7.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	16	16	540	611	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	0	0	556	627	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 48.3%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	15	15	497	562	15
Future Vol, veh/h	16	15	15	497	562	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	16	16	540	611	16
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1191	619	627	0	-	0
Stage 1	619	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	207	489	955	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	202	489	955	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	524	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.5	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	955	-	282	-	-	
HCM Lane V/C Ratio	0.017	-	0.119	-	-	
HCM Control Delay (s)	8.8	0	19.5	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-	

Light Cut Sheets



Philips Gardco Gullwing LED GL13 area luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

Project: _____
 Location: _____
 Cat.No: **GL13-3-105LA-6453-NW-UNV-IS**
 Type: **A**
 Lamps: _____ Qty: _____
 Notes: _____

Ordering guide

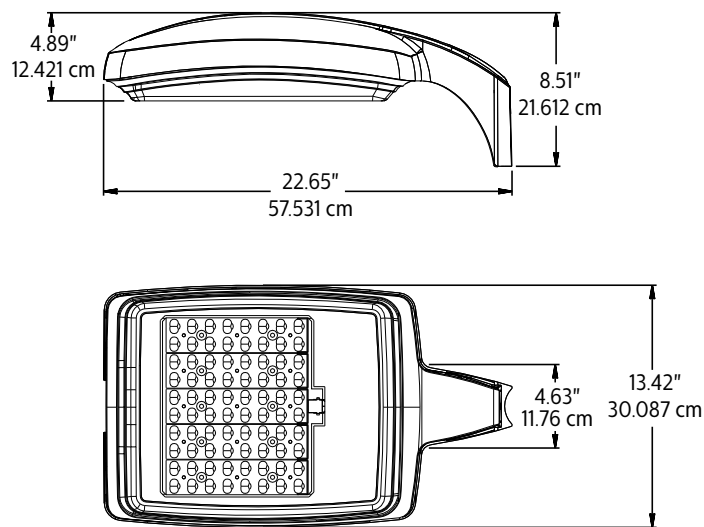
Example: GL13-APD-1-4-70LA-6435-NW-120-BRP-LF

Prefix	Controls	Mounting	Optical System ⁴	Wattage	LED Color	Voltage	Finish	Options
GL13		3		105LA-6453	NW	UNV		IS
GL13 13" Gullwing LED Luminaire Constant Wattage GL13-RK 13" Gullwing LED Retrofit Kit	— Gullwing Standard Luminaire GL13-DIM 13" Gullwing LED with 0-10V Dimming GL13-APD¹ 13" Gullwing LED with Automatic Profile Dimming GL13-MRI^{2,3} 13" Gullwing LED with Motion Response at 50% Low (luminaire mounted sensor) GL13-APD-MRI^{2,3} 13" Gullwing LED with APD with Motion Response Override (luminaire mounted sensor) Network system (SiteWise) SW Integral module ^{3,12} SW-MRI Luminaire mounted motion response option	1 Single 2 2 @ 180° 2@90 2 @ 90° 3 3 @ 90° 3@120 3 @ 120° 4 4 @ 90° W Wall Mount, Recessed J-Box WS Wall Mount, Surface Conduit	2 Type 2 3 Type 3 4 Type 4 5 Type 5	70LA-6435 64 LEDs, 350mA 85LA-8035 80 LEDs, 350mA 105LA-6453 64 LEDs, 530mA	NW Neutral White 4000K, 70 min. CRI CW Cool White 5700K, 70 min. CRI WW Warm White 3000K, 70 min. CRI	120 208 240 277 347 480 UNV (120-277V) HVU (347-480V)	BLP Black Paint WP White Paint BRP Bronze Paint NP Natural Aluminum Paint OC Optional Color Specify optional color or RAL ex: OC-LGP or OC-RAL7024. SC Special Color Specify. Must supply color chip. Requires factory quote.	F⁵ Fusing LF⁵ In-Line/In-Pole Fusing PC^{2,5,6} Photocontrol and Receptacle (Includes PCR5) PCR5^{2,7,8} Photocell Receptacle only with 2 dimming connections PCR7^{2,6,7} Photocell Receptacle only with 2 dimming and 2 auxiliary connections HS External House side Shield IS Internal House side Shield (types 2, 3, 4 only) MA Mast Arm Fitter Mounts to a 2-3/8" O.D. mast arm. TR1⁹ Single Transition TR2⁹ Twin Transition PTF2¹⁰ Pole Top Fitter 2 3/8" - 3" Dia. Tenon PTF3¹⁰ Pole Top Fitter 3" - 3 1/2" Dia. Tenon PTF4¹⁰ Pole Top Fitter 3 1/2" - 4" Dia. Tenon SPA¹¹ Square Pole Adapter DL⁴ Diffuse Lens

- Available **120-277V**.
- Not available with Retrofit Kits (**GL13-RK**).
- Available **120** or **277V** only.
- Luminaire door frame and optic assembly provided standard with clear tempered glass lens.
- Voltage must be specified.
- Not available with **480V**.
- Works with 3-pin or 5-pin NEMA photocell/dimming device.
- If ordered with **DIM, APD, MRI, APD-MRI**, dimming will not be connected to NEMA receptacle.
- Mounts to a 2-3/8" Top Tenon. Specify a round pole with a 3.0" top O.D. for a smooth transition.
- Not available in 120° mounting configurations.
- Required for mounting to straight square poles.
- SW** option is not available with any other control options with the exception of **SW-MRI** motion response options.

Gullwing G13 LED area luminaire, small

Dimensions and EPA



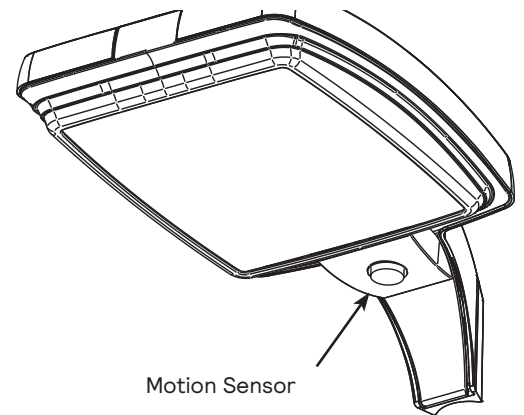
EPA Data

1	2	3-4
.8 ft ²	1.6 ft ²	2.2 ft ²
.07 m ²	.15 m ²	.20 m ²

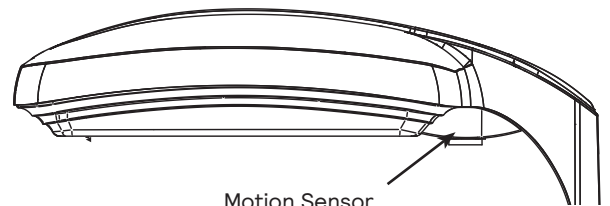
Approximate Weight Single Luminaire

33 lbs / 14.969 kg

GL13-MRI or GL13-APD-MRI Units



Motion Sensor



Motion Sensor

Technical Data

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹²	Color Temp.	Type 2			Type 3		
					Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating	Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating
70LA-6435	64	350	70	4000K	6652	95	B2-U0-G1	6750	96	B1-U0-G2
85LA-8035	80	350	86	4000K	8064	95	B2-U0-G1	8173	95	B1-U0-G2
105LA-6453	64	530	101	4000K	9870	97	B2-U0-G2	9385	93	B2-U0-G2

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹²	Color Temp.	Type 4			Type 5		
					Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating	Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating
70LA-6435	64	350	70	4000K	6731	96	B1-U0-G2	6657	95	B3-U0-G1
85LA-8035	80	350	86	4000K	8027	94	B1-U0-G2	8025	93	B3-U0-G2
105LA-6453	64	530	101	4000K	9388	93	B2-U0-G2	9139	90	B3-U0-G2

12. Wattage may vary by +/- 8% due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.

13. Contact Outdoorlighting.applications@philips.com for values not listed or if approximate estimates are required for design purposes.

14. LED arrays feature LEDs that provide from 90 to 100 lumens per watt when operated at 350 mA. Lumen values based on tests performed in compliance with IESNA LM-79.

Gullwing G13 LED area luminaire, small

Luminaire Configuration Information

GL13

Philips Gardco Gullwing LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

GL13-DIM

Philips Gardco Gullwing LED luminaire provided with 0 -10V dimming for connection to a control system provided by Philips or by others.

GL13-APD

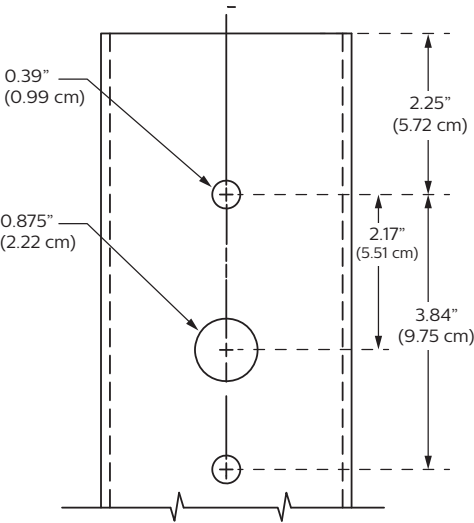
Philips Gardco Gullwing LED luminaire with Automatic Profile Dimming. Luminaire is provided with Dynadimmer, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Dynadimmer based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

GL13-APD Dimming Profile:

100%	2 hours	6 hours	100%
	50%	50%	

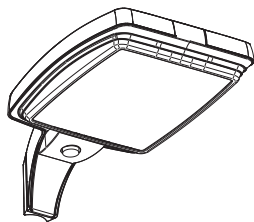
Power On Mid Point Power Off

GL13 Drill Template



The GL13-APD offers many of the advantages of a sophisticated control system, including an average energy savings of at least 33% versus constant wattage, constant light output systems, without the need for a control system.

GL13-MRI (Luminaire mounted sensor)



Luminaires with Integral Motion Sensor include the Dynadimmer module and an integral motion sensor. The location of the integral motion sensor is shown on page 2. The Dynadimmer is programmed to provide 50% power and light output, unless motion is detected. Power supplied by the motion sensor connected to the override line on the Dynadimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes. Duration period is field adjustable. Available from 120V to 277V input only.

MRI luminaires are provided with the WattStopper FS-355-L3W motion sensor, with a maximum recommended 20 ft. mounting height. The area coverage and range of the integral sensors make them most suitable for applications not requiring long range detection.

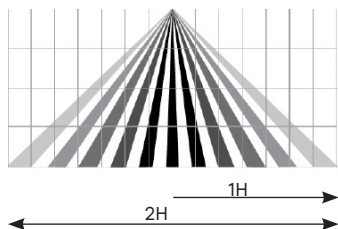
GL13-APD- MRI (Luminaire mounted sensor)

Luminaires with Automatic Profile Dimming and Motion Response Override with integral motion sensor, (APD-MRI) combine the benefits of automatic profile dimming and motion response. The luminaire will dim to 50% power, 50% light output, per the APD dimming profile. If motion is detected during the time the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes. Duration period is field adjustable. APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details above. Available from 120V to 277V input only.

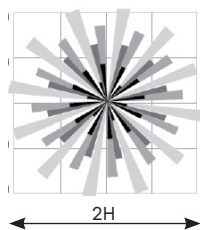
APD-MRI luminaires are available from 120V to 277V (UNIV) input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for GL13-MRI.

Side Coverage Pattern



Top Coverage Pattern



Distances are approximate.
H = height above ground

SW

SiteWise option is a fully integrated controller that connects to Philips SiteWise system in order to offer a complete area lighting management system. The communication signal is based on Philips patented central dimming technology. SiteWise delivers it deliver optimal energy savings using your site's existing cabling. No additional wiring required, installation and commissioning are simple. An intuitive, mobile app makes it easy for authorized users to set schedules to meet site specific lighting needs, local regulations, and energy codes.

Gullwing G13 LED area luminaire, small

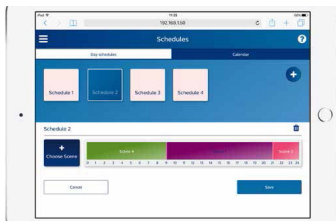
SiteWise system

SiteWise is a complete area lighting management system including a luminaire integrated controller, dimming signal transmitter cabinet, and locally accessible user interface. Installation and commissioning are simple. The cabinet communicates with the Philips luminaires using a patented central dimming technology. The control signal is embedded on the existing electrical line – no new cabling is required. An intuitive, locally accessible interface makes it easy for authorized users to set schedules in order to meet site specific lighting needs, local regulations, and energy codes.

SiteWise system diagram



SiteWise system interface



SiteWise has an intuitive user interface that makes it easy to plan, edit, and implement lighting schedules for your site. Authorized users can access the interface via a local app.

To ensure that only authorized users can access your lighting, SiteWise offers two user types, each with different permissions. An advanced user, or administrator, can set and edit schedules using the ten pre-set scenes, assign those schedules to calendar days, and check system status.

For everyday use, a basic user can manually override a schedule that is currently running but cannot create or edit schedules.

SiteWise system specifications

The SiteWise system includes both luminaires and controls. The controls used for SiteWise are circuit load dependent. Required for a complete installation are the following Philips SiteWise components: user interface, control kit, dimming signal transmitter cabinet, and dimming signal receiver located in the Philips luminaire (SW option). Optional luminaire-integrated or external motion sensors may also be specified as required. Within the electrical closet, the control kit and dimming signal transmitter cabinet are installed into the electrical system between the existing breaker panel and the site luminaires. New LED luminaires containing the dimming signal receiver are installed on the site. Once completed, use of the interface allows for scheduling and override capabilities. Wireless access point and tablet should be supplied by others. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise

Gullwing G13 LED area luminaire, small

Specifications

General Description

The Philips Gardco Gullwing LED GL13 area luminaire is defined by its high performance, sleek profile and rugged construction. Gullwing LED luminaires combine LED performance excellence and advanced Philips Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

Housing

A one-piece die cast aluminum housing mounts directly to a pole or wall without the need for a support arm. The low profile rounded form reduces the effective projected area of the luminaire to only 0.8 ft² / 0.07 m².

IP Rating

Gullwing LED 13" optics are IP65 rated.

Thermal Management

The Philips Gardco Gullwing LED provides extruded aluminum integral thermal radiation fins to provide the excellent thermal management so critical to long LED system life.

LED Optical System

LED arrays are set to achieve IES Type II, Type III, Type IV, and Type V, available with internal shields for back light control. Individual LED arrays are replaceable. Luminaires feature high performance Class 1 LED systems.

Electrical

Luminaires are equipped with an LED driver that accepts 120V through 277V, or 347V through 480V, 50hz to 60hz, input. Driver output is based on the LED wattage selected. Component-to-component wiring within the luminaire will carry no more than 80% of rated current and is listed by UL. Power factor is not less than 90%. Luminaire consumes 0.0 watts in the off state. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

SiteWise network system

SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Labels

All luminaires bear UL or CUL (where applicable) Wet Location labels.

Limited Warranty

5 year limited warranty. See philips.com/luminaires for complete details and exclusions.

LED Performance:

PREDICTED LUMEN DEPRECIATION DATA ¹⁵				
Ambient Temperature °C	Driver mA	Calculated L ₇₀ Hours ^{15,16}	L ₇₀ Per TM-21 ^{16,17}	Lumen Maintenance % @ 60,000 hours
25°C	up to 530 mA	>100,000	>60,000	82%

15. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.

16. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output.

17. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours.





Philips Gardco Gullwing LED GL13 area luminaires combine LED performance excellence and advanced Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

Project: _____
 Location: _____
 Cat.No: **GL13-4-105LA-6453-NW-UNV-IS**
 Type: **B**
 Lamps: _____ Qty: _____
 Notes: _____

Ordering guide

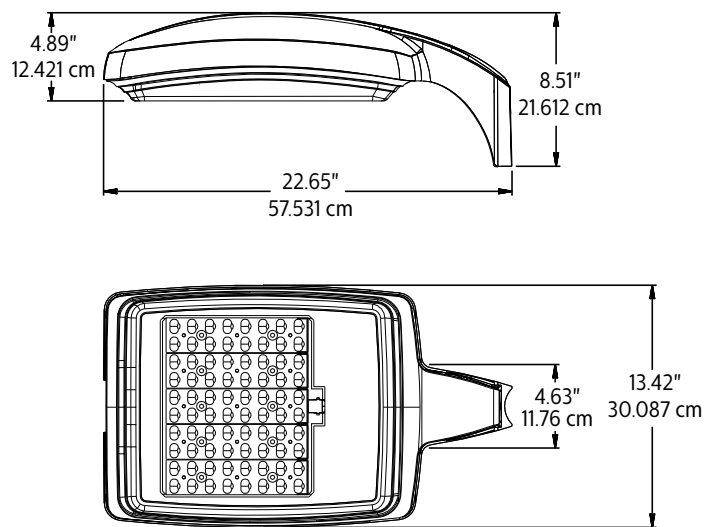
Example: GL13-APD-1-4-70LA-6435-NW-120-BRP-LF

Prefix	Controls	Mounting	Optical System ⁴	Wattage	LED Color	Voltage	Finish	Options
GL13		4		105LA-6453	NW	UNV		IS
GL13 13" Gullwing LED Luminaire Constant Wattage GL13-RK 13" Gullwing LED Retrofit Kit	— Gullwing Standard Luminaire	1 Single	2 Type 2	70LA-6435 64 LEDs, 350mA	NW Neutral White 4000K, 70 min. CRI	120	BLP Black Paint	F ⁵ Fusing
	GL13-DIM 13" Gullwing LED with 0-10V Dimming	2 2 @ 180°	3 Type 3	85LA-8035 80 LEDs, 350mA	CW Cool White 5700K, 70 min. CRI	208 240 277	WP White Paint	LF ⁵ In-Line/In-Pole Fusing
	GL13-APD ¹ 13" Gullwing LED with Automatic Profile Dimming	2@90 2 @ 90°	4 Type 4	105LA-6453 64 LEDs, 530mA	WW Warm White 3000K, 70 min. CRI	347 480	BRP Bronze Paint	PC ^{2,5,6} Photocontrol and Receptacle (Includes PCR5)
	GL13-MRI ^{2,3} 13" Gullwing LED with Motion Response at 50% Low (luminaire mounted sensor)	3 3 @ 90°	5 Type 5			UNV (120-277V)	NP Natural Aluminum Paint	PCR5 ^{2,7,8} Photocell Receptacle only with 2 dimming connections
	GL13-APD-MRI ^{2,3} 13" Gullwing LED with APD with Motion Response Override (luminaire mounted sensor)	3@120 3 @ 120°				HVU (347-480V)	OC Optional Color Specify optional color or RAL ex: OC-LGP or OC-RAL7024.	PCR7 ^{2,6,7} Photocell Receptacle only with 2 dimming and 2 auxiliary connections
	Network system (SiteWise)	4 4 @ 90°					SC Special Color Specify. Must supply color chip. Requires factory quote.	HS External House side Shield
	SW Integral module ^{3,12}	W Wall Mount, Recessed J-Box						IS Internal House side Shield (types 2, 3, 4 only)
	SW-MRI Luminaire mounted motion response option	WS Wall Mount, Surface Conduit						MA Mast Arm Fitter Mounts to a 2-3/8" O.D. mast arm.
								TR1 ⁹ Single Transition
								TR2 ⁹ Twin Transition
								PTF2 ¹⁰ Pole Top Fitter 2 3/8" - 3" Dia. Tenon
								PTF3 ¹⁰ Pole Top Fitter 3" - 3 1/2" Dia. Tenon
								PTF4 ¹⁰ Pole Top Fitter 3 1/2" - 4" Dia. Tenon
								SPA ¹¹ Square Pole Adapter
								DL ⁴ Diffuse Lens

- Available **120-277V**.
- Not available with Retrofit Kits (**GL13-RK**).
- Available **120** or **277V** only.
- Luminaire door frame and optic assembly provided standard with clear tempered glass lens.
- Voltage must be specified.
- Not available with **480V**.
- Works with 3-pin or 5-pin NEMA photocell/dimming device.
- If ordered with **DIM, APD, MRI, APD-MRI**, dimming will not be connected to NEMA receptacle.
- Mounts to a 2-3/8" Top Tenon. Specify a round pole with a 3.0" top O.D. for a smooth transition.
- Not available in 120° mounting configurations.
- Required for mounting to straight square poles.
- SW** option is not available with any other control options with the exception of **SW-MRI** motion response options.

Gullwing G13 LED area luminaire, small

Dimensions and EPA



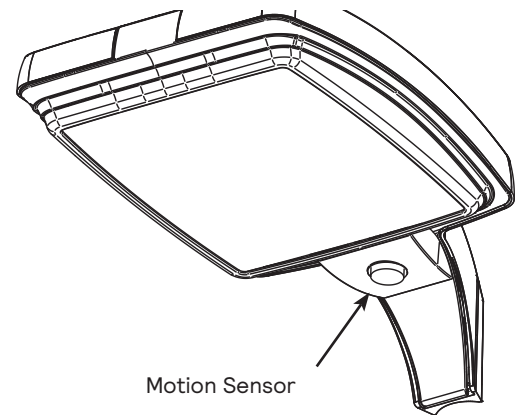
EPA Data

1	2	3-4
.8 ft ²	1.6 ft ²	2.2 ft ²
.07 m ²	.15 m ²	.20 m ²

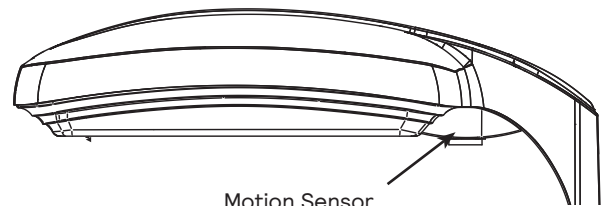
Approximate Weight Single Luminaire

33 lbs / 14.969 kg

GL13-MRI or GL13-APD-MRI Units



Motion Sensor



Motion Sensor

Technical Data

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹²	Color Temp.	Type 2			Type 3		
					Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating	Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating
70LA-6435	64	350	70	4000K	6652	95	B2-U0-G1	6750	96	B1-U0-G2
85LA-8035	80	350	86	4000K	8064	95	B2-U0-G1	8173	95	B1-U0-G2
105LA-6453	64	530	101	4000K	9870	97	B2-U0-G2	9385	93	B2-U0-G2

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹²	Color Temp.	Type 4			Type 5		
					Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating	Lumen Output ^{13,14}	Efficacy (LPW)	BUG Rating
70LA-6435	64	350	70	4000K	6731	96	B1-U0-G2	6657	95	B3-U0-G1
85LA-8035	80	350	86	4000K	8027	94	B1-U0-G2	8025	93	B3-U0-G2
105LA-6453	64	530	101	4000K	9388	93	B2-U0-G2	9139	90	B3-U0-G2

12. Wattage may vary by +/- 8% due to LED manufacturer forward volt specification and ambient temperature. Wattage shown is average for 120V through 277V input. Actual wattage may vary by an additional +/- 10% due to actual input voltage.

13. Contact Outdoorlighting.applications@philips.com for values not listed or if approximate estimates are required for design purposes.

14. LED arrays feature LEDs that provide from 90 to 100 lumens per watt when operated at 350 mA. Lumen values based on tests performed in compliance with IESNA LM-79.

Gullwing G13 LED area luminaire, small

Luminaire Configuration Information

GL13

Philips Gardco Gullwing LED standard luminaire providing constant wattage and constant light output when power to the luminaire is energized.

GL13-DIM

Philips Gardco Gullwing LED luminaire provided with 0 –10V dimming for connection to a control system provided by Philips or by others.

GL13-APD

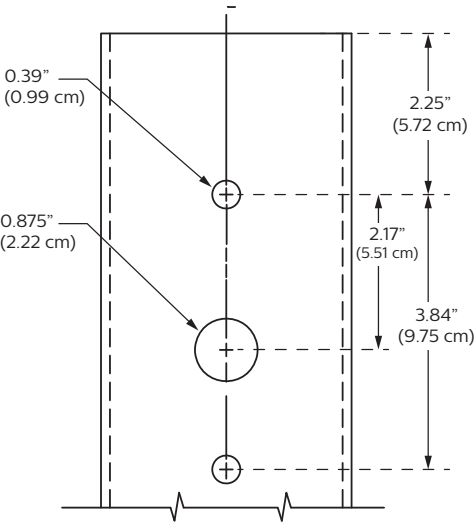
Philips Gardco Gullwing LED luminaire with Automatic Profile Dimming. Luminaire is provided with Dynadimmer, programmed to go to 50% power, 50% light output two (2) hours prior to night time mid-point and remain at 50% for six (6) hours after night time mid-point. Mid-point is continuously recalculated by the Dynadimmer based on the average mid-point of the last two full night cycles. Short duration cycles, and power interruptions are ignored and do not affect the determination of mid-point.

GL13-APD Dimming Profile:

100%	2 hours	6 hours	100%
	50%	50%	

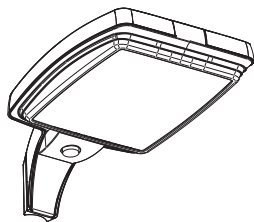
Power On Mid Point Power Off

GL13 Drill Template



The GL13-APD offers many of the advantages of a sophisticated control system, including an average energy savings of at least 33% versus constant wattage, constant light output systems, without the need for a control system.

GL13-MRI (Luminaire mounted sensor)



Luminaires with Integral Motion Sensor include the Dynadimmer module and an integral motion sensor. The location of the integral motion sensor is shown on page 2. The Dynadimmer is programmed to provide 50% power and light output, unless motion is detected. Power supplied by the motion sensor connected to the override line on the Dynadimmer takes the luminaire to high setting, 100% power and light output, when motion is detected. The luminaire remains on high until no motion is detected for the motion sensor duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes. Duration period is field adjustable. Available from 120V to 277V input only.

MRI luminaires are provided with the WattStopper FS-355-L3W motion sensor, with a maximum recommended 20 ft. mounting height. The area coverage and range of the integral sensors make them most suitable for applications not requiring long range detection.

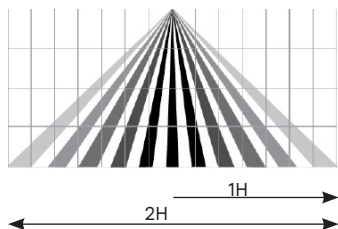
GL13-APD- MRI (Luminaire mounted sensor)

Luminaires with Automatic Profile Dimming and Motion Response Override with integral motion sensor, (APD-MRI) combine the benefits of automatic profile dimming and motion response. The luminaire will dim to 50% power, 50% light output, per the APD dimming profile. If motion is detected during the time the luminaire is operating at 50%, the luminaire returns to 100% power and light output. The luminaire remains on high until no motion is detected for the duration period, after which the luminaire returns to low. Duration period is factory set at 15 minutes. Duration period is field adjustable. APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details above. Available from 120V to 277V input only.

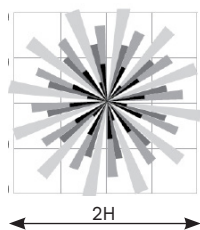
APD-MRI luminaires are available from 120V to 277V (UNIV) input voltages only.

APD-MRI luminaires use the identical motion sensor as MRI luminaires. See motion sensor details for GL13-MRI.

Side Coverage Pattern



Top Coverage Pattern



Distances are approximate.
H = height above ground

SW

SiteWise option is a fully integrated controller that connects to Philips SiteWise system in order to offer a complete area lighting management system. The communication signal is based on Philips patented central dimming technology. SiteWise delivers it deliver optimal energy savings using your site's existing cabling. No additional wiring required, installation and commissioning are simple. An intuitive, mobile app makes it easy for authorized users to set schedules to meet site specific lighting needs, local regulations, and energy codes.

Gullwing G13 LED area luminaire, small

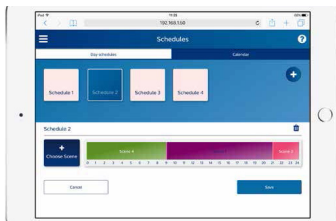
SiteWise system

SiteWise is a complete area lighting management system including a luminaire integrated controller, dimming signal transmitter cabinet, and locally accessible user interface. Installation and commissioning are simple. The cabinet communicates with the Philips luminaires using a patented central dimming technology. The control signal is embedded on the existing electrical line – no new cabling is required. An intuitive, locally accessible interface makes it easy for authorized users to set schedules in order to meet site specific lighting needs, local regulations, and energy codes.

SiteWise system diagram



SiteWise system interface



SiteWise has an intuitive user interface that makes it easy to plan, edit, and implement lighting schedules for your site. Authorized users can access the interface via a local app.

To ensure that only authorized users can access your lighting, SiteWise offers two user types, each with different permissions. An advanced user, or administrator, can set and edit schedules using the ten pre-set scenes, assign those schedules to calendar days, and check system status.

For everyday use, a basic user can manually override a schedule that is currently running but cannot create or edit schedules.

SiteWise system specifications

The SiteWise system includes both luminaires and controls. The controls used for SiteWise are circuit load dependent. Required for a complete installation are the following Philips SiteWise components: user interface, control kit, dimming signal transmitter cabinet, and dimming signal receiver located in the Philips luminaire (SW option). Optional luminaire-integrated or external motion sensors may also be specified as required. Within the electrical closet, the control kit and dimming signal transmitter cabinet are installed into the electrical system between the existing breaker panel and the site luminaires. New LED luminaires containing the dimming signal receiver are installed on the site. Once completed, use of the interface allows for scheduling and override capabilities. Wireless access point and tablet should be supplied by others. Complete information on the control system can be found on the SiteWise website at philips.com/sitewise

Gullwing G13 LED area luminaire, small

Specifications

General Description

The Philips Gardco Gullwing LED GL13 area luminaire is defined by its high performance, sleek profile and rugged construction. Gullwing LED luminaires combine LED performance excellence and advanced Philips Gardco LED thermal management technology with the distinct Gullwing style to provide outdoor area lighting that is both energy efficient and aesthetically pleasing.

Housing

A one-piece die cast aluminum housing mounts directly to a pole or wall without the need for a support arm. The low profile rounded form reduces the effective projected area of the luminaire to only 0.8 ft² / 0.07 m².

IP Rating

Gullwing LED 13" optics are IP65 rated.

Thermal Management

The Philips Gardco Gullwing LED provides extruded aluminum integral thermal radiation fins to provide the excellent thermal management so critical to long LED system life.

LED Optical System

LED arrays are set to achieve IES Type II, Type III, Type IV, and Type V, available with internal shields for back light control. Individual LED arrays are replaceable. Luminaires feature high performance Class 1 LED systems.

Electrical

Luminaires are equipped with an LED driver that accepts 120V through 277V, or 347V through 480V, 50hz to 60hz, input. Driver output is based on the LED wattage selected. Component-to-component wiring within the luminaire will carry no more than 80% of rated current and is listed by UL. Power factor is not less than 90%. Luminaire consumes 0.0 watts in the off state. Surge protector standard. 10KA per ANSI/IEEE C62.41.2.

SiteWise network system

SiteWise system includes a controller fully integrated in the luminaire that enables the luminaires to communicate with a dimming signal transmitter cabinet located on site using Philips patented central dimming technology. A locally accessible mobile app allows users to access the system and set functionalities such as ON/OFF, dimming levels and scheduling. SiteWise is available with motion response options in order to bring the light back to 100% when motion is detected. Additional functionalities are available such as communication with indoor lighting and connection to BMS systems.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

Labels

All luminaires bear UL or CUL (where applicable) Wet Location labels.

Limited Warranty

5 year limited warranty. See philips.com/luminaires for complete details and exclusions.

LED Performance:

PREDICTED LUMEN DEPRECIATION DATA ¹⁵				
Ambient Temperature °C	Driver mA	Calculated L ₇₀ Hours ^{15,16}	L ₇₀ Per TM-21 ^{16,17}	Lumen Maintenance % @ 60,000 hours
25°C	up to 530 mA	>100,000	>60,000	82%

15. Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions.

16. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output.

17. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours.





Stonco LytePro LED medium wall sconce LPW16 features outstanding value in a compact, architectural design. This powerful and precise combination offers outstanding energy savings with excellent photometric performance. LPW16 is ideal for entryways and corridors in addition to wall lighting applications requiring strong lateral spacing and forward pattern projection.

Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

Ordering guide

Example: **LPW16-20-NW-G3-3-120-PCB-BZ**

					Options						
Prefix		Wattage	LED Color/Gen	Distribution	Voltage		Photocontrol		Finish		
<div>LPW16</div>											
LPW16 LytePro 16 LED medium wall sconce	20	20W	NW-G3 Neutral White 4000K 70 CRI Generation 3	3	Type 3	120	120V	---	None	<u>Textured</u>	
	30	30W		4	Type 4	208	208V	PCB	Photocontrol	BK	Black
	50	50W	WW-G3 Warm White 3000K 70 CRI Generation 3			240	240V	Button ¹		WH	White
						277	277V			BZ	Bronze
						347	347V			DGY	Dark Gray
						480	480V			MGY	Medium Gray
						UNV	120-277V (50/60Hz)			<u>Customer specified</u>	
						HVU	347-480V (50/60Hz)			RAL	Specify optional color or RAL (ex: OC-LGP or OC-RAL7024)
										CC	Custom color (Must supply color chip for required factory quote)

Stocked luminaires – Ordering guide

Catalog Number	Description	Master Pack, Qty	UPC Code
LPW16-G3-8-BZ	LPW16, 30W, 650mA, 4000K, Type 3, 120-277V, Bronze textured paint	6	622252813872
LPW16-G3-8-DGY	LPW16, 30W, 650mA, 4000K, Type 3, 120-277V, Dark gray textured paint	6	622252813865

Stocked accessories – Ordering guide (Must be ordered separately)

Catalog Number	Description	Master Pack, Qty	UPC Code
LPWCVRPLT-BZ²	LPW Universal wall cover mounting plate, Bronze textured paint	(none)	190096144860

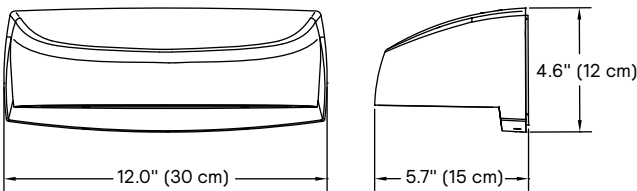
¹ Must specify voltage. Not available in 347V or 480V.

² Other colors available upon request as made-to-order

LPW16 LytePro

LED medium wall sconce

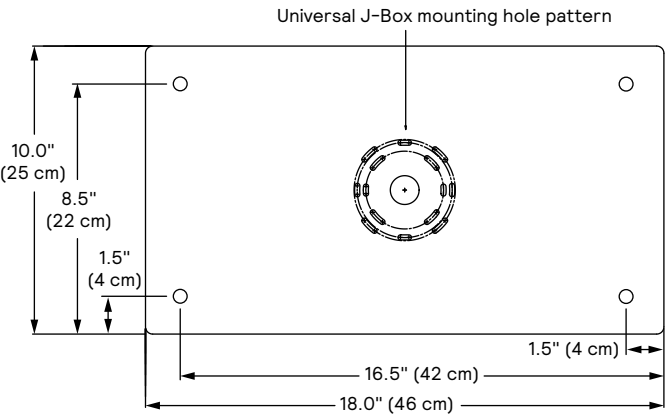
Dimensions



Luminaire weight: 6lbs (2.7 kg)

Accessory dimensions (ordered separately)

LPWCVRPLT-BZ LPW Universal wall cover mounting plate, 0.08" aluminum, bronze textured paint (used to cover larger pre-existing opening or surfaces, field installed). Offers same J-Box pattern as luminaire or may lagged to wall using (4) knockouts.



LED Wattage and Lumen Values

Ordering Code	Total LEDs	LED Current (mA)	Color Temp.	Average System Watts	Type 3			Type 4		
					Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
LPW-16-20-NW-G3	16	400	4000	22.3	2,316	B1-U0-G1	104	2,242	B1-U0-G1	101
LPW-16-30-NW-G3	16	650	4000	34.3	3,474	B1-U0-G1	101	3,364	B1-U0-G1	98
LPW-16-50-NW-G3	16	900	4000	48.0	4,629	B1-U0-G1	96	4,482	B1-U0-G1	93
LPW-16-20-WW-G3	16	400	3000	22.3	2,132	B1-U0-G0	96	2,065	B1-U0-G1	93
LPW-16-30-WW-G3	16	650	3000	34.3	3,200	B1-U0-G1	93	3,098	B1-U0-G1	90
LPW-16-50-WW-G3	16	900	3000	47.5	4,263	B1-U0-G1	90	4,128	B1-U0-G1	87

Values from photometric tests performed in accordance with IESNA LM-79 and are representative of the configurations shown.

Actual performance may vary due to installation and environmental variables, LED and driver tolerances, and field measurement considerations. It is highly recommended to confirm performance with a photometric layout.

NOTE: Some data may be scaled based on tests of similar (but not identical) luminaires. Contact factory for configurations not shown.

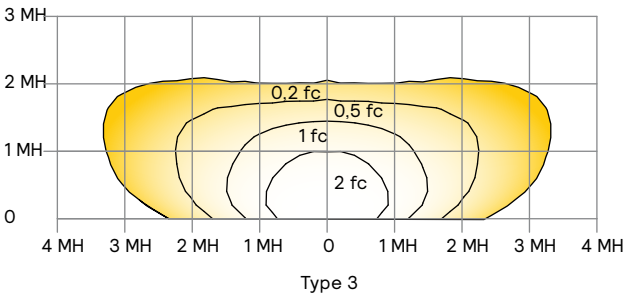
Predicted lumen depreciation data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L₇₀ is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L₇₀ hours limited to 6 times actual LED test hours

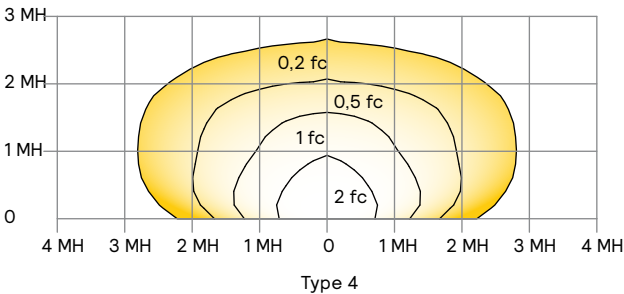
Ambient Temperature °C	Calculated L ₇₀ Hours	L ₇₀ per TM-21	Lumen Maintenance % at 60,000 hrs
up to 40°C	>200,000 hours	>54,000 hours	>96%

Optical distributions

Based on LPW16-30-NW-G3 at 15' mounting height



LPW16 15' mounting height			
Mounting height	10 ft	12 ft	15 ft
Multiplier	1.57	1.34	1.00



LPW16 15' mounting height			
Mounting height	10 ft	12 ft	15 ft
Multiplier	1.46	1.27	0.87

LPW16 LytePro

LED medium wall sconce

General Description

LytePro LED medium wall sconce LPW16 combines excellent performance, design and value to meet the needs of the energy and budget conscious. The LPW16 is available for use in downward facing, surface wall mount applications, over recessed j-boxes or where power can be directly fed through back surface, whereby connections splices can be made inside the luminaire housing. Two SKU's are available as in-stock configurations only (2-day quick ship).

Housing

Die-cast housing houses both the LED and driver assemblies. Design incorporates an integrated heat sink to maximize thermal performance and reliability. Backplate is corrosion free, composite polycarbonate, with built-in level bubble, offers integral interlocking hook and mount design for easy installation.

Mounting

Easy interlocking hook and mount housing/backplate design for easy installation. Mounts over 3.5", 4" octagonal j-boxes and single gang switch boxes or can be directly lagged to surface. Ensure proper steps for gasket/sealing luminaire to surface.

IP Rating

Optical compartment is IP65 rated.

LED Board and Array

Provides up to 104 lm/W at the system level. Standard color temp is 4000K or 3000K +/- 250K, minimum 70 CRI.

Electrical

Driver efficiency (>90% standard). 120-277V and 347-480V available. All drivers are dimmable. Temp range: -40°C (-40°F) to 40°C (104°F). Open/short circuit protection. Inherent surge protection up to (6KVA). RoHS compliant.

Surge protection (SP1): Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

Listings

Product is cETLus listed suitable for Wet Locations. Suitable for use in ambients from -40°C to 40°C (-40°F to 104°F). DesignLights Consortium® qualified.

Finish

Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish.

Warranty

LPW16 luminaires, the LED arrays, and the drivers are all covered by a 5-year limited warranty. See www.signify.com/warranties for details.



Odor Memo

M E M O R A N D U M

TO: Town of Lee, MA

FROM: Fuss & O'Neill, Inc.

DATE: January 6, 2021

RE: Odor Mitigation System - Operation and Maintenance Plan
Adult-Use Marijuana Establishment
Forest Wilde Dispensary
635 Laurel Street, Lee, MA

This Long Term Operation and Maintenance Plan (O&M) is for an adult-use marijuana establishment in Lee, Massachusetts. Forest Wilde, LLC (Forest Wilde) proposes and adult-use retail dispensary and adult use product manufacturing at 635 Laurel Street, Lee, MA. This O&M has been prepared as a supplement to the Town's Special Use Permit for the Forest Wilde Dispensary.

Property Owner: Forest Wilde
635 Laurel Street
Lee, MA 01238

Responsible Party: Jeanne Albano Carmichael, Owner
Cassandra Purdy, Owner

It will be the responsibility of the Forest Wilde to comply with this Long Term Operation and Maintenance Plan. The owner is responsible for all financing, maintenance and emergency repairs. Should the property or any portion of the property be transferred to another owner, that new owner will be notified of the presence of this Long Term Operation and Maintenance Plan and be held responsible for the implementation of this plan and financing as it pertains to their property.

Attached are equipment cut sheets, performance data, maintenance protocol and equipment details for Forest Wilde's odor mitigation system.

Odor Mitigation System(s):

Attached is the proposed architectural layout showing the location and type of filtration used throughout the building as well as performance specifications.

Similar systems provided by Dynamic Air are currently being used in other facilities in Massachusetts as well as similar cannabis production facilities nationwide.

The attachment provides details on the Dynamic Air and Max Filter systems. These systems treat the odor issues exiting exhaust vents in both the dispensary retail and storage areas as well as the product

Town of Lee, MA
January 6, 2021
Page 2 of 2

manufacturing spaces. The systems are designed to be operational in all seasons. Carbon Filtration is provided on the exhaust for all product manufacturing spaces. Please see the attached cut sheet for the Dynamic Air and Max Filter specifications.

Service Considerations:

Local service technicians are trained to service the equipment and to perform repairs if required. They are able to train facility staff on basic service measures and dispatch technical assistance within 24/48 hours if the facility requires immediate service.

Basic maintenance on Dynamic Air system:

Refer to Operation and Maintenance considerations attached to this document.

Basic maintenance on Max Filter systems:

The usable life of the carbon filters is approximately 12 – 18 months per the manufacturer's specifications. However, the end-user may determine it is necessary to exchange filters earlier than the prescribed maintenance period based on observation of the filter's performance.

Record Keeping

The owner is responsible for maintaining accurate maintenance logs for all maintenance and inspections. The logs shall be kept on-site and provided to the AHJ (Authority Having Jurisdiction) upon request. The log will include date and description of all maintenance and repairs performed on the odor mitigation system.

Odor Cut Sheets

V8 Air Cleaner Module Specification

- 1.1 General:** The overall system filtration shall be comprised a bank of electronically active field polarized media air cleaners, and ACM Carbon Matrix. Manufactured by Dynamic Air Cleaner. **Call for pricing. (781) 635-4901.**

1.2 Non-ionizing, polarized media electronic air cleaners:

1.2.1 Certifications: The air cleaner shall have been tested and meet CSA Standard C22.2 No. 187-M19986 and UL Standard 867 for electrostatic air cleaners.

1.2.2 Operation: The air cleaner shall have an active electrostatic field that polarizes a dielectric media. It shall not ionize airborne particles or produce ozone.

1.2.3 Performance: Using the ASHRAE 52.2 protocol with carbon black in the test dust the air cleaner shall at MERV 13, and when using the ASHRAE 52.2 protocol with no carbon in the loading dust, the air cleaner shall test at MERV 15. It will have a clean static pressure drop of less than .32" w.g. at 500 feet per minute and shall increase in resistance no more than .25" w.g. with a dust loading of 2,855 grams. Any substitute air cleaner must meet these MERV ratings, static pressures and loading characteristics. The air cleaner manufacturer must provide testing from an approved ASHRAE test lab to verify MERV rating, operational and loading performance.

1.2.4 Construction: The Air Cleaner modules shall consist of two individual air cleaners. Each module shall be 6" high and 24" deep and the width shall be 26". The number of modules and width shall be such that the face velocity thru the filter bank shall be no more than 550 fpm. The construction of the air cleaner frame shall be aluminum and screens and side panels shall be galvanized steel. The Air Cleaner modules and each component thereof must have a positive seal where necessary to prevent bypass of air.

1.2.5 Electronics: The high voltage Powerheads shall require 24 volts AC input. The Powerheads must be fully potted and connected in parallel. The 24VAC power supply must be a UL or CSA certified transformer, class "2" type, which shall permit one side of the secondary output (24V) to be attached to electrical ground

1.2.6 Control Panel: Shall be a model CP-100 Nema 4X indoor enclosure to include: 100 Va power supply with Status Light, Circuit Breaker and On/Off Switch, input 120/1/60-output 24VAC and shall be UL508A listed. Mini Helic Gauge shall be mounted in the face of the enclosure. Space is provided for a contact by others for on off status in BMS system front end.

1.2.7 Filter Media: Each Air Cleaner shall have a disposable and recyclable media pad with a minimum of a class "2" fire rating. It shall have a positive seal in the overall filter assembly. **1 extra set of media shall be provided.**

1.3 Gas phase filtration media panels:

1.3.1 Material: The honeycomb material shall be comprised of 400 cells per square inch, calcined honeycomb monoliths manufactured in the USA in a ISO/TS 16949: 2002 and ISO 9001:2000 registered company.

1.3.2 Construction: Gas phase removal media shall be constructed of an activated carbon/ceramic honeycomb extrusion. The extrusion will be cut into approximately 2"x2"x1.75" cubes, which are bonded into panels. **To include Versacomb™ Technology.** Versacomb carbon matrix material shall include composites and extrusion technologies to increase carbon utilization. The design shall deliver unrestrictive air channels to provide a lower air side pressure drop. The cells shall be designed to eliminate dust shedding and no downstream filtration required.

1.3.3 Humidity and Moisture: The honeycomb material will be capable of operating at 100% humidity for extended periods. It shall not be damaged by or dissolve in water.

1.3.4 Pressure Drop: Pressure drop across the gas phase bank will be no more than .25".

1.3.5 Performance: With a formaldehyde level of 25ppb, the bank shall be capable of 99.5% removal for 162 days of continuous operation. Life expectancy or other concentrations to be as follows:

Formaldehyde Challenge (ppb)	Honeycomb Depth (inches)	99.5% Removal Efficiency Life (days)
9	2	450
25	2	162
40	2	101
9	4	901
25	4	324
40	4	203

¹Based on the system running 24/7 and does not account for any spikes, the introduction of other concentration of contaminants, etc.

1.3.6 Dust Off: The honeycomb bank shall be dustless under normal operation and shall have no need for a post filter. Based on both test data and calculations, the dust attrition performance factors for the honeycombs shall be as follows:

Media Type	Dust Attrition	First Pass Challenge Gas Removal Rate ¹	Media Face Velocity	Media Depth
Carbon Honeycomb	0.00 mg/min	45-50%	250 ft/min	2 inches
Carbon Honeycomb	0.00 mg/min	90%	1	

1.4 Filter Duct Module: The frames and electronics of the V8's and Carbon Panels will be permanently mounted in a post and frame ductwork section dimensions per schedule sheet. Access to be coordinated prior to release with choices of a slide out rail (left or right).

GROW GREEN

Removing odors and
particulates without
the high costs of
energy and maintenance



The Science of Clean Air.™

ACTIVATED CARBON MATRIX

For over thirty years, Dynamic Air Quality Solutions has been providing affordable solutions that optimize air quality, energy consumption, and the environment. Today, *growers around the world* rely on proven Dynamic technology to remove VOCs, mold spores, and ultrafine particles from indoor air and outdoor ventilation air, and to mitigate odors from exhaust air.

Odor Mitigation

Dynamic Activated Carbon Matrix (ACM) Systems have been used successfully to remove odors from exhaust air at large commercial grow operations to meet local codes and ordinances.

Advantages over Pellet Systems

Dynamic Carbon Matrix systems offer many advantages over standard carbon based systems including trays and rotary drums filled with carbon pellets:

- Dynamic Carbon Matrix systems have up to a 60% lower pressure drop, reducing blower horsepower by up to 50% compared to pellet systems.
- Half the size and a fraction of the weight of a pellet based system.
- Easier to use and maintain because they do not require vacuum trucks, pellet handling or confined space entry that is associated with media change out.
- Dynamic Carbon Matrix systems have significantly smaller footprints and much lower weights, making installation easier and less costly than traditional pellet systems.



Air Velocity		Dwell Time (seconds)	Removal (%)*
fpm	"w.g.		
78	0.040	0.090	99.9
99	0.050	0.070	99.5
113	0.055	0.062	99.0
207	0.110	0.034	90.0
276	0.160	0.025	80.0

* based on Xylene
analytical standard

- Fast and effective contact at velocities up to six times greater than traditional pelletized carbon beds.
- Unlike pellet based systems which typically break through after about 66% utilization of the pellet media, properly rotated Dynamic Carbon Matrix systems use 100% of the media as the media modules are replaced over time.

Unsurpassed Versatility:

- Suitable for high airflow applications (>500 fpm).
- Suitable for high temperature applications up to 500°F.
- Suitable for damp conditions up to 99% RH.
- Can be mounted horizontally or vertically with airflow in either direction.
- Maximum gaseous contaminant removal and protection from gas-phase contaminants.
- Can be installed and disposed of without the need for any special safety precautions.

POLARIZED-MEDIA AIR CLEANERS

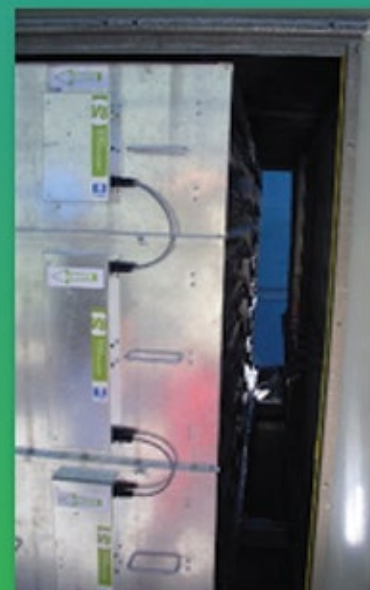


Protect Plants from Bacteria, Molds and Mildew

Dynamic polarized-media filtration technology is available in a wide variety of products to remove bacteria, molds and mildew from growing environments to optimize plant health. Air cleaning systems range from 1 inch and 2 inch panels that fit into all types of HVAC equipment to the Dynamic V8 Air Cleaning System which sets the standard in air cleaning – outperforming anything on the market in contaminant control, maintenance, and cost of ownership.



- Capable of removing harmful molds, mildew and bacteria that affect plant yield
- Fit all types of HVAC equipment without costly retrofits
- Low static pressure drop for improved energy savings
- Reduces VOCs
- Use in recirculating systems or on exhaust to extend Dynamic ACM service life
- Longer life between filter change-outs



Maximize crop protection with the Dynamic V8

Designed to meet the rigorous requirements of hospitals, data centers, LEED® buildings and clean manufacturing, the Dynamic V8 Air Cleaning System couples maximum effectiveness with unparalleled energy and operational savings, providing MERV 15 performance without ionizing or Ozone generation— plus VOC reduction and superior capture of dangerous ultra-fine particles. And its extended maintenance cycle means less media change outs, freeing your personnel to concentrate on more critical issues.

Advantages over conventional filters

- Holds up to 10 times the dust of standard bag or cartridge filters
- MERV 15 performance with zero-bypass
- Significantly lower static pressure drop than passive conventional filters for big energy savings
- Saves energy through reduced brake horsepower requirements
- Exceptionally long maintenance cycle – up to 3 or 4 years in grow facilities

The Dynamic V8 replacement media (left) does the same job as the 24" x 24" conventional cartridge filters shown on the right...but also providing better filtration, lower static pressure, longer maintenance intervals, and taking up far less space.



Dynamic
Air Quality Solutions

The Science of Clean Air.

Dynamic Air Quality Solutions
PO Box 1258 • Princeton, NJ 08542
(800) 578-7873 • www.DynamicAQS.com

Unit Tag	Model Number	Unit Interior		Dynamic Part Number	Design Airflow	E	# of Rows	Factory Assembled in Modules			Weight	Dynamic Face Area			Face Veil Media Air Speed	S.P. Inches		Elec Load V A @ 24v		
		Dimensions										W X H				Initial/ Change				
		W	H									12"	18"							
I	Dynamic VS																			
		26	12	1V8	26 .06 - 24.0 SL	200	1	2	1	0	47	29	X	112	83	0.02	0.42	3		
	Dynamic 2" 200CPSI Activated Carbon Matrix																			
				2P	12 24 MW\ P	200	1	1				12	X	24	100	0.04				
	F14	30	16	40" L slide out side access							150	0	X	0						



Memo: ACM Panel Replacement Intervals

Where activated carbon filtration is used to remove gas phase contaminants, the question of replacement interval inevitably comes up. Carbon is essentially a sponge and when the sponge is full, it must be replaced. If all contaminants and concentrations are known, the life of the carbon can be easily calculated. Unfortunately, outside of a few industrial environments that are dominated by one or two chemicals at high concentrations, real-world conditions tend to be far more dynamic, with a wide range of temperatures, humidities, chemicals, and concentrations. This makes accurate predictions in most applications very difficult. However, assuming the general conditions are relatively the same, e.g. a busy urban area, the necessary replacement frequency can usually be dialed in after the first few change-outs.

There are basically four ways to deal with the issue. The criticality of the application will dictate the level of care that needs to be taken. Further, there will be various combinations of the options that will be apparent. I will go in order of cost, least to most.

- 1.) **Wait until odors become noticeable.** Obviously, this is not suitable for any critical application, but can be used in applications where the issue is a nuisance odor. In fact, it may be the most accurate way for these applications since the perception of odors is subjective and it really doesn't matter what the ppb is if some one is smelling it. And again, as stated above, if odors become noticeable after, for example, 13 months, then the change-out frequency would become 12 months.
- 2.) **Change Pre-emptively based on calculations and/or experience.** To do this, one must have some knowledge of the chemicals and concentrations that the carbon will face. Ideally, therefore, some site-specific data will have been collected over a period of time. From these concentrations, calculations can be made to predict the service life of the carbon. However, as there are literally thousands of chemicals in the air, they cannot all be monitored. It is therefore important for the customer to know that predictions are educated guesses and their results may vary.
- 3.) **Send carbon cells back for analysis.** This is a variation on #2 above. Based on a guess/calculation, one carbon module would be removed and sent back for analysis to see what life remains. This is not an exact science, but it can be helpful.
- 4.) **Constant upstream/downstream monitoring of critical contaminants.** This would give real time data and effectiveness of the carbon bank. A variation here, of course, would be downstream monitoring only. The key here is to identify the contaminants or markers to monitor.

That is the broad overview. It is important to with customers to design and implement the appropriate approach.

Max-Filter™



Max 2500 SKU: 358608

Max Recirculating (Scrubbing) CFM: 2500 CFM

Max Exhaust CFM: 1250 CFM

@ 0.1 sec contact time

Recommended Min Airflow: 625 CFM

Prefilter: Yes

Flange, Available: 14"

Dimensions: (with pre-filter)

- Outside Diameter: 50 cm / 20"
- Height: 100 cm / 39.4"

Total Weight: 47 kg / 103 lbs.

Carbon Weight: 37 kg / 81.5 lbs.

Carbon Bed Depth: 6.5 cm / 2.5"

Max Operating Temp: 80°C

Pressure drop at max CFM: 180pa / .75"wg

Recommended Fans:

	Filtered Air	
FAN	CFM	Watts
14" Max-Fan™	1230	250

Max-Filter™

means maximum performance.

The Max-Filter™ starts with our best virgin activated carbon, 40% more capacity by weight than our standard CKV-4 and finishes with our commitment to quality.

V8 Air Cleaning System Operation Manual



Dynamic
Air Cleaning System
www.DynamicAQS.com 800.578.7873

MADE IN CANADA
BY ENGINEERING
DYNAMICS LTD.
PATENT PENDING



Maintenance



Warning – Risk of Electric Shock – These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Attention – Risque de Chocs Electrique – Ces instruction son pour les personnes qualifiez seulement. Ne fait pas du service sauf le qui est continu dans cette manuel sauf si vous etes qualifies de les faire.

Pad Replacement

The only maintenance required is media pad replacement. Media pads are typically changed according to pressure drop. As mentioned above, while the V8 can withstand a pressure drop well over 1.4”w.g., from the standpoint of energy savings, it is recommended that the media be changed when the pressure drop has increased by 0.25” to 0.3” (0.65” to 0.7”w.g. pressure drop). At this point, it will still have many times the dust load of a passive filter.

Before changing the media, make sure the Control Panel is switched “off” and the AHU fan is de-activated.

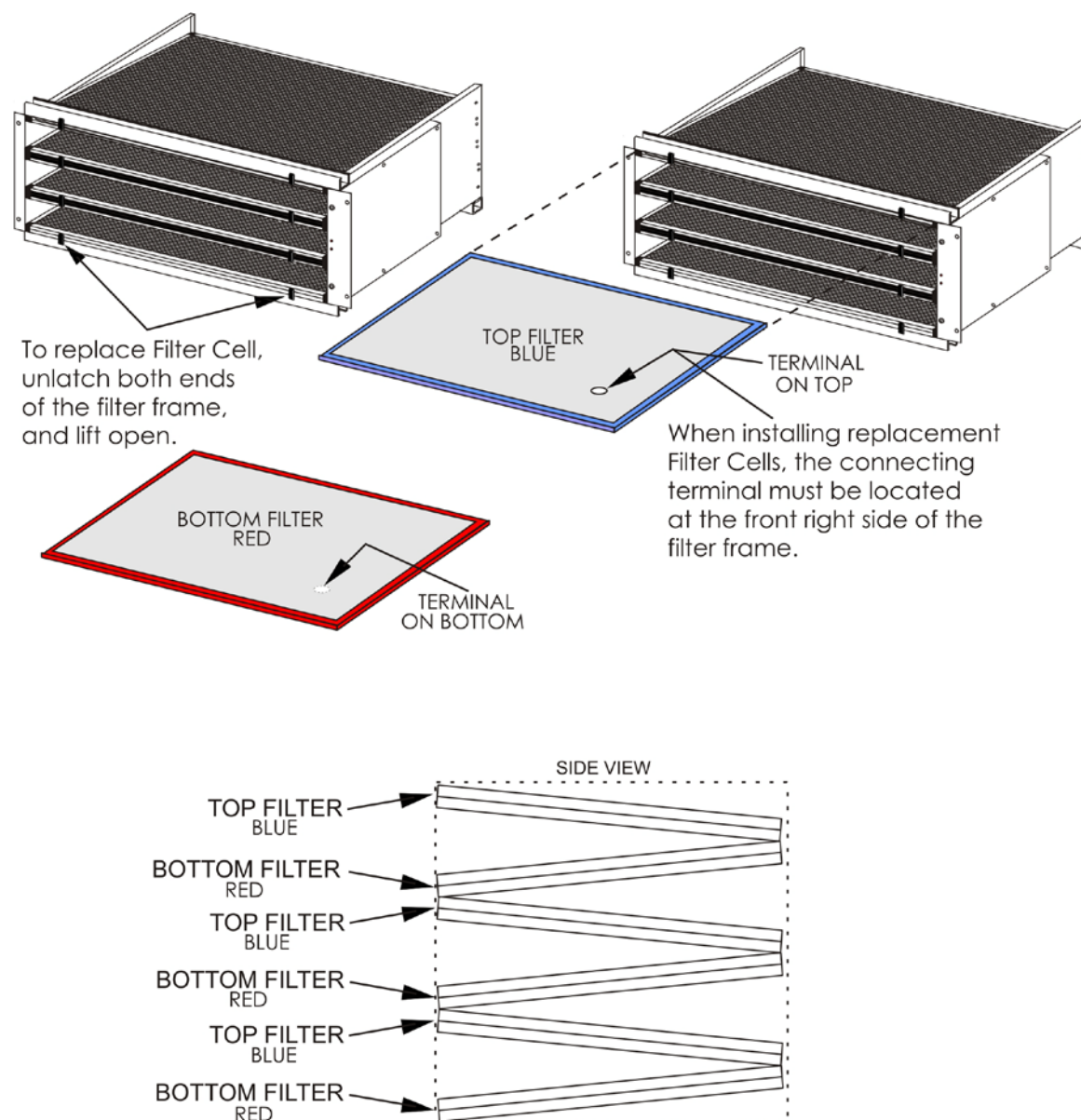
To remove a media pad, unlatch the frame, grasp the pad by the corners of its black frame and gently pull it out while agitating them slightly side to side. For 2010 and later model years, the opening half of the frame may also be partially withdrawn or completely removed to aid in media removal and replacement.

It is important to note that the pads do have an upstream and a downstream side. Further, upper and lower pads are not the same. The downstream side will have the high voltage connecting terminal visible; this is a metallic disc approximately $\frac{3}{4}$ ” in diameter (see Figure 9). This will always be to the right of the module. Because of this, the upper and lower pads of an individual “V” in the module (12” module have two “V”s and 18” modules have three) are different. The upper pads are framed in blue; the lower pads are framed in red.



Installation of the new media pads is the reverse. When placing the new media pad into the air cleaner, assure correct orientation (see below). When pushing the pads in, grasp them by the pad frame corners and gently slide the pad in. You will feel the pillow frame seat itself as the frame seal slides into the gap between the panel frames. If applicable and space permits, withdraw the removable frame, place the pad in the fixed frame (if the fixed frame is below), or place the pad in the removable frame (if the fixed frame is above) and install the pad and frame together.

Figure 9



Specifications

1V8-ww12-29.5-F 1V8-ww18-29.5-F

Electrical

Input Voltage		24Vac
Input Current per Air Cleaner	120mA ac Max.	240mA ac Max.
Output Voltage		9.5kV dc Max.
Output Current		40µA dc Max. per pad

Environmental

Temperature	32°F to 172°F
Relative Humidity	0% to 99%, non condensing

Performance

ASHRAE 52.2	MERV 13
ASHRAE 52.2 NC (Equivalent without carbon)	MERV 15

Dust Holding Capacity (492 fpm, 1.4"w.g.) per 24" of width

	<u>12" Module</u>	<u>18" Module</u>
ASHRAE 52.2 (i.e. unit shorted)	425g	675g
ASHRAE 52.2 NC (normal operation)	2250g	3375g

Pressure Drop Clean (492 fpm)	100Pa (0.40"WC)
-------------------------------	-----------------

Weight

V8 Width	12" Module	18" Module
26	47	70
30	50	75
34	55	81
38	55	83
39	58	87
43	65	93
48	67	99

Contact

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Website: www.DynamicAQS.com



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