

Town of Franklin



Planning Board

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

Please click on the link <https://us02web.zoom.us/j/86890564750> or call on your phone at 312-626-6799, meeting # 86890564750.

June 29, 2020

- 7:00 PM** **Commencement/General Business**
- 7:05 PM** **PUBLIC HEARING – Initial**
162 Grove Street *Adv.: June 15 & June 22, 2020*
Special Permit & Site Plan *Abuts: June 15, 2020*
- 7:05 PM** **PUBLIC HEARING – Continued**
Maple Hill *Adv.: Feb. 24 & March 2, 2020*
Definitive Subdivision *Abuts: February 24, 2020*
- 7:10 PM** **PUBLIC HEARING – Continued**
70, 72 & 94 East Central St – Multi-Family *Adv.: Jan 27 & Feb 3, 2020*
Special Permit & Site Plan Modification *Abuts: Jan. 22, 2020*

GENERAL BUSINESS:

- A. Decision:** Panther Way – Special Permit & Site Plan

This agenda is subject to change. Last updated: June 23, 2020
The next meeting of the Planning Board is scheduled for July 13, 2020.



FRANKLIN PLANNING & COMMUNITY

DEVELOPMENT

355 EAST CENTRAL STREET, ROOM 120
FRANKLIN, MA 02038-1352
TELEPHONE: 508-520-4907

MEMORANDUM

DATE: June 24, 2020
TO: Franklin Planning Board
FROM: Department of Planning and Community Development
RE: West Central St & Panther Way
Special Permit & Site Plan

General:

- The Planning Board closed the public hearing on June 22, 2020 for the Special Permit & Site Plan at Panther Way.
- The applicant applied for the following Special Permits:
 - Motor Vehicle leasing with repair under §185 Attachment 2, Use Regulations Schedule Part II, Section 2.6
 - Motor vehicle service leasing with and §185 Attachment 2, Use Regulations Schedule Part II, Section 2.7.c Motor Vehicle service, repair-other.

Waivers Request:

1. To allow less than 42' of cover over the RCP drain pipe. Proposed Class V RCP.
2. To allow the use of HPDE Pipe for drainage pond 1 and the roof drain collection system.
3. To allow index sheet to be at a scale 1"=60'
4. To allow the Site Lighting to extend past the property line

Comments:

The following Special Conditions were discussed at the June 22 Meeting:

1. A Limited Site Plan is to be filed when a tenant, other than the Bus owners, occupies the building.
2. Provide screening for any AC units that are added to the building.
3. Bus parking is to remain as shown on the Site Plans. The Bus parking is not to be relocated anywhere else on the site.

ROLE CALL VOTE:

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

- **Special Permit VOTE:** Motor Vehicle leasing with repair under §185 Attachment 2, Use Regulations Schedule Part II, Section 2.6 and to allow Motor vehicle service leasing with and §185 Attachment 2, Use Regulations Schedule Part II, Section 2.7.c Motor Vehicle service, repair-other.

If you vote NO on any of the following, please state reason why you are voting NO:

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

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(b) Vehicular traffic flow, access and parking and pedestrian safety are properly addressed.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(c) Public roadways, drainage, utilities and other infrastructure are adequate or will be upgraded to accommodate development.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(d) Neighborhood character and social structure will not be negatively impacted.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(e) Project will not destroy or cause substantial damage to any environmentally-significant natural resource, habitat, or feature or, if it will, proposed mitigation, remediation, replication or compensatory measures are adequate.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(f) Number, height, bulk, location and siting of building(s) and structure(s) will not result in abutting properties being deprived of light or fresh air circulation or being exposed to flooding or subjected to excessive noise, odor, light, vibrations, or airborne particulates.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

(g) Water consumption and sewer use, taking into consideration current and projected future local water supply and demand and wastewater treatment capacity, will not be excessive.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

The proposed use will not have adverse effects which overbalance its beneficial effects on either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site.

Anthony Padula	YES	NO	Joseph Halligan	YES	NO
William David	YES	NO	Gregory Rondeau	YES	NO
Rick Power	YES	NO			

Suggested Standard Conditions of Approval:

1. This Special Permit shall not be construed to run with the land and shall run with the Site Plan as endorsed by the Planning Board. A new Special Permit shall be required from the Planning Board if any major change of use or major change to the site plan is proposed.
2. This Special Permit shall lapse if a substantial use or construction has not begun, except for good cause, within twenty four (24) months of approval, unless the Board grants an extension.- No final Certificate of Occupancy shall be issued until all requirements of the Special Permit have been completed to the satisfaction of the Board unless the applicant has submitted a Partial Certificate of Completion for the remainder of the required improvements. The applicant's engineer or surveyor, upon completion of all required improvements, shall submit a Certificate of Completion. The Board or its agent(s) shall complete a final inspection of the site upon filing of the Certificate of Completion by the applicant. Said inspection is further outlined in condition #4.
3. Construction or operations under this Special Permit shall conform to any subsequent amendment of the Town of Franklin Zoning Bylaw (§185) unless the use or construction is commenced within a period of six (6) months after the issuance of this Special Permit and, in cases involving construction, unless such construction is continued through to completion as continuously and expeditiously as is reasonable.
4. The Planning Board will use outside consultant services to complete construction inspections upon the commencement of construction. The Franklin Department of Public Works Director, directly and through employees of the Department of Public Works and outside consultant services shall act as the Planning Board's inspector to assist the Board with inspections necessary to ensure compliance with all relevant laws, regulations and Planning Board approved plan specifications. Such consultants shall be selected and retained upon a majority vote of the Board.
5. Actual and reasonable costs of inspection consulting services shall be paid by the owner/applicant before or at the time of the pre-construction meeting. Should additional inspections be required beyond the original scope of work, the owner/applicant shall be required to submit fees prior to the issuance of a Final Certificate of Completion by the Planning Board (Form H). Said inspection is further outlined in condition #4.
6. No alteration of the Special Permit and the plans associated with it shall be made or affected other than by an affirmative vote of the members of the Board at a duly posted meeting and upon the issuance of a written amended decision.
7. All applicable laws, by-laws, rules, regulations, and codes shall be complied with, and all necessary licenses, permits and approvals shall be obtained by the owner/applicant.
8. Prior to the endorsement of the site plan, the following shall be done:
 - The owner/applicant shall make a notation on the site plan that references the Special Permit and the conditions and dates of this Certificate of Vote.
 - A notation shall be made on the plans that all erosion mitigation measures shall be in place prior to major construction or soil disturbance commencing on the site.
 - All outstanding invoices for services rendered by the Town's Engineers and other reviewing Departments of the Town relative to their review of the owner/applicant's application and plans shall have been paid in full.
 - The owner/applicant shall submit a minimum of six copies of the approved version of the plan.

9. Prior to any work commencing on the subject property, the owner/applicant shall provide plans to limit construction debris and materials on the site. In the event that debris is carried onto any public way, the owner/applicant and his assigns shall be responsible for all cleanup of the roadway. All cleanups shall occur within twenty-four (24) hours after first written notification to the owner/applicant by the Board or its designee. Failure to complete such cleanup may result in suspension of construction of the site until such public way is clear of debris.
10. The owner/applicant shall install erosion control devices as necessary and as directed by the Town's Construction Inspector.

PLAN 348 OF 1987

SITE PLAN 162 GROVE STREET

ZONING:

162 GROVE STREET SITE IS LOCATED WITHIN AN INDUSTRIAL ZONE.

INDUSTRIAL ZONE	REQUIREMENTS:	EXISTING	PROPOSED
AREA:	40,000 S.F.	174,351± S.F.	174,351± S.F.
FRONTAGE:	175'	175.00'	175.00'
DEPTH:	200'	757'	757'
HEIGHT:	3 STORIES *6	2 STORIES	2 STORIES
WIDTH:	157.5'	220'	220'

COVERAGE - STRUCTURES:	70%	8.1%	9.8%
STRUC. & PAVING:	80%	31.5%	50.0%

SETBACKS-		69.1'	69.1'
FRONT:	40'	69.1'	69.1'
RIGHT SIDE:	30' *5	107.1'	85.3'
LEFT SIDE:	30' *5	31.7'	31.7'
REAR:	30' *5	476.9'	476.9'

*5 - INCREASE BY THE COMMON BUILDING HEIGHT OF THE STRUCTURE, WHEN ABUTTING A RESIDENTIAL USE
*6 - BUILDINGS UP TO 60 FEET IN HEIGHT MAY BE PERMITTED BY A SPECIAL PERMIT FROM THE PLANNING BOARD.

LOT COVERAGE CALCULATION AREA BASED ON UPLAND AREA

A PORTION OF THE PROPERTY IS LOCATED WITHIN A FRANKLIN WATER RESOURCE DISTRICT. THE SITE AREA PROPOSED FOR DEVELOPMENT IS LOCATED IN A ZONE X BASED ON FEMA FIRM MAP 25021C0308E DATED JULY 17, 2012.

AREA WITHIN THE WATER RESOURCE DISTRICT - 94,477± SQ. FT.
UPLAND AREA WITHIN THE WATER RESOURCE DISTRICT - 72,907± SQ. FT.
IMPERVIOUS AREA WITHIN THE WATER RESOURCE DISTRICT - 21,764± SQ. FT.
COVERAGE WITHIN THE WATER RESOURCE DISTRICT - 21,764 / 72,907 = 29.9%

162 GROVE STREET:
EXISTING BUILDING USE TRUCK TERMINAL.
PROPOSED BUILDING USE MEDICAL AND NON MEDICAL MARIJUANA DISPENSARY.

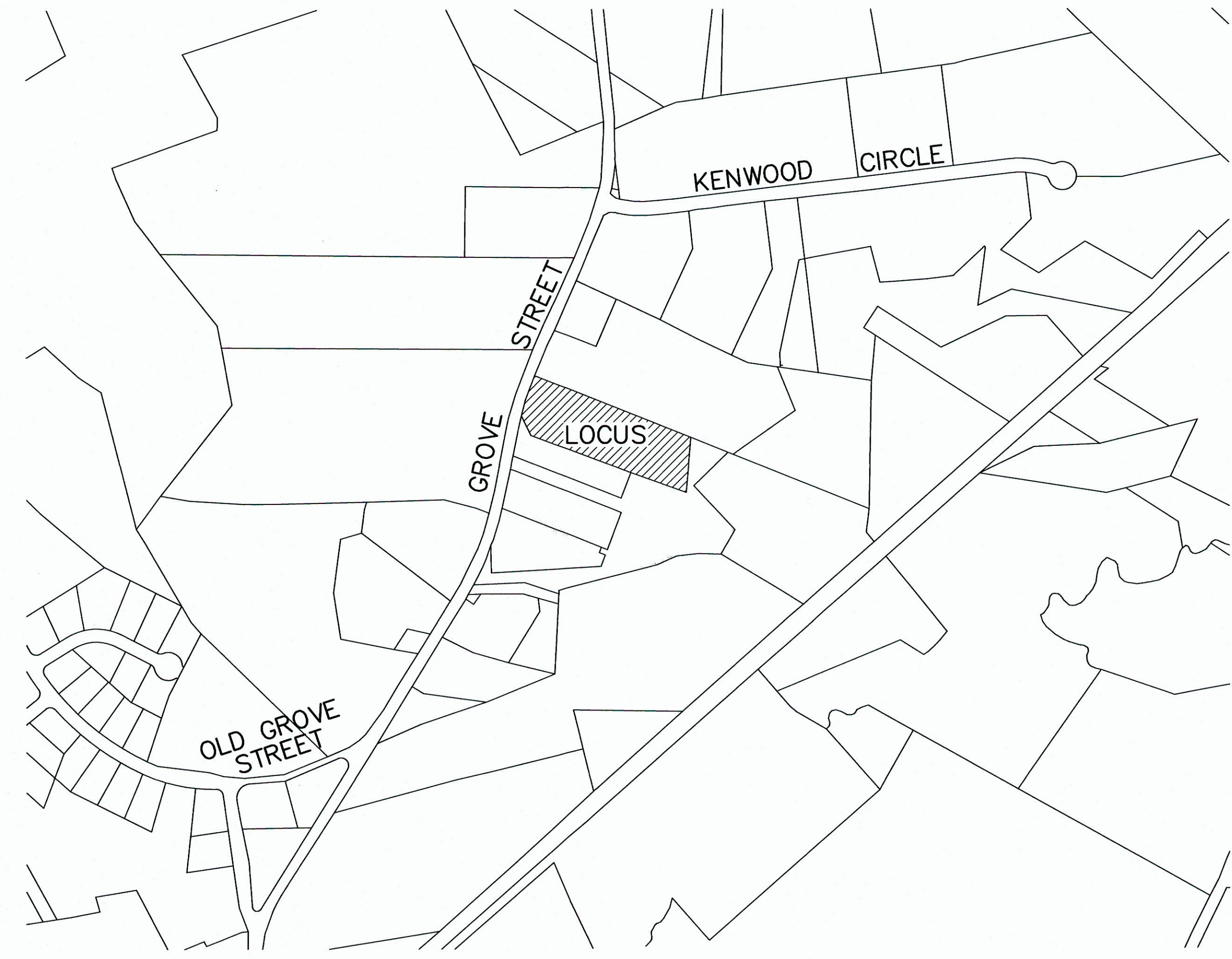
DRAWING INDEX:

1. COVER SHEET
 2. EXISTING CONDITIONS PLAN
 3. SITE LAYOUT PLAN
 4. SITE GRADING AND UTILITY PLAN
 5. SITE PLANTING PLAN
 6. EROSION CONTROL PLAN
 7. CONSTRUCTION DETAILS - 1
 8. CONSTRUCTION DETAILS - 2
 9. CONSTRUCTION DETAILS - 3
- SITE LIGHTING-LIGHTING PLAN, PHOTOMETRICS AND SCHEDULES BY SK & ASSOCIATES



Carlos A. Quintal
CARLOS A. QUINTAL P.E. #30812

REFERENCES:
ASSESSORS MAP 306 PARCEL 3
DEED BOOK 35681 PAGE 179
PLAN 348 OF 1987
PLAN 1364 OF 1987
PLAN 516 OF 1996
PLANS 620 - 622 OF 1940
SITE PLAN MODIFICATION AND CHANGE OF USE SITE PLAN BY GUERRIERE AND HALNON, INC LAST REVISED OCTOBER 18, 2018



LOCUS MAP
SCALE: 1" = 400'

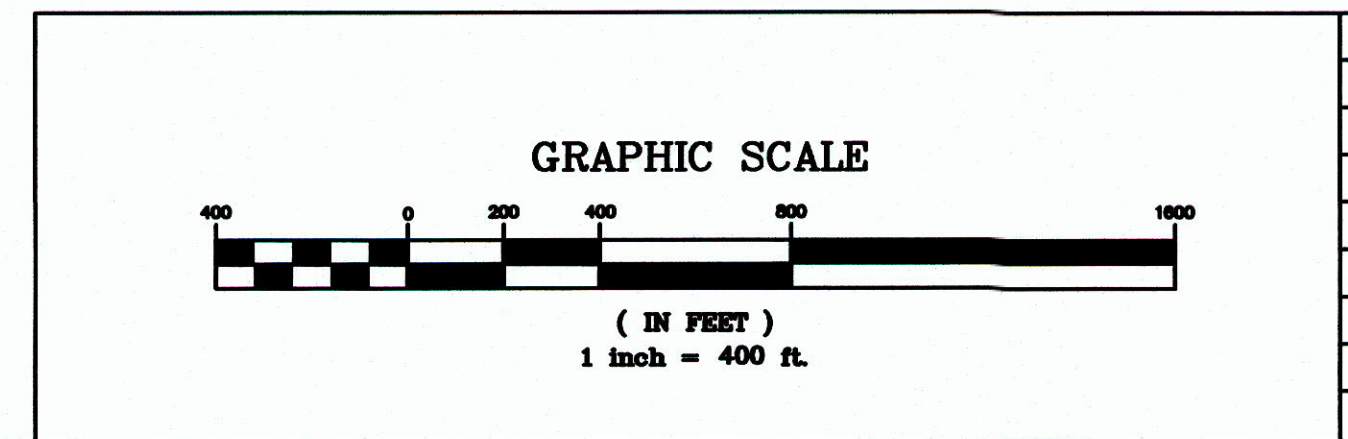
VICINITY MAP
SCALE: 1" = 100'

WAIVER REQUESTS:
1. TO ALLOW LESS THAN 42" OF COVER OVER THE RCP DRAIN PIPE. PROPOSED CLASS V RCP.
2. TO ALLOW THE USE OF HDPE PIPE FOR THE MANIFOLDS AND POND 10 AND POND 11. EXISTING ROOF PIPING IS 8" PVC.
3. TO ALLOW MINIMAL LIGHT SPILLAGE ONTO THE ABUTTING PROPERTIES.

- ALL EROSION CONTROL MITIGATION MEASURES SHALL BE IN PLACE PRIOR TO MAJOR CONSTRUCTION OR SOIL DISTURBANCE COMMENCING ON THE SITE.

SITE PLAN
COVER SHEET
162 GROVE STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
NEW ENGLAND TREATMENT ACCESS, LLC
5 FORGE PARKWAY
FRANKLIN, MASSACHUSETTS
MAY 21, 2020
SCALE: 1" = 400'

SITE PLAN APPROVAL REQUIRED FRANKLIN PLANNING BOARD	
DATE	_____
_____	_____
_____	_____



NO.	DATE	DESCRIPTION	BY

DATE	FIELD BY:	INT.
4/20	FIELD BOOK:	BL
5/20	CALCS BY:	RRG
5/20	DESIGNED BY:	RRG
5/20	DRAWN BY:	COMP
5/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

DATE	MAY 21, 2020
SCALE	1" = 400'
PROJECT	UC1435
SHEET	1 of 9

CENTERLINE OF DRIVEWAY
TO CENTERLINE OF DRIVEWAY
FROM SITE DRIVE 163'
FROM SITE DRIVE TO PLANET FITNESS 245'

PARKING CALCULATIONS:
 ZONING BYLAW SECTION 185-21B.(3)(b)ii - RETAILING, MEDICAL, LEGAL AND REAL ESTATE OFFICES - 1 SPACE PER 200 SQUARE FEET OF GROSS FLOOR AREA, PLUS ONE SPACE PER SEPARATE ENTERPRISE.
 8,503 SQ. FT. / 200 = 43 + 1 = 44 SPACES
 ZONING BYLAW SECTION 185-21B.(3)(b)vi - WAREHOUSE - 1 SPACE PER 1,000 SQUARE FEET OF GROSS FLOOR AREA
 7,584 SQ. FT. / 1,000 = 8 SPACES

52 TOTAL SPACES REQUIRED.
 141 SPACES PROPOSED INCLUDING 5 HANDICAP SPACES.

PARKING SPACE DESIGNATION:
 SPACES 1-7, 45-62, 82-93, 114-119 AND 120-128 WILL BE EMPLOYEE SPACES
 REMAINING 89 SPACES TO BE FOR RETAIL CUSTOMERS

NOTE:
 THE SITE USES ARE NOT ANTICIPATED TO REQUIRE A LOADING AREA HOWEVER THE FOLLOWING PROVISIONS HAVE BEEN LISTED.

A SU-30 TRUCK (LARGEST DELIVERY VEHICLE TO ACCESS THE SITE) WILL BE ABLE TO PARK IN THE DESIGNATED LOADING AREA.

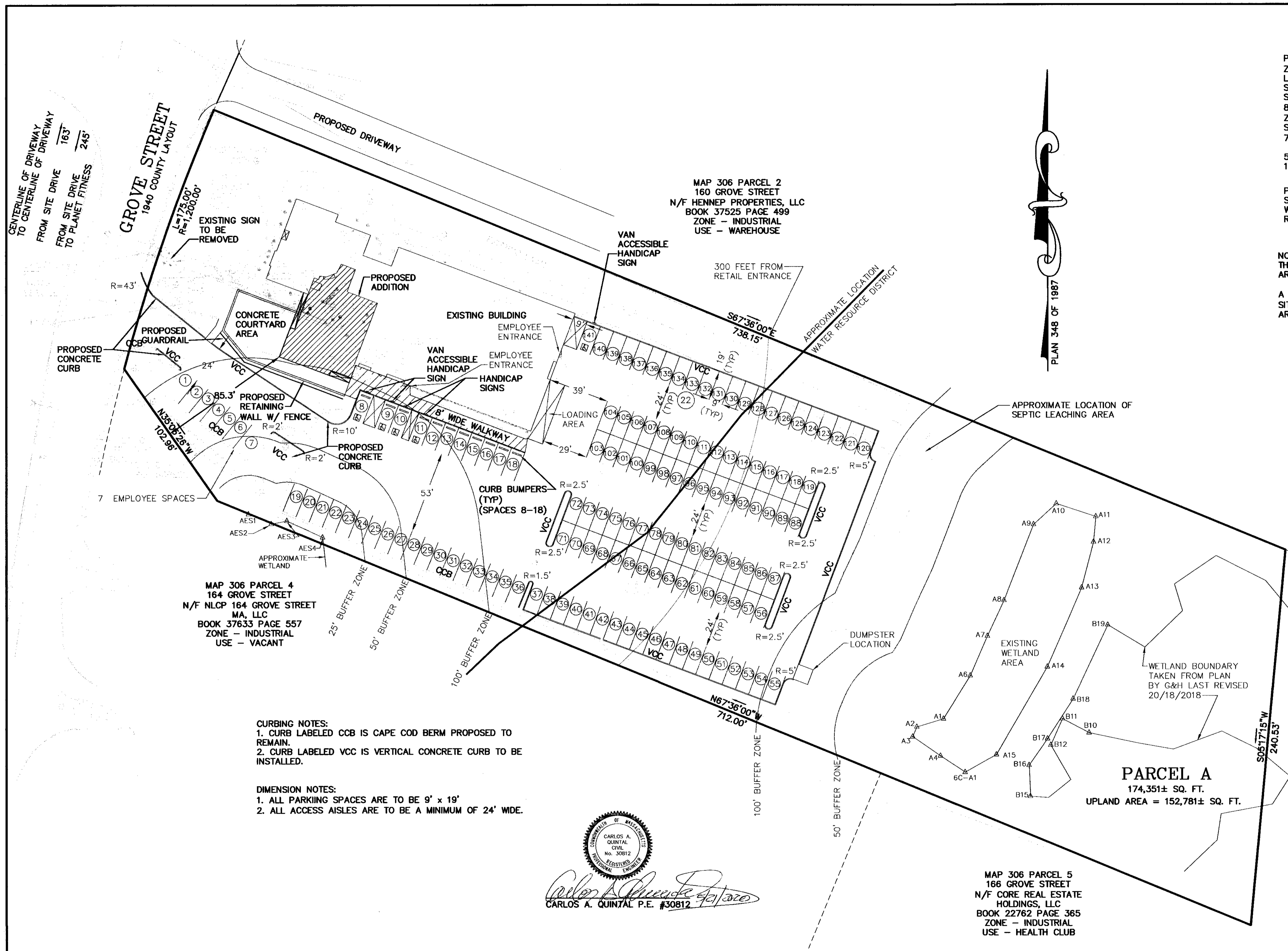
LEGEND:

- DHSB DRILL HOLE STONE BOUND
- EXISTING COUNTOUR
- 297- PROPOSED COUNTOUR
- x274.3 SPOT GRADE - PROPOSED
- x274.3EX SPOT GRADE - EXISTING
- EXIST. TREE - DIAMETER - SPECIES
- WB PROPOSED. TREE - SPECIES
- UTILITY POLE
- OVERHEAD WIRES
- GAS GATE
- WATER CURB STOP
- WATER GATE
- FIRE HYDRANT
- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- D DUMPSTER
- VCC VERTICAL CONCRETE CURBING
- CCB CAPE COD BERM
- HANDICAP PARKING SPACE
- BUILDING MOUNTED LIGHT
- POLE MOUNTED LIGHT
- EXISTING POST LIGHT
- EXISTING BUILDING MOUNTED LIGHT
- B BOLLARD
- CO CLEANOUT
- DS DOWNSPOUT
- PD PERSON DOOR
- OHD OVERHEAD DOOR

OWNER:
 CHARLEY2017, LLC
 7 MYRTLE STREET
 NORFOLK, MASSACHUSETTS

APPLICANT:
 NEW ENGLAND TREATMENT ACCESS, LLC
 5 FORGE PARKWAY
 FRANKLIN, MASSACHUSETTS

**SITE PLAN
 SITE LAYOUT PLAN**
 162 GROVE STREET
 FRANKLIN, MASSACHUSETTS
 PREPARED FOR
 NEW ENGLAND TREATMENT ACCESS, LLC
 5 FORGE PARKWAY
 FRANKLIN, MASSACHUSETTS
 MAY 21, 2020
 SCALE: 1" = 30'



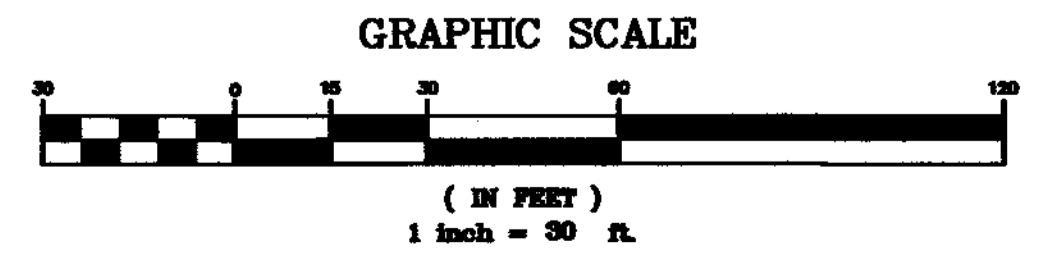
CURBING NOTES:
 1. CURB LABELED CCB IS CAPE COD BERM PROPOSED TO REMAIN.
 2. CURB LABELED VCC IS VERTICAL CONCRETE CURB TO BE INSTALLED.

DIMENSION NOTES:
 1. ALL PARKING SPACES ARE TO BE 9' x 19'
 2. ALL ACCESS AISLES ARE TO BE A MINIMUM OF 24' WIDE.

Carlos A. Quintal P.E. #30812

**SITE PLAN APPROVAL
 REQUIRED
 FRANKLIN PLANNING BOARD**

DATE	_____
DATE	_____
DATE	_____

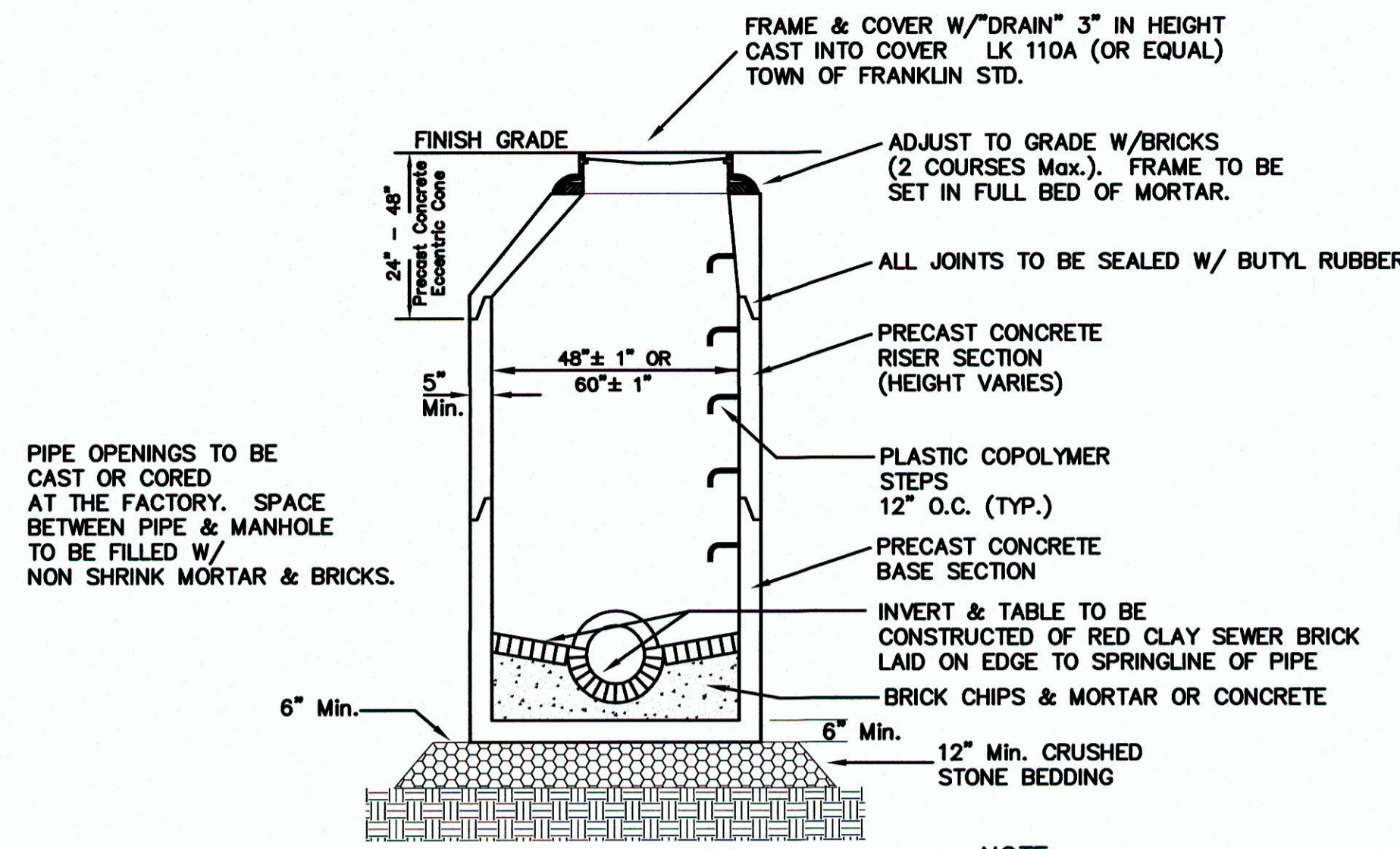


NO.	DATE	DESCRIPTION	BY

DATE	FIELD BY:	INT.
4/20	FIELD BY:	BL
5/20	CALCS BY:	RRG
5/20	DESIGNED BY:	RRG
5/20	DRAWN BY:	COMP
5/20	CHECKED BY:	CAQ

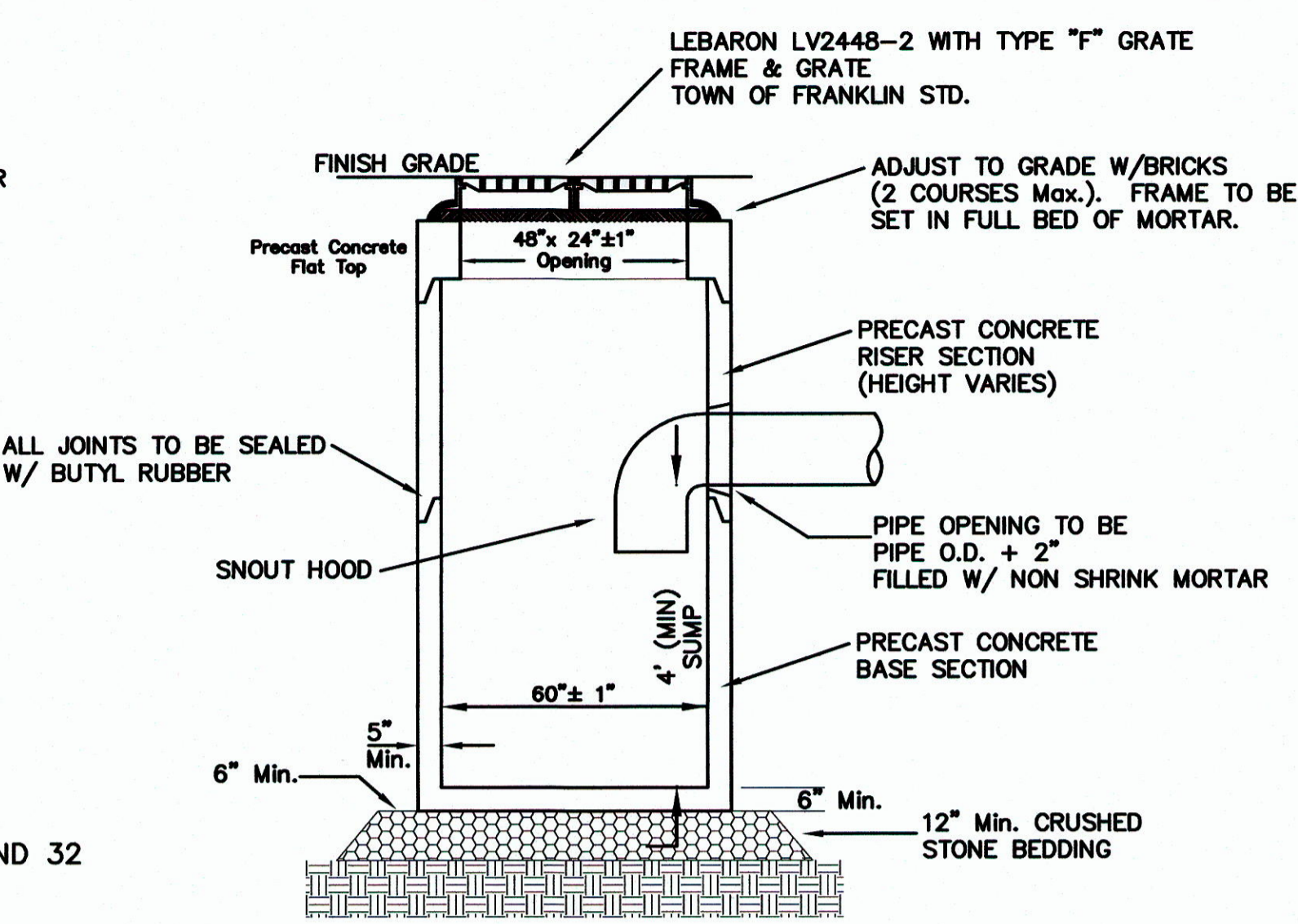
UNITED CONSULTANTS INC.
 850 FRANKLIN STREET SUITE 11D
 WRENTHAM, MASSACHUSETTS 02093
 508-384-6660 FAX 508-384-6666

DATE	MAY 21, 2020
SCALE	1" = 30'
PROJECT	UC1435
SHEET	3 of 9



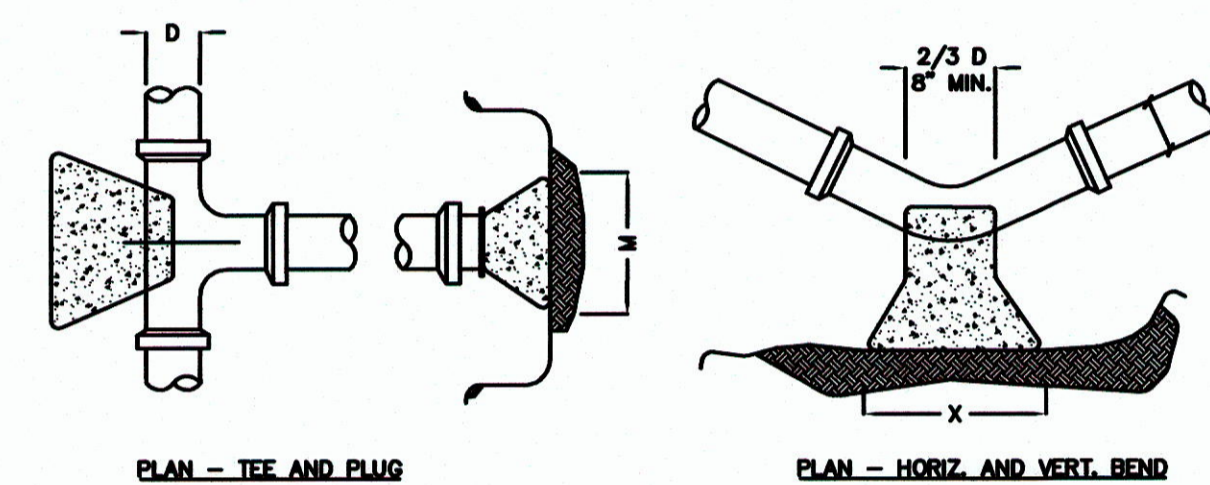
PRECAST DRAIN MANHOLE

NOTE: DMH'S 2, 4, 21, 22, 23, 31 AND 32 SHALL BE 5' DIAMETER



DOUBLE GRATE PRECAST CATCH BASIN W/ DEEP SUMP

NOTES:
 1. CONTRACTOR TO CONTACT DIGSAFE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES. ANY REPORT ANY DISCREPANCIES TO UNITED CONSULTANTS, INC.
 3. ALL WORK SHALL CONFORM TO THE TOWN OF FRANKLIN DPW STANDARDS.
 4. MAINTAIN A MINIMUM OF 10' SEPARATION FROM THE WATER SERVICE TO THE SEWER SERVICE.



PLAN - TEE AND PLUG
 PLAN - HORIZ. AND VERT. BEND

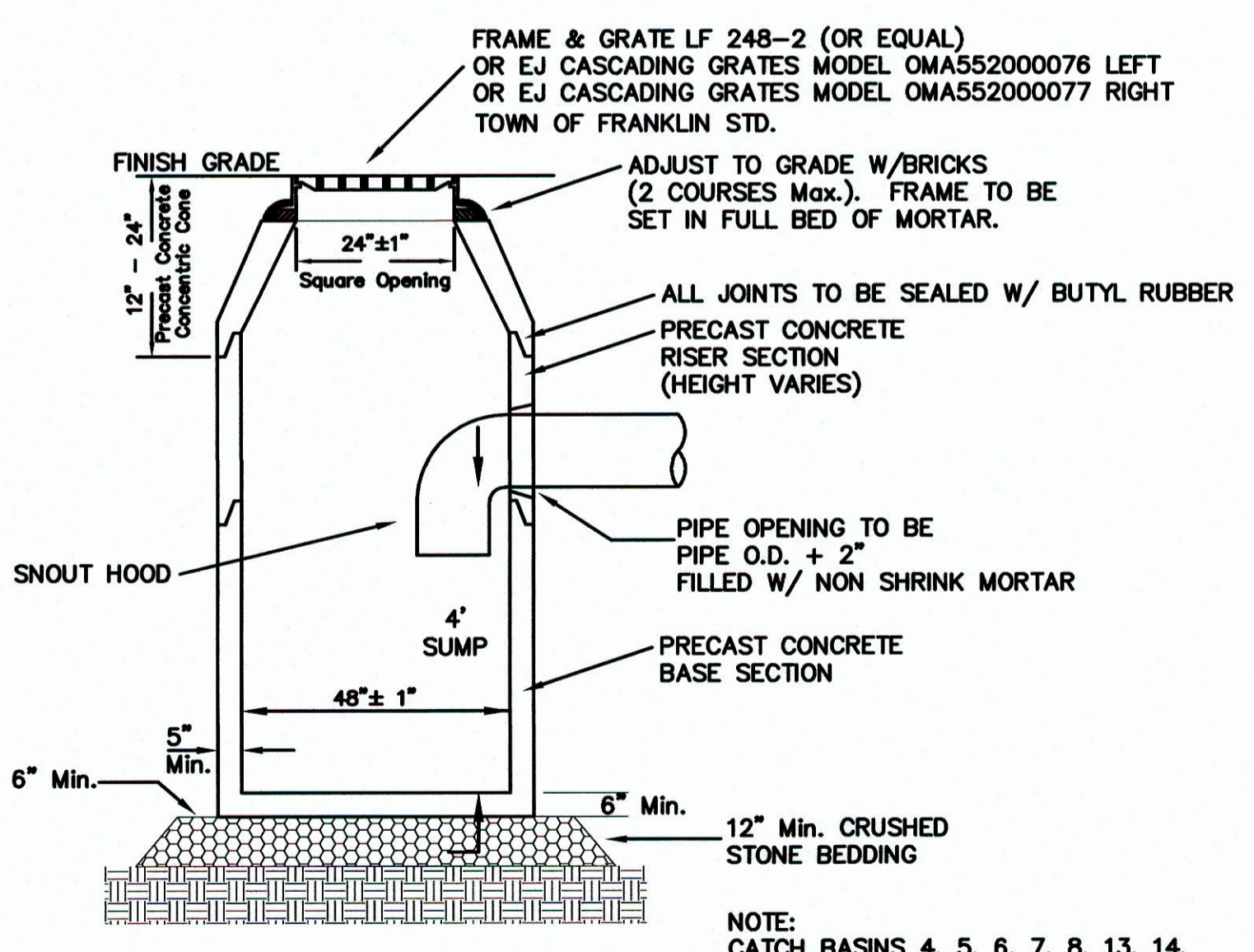
SIZE OF BRANCH	J	K	L	M	N	O
4" TO 8"	10"	10"	1'-0"	2'-0"	1'-8"	10"
10" TO 16"	1'-0"	1'-8"	1'-8"	3'-10"	2'-10"	1'-8"
24"	1'-4"	2'-0"	2'-6"	5'-0"	3'-8"	1'-8"

TEES AND PLUGS

	90 & 45 BENDS	22 1/2 & 11 1/4	
D	4" TO 8"	10" TO 16"	24" TO 48"
X	1'-8"	3'-4"	3'-8"
Y	1'-2"	1'-8"	2'-4"

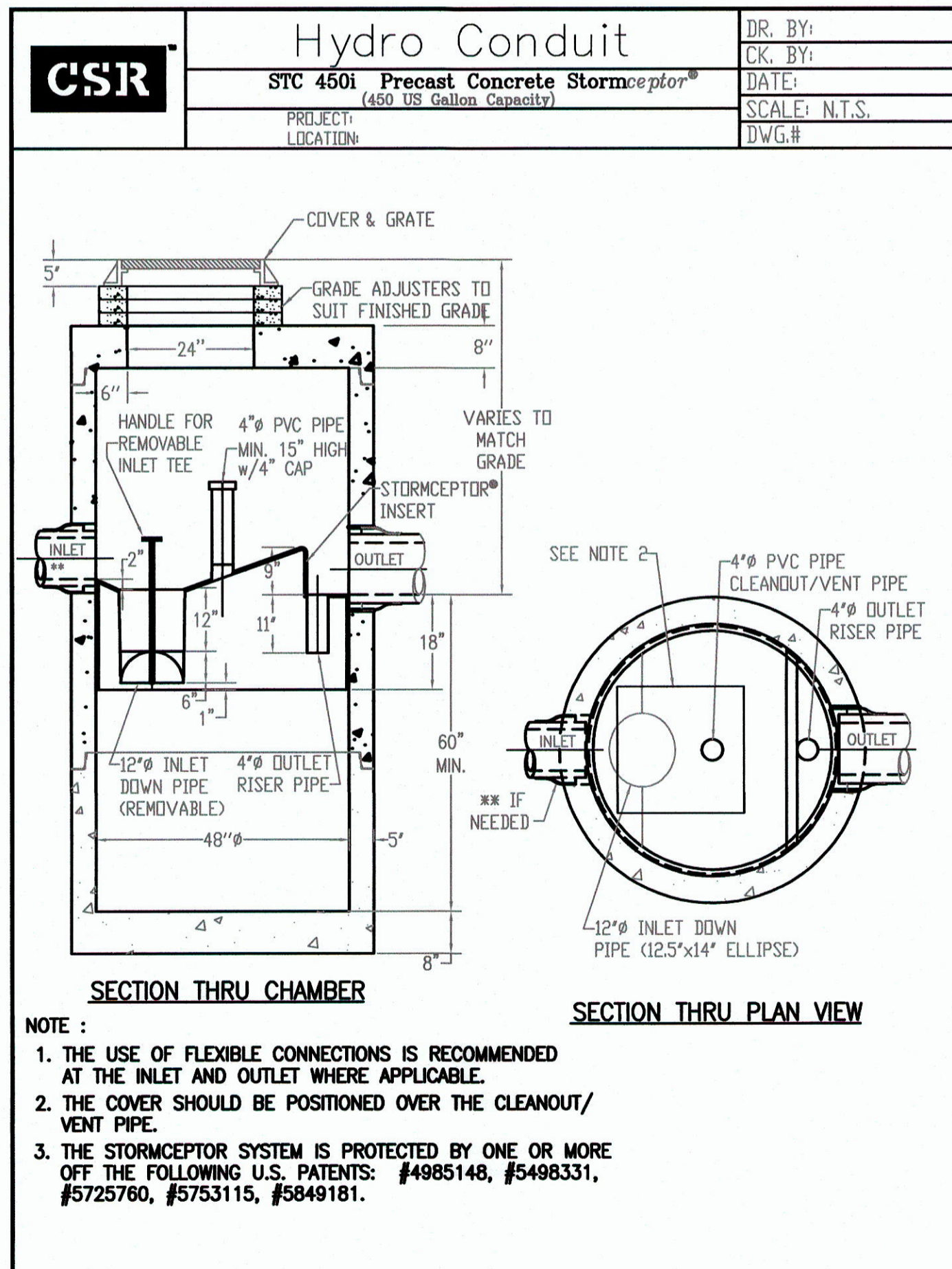
BENDS

THRUST BLOCK DETAILS

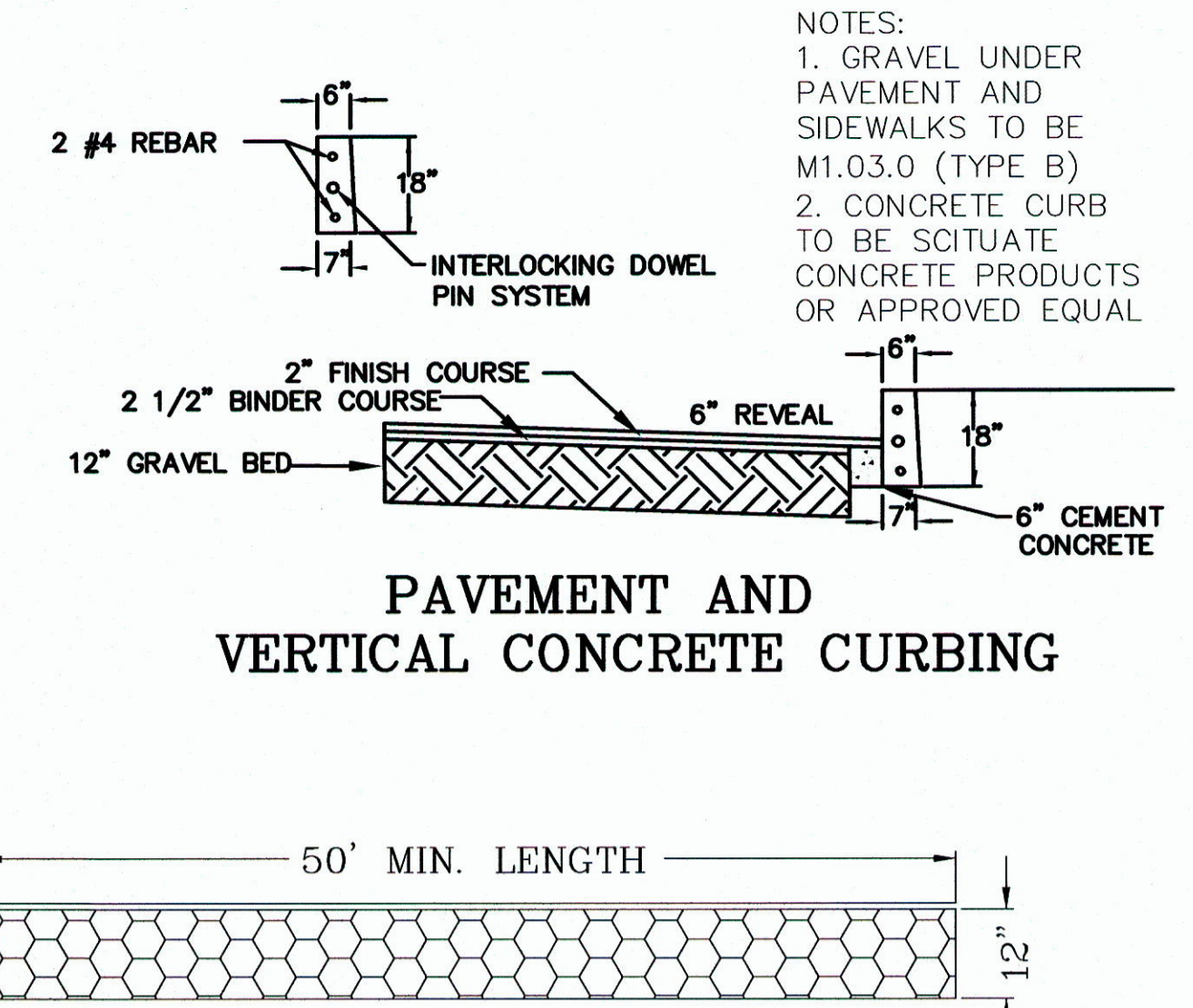


PRECAST CATCH BASIN

NOTE: CATCH BASINS 4, 5, 6, 7, 8, 13, 14, 15 AND 16 SHALL HAVE CASCADING GRATES.



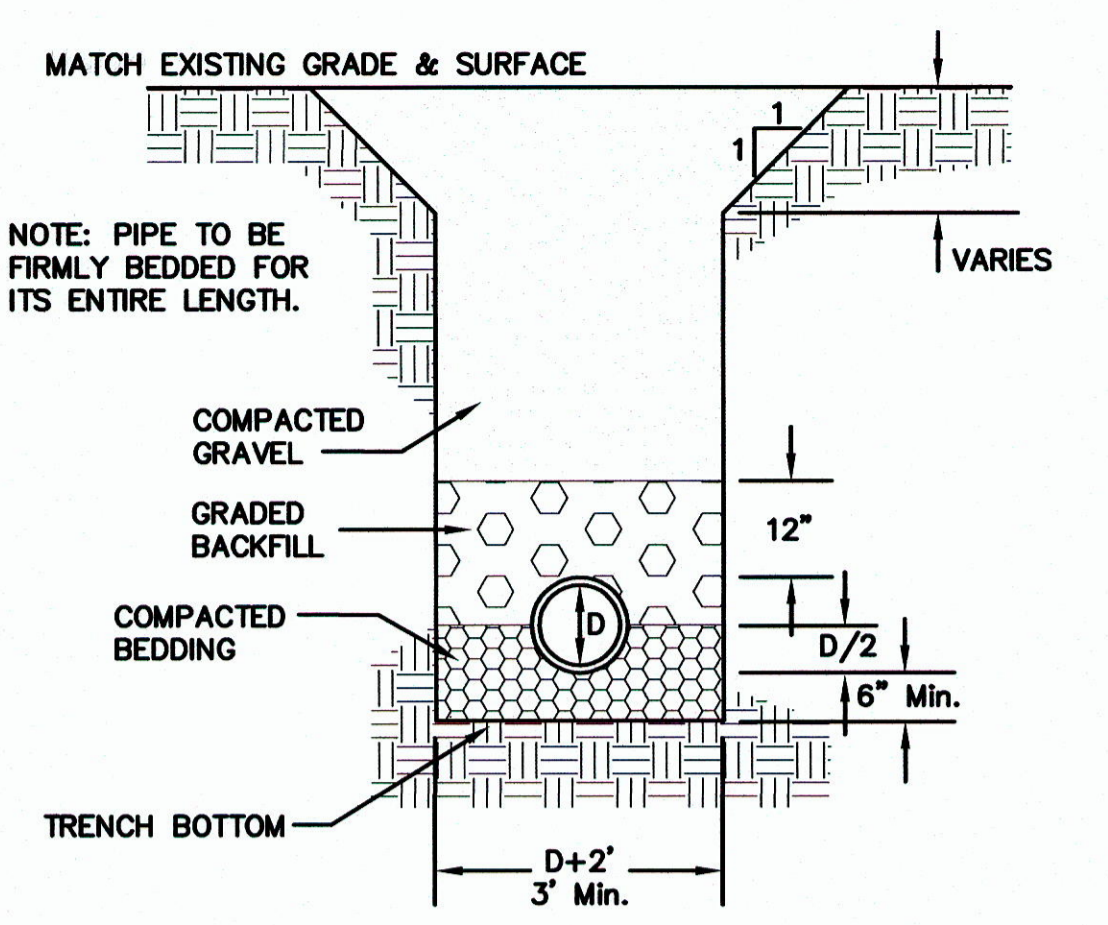
NOTE:
 1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
 2. THE COVER SHOULD BE POSITIONED OVER THE CLEANOUT/VENT PIPE.
 3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181.



PAVEMENT AND VERTICAL CONCRETE CURBING

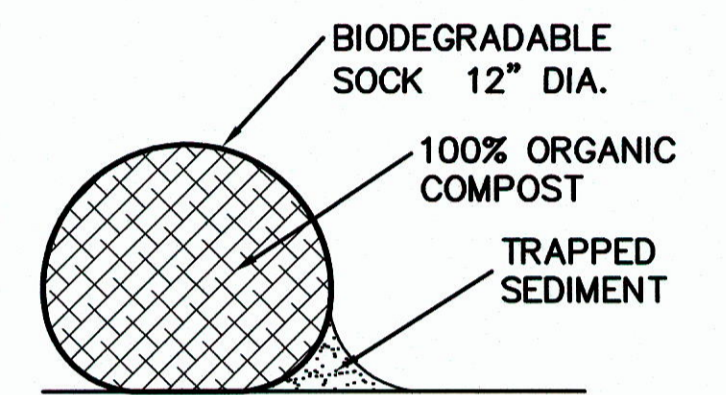
ENTRY SEDIMENTATION CONTROL MAT SECTION
 N.T.S.

NOTES:
 1. PAD SHALL BE A MINIMUM OF 20 FEET IN WIDTH.
 2. PAD SHALL CONSIST OF 4" STONE 8" IN DEPTH AND THEN TOP DRESSED WITH 4" OF 1" - 2" WASHED STONE.
 3. PAD TO BE REMOVED AND RE-CONSTRUCTED WHEN THE POND 1 INSTALLATION IS BEING COMPLETED.



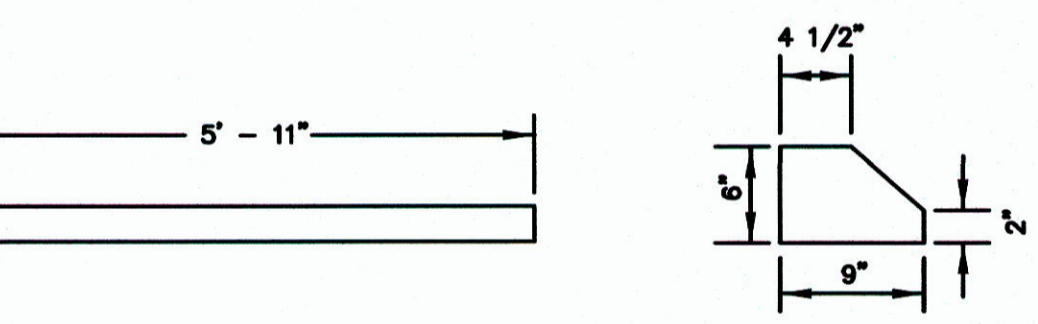
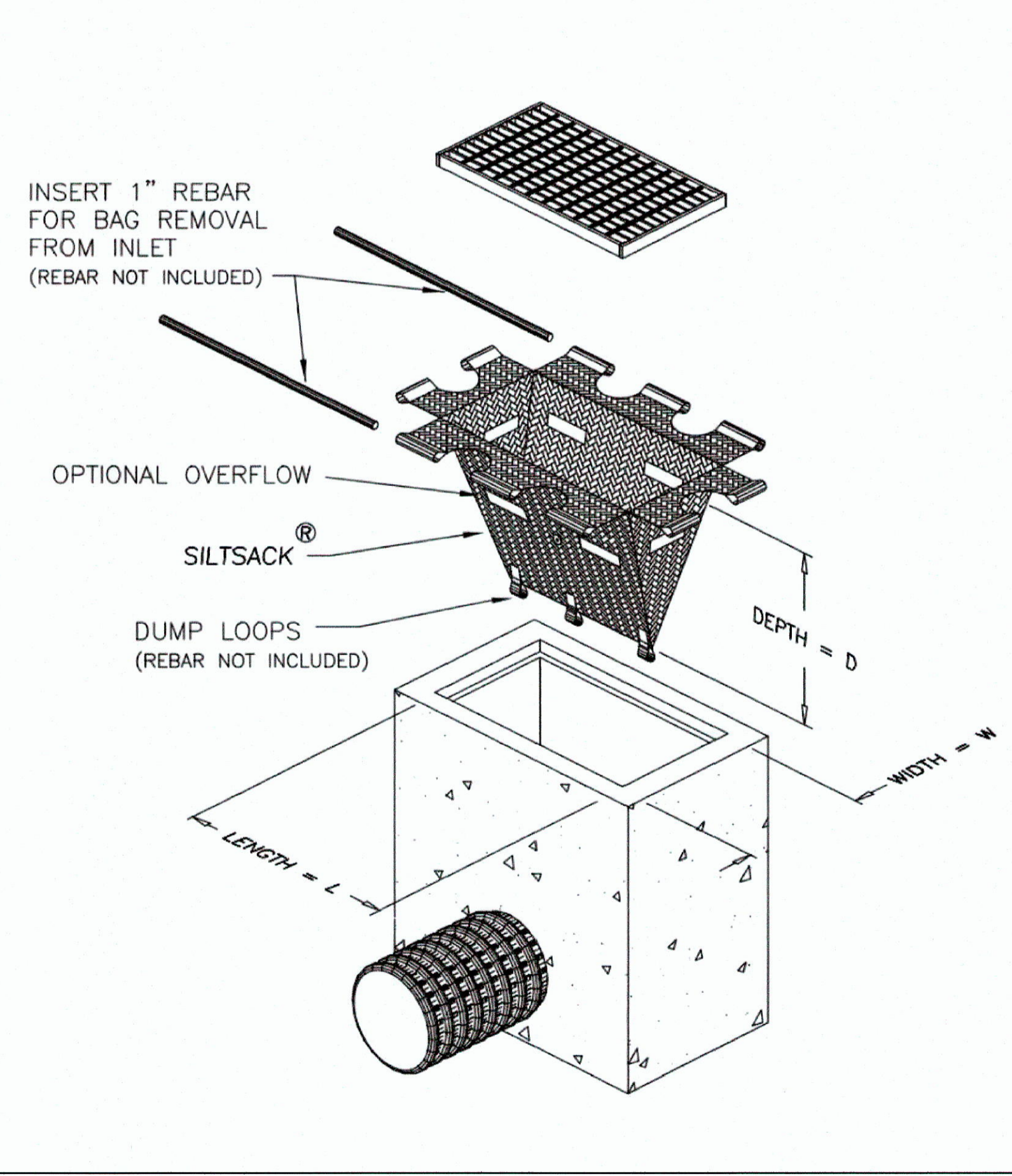
TYPE OF PIPE	RCP DRAIN	CLDI WATER	PVC SEWER	D.I. SEWER
BEDDING MATERIAL	PROV. GRAVEL	SAND	3/4" STONE	3/8" STONE
BACKFILL MATERIAL	ORD. FILL	SAND	3/4" STONE	3/8" STONE

UTILITY TRENCH DETAIL



COMPOST SOCK DETAIL

Typical Siltsack® Construction - Type B



BUMPER CURB DETAIL

BUMPER CURB SHALL BE E.F. SHEA ITEM NO. B-BBSF OR APPROVED EQUAL.

OWNER:
 CHARLEY2017, LLC
 7 MYRTLE STREET
 NORFOLK, MASSACHUSETTS

APPLICANT:
 NEW ENGLAND TREATMENT ACCESS, LLC
 5 FORGE PARKWAY
 FRANKLIN, MASSACHUSETTS

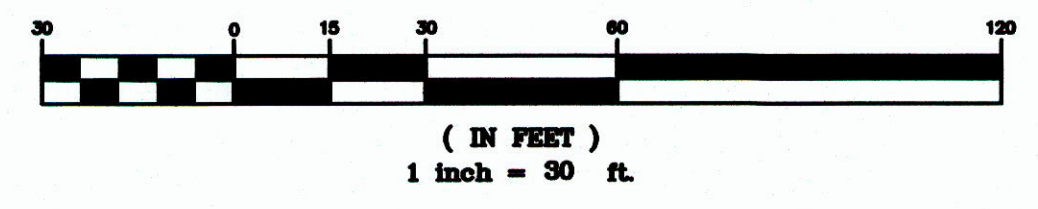
CARLOS A. QUINTAL P.E., #30812

SITE PLAN CONSTRUCTION DETAIL - 1
 162 GROVE STREET
 FRANKLIN, MASSACHUSETTS
 PREPARED FOR
 NEW ENGLAND TREATMENT ACCESS, LLC
 FRANKLIN, MASSACHUSETTS
 MAY 21, 2020
 SCALE: 1" = 30'

SITE PLAN APPROVAL REQUIRED
 FRANKLIN PLANNING BOARD

DATE

GRAPHIC SCALE

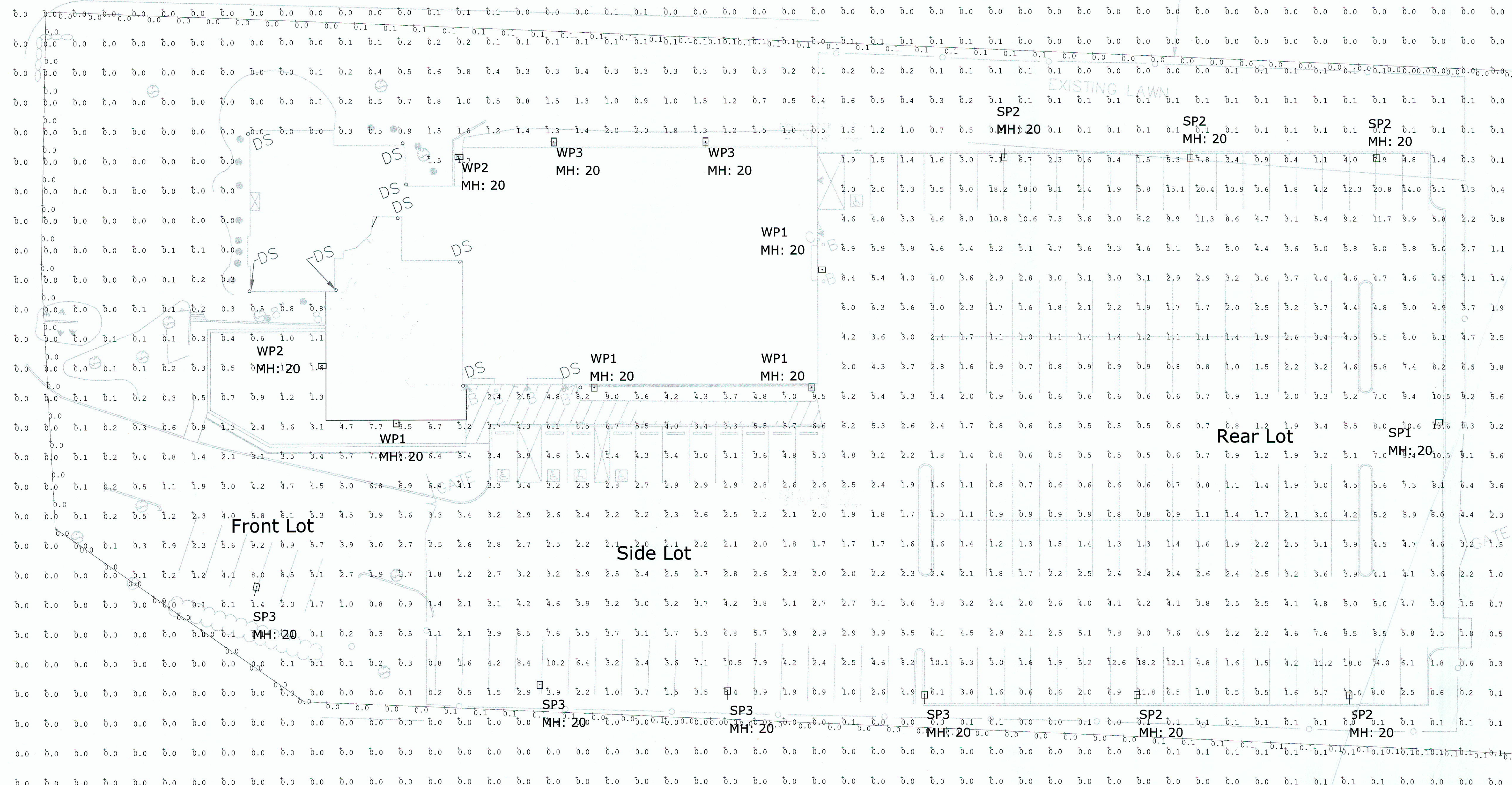


NO.	DATE	DESCRIPTION	BY

DATE	FIELD BY:	INT.
4/20		BL
5/20	CALCS BY:	RRG
5/20	DESIGNED BY:	RRG
5/20	DRAWN BY:	COMP
5/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
 850 FRANKLIN STREET SUITE 11D
 WRENTHAM, MASSACHUSETTS 02093
 508-384-6560 FAX 508-384-6566

DATE	SCALE	PROJECT	SHEET
MAY 21, 2020	1" = 30'	UC1435	7 of 9



1 Photometric Layout and Calculations
SCALE: 1:20

Symbol	Qty	Label	Description	LLF	Lum. Lumens	Lum. Watts
→	1	SP1	Visionaire - VMX-II-T4-55L-4K-UNV-AM-BZ-DIM ON -SNTS-4S-11-20-9BC-343-S1-BZ POLE	0.900	49881	400
→	5	SP2	Visionaire - VMX-II-T4-55L-4K-UNV-AM-BZ-DIM-HS ON -SNTS-4S-11-20-9BC-343-S1-BZ POLE	0.900	21756	400
→	4	SP3	Visionaire - VMX-II-T5LS-55L-4K-UNV-AM-BZ-DIM-HS ON -SNTS-4S-11-20-9BC-343-S1-BZ POLE	0.900	15400	400
→	4	WP1	Visionaire - VMS-1-T4-96LC-5-4K-BZ-DIM-BP	0.900	19653	157
→	2	WP2	Visionaire VSC-II-T4-16LC-5-4K-UNV-WM-BZ-DIM-BP	0.900	3093	26
→	2	WP3	Visionaire VSC-II-T2-16LC-5-4K-UNV-WM-BZ-DIM-BP	0.900	3135	26

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Property Line	Illuminance	Fc	0.03	0.1	0.0	N.A.	N.A.
Site Calculations	Illuminance	Fc	0.96	20.8	0.0	N.A.	N.A.
Front Lot	Illuminance	Fc	4.02	9.2	0.9	4.47	10.22
Rear Lot	Illuminance	Fc	3.92	20.8	0.4	9.80	52.00
Side Lot	Illuminance	Fc	3.37	10.5	0.5	6.74	21.00

- NOTES:**
- A. A LIGHT LOSS FACTOR OF 0.900 HAS BEEN APPLIED TO FIXTURES UNLESS OTHERWISE NOTED. REFER TO LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR AND LUMEN INFORMATION.
 - B. SEE "MH" ON LIGHTING FIXTURE TAG LOCATED ON PLAN FOR MOUNTING HEIGHT INFORMATION.
 - C. CALCULATION POINTS ARE TAKEN AT GRADE.
 - D. CALCULATION RESULTS ARE BASED ON IES STANDARDS UNLESS OTHERWISE REQUESTED.

DATE: May 20, 2014	REVISIONS	DISCUSSION	DATE
PROJECT NUMBER: 20084	1		
DRAWN BY: AM	2		
CHECKED BY: TJ	3		
APPROVED BY: GP	4		
SCALE: AS NOTED	5		
	6		
	7		



June 25, 2020

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

**Re: 162 Grove Street
Site Plan Peer Review**

Dear Mr. Padula:

BETA Group, Inc. has reviewed documents for the proposed Site Plan Approval application, "**Site Layout Plan – 162 Grove Street, Franklin, Massachusetts.**" This letter is provided to outline findings, comments, and recommendations.

BASIS OF REVIEW

BETA received the following items:

- **Site Plan & Special Permit Application**, including the following:
 - *Cover Letter*
 - *Application for Approval of a Site Plan and Special Permits*
 - *Exhibit 5: Special Permit Findings*
 - *Form P*
 - *Certificate of Ownership*
- Plans (10 Sheets) entitled **Site Plan 162 Grove Street** dated May 21, 2020 and prepared by United Consultants, Inc. of Wrentham, MA.
- **Drainage Analysis**, dated May 21, 2020 and prepared by United Consultants, Inc. of Wrentham, MA.
- **Traffic Summary**, dated May 22, 2020 and prepared by Tetra Tech of Marlborough, MA.

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

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

INTRODUCTION

The project site consists of 162 Grove Street, a vacant, developed parcel formerly used as a truck terminal (the "Site"). The parcel contains an area of 4.003 Acres and is located along the eastern side of Grove Street. The Town of Franklin Assessor's Office identifies the parcel as Map 306 Lot 3. The Site and all surrounding properties are located within the Industrial Zoning District. The parcel is also within the Marijuana Use Overlay District.

The existing Site includes a 12,800± sq. ft., one-story building. Associated site features include paved and gravel parking areas, utilities, (drainage, water, sewer, gas, and electric) fencing, and landscaping. Topography at the Site is generally sloped towards the east, and grades are typically 3% - 5%.

The applicant proposes to retain the existing building for conversion into a Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment. Associated site developments will include expansion of the existing parking area, a new addition to the existing building, concrete curb, utilities, lighting, and landscaping. Stormwater management is proposed through catch basins, proprietary treatment units, and two subsurface infiltration systems.

A portion of the project is located within an approved wellhead protection area (Zone II) and the Water Resource District. Wetland resource areas are located within the project limits and work is proposed within the buffer zone which will require obtaining an Order of Conditions from the Franklin Conservation Commission. The project is not located within a FEMA mapped 100-year flood zone or a NHESP mapped estimated habitat area of rare or endangered species. NRCS maps indicate the presence of Merrimac fine sandy loam, rated in hydrologic soil group (HSG) A, Sudbury fine sandy loam (HSG B), and Walpole fine sandy loam (HSG B/D).

FINDINGS, COMMENTS AND RECOMMENDATIONS

GENERAL COMMENTS

- G1. Provide safety fencing along the top of wall on the western end of the courtyard area that abuts the exiting walkway.
- G2. Provide typical details for proposed light poles and luminaires.
- G3. Confirm the limits of existing fence to be removed, particularly in the area of the site entrance.
- G4. Indicate where bollards are proposed.
- G5. Indicate the limits of new pavement, pavement reconstruction, or any mill/overlay.

ZONING

The Site is located within the Industrial (I) Zoning District and the Marijuana Use Overlay District. The proposed use of the Site is identified as both Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment. The proposed uses are allowed in the District via a Special Permit from the Planning Board.

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

The project site will meet the requirements for lot area, frontage, lot depth, lot width, yards, height, and impervious coverage.

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

The existing Site includes one paved access driveway from Grove Street to the west and a small parking area on the southern side of the building. The project proposes to generally retain this access route and expand the parking lot into the central portion of the lot.

Section §185-21.B.(3) describes the number of parking spaces required for residential and nonresidential buildings in the Industrial Zoning District. The parking schedule provided in the submission indicates a floor area of 8,503 sq. ft. for retailing and medical uses and 7,584 sq. ft. for warehouses. The required parking is calculated as one space per 200 sq. ft. of retail/medical uses (43 spaces) and one space per 1,000 sq. ft. for warehouse uses (6 spaces). A total of 49 spaces are required per the Bylaw and 141 spaces are proposed. With the understanding that retail marijuana uses have specific parking demands, additional commentary will be provided as part of the Traffic Review, to be provided under separate cover.

Proposed parking spaces are depicted as 19' long and 9' wide. In accordance with Massachusetts Architectural Access Board (MAAB) requirements, five parking spaces have been designed to be handicap accessible, three of which are also van accessible.

It is anticipated that the Fire Chief will review turning movements for fire equipment throughout the site.

In compliance with §185-21.C.(5), one tree must border the parking lot per every 10 parking spaces. A total of five American Elms, five Red Maples, and five White Birch trees are proposed to meet this requirement. Existing trees will also be retained near the site entrance.

- P1. Clarify the limits of proposed curb adjacent to the 8' wide walkway and if curb breaks/ramps are required. It is unclear if the walkway is intended to be raised or flush with the surrounding pavement.
- P2. Clarify if the proposed walkway will be reconstructed with concrete as shown on the Courtyard Area Detail or will remain bituminous concrete.
- P3. Indicate if an accessible route is provided internally for the northwesterly portion of the existing building. The walkway connecting to the front of this building includes a set of stairs.

SIDEWALKS (§185-28)

The project is located within the Industrial Zoning District and is not required to provide sidewalks along the street frontage. There are no existing sidewalks on Grove Street in proximity to the project.

CURBING (§185-29)

The project proposes the use of concrete curbing within the Grove Street right-of-way and along the majority of parking areas. Cape cod berm is proposed to remain along the southern side of existing parking areas.

- C1. Revise the radius curb within the Grove Street right-of-way to be granite.

- C2. Recommend for the Board to discuss their preference for the use of vertical curb that is proposed to replace two short segments of existing Cape Cod berm along the south side of the site entrance.

SITE PLAN REVIEW (§185-31)

The proposed development is subject to Site Plan Review and must comply with the requirements of this section.

- S1. Include abutting land uses and zoning information on the Locus Map (§185-31.C.(3)(d)).
- S2. Indicate proposed snow storage locations on the plans (§185-31.C.(3)(i)).
- S3. Provide sight line information, including intersection sight distance, at the proposed driveway egress (§185-31.C.(3)(t)).
- S4. Depict existing tree line and limits of clearing on the plans, as applicable (§185-31.C.(3)(u)).

SCREENING (§185-35)

The project proposes outdoor parking for 10 or more cars, which must be screened from adjacent residential districts or uses from which they would otherwise be visible. The Site is surrounded by lots zoned as Industrial, and it does not appear that the project will be visible from any residential use; therefore, screening is unnecessary.

WATER RESOURCES DISTRICT (§185-40)

The Site is partially located within the Water Resources District due to the presence of a Zone II Wellhead Protection Area. This portion of the Site includes the eastern end of the proposed parking lot.

- WR1. Confirm the estimated sewage flow for the on-site disposal system does not exceed 110 gallons per 10,000 sq. ft. of lot area (§185-40.D.(1)(i)).
- WR2. Section §185-40.D.(1)(l)(ii) requires that the proposed groundwater recharge efforts must be approved by a hydrogeologist; however, provided that the stormwater management system is revised to fully comply with the Massachusetts Stormwater Management Standards no adverse impacts to groundwater are anticipated as a result of the project. BETA defers to the preference of the Board to require approval by a hydrogeologist.
- WR3. Revise design to direct all new impervious areas to on-site recharge systems (§185-40.E.(4)). BETA notes that this requirement can be waived following consultation with, and approval from the Conservation Commission and the Building Inspector if recharge is determined to be infeasible.
- WR4. Note that any fill placed in quantity greater than 15 yards must be certified in accordance with §185-40.E.(5).

UTILITIES

Proposed utilities include drainage, gas, and fire water services. Existing domestic water service, overhead electric, and on-site septic system will be retained. Detailed review of water and sewer utilities is anticipated to be provided by the DPW and Fire Chief (e.g. for fire hydrants), as applicable.

- U1. Indicate size/material of existing water services, if available.

- U2. Clarify if vehicles will be able to access the warehouse internally. If so, floor drains and gas traps may be required.

STORMWATER MANAGEMENT

The project proposes to direct runoff from impervious areas into existing and new closed drainage systems comprised of roof leaders, deep sump catch basins with hoods, manholes, two water quality units, and two subsurface infiltration systems. Overflows from the proposed systems will be directed into an existing wetland system on the eastern portion of the site through an existing outfall.

GENERAL

- SW1. As part of the MS4 regulations, the Town is proposing revisions to Chapter 153, Stormwater Management. Once the revisions are approved (date not yet determined) they will be applicable to any project that is subject to the Bylaw and has not yet been approved. BETA recommends the designer review the proposed Bylaw revisions to evaluate if additional stormwater provisions or treatment may be required.
- SW2. Recommend labeling which drainage structures and pipes are to be removed/abandoned.
- SW3. Provide detail for CDS unit.
- SW4. Provide detailed grading in the area of the dumpster pad to ensure stormwater flow is not directed through the enclosure, bypassing the stormwater management system.

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS:

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

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

The project does not propose any new untreated stormwater discharges to wetlands. One existing outfall will be retained which discharges into the wetland areas to the east.

- SW5. Indicate if there are any existing erosion control issues at the existing outfall.

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

The project proposes an increase in impervious area and will use subsurface infiltration systems to mitigate increases in post-development peak discharge rates and total runoff volumes.

- SW6. Clarify how Watershed XR-7 and R15 are being conveyed into the drainage systems.
- SW7. Revise watershed R15 to include any upgradient areas that will drain into the drainage system and proposed infiltration systems.
- SW8. Review grading as it relates to the contributing areas for CB11 and CB12. BETA estimates that less area is directed to CB11 (and therefore the infiltration system) than indicated in the HydroCAD model.

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

NRCS maps indicate the presence of Merrimac fine sandy loam, rated in hydrologic soil group (HSG) A, Sudbury fine sandy loam (HSG B), and Walpole fine sandy loam (HSG B/D). The infiltration systems have been designed to provide a recharge volume in excess of that required for the net new impervious area. Test pit logs indicate the presence of sand, silty sand, and gravel throughout the Site.

SW9. As no mottling was observed in the test pits, a Frimpter Analysis should be conducted to adjust observed weeping to an estimated seasonal high groundwater elevation. BETA estimates the separation to ESHGW from the bottom of the proposed infiltration structures is approximately 2+ feet.

SW10. Provide mounding analysis for proposed infiltration systems as separation to groundwater is less than 4 feet.

SW11. Revise exfiltration elevation of subsurface infiltration systems within HydroCAD models to be the bottom of each basin.

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

The project proposes to direct runoff from new impervious areas to proposed treatment trains that include a combination of deep sump catch basins, water quality units, and subsurface infiltration systems. As the Site is partially within a Zone II Wellhead Protection Area, 44% pretreatment has been provided prior to infiltration.

SW12. Review grading as it relates to the contributing impervious areas for the CDS and Stormceptor calculations.

SW13. Provide documentation of third-party testing that demonstrates the 75% TSS removal rate for the CDS unit can be achieved.

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

The project does not qualify as a Land Use with Higher Potential Pollutant Load (LUHPPL).

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

The project includes discharges to a Zone II Wellhead Protection Area, a critical area. The proposed treatment trains are consistent with the recommendations of MassDEP for discharges to Zone II wellhead protection areas. The required 44% pretreatment prior to discharge to infiltration structures is also provided.

SW14. Revise narrative to indicate the presence of a critical area.

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

The project qualifies as a mix of new and redevelopment. New impervious areas will comply fully with the Stormwater Management Standards, while existing areas to be retained will primarily rely on existing stormwater management systems.

Mr. Anthony Padula, Chairman

June 25, 2020

Page 7 of 7

SW15. Provide a brief narrative or documentation on how the project will improve the existing conditions for redevelopment areas.

SW16. Consider relocating the proposed CDS water quality unit to the location of proposed DMH10, if practicable.

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

The project as currently depicted will disturb greater than one acre of land; therefore, a Notice of Intent with EPA and a Stormwater Pollution Prevention Plan (SWPPP) is required. The project plans indicate the use of perimeter compost sock, entry sedimentation control mat, and catch basin inlet protection. The proposed erosion and sedimentation controls are anticipated to be adequate for the site.

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

A Long-Term Operation and Maintenance (O&M) Plan has been provided.

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

The Stormwater Management Report indicates that no illicit discharges are proposed, and a signed Illicit Discharge Compliance Statement will be provided prior to construction.

SW17. Resolve discrepancy between stormwater narrative and stormwater checklist regarding inclusion of the Illicit Discharge Compliance Statement.

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

Very truly yours,
BETA Group, Inc.



Matthew J. Crowley, PE
Project Manager



Stephen Borgatti
Staff Engineer

cc: Amy Love, Planner
Jen Delmore, Conservation Agent



TOWN OF FRANKLIN

DEPARTMENT OF PUBLIC WORKS

Franklin Municipal Building
257 Fisher Street
Franklin, MA 02038-3026

June 25, 2020

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

RE: Site Plan and Special Permit – #162 Grove St

Dear Mr. Chairman and Members:

We have reviewed the submitted materials for the subject project and offer the following limited comments:

1. Applications that will need to be filed with the Franklin Department of Public Works may include, but are not necessarily limited to a Water Renewal Permit, and a Soil Erosion and Sediment Control Permit.
2. We recommend installing vertical granite curb at the driveway radius within the town right-of-way.
3. It appears that a portion of the proposed parking lot is being extended and some other areas are being reconstructed. Please identify limits of paving on the plans and if some area are to remain in their existing condition.
4. It is unclear what is being proposed for the 15" RCP between existing DMH #2 and 3.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Michael Maglio, P.E.
Town Engineer



**FRANKLIN PLANNING & COMMUNITY
DEVELOPMENT**

355 EAST CENTRAL STREET, ROOM 120
FRANKLIN, MA 02038-1352
TELEPHONE: 508-520-4907

MEMORANDUM

DATE: June 24, 2020
TO: Franklin Planning Board
FROM: Department of Planning and Community Development
RE: 162 Grove Street – NETA
Special Permit & Site Plan Modification

The DPCD has reviewed the above referenced Special Permit & Site Plan Modification application for the Monday, June 29, 2020 Planning Board meeting and offers the following commentary:

General:

1. The site is approximately 4 acres and is located at 162 Grove Street in the Industrial Zoning and Marijuana Overlay District; Assessor's Map 306 Lot 003.
2. Applicant has filed for a Special Permit: To allow Non-medical marijuana facility under 185 Attachment 3, Part II Section 2.23
3. The footprint of the existing buildings is approximately 12,421 square feet. NETA proposes to expand the existing buildings, as shown on the proposed Site Plans and to convert the existing buildings into approximately 3,856 square feet of retail space, approximately 4,647 square feet of office space, and approximately 7,584 square feet of warehouse space. There will be no product manufacturing, testing or research operations at the Facility.
4. Letters were received from the Fire Department, Town Engineer and BETA.
5. Applicant has filed with the Conservation Commission.

Records on File:

1. Application for Site Plan and Special Permit
2. Certificate of Ownership
3. Special Permit Criteria
4. Abutters certified mailing
5. Overview of Proposed project and Special Permit Findings
6. Site Plans
7. Traffic Study
8. Stormwater Management Plans

Comments:

1. The Applicant is in the process of submitting a revised Special Permit application to reference the correct section of the Zoning By-Law.
2. The applicant has submitted and received a recommendation for a sign, however the sign location is not shown on the plans.
3. The Applicant is providing 141 parking spaces for site to include employee and customer parking, where 52 spaces are required.
4. Due to COVID-19 regulations, the applicant may want to consider adding a queuing line outside the building. The plans show for a patio and sidewalk along the building. How many people can wait outside standing 6 feet apart?
5. Due to COVID-19 regulations, is there an entrance only and exit only doors provided? Show on the plans how the customers will enter and exit the building.
6. A traffic study has been submitted. BETA is in the process of reviewing the traffic study.

DPCD has no further comments.



FRANKLIN FIRE DEPARTMENT

TO : DPCD

FROM : J. S. BARBIERI, DEPUTY FIRE CHIEF

DATE : 27 MAY 2020

RE : SPECIAL PERMIT & SITE PLAN – 162 GROVE ST.

Thank you for the opportunity to review the above referenced plan.

We have met with the proponent on the site. The proposed addition does not affect our access to the property.

Accordingly, we have no additional comments at this time.

Please contact me should you have any question or require any additional information.

cc: file

Appendix A
Traffic Count Data



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002

PDI File #: 207444 ATR-A

Count Date:
Thursday, February 6, 2020

Volume

SB					NB					Combined							
Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min			
12:00 AM	4		12:00 PM	56	12:00 AM	3		12:00 PM	45	12:00 AM	7		12:00 PM	101			
12:15 AM	4		12:15 PM	52	12:15 AM	2		12:15 PM	35	12:15 AM	6		12:15 PM	87			
12:30 AM	7		12:30 PM	39	12:30 AM	3		12:30 PM	43	12:30 AM	10		12:30 PM	82			
12:45 AM	5	20	12:45 PM	51	198	12:45 AM	1	9	12:45 PM	72	195	12:45 AM	6	29	12:45 PM	123	393
1:00 AM	4		1:00 PM	26		1:00 AM	0		1:00 PM	60		1:00 AM	4		1:00 PM	86	
1:15 AM	3		1:15 PM	44		1:15 AM	1		1:15 PM	40		1:15 AM	4		1:15 PM	84	
1:30 AM	1		1:30 PM	41		1:30 AM	1		1:30 PM	45		1:30 AM	2		1:30 PM	86	
1:45 AM	1	9	1:45 PM	58	169	1:45 AM	1	3	1:45 PM	41	186	1:45 AM	2	12	1:45 PM	99	355
2:00 AM	0		2:00 PM	61		2:00 AM	3		2:00 PM	53		2:00 AM	3		2:00 PM	114	
2:15 AM	0		2:15 PM	85		2:15 AM	1		2:15 PM	28		2:15 AM	1		2:15 PM	113	
2:30 AM	1		2:30 PM	73		2:30 AM	7		2:30 PM	53		2:30 AM	8		2:30 PM	126	
2:45 AM	1	2	2:45 PM	65	284	2:45 AM	5	16	2:45 PM	54	188	2:45 AM	6	18	2:45 PM	119	472
3:00 AM	4		3:00 PM	94		3:00 AM	1		3:00 PM	42		3:00 AM	5		3:00 PM	136	
3:15 AM	2		3:15 PM	86		3:15 AM	3		3:15 PM	54		3:15 AM	5		3:15 PM	140	
3:30 AM	4		3:30 PM	97		3:30 AM	2		3:30 PM	38		3:30 AM	6		3:30 PM	135	
3:45 AM	8	18	3:45 PM	82	359	3:45 AM	4	10	3:45 PM	51	185	3:45 AM	12	28	3:45 PM	133	544
4:00 AM	3		4:00 PM	130		4:00 AM	6		4:00 PM	51		4:00 AM	9		4:00 PM	181	
4:15 AM	3		4:15 PM	100		4:15 AM	15		4:15 PM	63		4:15 AM	18		4:15 PM	163	
4:30 AM	4		4:30 PM	126		4:30 AM	12		4:30 PM	72		4:30 AM	16		4:30 PM	198	
4:45 AM	18	28	4:45 PM	118	474	4:45 AM	11	44	4:45 PM	65	251	4:45 AM	29	72	4:45 PM	183	725
5:00 AM	5		5:00 PM	139		5:00 AM	13		5:00 PM	55		5:00 AM	18		5:00 PM	194	
5:15 AM	9		5:15 PM	112		5:15 AM	21		5:15 PM	57		5:15 AM	30		5:15 PM	169	
5:30 AM	8		5:30 PM	81		5:30 AM	31		5:30 PM	53		5:30 AM	39		5:30 PM	134	
5:45 AM	11	33	5:45 PM	89	421	5:45 AM	40	105	5:45 PM	52	217	5:45 AM	51	138	5:45 PM	141	638
6:00 AM	15		6:00 PM	84		6:00 AM	53		6:00 PM	45		6:00 AM	68		6:00 PM	129	
6:15 AM	19		6:15 PM	55		6:15 AM	70		6:15 PM	34		6:15 AM	89		6:15 PM	89	
6:30 AM	20		6:30 PM	71		6:30 AM	100		6:30 PM	42		6:30 AM	120		6:30 PM	113	
6:45 AM	31	85	6:45 PM	43	253	6:45 AM	135	358	6:45 PM	32	153	6:45 AM	166	443	6:45 PM	75	406
7:00 AM	26		7:00 PM	63		7:00 AM	145		7:00 PM	42		7:00 AM	171		7:00 PM	105	
7:15 AM	29		7:15 PM	35		7:15 AM	151		7:15 PM	37		7:15 AM	180		7:15 PM	72	
7:30 AM	49		7:30 PM	40		7:30 AM	121		7:30 PM	20		7:30 AM	170		7:30 PM	60	
7:45 AM	37	141	7:45 PM	30	168	7:45 AM	122	539	7:45 PM	23	122	7:45 AM	159	680	7:45 PM	53	290
8:00 AM	42		8:00 PM	48		8:00 AM	91		8:00 PM	10		8:00 AM	133		8:00 PM	58	
8:15 AM	47		8:15 PM	38		8:15 AM	92		8:15 PM	18		8:15 AM	139		8:15 PM	56	
8:30 AM	41		8:30 PM	25		8:30 AM	78		8:30 PM	15		8:30 AM	119		8:30 PM	40	
8:45 AM	40	170	8:45 PM	28	139	8:45 AM	94	355	8:45 PM	9	52	8:45 AM	134	525	8:45 PM	37	191
9:00 AM	33		9:00 PM	19		9:00 AM	70		9:00 PM	11		9:00 AM	103		9:00 PM	30	
9:15 AM	32		9:15 PM	22		9:15 AM	48		9:15 PM	9		9:15 AM	80		9:15 PM	31	
9:30 AM	39		9:30 PM	26		9:30 AM	43		9:30 PM	10		9:30 AM	82		9:30 PM	36	
9:45 AM	24	128	9:45 PM	8	75	9:45 AM	47	208	9:45 PM	13	43	9:45 AM	71	336	9:45 PM	21	118
10:00 AM	34		10:00 PM	21		10:00 AM	41		10:00 PM	8		10:00 AM	75		10:00 PM	29	
10:15 AM	34		10:15 PM	14		10:15 AM	34		10:15 PM	6		10:15 AM	68		10:15 PM	20	
10:30 AM	36		10:30 PM	5		10:30 AM	35		10:30 PM	4		10:30 AM	71		10:30 PM	9	
10:45 AM	38	142	10:45 PM	5	45	10:45 AM	43	153	10:45 PM	4	22	10:45 AM	81	295	10:45 PM	9	67
11:00 AM	34		11:00 PM	5		11:00 AM	48		11:00 PM	3		11:00 AM	82		11:00 PM	8	
11:15 AM	42		11:15 PM	5		11:15 AM	25		11:15 PM	2		11:15 AM	67		11:15 PM	7	
11:30 AM	38		11:30 PM	0		11:30 AM	44		11:30 PM	1		11:30 AM	82		11:30 PM	1	
11:45 AM	38	152	11:45 PM	5	15	11:45 AM	40	157	11:45 PM	0	6	11:45 AM	78	309	11:45 PM	5	21
Total	928			2600		Total	1957			1620		Total	2885			4220	
Percent	26.30%			73.70%		Percent	54.71%			45.29%		Percent	40.61%			59.39%	
Day Total				3528		Day Total				3577		Day Total				7105	
Peak Hour	11:45 AM			4:30 PM		Peak Hour	6:45 AM			4:15 PM		Peak Hour	6:45 AM			4:30 PM	
Volume	185			495		Volume	552			255		Volume	687			744	
P.H.F.	0.826			0.890		P.H.F.	0.914			0.885		P.H.F.	0.954			0.939	



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

Grove Street

south of # 162 Driveway

City, State: Franklin, MA

Client: TetraTech/ S. Wood

Site Code: 143-276845-20002

PDI File #: 207444 ATR-A

Count Date:

Friday, February 7, 2020

Volume

SB					NB					Combined							
Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min			
12:00 AM	4		12:00 PM	65	12:00 AM	4		12:00 PM	51	12:00 AM	8		12:00 PM	116			
12:15 AM	2		12:15 PM	58	12:15 AM	5		12:15 PM	54	12:15 AM	7		12:15 PM	112			
12:30 AM	8		12:30 PM	47	12:30 AM	1		12:30 PM	47	12:30 AM	9		12:30 PM	94			
12:45 AM	7	21	12:45 PM	44	214	12:45 AM	3	13	12:45 PM	58	210	12:45 AM	10	34	12:45 PM	102	424
1:00 AM	1		1:00 PM	60		1:00 AM	2		1:00 PM	62		1:00 AM	3		1:00 PM	122	
1:15 AM	5		1:15 PM	56		1:15 AM	0		1:15 PM	37		1:15 AM	5		1:15 PM	93	
1:30 AM	2		1:30 PM	54		1:30 AM	3		1:30 PM	52		1:30 AM	5		1:30 PM	106	
1:45 AM	2	10	1:45 PM	45	215	1:45 AM	0	5	1:45 PM	47	198	1:45 AM	2	15	1:45 PM	92	413
2:00 AM	3		2:00 PM	55		2:00 AM	2		2:00 PM	46		2:00 AM	5		2:00 PM	101	
2:15 AM	0		2:15 PM	80		2:15 AM	2		2:15 PM	40		2:15 AM	2		2:15 PM	120	
2:30 AM	1		2:30 PM	67		2:30 AM	4		2:30 PM	58		2:30 AM	5		2:30 PM	125	
2:45 AM	3	7	2:45 PM	74	276	2:45 AM	6	14	2:45 PM	45	189	2:45 AM	9	21	2:45 PM	119	465
3:00 AM	0		3:00 PM	92		3:00 AM	4		3:00 PM	46		3:00 AM	4		3:00 PM	138	
3:15 AM	3		3:15 PM	93		3:15 AM	1		3:15 PM	64		3:15 AM	4		3:15 PM	157	
3:30 AM	1		3:30 PM	121		3:30 AM	2		3:30 PM	50		3:30 AM	3		3:30 PM	171	
3:45 AM	5	9	3:45 PM	89	395	3:45 AM	2	9	3:45 PM	55	215	3:45 AM	7	18	3:45 PM	144	610
4:00 AM	3		4:00 PM	105		4:00 AM	4		4:00 PM	62		4:00 AM	7		4:00 PM	167	
4:15 AM	7		4:15 PM	82		4:15 AM	6		4:15 PM	77		4:15 AM	13		4:15 PM	159	
4:30 AM	6		4:30 PM	97		4:30 AM	11		4:30 PM	68		4:30 AM	17		4:30 PM	165	
4:45 AM	13	29	4:45 PM	100	384	4:45 AM	11	32	4:45 PM	71	278	4:45 AM	24	61	4:45 PM	171	662
5:00 AM	10		5:00 PM	117		5:00 AM	19		5:00 PM	48		5:00 AM	29		5:00 PM	165	
5:15 AM	13		5:15 PM	98		5:15 AM	17		5:15 PM	46		5:15 AM	30		5:15 PM	144	
5:30 AM	11		5:30 PM	83		5:30 AM	22		5:30 PM	59		5:30 AM	33		5:30 PM	142	
5:45 AM	19	53	5:45 PM	93	391	5:45 AM	37	95	5:45 PM	56	209	5:45 AM	56	148	5:45 PM	149	600
6:00 AM	14		6:00 PM	79		6:00 AM	54		6:00 PM	42		6:00 AM	68		6:00 PM	121	
6:15 AM	25		6:15 PM	55		6:15 AM	79		6:15 PM	56		6:15 AM	104		6:15 PM	111	
6:30 AM	12		6:30 PM	64		6:30 AM	85		6:30 PM	43		6:30 AM	97		6:30 PM	107	
6:45 AM	31	82	6:45 PM	47	245	6:45 AM	141	359	6:45 PM	37	178	6:45 AM	172	441	6:45 PM	84	423
7:00 AM	32		7:00 PM	41		7:00 AM	135		7:00 PM	29		7:00 AM	167		7:00 PM	70	
7:15 AM	44		7:15 PM	43		7:15 AM	131		7:15 PM	32		7:15 AM	175		7:15 PM	75	
7:30 AM	41		7:30 PM	49		7:30 AM	129		7:30 PM	31		7:30 AM	170		7:30 PM	80	
7:45 AM	36	153	7:45 PM	30	163	7:45 AM	121	516	7:45 PM	32	124	7:45 AM	157	669	7:45 PM	62	287
8:00 AM	45		8:00 PM	39		8:00 AM	81		8:00 PM	12		8:00 AM	126		8:00 PM	51	
8:15 AM	46		8:15 PM	32		8:15 AM	89		8:15 PM	20		8:15 AM	135		8:15 PM	52	
8:30 AM	45		8:30 PM	23		8:30 AM	82		8:30 PM	12		8:30 AM	127		8:30 PM	35	
8:45 AM	41	177	8:45 PM	22	116	8:45 AM	86	338	8:45 PM	20	64	8:45 AM	127	515	8:45 PM	42	180
9:00 AM	33		9:00 PM	17		9:00 AM	84		9:00 PM	22		9:00 AM	117		9:00 PM	39	
9:15 AM	40		9:15 PM	11		9:15 AM	56		9:15 PM	3		9:15 AM	96		9:15 PM	14	
9:30 AM	31		9:30 PM	25		9:30 AM	51		9:30 PM	3		9:30 AM	82		9:30 PM	28	
9:45 AM	39	143	9:45 PM	28	81	9:45 AM	57	248	9:45 PM	5	33	9:45 AM	96	391	9:45 PM	33	114
10:00 AM	41		10:00 PM	21		10:00 AM	48		10:00 PM	10		10:00 AM	89		10:00 PM	31	
10:15 AM	45		10:15 PM	10		10:15 AM	51		10:15 PM	4		10:15 AM	96		10:15 PM	14	
10:30 AM	53		10:30 PM	15		10:30 AM	53		10:30 PM	16		10:30 AM	106		10:30 PM	31	
10:45 AM	42	181	10:45 PM	10	56	10:45 AM	54	206	10:45 PM	3	33	10:45 AM	96	387	10:45 PM	13	89
11:00 AM	73		11:00 PM	5		11:00 AM	56		11:00 PM	4		11:00 AM	129		11:00 PM	9	
11:15 AM	60		11:15 PM	7		11:15 AM	58		11:15 PM	2		11:15 AM	118		11:15 PM	9	
11:30 AM	59		11:30 PM	9		11:30 AM	44		11:30 PM	2		11:30 AM	103		11:30 PM	11	
11:45 AM	74	266	11:45 PM	5	26	11:45 AM	54	212	11:45 PM	3	11	11:45 AM	128	478	11:45 PM	8	37
Total	1131			2562		Total	2047			1742		Total	3178			4304	
Percent	30.63%			69.37%		Percent	54.02%			45.98%		Percent	42.48%			57.52%	
Day Total				3693		Day Total				3789		Day Total				7482	
Peak Hour	11:00 AM			4:30 PM		Peak Hour	6:45 AM			4:00 PM		Peak Hour	6:45 AM			4:00 PM	
Volume	266			412		Volume	536			278		Volume	684			662	
P.H.F.	0.899			0.880		P.H.F.	0.950			0.903		P.H.F.	0.977			0.968	



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002

PDI File #: 207444 ATR-A

Count Date:
Saturday, February 8, 2020

Volume

SB					NB					Combined							
Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min	Start Time:	15 min	60 min	15 min	60 min			
12:00 AM	2		12:00 PM	82	12:00 AM	1		12:00 PM	72	12:00 AM	3		12:00 PM	154			
12:15 AM	5		12:15 PM	75	12:15 AM	2		12:15 PM	74	12:15 AM	7		12:15 PM	149			
12:30 AM	6		12:30 PM	69	12:30 AM	1		12:30 PM	71	12:30 AM	7		12:30 PM	140			
12:45 AM	3	16	12:45 PM	67	293	12:45 AM	2	6	12:45 PM	62	279	12:45 AM	5	22	12:45 PM	129	572
1:00 AM	3		1:00 PM	58		1:00 AM	0		1:00 PM	53		1:00 AM	3		1:00 PM	111	
1:15 AM	1		1:15 PM	60		1:15 AM	1		1:15 PM	62		1:15 AM	2		1:15 PM	122	
1:30 AM	2		1:30 PM	58		1:30 AM	2		1:30 PM	37		1:30 AM	4		1:30 PM	95	
1:45 AM	2	8	1:45 PM	49	225	1:45 AM	2	5	1:45 PM	41	193	1:45 AM	4	13	1:45 PM	90	418
2:00 AM	2		2:00 PM	58		2:00 AM	2		2:00 PM	44		2:00 AM	4		2:00 PM	102	
2:15 AM	0		2:15 PM	61		2:15 AM	1		2:15 PM	54		2:15 AM	1		2:15 PM	115	
2:30 AM	1		2:30 PM	64		2:30 AM	0		2:30 PM	52		2:30 AM	1		2:30 PM	116	
2:45 AM	0	3	2:45 PM	56	239	2:45 AM	0	3	2:45 PM	73	223	2:45 AM	0	6	2:45 PM	129	462
3:00 AM	4		3:00 PM	78		3:00 AM	2		3:00 PM	39		3:00 AM	6		3:00 PM	117	
3:15 AM	4		3:15 PM	62		3:15 AM	3		3:15 PM	54		3:15 AM	7		3:15 PM	116	
3:30 AM	0		3:30 PM	55		3:30 AM	2		3:30 PM	31		3:30 AM	2		3:30 PM	86	
3:45 AM	0	8	3:45 PM	56	251	3:45 AM	2	9	3:45 PM	46	170	3:45 AM	2	17	3:45 PM	102	421
4:00 AM	1		4:00 PM	47		4:00 AM	1		4:00 PM	28		4:00 AM	2		4:00 PM	75	
4:15 AM	3		4:15 PM	61		4:15 AM	7		4:15 PM	44		4:15 AM	10		4:15 PM	105	
4:30 AM	5		4:30 PM	56		4:30 AM	3		4:30 PM	43		4:30 AM	8		4:30 PM	99	
4:45 AM	3	12	4:45 PM	50	214	4:45 AM	4	15	4:45 PM	50	165	4:45 AM	7	27	4:45 PM	100	379
5:00 AM	3		5:00 PM	52		5:00 AM	5		5:00 PM	37		5:00 AM	8		5:00 PM	89	
5:15 AM	4		5:15 PM	42		5:15 AM	6		5:15 PM	41		5:15 AM	10		5:15 PM	83	
5:30 AM	4		5:30 PM	48		5:30 AM	12		5:30 PM	35		5:30 AM	16		5:30 PM	83	
5:45 AM	5	16	5:45 PM	32	174	5:45 AM	19	42	5:45 PM	41	154	5:45 AM	24	58	5:45 PM	73	328
6:00 AM	7		6:00 PM	41		6:00 AM	20		6:00 PM	26		6:00 AM	27		6:00 PM	67	
6:15 AM	3		6:15 PM	40		6:15 AM	22		6:15 PM	34		6:15 AM	25		6:15 PM	74	
6:30 AM	5		6:30 PM	35		6:30 AM	37		6:30 PM	28		6:30 AM	42		6:30 PM	63	
6:45 AM	13	28	6:45 PM	20	136	6:45 AM	32	111	6:45 PM	32	120	6:45 AM	45	139	6:45 PM	52	256
7:00 AM	19		7:00 PM	20		7:00 AM	29		7:00 PM	24		7:00 AM	48		7:00 PM	44	
7:15 AM	22		7:15 PM	28		7:15 AM	25		7:15 PM	17		7:15 AM	47		7:15 PM	45	
7:30 AM	20		7:30 PM	22		7:30 AM	32		7:30 PM	13		7:30 AM	52		7:30 PM	35	
7:45 AM	14	75	7:45 PM	24	94	7:45 AM	57	143	7:45 PM	18	72	7:45 AM	71	218	7:45 PM	42	166
8:00 AM	20		8:00 PM	27		8:00 AM	34		8:00 PM	21		8:00 AM	54		8:00 PM	48	
8:15 AM	33		8:15 PM	23		8:15 AM	47		8:15 PM	11		8:15 AM	80		8:15 PM	34	
8:30 AM	20		8:30 PM	20		8:30 AM	35		8:30 PM	8		8:30 AM	55		8:30 PM	28	
8:45 AM	32	105	8:45 PM	17	87	8:45 AM	63	179	8:45 PM	11	51	8:45 AM	95	284	8:45 PM	28	138
9:00 AM	39		9:00 PM	17		9:00 AM	46		9:00 PM	9		9:00 AM	85		9:00 PM	26	
9:15 AM	35		9:15 PM	26		9:15 AM	68		9:15 PM	7		9:15 AM	103		9:15 PM	33	
9:30 AM	45		9:30 PM	13		9:30 AM	53		9:30 PM	9		9:30 AM	98		9:30 PM	22	
9:45 AM	50	169	9:45 PM	11	67	9:45 AM	50	217	9:45 PM	2	27	9:45 AM	100	386	9:45 PM	13	94
10:00 AM	46		10:00 PM	12		10:00 AM	52		10:00 PM	3		10:00 AM	98		10:00 PM	15	
10:15 AM	38		10:15 PM	17		10:15 AM	38		10:15 PM	9		10:15 AM	76		10:15 PM	26	
10:30 AM	43		10:30 PM	13		10:30 AM	47		10:30 PM	12		10:30 AM	90		10:30 PM	25	
10:45 AM	72	199	10:45 PM	9	51	10:45 AM	49	186	10:45 PM	5	29	10:45 AM	121	385	10:45 PM	14	80
11:00 AM	63		11:00 PM	19		11:00 AM	74		11:00 PM	5		11:00 AM	137		11:00 PM	24	
11:15 AM	54		11:15 PM	11		11:15 AM	57		11:15 PM	3		11:15 AM	111		11:15 PM	14	
11:30 AM	60		11:30 PM	4		11:30 AM	36		11:30 PM	2		11:30 AM	96		11:30 PM	6	
11:45 AM	56	233	11:45 PM	6	40	11:45 AM	49	216	11:45 PM	4	14	11:45 AM	105	449	11:45 PM	10	54
Total	872			1871		Total	1132			1497		Total	2004			3368	
Percent	31.79%			68.21%		Percent	43.06%			56.94%		Percent	37.30%			62.70%	
Day Total				2743		Day Total				2629		Day Total				5372	
Peak Hour	11:45 AM			12:00 PM		Peak Hour	11:45 AM			12:00 PM		Peak Hour	11:45 AM			12:00 PM	
Volume	282			293		Volume	266			279		Volume	548			572	
P.H.F.	0.860			0.893		P.H.F.	0.899			0.943		P.H.F.	0.890			0.929	

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002
Count Date: Thursday, February 6, 2020



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 207444 ATR-A

Speed (60-minute)

NB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed
12:00 AM	0	0	1	1	1	5	1	0	0	0	0	0	0	9	38.8	34.3
1:00 AM	0	0	0	0	1	2	0	0	0	0	0	0	0	3	36.7	35.7
2:00 AM	0	0	0	1	7	8	0	0	0	0	0	0	0	16	36.8	34.0
3:00 AM	0	0	1	1	3	4	1	0	0	0	0	0	0	10	38.7	34.1
4:00 AM	0	0	5	5	14	10	8	2	0	0	0	0	0	44	40.6	33.6
5:00 AM	0	2	4	3	26	53	15	2	0	0	0	0	0	105	40.0	35.5
6:00 AM	2	0	13	32	142	135	32	2	0	0	0	0	0	358	38.0	33.9
7:00 AM	0	1	10	36	136	299	51	5	0	0	0	0	1	539	39.0	35.2
8:00 AM	1	0	13	33	97	167	43	1	0	0	0	0	0	355	39.0	34.8
9:00 AM	0	0	13	29	51	79	33	2	1	0	0	0	0	208	40.0	34.3
10:00 AM	0	1	13	8	29	72	28	2	0	0	0	0	0	153	40.0	35.2
11:00 AM	0	1	17	22	30	62	20	5	0	0	0	0	0	157	40.0	34.0
12:00 PM	0	0	24	23	36	76	31	4	0	0	0	0	1	195	40.0	34.5
1:00 PM	2	0	5	26	34	72	42	5	0	0	0	0	0	186	40.3	35.3
2:00 PM	0	0	19	23	30	82	33	1	0	0	0	0	0	188	40.0	34.3
3:00 PM	0	0	6	13	35	93	31	7	0	0	0	0	0	185	40.0	36.0
4:00 PM	0	3	19	38	43	104	42	2	0	0	0	0	0	251	40.0	34.3
5:00 PM	0	1	30	35	54	76	18	3	0	0	0	0	0	217	38.0	32.5
6:00 PM	0	0	26	21	39	48	14	3	2	0	0	0	0	153	39.0	32.6
7:00 PM	0	1	16	30	28	39	7	1	0	0	0	0	0	122	37.0	31.5
8:00 PM	0	0	8	16	8	16	4	0	0	0	0	0	0	52	38.4	31.3
9:00 PM	0	1	11	3	7	13	7	1	0	0	0	0	0	43	40.0	32.3
10:00 PM	0	0	3	3	5	6	4	1	0	0	0	0	0	22	41.9	33.6
11:00 PM	0	0	0	1	1	3	1	0	0	0	0	0	0	6	40.3	37.0
Total	5	11	257	403	857	1524	466	49	3	0	0	0	2	3577	39.0	34.3
Percent	0.14%	0.31%	7.18%	11.27%	23.96%	42.61%	13.03%	1.37%	0.08%	0.00%	0.00%	0.00%	0.06%			
AM Peak	6:00 AM	5:00 AM	11:00 AM	7:00 AM	6:00 AM	7:00 AM	7:00 AM	7:00 AM	9:00 AM				7:00 AM	7:00 AM		
Volume	2	2	17	36	142	299	51	5	1	0	0	0	1	539		
PM Peak	1:00 PM	4:00 PM	5:00 PM	4:00 PM	5:00 PM	4:00 PM	1:00 PM	3:00 PM	6:00 PM				12:00 PM	4:00 PM		
Volume	2	3	30	38	54	104	42	7	2	0	0	0	1	251		

15th Percentile:	27.0 MPH	Average Speed:	34.3 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	35.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	1723
85th Percentile:	39.0 MPH	Number in Pace:	2529	Percent of Vehicles > 35 MPH:	48.2%
95th Percentile:	42.0 MPH	Percent in Pace:	70.7%		

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002
Count Date: Friday, February 7, 2020



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 207444 ATR-A

Speed (60-minute)

NB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed
12:00 AM	0	2	1	1	4	5	0	0	0	0	0	0	0	13	37.2	30.8
1:00 AM	0	0	0	0	0	3	1	0	1	0	0	0	0	5	44.8	40.0
2:00 AM	0	0	0	0	1	11	2	0	0	0	0	0	0	14	38.1	36.9
3:00 AM	0	0	0	1	2	3	2	1	0	0	0	0	0	9	41.8	37.4
4:00 AM	0	0	1	4	6	12	7	2	0	0	0	0	0	32	41.1	36.5
5:00 AM	0	1	4	9	21	32	26	2	0	0	0	0	0	95	41.0	35.6
6:00 AM	1	1	9	21	93	181	49	4	0	0	0	0	0	359	39.0	35.4
7:00 AM	0	1	17	44	124	250	77	2	1	0	0	0	0	516	40.0	35.1
8:00 AM	0	0	17	22	73	169	50	7	0	0	0	0	0	338	40.0	35.6
9:00 AM	2	2	26	23	53	97	42	3	0	0	0	0	0	248	40.0	34.1
10:00 AM	0	1	27	19	37	93	27	2	0	0	0	0	0	206	39.0	33.9
11:00 AM	2	0	23	28	31	85	39	4	0	0	0	0	0	212	40.0	34.2
12:00 PM	1	3	17	31	38	82	36	2	0	0	0	0	0	210	40.0	34.0
1:00 PM	1	2	17	24	44	71	36	3	0	0	0	0	0	198	40.0	34.1
2:00 PM	0	1	12	18	29	84	42	3	0	0	0	0	0	189	41.0	35.7
3:00 PM	0	1	18	16	31	99	44	6	0	0	0	0	0	215	41.0	35.5
4:00 PM	0	0	16	31	39	128	62	2	0	0	0	0	0	278	41.0	35.5
5:00 PM	1	0	17	25	58	68	38	2	0	0	0	0	0	209	40.0	34.0
6:00 PM	0	3	16	29	49	57	24	0	0	0	0	0	0	178	39.0	33.0
7:00 PM	0	0	9	15	26	55	17	1	1	0	0	0	0	124	39.6	34.5
8:00 PM	0	0	9	10	10	28	4	3	0	0	0	0	0	64	38.0	32.8
9:00 PM	0	0	7	2	7	11	5	1	0	0	0	0	0	33	40.4	33.2
10:00 PM	0	0	1	2	5	9	14	2	0	0	0	0	0	33	43.0	37.5
11:00 PM	0	0	1	0	5	2	2	1	0	0	0	0	0	11	40.0	34.7
Total	8	18	265	375	786	1635	646	53	3	0	0	0	0	3789	40.0	34.8
Percent	0.21%	0.48%	6.99%	9.90%	20.74%	43.15%	17.05%	1.40%	0.08%	0.00%	0.00%	0.00%	0.00%			
AM Peak	9:00 AM	12:00 AM	10:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	8:00 AM	1:00 AM						7:00 AM	
Volume	2	2	27	44	124	250	77	7	1	0	0	0	0	516		
PM Peak	12:00 PM	12:00 PM	3:00 PM	12:00 PM	5:00 PM	4:00 PM	4:00 PM	3:00 PM	7:00 PM						4:00 PM	
Volume	1	3	18	31	58	128	62	6	1	0	0	0	0	278		

15th Percentile:	28.0 MPH	Average Speed:	34.8 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	2026
85th Percentile:	40.0 MPH	Number in Pace:	2636	Percent of Vehicles > 35 MPH:	53.5%
95th Percentile:	42.0 MPH	Percent in Pace:	69.6%		

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002
Count Date: Saturday, February 8, 2020



PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

PDI File #: 207444 ATR-A

Speed (60-minute)

NB																	
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed	
12:00 AM	0	0	0	0	1	4	1	0	0	0	0	0	0	6	39.5	37.7	
1:00 AM	0	0	0	0	1	3	0	0	1	0	0	0	0	5	44.6	39.4	
2:00 AM	0	0	0	0	2	0	1	0	0	0	0	0	0	3	38.9	35.7	
3:00 AM	0	0	0	1	4	0	0	4	0	0	0	0	0	9	46.8	38.0	
4:00 AM	0	0	0	2	3	3	7	0	0	0	0	0	0	15	43.0	36.9	
5:00 AM	0	1	0	1	8	17	9	5	0	1	0	0	0	42	43.0	38.0	
6:00 AM	1	0	1	3	27	37	38	4	0	0	0	0	0	111	42.0	37.6	
7:00 AM	0	2	4	16	18	60	32	10	1	0	0	0	0	143	42.7	36.6	
8:00 AM	1	0	13	17	18	64	60	6	0	0	0	0	0	179	42.0	36.2	
9:00 AM	0	0	21	20	19	79	68	9	1	0	0	0	0	217	43.0	36.4	
10:00 AM	1	1	20	22	15	74	44	7	2	0	0	0	0	186	42.0	35.3	
11:00 AM	0	0	15	27	30	81	58	4	1	0	0	0	0	216	41.0	35.5	
12:00 PM	3	2	27	32	38	122	47	7	1	0	0	0	0	279	40.3	34.7	
1:00 PM	1	0	20	15	24	88	37	8	0	0	0	0	0	193	41.0	35.4	
2:00 PM	0	0	15	28	32	86	59	2	1	0	0	0	0	223	41.0	35.6	
3:00 PM	1	1	18	24	31	58	30	7	0	0	0	0	0	170	41.0	34.0	
4:00 PM	0	0	11	14	30	57	45	8	0	0	0	0	0	165	42.0	36.0	
5:00 PM	0	1	8	13	41	61	27	3	0	0	0	0	0	154	40.0	35.0	
6:00 PM	0	1	7	12	37	43	17	2	1	0	0	0	0	120	40.0	34.4	
7:00 PM	0	0	7	9	8	29	17	2	0	0	0	0	0	72	40.4	34.9	
8:00 PM	0	0	0	3	14	18	13	1	2	0	0	0	0	51	43.0	37.3	
9:00 PM	0	0	0	1	4	18	4	0	0	0	0	0	0	27	39.1	36.2	
10:00 PM	0	0	0	1	10	11	6	1	0	0	0	0	0	29	40.8	36.3	
11:00 PM	0	0	0	1	1	6	5	1	0	0	0	0	0	14	43.1	38.6	
Total	8	9	187	262	416	1019	625	91	11	1	0	0	0	2629	41.0	35.6	
Percent	0.30%	0.34%	7.11%	9.97%	15.82%	38.76%	23.77%	3.46%	0.42%	0.04%	0.00%	0.00%	0.00%				
AM Peak	6:00 AM	7:00 AM	9:00 AM	11:00 AM	11:00 AM	11:00 AM	9:00 AM	7:00 AM	10:00 AM	5:00 AM							9:00 AM
Volume	1	2	21	27	30	81	68	10	2	1	0	0	0	217			
PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM	5:00 PM	12:00 PM	2:00 PM	1:00 PM	8:00 PM							12:00 PM	
Volume	3	2	27	32	41	122	59	8	2	0	0	0	0	279			

15th Percentile:	28.0 MPH	Average Speed:	35.6 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	33 to 42 MPH	Number of Vehicles > 35 MPH:	1563
85th Percentile:	41.0 MPH	Number in Pace:	1721	Percent of Vehicles > 35 MPH:	59.5%
95th Percentile:	44.0 MPH	Percent in Pace:	65.5%		

Grove Street
south of # 162 Driveway
City, State: Franklin, MA
Client: TetraTech/ S. Wood
Site Code: 143-276845-20002
Count Date: Thursday, February 6, 2020



PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

PDI File #: 207444 ATR-A

Speed (60-minute)

SB

Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	3	10	5	0	0	0	1	0	0	20	42.0	38.7
1:00 AM	0	0	0	1	4	3	1	0	0	0	0	0	0	9	38.6	34.0
2:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	2	33.7	30.5
3:00 AM	0	0	2	6	6	3	1	0	0	0	0	0	0	18	35.5	30.5
4:00 AM	0	1	6	8	7	6	0	0	0	0	0	0	0	28	36.0	28.8
5:00 AM	0	1	5	13	11	3	0	0	0	0	0	0	0	33	33.2	28.6
6:00 AM	0	1	6	17	31	24	6	0	0	0	0	0	0	85	37.0	32.3
7:00 AM	0	0	3	20	44	54	20	0	0	0	0	0	0	141	39.0	34.3
8:00 AM	0	1	6	23	46	64	28	2	0	0	0	0	0	170	40.0	34.6
9:00 AM	0	0	6	20	26	50	22	3	1	0	0	0	0	128	40.0	35.1
10:00 AM	1	0	7	16	32	59	25	2	0	0	0	0	0	142	40.0	34.8
11:00 AM	0	0	5	22	28	57	36	4	0	0	0	0	0	152	41.0	35.5
12:00 PM	1	0	2	23	52	69	48	2	1	0	0	0	0	198	41.0	35.6
1:00 PM	0	1	1	13	49	67	35	3	0	0	0	0	0	169	40.0	35.5
2:00 PM	0	0	5	12	55	128	66	17	1	0	0	0	0	284	41.0	36.9
3:00 PM	0	0	1	32	71	158	87	9	1	0	0	0	0	359	41.0	36.5
4:00 PM	0	5	7	31	108	239	79	4	0	1	0	0	0	474	40.0	35.6
5:00 PM	2	5	15	74	126	164	32	2	1	0	0	0	0	421	38.0	33.3
6:00 PM	0	4	12	42	71	102	18	3	1	0	0	0	0	253	38.2	33.5
7:00 PM	0	0	4	25	39	77	20	3	0	0	0	0	0	168	39.0	34.5
8:00 PM	0	1	2	15	44	52	22	3	0	0	0	0	0	139	40.3	34.9
9:00 PM	0	0	1	5	20	42	5	1	1	0	0	0	0	75	39.0	35.5
10:00 PM	0	0	0	3	11	20	8	2	1	0	0	0	0	45	41.4	36.8
11:00 PM	0	0	0	0	5	4	5	1	0	0	0	0	0	15	41.9	37.8
Total	4	20	96	423	889	1456	569	61	8	1	1	0	0	3528	40.0	34.9
Percent	0.11%	0.57%	2.72%	11.99%	25.20%	41.27%	16.13%	1.73%	0.23%	0.03%	0.03%	0.00%	0.00%			
AM Peak	10:00 AM	4:00 AM	10:00 AM	8:00 AM	8:00 AM	8:00 AM	11:00 AM	11:00 AM	9:00 AM		12:00 AM					8:00 AM
Volume	1	1	7	23	46	64	36	4	1	0	1	0	0			170
PM Peak	5:00 PM	4:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	3:00 PM	2:00 PM	12:00 PM	4:00 PM						4:00 PM
Volume	2	5	15	74	126	239	87	17	1	1	0	0	0			474

15th Percentile:	29.0 MPH	Average Speed:	34.9 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	31 to 40 MPH	Number of Vehicles > 35 MPH:	1824
85th Percentile:	40.0 MPH	Number in Pace:	2437	Percent of Vehicles > 35 MPH:	51.7%
95th Percentile:	42.0 MPH	Percent in Pace:	69.1%		



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

Grove Street
 south of # 162 Driveway
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Friday, February 7, 2020



PRECISION
 D A T A
 INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 207444 ATR-A

Speed (60-minute)

SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed
12:00 AM	2	2	0	2	5	4	5	0	1	0	0	0	0	21	40.0	32.1
1:00 AM	2	0	0	2	0	4	1	1	0	0	0	0	0	10	41.0	32.3
2:00 AM	0	0	0	0	3	4	0	0	0	0	0	0	0	7	37.0	34.7
3:00 AM	0	0	0	2	1	3	2	1	0	0	0	0	0	9	41.8	36.1
4:00 AM	0	0	2	10	12	2	2	1	0	0	0	0	0	29	35.6	31.3
5:00 AM	0	0	6	11	11	18	5	2	0	0	0	0	0	53	39.0	33.1
6:00 AM	0	0	5	16	18	31	8	4	0	0	0	0	0	82	39.0	34.1
7:00 AM	1	2	8	31	32	46	32	1	0	0	0	0	0	153	40.2	33.8
8:00 AM	0	1	4	32	48	58	30	4	0	0	0	0	0	177	40.0	34.7
9:00 AM	0	0	2	12	31	70	26	2	0	0	0	0	0	143	40.0	35.9
10:00 AM	1	1	3	21	37	86	29	2	1	0	0	0	0	181	40.0	35.3
11:00 AM	0	0	3	27	69	104	52	10	1	0	0	0	0	266	41.0	36.0
12:00 PM	1	1	4	23	50	82	42	11	0	0	0	0	0	214	41.0	35.8
1:00 PM	0	0	2	24	55	66	62	6	0	0	0	0	0	215	41.0	35.9
2:00 PM	1	1	4	28	51	110	66	15	0	0	0	0	0	276	41.0	36.3
3:00 PM	0	2	4	20	91	167	98	12	1	0	0	0	0	395	41.0	36.6
4:00 PM	0	2	3	15	97	142	112	12	0	1	0	0	0	384	41.0	36.9
5:00 PM	0	8	16	42	91	179	53	2	0	0	0	0	0	391	39.0	34.5
6:00 PM	0	0	8	28	62	117	30	0	0	0	0	0	0	245	39.0	34.7
7:00 PM	0	0	1	21	39	81	19	2	0	0	0	0	0	163	39.0	35.3
8:00 PM	0	1	0	7	28	55	24	1	0	0	0	0	0	116	41.0	36.2
9:00 PM	0	0	2	2	17	33	24	3	0	0	0	0	0	81	41.0	36.7
10:00 PM	0	0	0	1	6	23	23	3	0	0	0	0	0	56	42.0	38.8
11:00 PM	0	0	0	0	5	7	11	2	1	0	0	0	0	26	42.3	39.3
Total	8	21	77	377	859	1492	756	97	5	1	0	0	0	3693	41.0	35.6
Percent	0.22%	0.57%	2.09%	10.21%	23.26%	40.40%	20.47%	2.63%	0.14%	0.03%	0.00%	0.00%	0.00%			
AM Peak	12:00 AM	12:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	12:00 AM						11:00 AM	
Volume	2	2	8	32	69	104	52	10	1	0	0	0	0	0	266	
PM Peak	12:00 PM	5:00 PM	5:00 PM	5:00 PM	4:00 PM	5:00 PM	4:00 PM	2:00 PM	3:00 PM	4:00 PM					3:00 PM	
Volume	1	8	16	42	97	179	112	15	1	1	0	0	0	0	395	

15th Percentile:	30.0 MPH	Average Speed:	35.6 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	36.0 MPH	10 MPH Pace:	32 to 41 MPH	Number of Vehicles > 35 MPH:	2106
85th Percentile:	41.0 MPH	Number in Pace:	2546	Percent of Vehicles > 35 MPH:	57.0%
95th Percentile:	43.0 MPH	Percent in Pace:	68.9%		

Grove Street
 south of # 162 Driveway
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Saturday, February 8, 2020



PRECISION
 D A T A
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

PDI File #: 207444 ATR-A

Speed (60-minute)

SB																
Start Time:	1 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 +	Total	85th %ile	Ave Speed
12:00 AM	0	0	0	1	2	8	4	1	0	0	0	0	0	16	43.5	37.4
1:00 AM	0	0	0	0	2	3	2	1	0	0	0	0	0	8	41.0	37.9
2:00 AM	0	0	0	1	1	1	0	0	0	0	0	0	0	3	36.3	32.7
3:00 AM	0	0	0	4	1	3	0	0	0	0	0	0	0	8	37.0	31.5
4:00 AM	0	0	0	1	4	4	2	1	0	0	0	0	0	12	41.1	36.4
5:00 AM	0	0	1	1	4	4	5	0	1	0	0	0	0	16	43.0	36.9
6:00 AM	0	1	2	4	9	6	4	2	0	0	0	0	0	28	40.0	33.7
7:00 AM	0	2	1	8	19	21	21	3	0	0	0	0	0	75	41.0	35.7
8:00 AM	0	0	5	14	30	33	16	6	1	0	0	0	0	105	41.0	34.7
9:00 AM	0	0	2	10	42	45	60	9	1	0	0	0	0	169	43.0	37.4
10:00 AM	0	1	1	10	43	79	54	9	2	0	0	0	0	199	42.0	37.1
11:00 AM	1	1	5	15	45	76	73	16	1	0	0	0	0	233	42.0	37.0
12:00 PM	0	1	5	24	53	107	91	11	1	0	0	0	0	293	42.0	37.0
1:00 PM	0	2	1	17	40	94	58	13	0	0	0	0	0	225	42.0	36.8
2:00 PM	0	2	4	18	47	94	64	10	0	0	0	0	0	239	42.0	36.6
3:00 PM	0	1	4	10	41	108	79	6	2	0	0	0	0	251	41.0	37.3
4:00 PM	0	1	1	6	29	94	70	12	1	0	0	0	0	214	42.1	38.1
5:00 PM	0	1	4	16	38	65	44	6	0	0	0	0	0	174	41.0	36.1
6:00 PM	0	1	3	11	24	76	20	1	0	0	0	0	0	136	39.8	35.5
7:00 PM	0	1	2	3	23	49	14	1	1	0	0	0	0	94	40.0	36.1
8:00 PM	0	0	0	2	14	53	14	3	1	0	0	0	0	87	41.0	37.0
9:00 PM	0	0	0	1	15	29	20	2	0	0	0	0	0	67	41.0	37.2
10:00 PM	0	0	0	1	15	18	11	5	1	0	0	0	0	51	44.0	37.6
11:00 PM	0	0	0	1	5	18	11	4	1	0	0	0	0	40	43.2	38.7
Total	1	15	41	179	546	1088	737	122	14	0	0	0	0	2743	42.0	36.8
Percent	0.04%	0.55%	1.49%	6.53%	19.91%	39.66%	26.87%	4.45%	0.51%	0.00%	0.00%	0.00%	0.00%			
AM Peak	11:00 AM	7:00 AM	8:00 AM	11:00 AM	11:00 AM	10:00 AM	11:00 AM	11:00 AM	10:00 AM						11:00 AM	
Volume	1	2	5	15	45	79	73	16	2	0	0	0	0	233		
PM Peak		1:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM	12:00 PM	1:00 PM	3:00 PM						12:00 PM	
Volume	0	2	5	24	53	108	91	13	2	0	0	0	0	293		

15th Percentile:	31.0 MPH	Average Speed:	36.8 MPH	Posted Speed Limit:	35 MPH
50th Percentile:	37.0 MPH	10 MPH Pace:	33 to 42 MPH	Number of Vehicles > 35 MPH:	1779
85th Percentile:	42.0 MPH	Number in Pace:	1900	Percent of Vehicles > 35 MPH:	64.9%
95th Percentile:	44.0 MPH	Percent in Pace:	69.3%		

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	24	0	0	25	0	0	0	0	0	0	150	7	0	157	0	0	0	0	0	182
7:15 AM	7	31	0	0	38	0	0	0	0	0	0	157	1	0	158	0	0	0	0	0	196
7:30 AM	7	50	0	0	57	0	0	0	0	0	0	128	0	0	128	1	0	2	0	3	188
7:45 AM	2	37	0	0	39	0	0	0	0	0	0	124	2	0	126	0	0	3	0	3	168
Total	17	142	0	0	159	0	0	0	0	0	0	559	10	0	569	1	0	5	0	6	734
8:00 AM	4	42	0	0	46	0	0	0	0	0	0	90	3	0	93	0	0	3	0	3	142
8:15 AM	1	46	0	0	47	0	0	0	0	0	0	93	2	0	95	1	0	4	0	5	147
8:30 AM	0	40	0	0	40	0	0	0	0	0	0	74	2	0	76	1	0	2	0	3	119
8:45 AM	2	39	0	0	41	0	0	0	0	0	0	91	2	0	93	0	0	4	0	4	138
Total	7	167	0	0	174	0	0	0	0	0	0	348	9	0	357	2	0	13	0	15	546
Grand Total	24	309	0	0	333	0	0	0	0	0	0	907	19	0	926	3	0	18	0	21	1280
Approach %	7.2	92.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.9	2.1	0.0		14.3	0.0	85.7	0.0		
Total %	1.9	24.1	0.0	0.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	70.9	1.5	0.0	72.3	0.2	0.0	1.4	0.0	1.6	
Exiting Leg Total	925					0					312					43					1280
Cars	22	286	0	0	308	0	0	0	0	0	0	868	18	0	886	3	0	16	0	19	1213
% Cars	91.7	92.6	0.0	0.0	92.5	0.0	0.0	0.0	0.0	0.0	0.0	95.7	94.7	0.0	95.7	100.0	0.0	88.9	0.0	90.5	94.8
Exiting Leg Total	884					0					289					40					1213
Heavy Vehicles	2	23	0	0	25	0	0	0	0	0	0	39	1	0	40	0	0	2	0	2	67
% Heavy Vehicles	8.3	7.4	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	4.3	5.3	0.0	4.3	0.0	0.0	11.1	0.0	9.5	5.2
Exiting Leg Total	41					0					23					3					67

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	24	0	0	25	0	0	0	0	0	0	150	7	0	157	0	0	0	0	0	182
7:15 AM	7	31	0	0	38	0	0	0	0	0	0	157	1	0	158	0	0	0	0	0	196
7:30 AM	7	50	0	0	57	0	0	0	0	0	0	128	0	0	128	1	0	2	0	3	188
7:45 AM	2	37	0	0	39	0	0	0	0	0	0	124	2	0	126	0	0	3	0	3	168
Total Volume	17	142	0	0	159	0	0	0	0	0	0	559	10	0	569	1	0	5	0	6	734
% Approach Total	10.7	89.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.2	1.8	0.0		16.7	0.0	83.3	0.0		
PHF	0.607	0.710	0.000	0.000	0.697	0.000	0.000	0.000	0.000	0.000	0.000	0.890	0.357	0.000	0.900	0.250	0.000	0.417	0.000	0.500	0.936
Cars	16	134	0	0	150	0	0	0	0	0	0	540	9	0	549	1	0	3	0	4	703
Cars %	94.1	94.4	0.0	0.0	94.3	0.0	0.0	0.0	0.0	0.0	0.0	96.6	90.0	0.0	96.5	100.0	0.0	60.0	0.0	66.7	95.8
Heavy Vehicles	1	8	0	0	9	0	0	0	0	0	0	19	1	0	20	0	0	2	0	2	31
Heavy Vehicles %	5.9	5.6	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	3.4	10.0	0.0	3.5	0.0	0.0	40.0	0.0	33.3	4.2
Cars Enter Leg	16	134	0	0	150	0	0	0	0	0	0	540	9	0	549	1	0	3	0	4	703
Heavy Enter Leg	1	8	0	0	9	0	0	0	0	0	0	19	1	0	20	0	0	2	0	2	31
Total Entering Leg	17	142	0	0	159	0	0	0	0	0	0	559	10	0	569	1	0	5	0	6	734
Cars Exiting Leg	543					0					135					25					703
Heavy Exiting Leg	21					0					8					2					31
Total Exiting Leg	564					0					143					27					734

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	24	0	0	25	0	0	0	0	0	0	146	7	0	153	0	0	0	0	0	178
7:15 AM	7	28	0	0	35	0	0	0	0	0	0	150	0	0	150	0	0	0	0	0	185
7:30 AM	6	48	0	0	54	0	0	0	0	0	0	122	0	0	122	1	0	2	0	3	179
7:45 AM	2	34	0	0	36	0	0	0	0	0	0	122	2	0	124	0	0	1	0	1	161
Total	16	134	0	0	150	0	0	0	0	0	0	540	9	0	549	1	0	3	0	4	703
8:00 AM	4	39	0	0	43	0	0	0	0	0	0	80	3	0	83	0	0	3	0	3	129
8:15 AM	1	43	0	0	44	0	0	0	0	0	0	89	2	0	91	1	0	4	0	5	140
8:30 AM	0	35	0	0	35	0	0	0	0	0	0	72	2	0	74	1	0	2	0	3	112
8:45 AM	1	35	0	0	36	0	0	0	0	0	0	87	2	0	89	0	0	4	0	4	129
Total	6	152	0	0	158	0	0	0	0	0	0	328	9	0	337	2	0	13	0	15	510
Grand Total	22	286	0	0	308	0	0	0	0	0	0	868	18	0	886	3	0	16	0	19	1213
Approach %	7.1	92.9	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.0	2.0	0.0		15.8	0.0	84.2	0.0		
Total %	1.8	23.6	0.0	0.0	25.4	0.0	0.0	0.0	0.0	0.0	0.0	71.6	1.5	0.0	73.0	0.2	0.0	1.3	0.0	1.6	
Exiting Leg Total	884					0					289					40					1213

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	24	0	0	25	0	0	0	0	0	0	146	7	0	153	0	0	0	0	0	178
7:15 AM	7	28	0	0	35	0	0	0	0	0	0	150	0	0	150	0	0	0	0	0	185
7:30 AM	6	48	0	0	54	0	0	0	0	0	0	122	0	0	122	1	0	2	0	3	179
7:45 AM	2	34	0	0	36	0	0	0	0	0	0	122	2	0	124	0	0	1	0	1	161
Total Volume	16	134	0	0	150	0	0	0	0	0	0	540	9	0	549	1	0	3	0	4	703
% Approach Total	10.7	89.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.4	1.6	0.0		25.0	0.0	75.0	0.0		
PHF	0.571	0.698	0.000	0.000	0.694	0.000	0.000	0.000	0.000	0.000	0.000	0.900	0.321	0.000	0.897	0.250	0.000	0.375	0.000	0.333	0.950
Entering Leg	16	134	0	0	150	0	0	0	0	0	0	540	9	0	549	1	0	3	0	4	703
Exiting Leg	543					0					135					25					703
Total	693					0					684					29					1406

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	8
7:30 AM	1	2	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
7:45 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	2
Total	1	8	0	0	9	0	0	0	0	0	0	19	1	0	20	0	0	2	0	2	23
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:30 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:45 AM	1	4	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Total	1	15	0	0	16	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	20
Grand Total	2	23	0	0	25	0	0	0	0	0	0	39	1	0	40	0	0	2	0	2	42
Approach %	8.0	92.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.5	2.5	0.0		0.0	0.0	100.0	0.0		
Total %	3.0	34.3	0.0	0.0	37.3	0.0	0.0	0.0	0.0	0.0	0.0	58.2	1.5	0.0	59.7	0.0	0.0	3.0	0.0	3.0	
Exiting Leg Total	41					0					23					3					67
Buses	0	8	0	0	8	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	9
% Buses	0.0	34.8	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	9					0					8					0					17
Single-Unit Trucks	2	12	0	0	14	0	0	0	0	0	0	25	1	0	26	0	0	2	0	2	2
% Single-Unit	100.0	52.2	0.0	0.0	56.0	0.0	0.0	0.0	0.0	0.0	0.0	64.1	100.0	0.0	65.0	0.0	0.0	100.0	0.0	100.0	62.7
Exiting Leg Total	27					0					12					3					42
Articulated Trucks	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	5
% Articulated	0.0	13.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	11.9
Exiting Leg Total	5					0					3					0					8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	7	1	0	8	0	0	0	0	0	8
7:30 AM	1	2	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
7:45 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	2
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	10
Total Volume	1	11	0	0	12	0	0	0	0	0	0	25	1	0	26	0	0	2	0	2	40
% Approach Total	8.3	91.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	96.2	3.8	0.0		0.0	0.0	100.0	0.0		
PHF	0.250	0.917	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.250	0.000	0.650	0.000	0.000	0.250	0.000	0.250	0.769
Buses	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Buses %	0.0	27.3	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0	15.0
Single-Unit Trucks	1	7	0	0	8	0	0	0	0	0	0	18	1	0	19	0	0	2	0	2	2
Single-Unit %	100.0	63.6	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	72.0	100.0	0.0	73.1	0.0	0.0	100.0	0.0	100.0	72.5
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Articulated %	0.0	9.1	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	16.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	12.5
Buses	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Single-Unit Trucks	1	7	0	0	8	0	0	0	0	0	0	18	1	0	19	0	0	2	0	2	19
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
Total Entering Leg	1	11	0	0	12	0	0	0	0	0	0	25	1	0	26	0	0	2	0	2	40
Buses	3					0					3					0					6
Single-Unit Trucks	20					0					7					2					29
Articulated Trucks	4					0					1					0					5
Total Exiting Leg	27					0					11					2					40

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5	
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	6	
Total	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	12	
Grand Total	0	8	0	0	8	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	17	
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0			
Total %	0.0	47.1	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	52.9	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total						9					0					8					0	17

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	6	
Total Volume	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	12	
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0			
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.500	
Entering Leg	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	12	
Exiting Leg						6					0					6					0	12
Total						12					0					12					0	24

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	7
7:30 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	2
Total	1	6	0	0	7	0	0	0	0	0	0	13	1	0	14	0	0	2	0	2	23
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
8:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:45 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	6	0	0	7	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	19
Grand Total	2	12	0	0	14	0	0	0	0	0	0	25	1	0	26	0	0	2	0	2	2
Approach %	14.3	85.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	96.2	3.8	0.0		0.0	0.0	100.0	0.0		
Total %	4.8	28.6	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	59.5	2.4	0.0	61.9	0.0	0.0	4.8	0.0	4.8	4.8
Exiting Leg Total						0					12					3					42

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	0	3	0	0	3	0	0	0	0	0	0	6	1	0	7	0	0	0	0	0	7
7:30 AM	1	1	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
7:45 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	5
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
Total Volume	1	7	0	0	8	0	0	0	0	0	0	18	1	0	19	0	0	2	0	2	29
% Approach Total	12.5	87.5	0.0	0.0		0.0	0.0	0.0	0.0		0.0	94.7	5.3	0.0		0.0	0.0	100.0	0.0		
PHF	0.250	0.583	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.250	0.000	0.594	0.000	0.000	0.250	0.000	0.250	0.725
Entering Leg	1	7	0	0	8	0	0	0	0	0	0	18	1	0	19	0	0	2	0	2	29
Exiting Leg						0					7					2					29
Total						0					26					4					58

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Grand Total	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	8
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	37.5	0.0	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total						5					0					3					0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Exiting Leg						5					0					1					0
Total						6					0					6					12

PDI File #: **207444 C**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	2	133	0	0	135	0	0	0	0	0	0	62	0	0	62	5	0	1	0	6	203
4:15 PM	1	99	0	0	100	0	0	0	0	0	0	59	3	0	62	1	0	3	0	4	166
4:30 PM	2	127	0	0	129	0	0	0	0	0	0	81	0	0	81	0	0	2	0	2	212
4:45 PM	1	115	0	0	116	0	0	0	0	0	0	75	0	0	75	3	0	4	0	7	198
Total	6	474	0	0	480	0	0	0	0	0	0	277	3	0	280	9	0	10	0	19	779
5:00 PM	0	143	0	0	143	0	0	0	0	0	0	64	0	0	64	2	0	3	0	5	212
5:15 PM	0	120	0	0	120	0	0	0	0	0	0	57	2	0	59	3	0	0	0	3	182
5:30 PM	1	84	0	0	85	0	0	0	0	0	0	51	1	0	52	2	0	3	0	5	142
5:45 PM	1	90	0	0	91	0	0	0	0	0	0	51	1	0	52	1	0	1	0	2	145
Total	2	437	0	0	439	0	0	0	0	0	0	223	4	0	227	8	0	7	0	15	681
Grand Total	8	911	0	0	919	0	0	0	0	0	0	500	7	0	507	17	0	17	0	34	1460
Approach %	0.9	99.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.6	1.4	0.0		50.0	0.0	50.0	0.0		
Total %	0.5	62.4	0.0	0.0	62.9	0.0	0.0	0.0	0.0	0.0	0.0	34.2	0.5	0.0	34.7	1.2	0.0	1.2	0.0	2.3	
Exiting Leg Total	517					0					928					15					1460
Cars	5	895	0	0	900	0	0	0	0	0	0	487	5	0	492	16	0	17	0	33	1425
% Cars	62.5	98.2	0.0	0.0	97.9	0.0	0.0	0.0	0.0	0.0	0.0	97.4	71.4	0.0	97.0	94.1	0.0	100.0	0.0	97.1	97.6
Exiting Leg Total	504					0					911					10					1425
Heavy Vehicles	3	16	0	0	19	0	0	0	0	0	0	13	2	0	15	1	0	0	0	1	35
% Heavy Vehicles	37.5	1.8	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	2.6	28.6	0.0	3.0	5.9	0.0	0.0	0.0	2.9	2.4
Exiting Leg Total	13					0					17					5					35

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:30 PM	2	127	0	0	129	0	0	0	0	0	0	81	0	0	81	0	0	2	0	2	212
4:45 PM	1	115	0	0	116	0	0	0	0	0	0	75	0	0	75	3	0	4	0	7	198
5:00 PM	0	143	0	0	143	0	0	0	0	0	0	64	0	0	64	2	0	3	0	5	212
5:15 PM	0	120	0	0	120	0	0	0	0	0	0	57	2	0	59	3	0	0	0	3	182
Total Volume	3	505	0	0	508	0	0	0	0	0	0	277	2	0	279	8	0	9	0	17	804
% Approach Total	0.6	99.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.3	0.7	0.0		47.1	0.0	52.9	0.0		
PHF	0.375	0.883	0.000	0.000	0.888	0.000	0.000	0.000	0.000	0.000	0.000	0.855	0.250	0.000	0.861	0.667	0.000	0.563	0.000	0.607	0.948
Cars	2	495	0	0	497	0	0	0	0	0	0	273	1	0	274	8	0	9	0	17	788
Cars %	66.7	98.0	0.0	0.0	97.8	0.0	0.0	0.0	0.0	0.0	0.0	98.6	50.0	0.0	98.2	100.0	0.0	100.0	0.0	100.0	98.0
Heavy Vehicles	1	10	0	0	11	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	16
Heavy Vehicles %	33.3	2.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.4	50.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	2.0
Cars Enter Leg	2	495	0	0	497	0	0	0	0	0	0	273	1	0	274	8	0	9	0	17	788
Heavy Enter Leg	1	10	0	0	11	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	16
Total Entering Leg	3	505	0	0	508	0	0	0	0	0	0	277	2	0	279	8	0	9	0	17	804
Cars Exiting Leg	282					0					503					3					788
Heavy Exiting Leg	4					0					10					2					16
Total Exiting Leg	286					0					513					5					804

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	2	130	0	0	132	0	0	0	0	0	0	59	0	0	59	4	0	1	0	5	196
4:15 PM	0	97	0	0	97	0	0	0	0	0	0	59	2	0	61	1	0	3	0	4	162
4:30 PM	1	123	0	0	124	0	0	0	0	0	0	81	0	0	81	0	0	2	0	2	207
4:45 PM	1	112	0	0	113	0	0	0	0	0	0	75	0	0	75	3	0	4	0	7	195
Total	4	462	0	0	466	0	0	0	0	0	0	274	2	0	276	8	0	10	0	18	760
5:00 PM	0	143	0	0	143	0	0	0	0	0	0	61	0	0	61	2	0	3	0	5	209
5:15 PM	0	117	0	0	117	0	0	0	0	0	0	56	1	0	57	3	0	0	0	3	177
5:30 PM	0	83	0	0	83	0	0	0	0	0	0	46	1	0	47	2	0	3	0	5	135
5:45 PM	1	90	0	0	91	0	0	0	0	0	0	50	1	0	51	1	0	1	0	2	144
Total	1	433	0	0	434	0	0	0	0	0	0	213	3	0	216	8	0	7	0	15	665
Grand Total	5	895	0	0	900	0	0	0	0	0	0	487	5	0	492	16	0	17	0	33	1425
Approach %	0.6	99.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.0	1.0	0.0		48.5	0.0	51.5	0.0		
Total %	0.4	62.8	0.0	0.0	63.2	0.0	0.0	0.0	0.0	0.0	0.0	34.2	0.4	0.0	34.5	1.1	0.0	1.2	0.0	2.3	
Exiting Leg Total					504					0					911					10	1425

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:30 PM	1	123	0	0	124	0	0	0	0	0	0	81	0	0	81	0	0	2	0	2	207
4:45 PM	1	112	0	0	113	0	0	0	0	0	0	75	0	0	75	3	0	4	0	7	195
5:00 PM	0	143	0	0	143	0	0	0	0	0	0	61	0	0	61	2	0	3	0	5	209
5:15 PM	0	117	0	0	117	0	0	0	0	0	0	56	1	0	57	3	0	0	0	3	177
Total Volume	2	495	0	0	497	0	0	0	0	0	0	273	1	0	274	8	0	9	0	17	788
% Approach Total	0.4	99.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.6	0.4	0.0		47.1	0.0	52.9	0.0		
PHF	0.500	0.865	0.000	0.000	0.869	0.000	0.000	0.000	0.000	0.000	0.000	0.843	0.250	0.000	0.846	0.667	0.000	0.563	0.000	0.607	0.943
Entering Leg	2	495	0	0	497	0	0	0	0	0	0	273	1	0	274	8	0	9	0	17	788
Exiting Leg					282					0					503					3	788
Total					779					0					777					20	1576

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	7	
4:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	
4:30 PM	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Total	2	12	0	0	14	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	19	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3	
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5	
5:30 PM	1	1	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	7	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
Total	1	4	0	0	5	0	0	0	0	0	0	10	1	0	11	0	0	0	0	0	16	
Grand Total	3	16	0	0	19	0	0	0	0	0	0	13	2	0	15	1	0	0	0	1	35	
Approach %	15.8	84.2	0.0	0.0		0.0	0.0	0.0	0.0		0.0	86.7	13.3	0.0		100.0	0.0	0.0	0.0			
Total %	8.6	45.7	0.0	0.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	37.1	5.7	0.0	42.9	2.9	0.0	0.0	0.0	2.9		
Exiting Leg Total						13					0					17					5	35
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					0					0					0	
Single-Unit Trucks	3	14	0	0	17	0	0	0	0	0	0	6	2	0	8	1	0	0	0	1	26	
% Single-Unit	100.0	87.5	0.0	0.0	89.5	0.0	0.0	0.0	0.0	0.0	0.0	46.2	100.0	0.0	53.3	100.0	0.0	0.0	0.0	100.0	74.3	
Exiting Leg Total	6					0					15					5					26	
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	9	
% Articulated	0.0	12.5	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	53.8	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	25.7	
Exiting Leg Total	7					0					2					0					9	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	7
4:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4
4:30 PM	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
4:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	2	12	0	0	14	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	19
% Approach Total	14.3	85.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.500	0.750	0.000	0.000	0.700	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.333	0.250	0.000	0.000	0.000	0.250	0.679
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	2	10	0	0	12	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	16
Single-Unit %	100.0	83.3	0.0	0.0	85.7	0.0	0.0	0.0	0.0	0.0	0.0	66.7	100.0	0.0	75.0	100.0	0.0	0.0	0.0	100.0	84.2
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Articulated %	0.0	16.7	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	15.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	2	10	0	0	12	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	16
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total Entering Leg	2	12	0	0	14	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	19
Buses	0					0					0					0					0
Single-Unit Trucks	2					0					11					3					16
Articulated Trucks	1					0					2					0					3
Total Exiting Leg	3					0					13					3					19

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	6	
4:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	
4:30 PM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	2	10	0	0	12	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	16	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	3	0	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5	
5:30 PM	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
Total	1	4	0	0	5	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	10	
Grand Total	3	14	0	0	17	0	0	0	0	0	0	6	2	0	8	1	0	0	0	1	26	
Approach %	17.6	82.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0		100.0	0.0	0.0	0.0			
Total %	11.5	53.8	0.0	0.0	65.4	0.0	0.0	0.0	0.0	0.0	0.0	23.1	7.7	0.0	30.8	3.8	0.0	0.0	0.0	3.8		
Exiting Leg Total						6					0					15					5	26

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	6	
4:15 PM	1	2	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	
4:30 PM	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
4:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total Volume	2	10	0	0	12	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	16	
% Approach Total	16.7	83.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	66.7	33.3	0.0		100.0	0.0	0.0	0.0			
PHF	0.500	0.833	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.375	0.250	0.000	0.000	0.000	0.250	0.667	
Entering Leg	2	10	0	0	12	0	0	0	0	0	0	2	1	0	3	1	0	0	0	1	16	
Exiting Leg						2					0					11					3	16
Total						14					0					14					4	32

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
Grand Total	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	9
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	22.2	0.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	77.8	0.0	0.0	77.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	7					0					2					0					9

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
Total Volume	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	7
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.583
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	7
Exiting Leg	6					0					1					0					7
Total	7					0					7					0					14

PDI File #: 207444 CC
 Location: N: Grove Street S: Grove Street
 Location: E: Driveway W: Grove Street Business Center
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Thursday, February 6, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Bicycles (on Roadway and Crosswalks)

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **207444 CC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Thursday, February 6, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **207444 CCC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Saturday, February 8, 2020**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	77	0	0	77	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	116
3:15 PM	1	59	0	0	60	0	0	0	0	0	0	51	1	0	52	0	0	0	0	0	112
3:30 PM	1	53	0	0	54	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	85
3:45 PM	1	59	0	0	60	0	0	0	0	0	0	46	1	0	47	0	0	0	0	0	107
Total	3	248	0	0	251	0	0	0	0	0	0	167	2	0	169	0	0	0	0	0	420
4:00 PM	0	47	0	1	48	0	0	0	0	0	0	31	0	0	31	1	0	0	0	1	80
4:15 PM	1	60	0	0	61	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	105
4:30 PM	2	53	0	0	55	0	0	0	0	0	0	40	1	1	42	0	0	0	0	0	97
4:45 PM	1	50	0	0	51	0	0	0	0	0	0	51	1	0	52	0	0	1	0	1	104
Total	4	210	0	1	215	0	0	0	0	0	0	166	2	1	169	1	0	1	0	2	386
5:00 PM	0	46	0	0	46	0	0	0	0	0	0	40	1	0	41	3	0	0	0	3	90
5:15 PM	1	40	0	0	41	0	0	0	0	0	0	40	1	0	41	1	0	1	0	2	84
5:30 PM	0	47	0	0	47	0	0	0	0	0	0	35	0	0	35	2	0	1	0	3	85
5:45 PM	0	30	0	0	30	0	0	0	0	0	0	39	0	0	39	1	0	0	0	1	70
Total	1	163	0	0	164	0	0	0	0	0	0	154	2	0	156	7	0	2	0	9	329
Grand Total	8	621	0	1	630	0	0	0	0	0	0	487	6	1	494	8	0	3	0	11	1135
Approach %	1.3	98.6	0.0	0.2		0.0	0.0	0.0	0.0		0.0	98.6	1.2	0.2		72.7	0.0	27.3	0.0		
Total %	0.7	54.7	0.0	0.1	55.5	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.5	0.1	43.5	0.7	0.0	0.3	0.0	1.0	
Exiting Leg Total					491					0					630					14	1135
Cars	2	617	0	1	620	0	0	0	0	0	0	484	3	1	488	8	0	3	0	11	1119
% Cars	25.0	99.4	0.0	100.0	98.4	0.0	0.0	0.0	0.0	0.0	0.0	99.4	50.0	100.0	98.8	100.0	0.0	100.0	0.0	100.0	98.6
Exiting Leg Total					488					0					626					5	1119
Heavy Vehicles	6	4	0	0	10	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	16
% Heavy Vehicles	75.0	0.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	50.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	1.4
Exiting Leg Total					3					0					4					9	16

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

3:00 PM	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	77	0	0	77	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	116
3:15 PM	1	59	0	0	60	0	0	0	0	0	0	51	1	0	52	0	0	0	0	0	112
3:30 PM	1	53	0	0	54	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	85
3:45 PM	1	59	0	0	60	0	0	0	0	0	0	46	1	0	47	0	0	0	0	0	107
Total Volume	3	248	0	0	251	0	0	0	0	0	0	167	2	0	169	0	0	0	0	0	420
% Approach Total	1.2	98.8	0.0	0.0		0.0	0.0	0.0	0.0		0.0	98.8	1.2	0.0		0.0	0.0	0.0	0.0		
PHF	0.750	0.805	0.000	0.000	0.815	0.000	0.000	0.000	0.000	0.000	0.000	0.819	0.500	0.000	0.813	0.000	0.000	0.000	0.000	0.000	0.905
Cars	1	247	0	0	248	0	0	0	0	0	0	165	1	0	166	0	0	0	0	0	414
Cars %	33.3	99.6	0.0	0.0	98.8	0.0	0.0	0.0	0.0	0.0	0.0	98.8	50.0	0.0	98.2	0.0	0.0	0.0	0.0	0.0	98.6
Heavy Vehicles	2	1	0	0	3	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	6
Heavy Vehicles %	66.7	0.4	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2	50.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	1.4
Cars Enter Leg	1	247	0	0	248	0	0	0	0	0	0	165	1	0	166	0	0	0	0	0	414
Heavy Enter Leg	2	1	0	0	3	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	6
Total Entering Leg	3	248	0	0	251	0	0	0	0	0	0	167	2	0	169	0	0	0	0	0	420
Cars Exiting Leg					165					0					247					2	414
Heavy Exiting Leg					2					0					1					3	6
Total Exiting Leg					167					0					248					5	420

PDI File #: **207444 CCC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Saturday, February 8, 2020**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	77	0	0	77	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	116
3:15 PM	1	58	0	0	59	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	108
3:30 PM	0	53	0	0	53	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	84
3:45 PM	0	59	0	0	59	0	0	0	0	0	0	46	1	0	47	0	0	0	0	0	106
Total	1	247	0	0	248	0	0	0	0	0	0	165	1	0	166	0	0	0	0	0	414
4:00 PM	0	47	0	1	48	0	0	0	0	0	0	31	0	0	31	1	0	0	0	1	80
4:15 PM	0	60	0	0	60	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	104
4:30 PM	0	52	0	0	52	0	0	0	0	0	0	40	0	1	41	0	0	0	0	0	93
4:45 PM	1	49	0	0	50	0	0	0	0	0	0	51	1	0	52	0	0	1	0	1	103
Total	1	208	0	1	210	0	0	0	0	0	0	166	1	1	168	1	0	1	0	2	380
5:00 PM	0	45	0	0	45	0	0	0	0	0	0	39	0	0	39	3	0	0	0	3	87
5:15 PM	0	40	0	0	40	0	0	0	0	0	0	40	1	0	41	1	0	1	0	2	83
5:30 PM	0	47	0	0	47	0	0	0	0	0	0	35	0	0	35	2	0	1	0	3	85
5:45 PM	0	30	0	0	30	0	0	0	0	0	0	39	0	0	39	1	0	0	0	1	70
Total	0	162	0	0	162	0	0	0	0	0	0	153	1	0	154	7	0	2	0	9	325
Grand Total	2	617	0	1	620	0	0	0	0	0	0	484	3	1	488	8	0	3	0	11	1119
Approach %	0.3	99.5	0.0	0.2		0.0	0.0	0.0	0.0		0.0	99.2	0.6	0.2		72.7	0.0	27.3	0.0		
Total %	0.2	55.1	0.0	0.1	55.4	0.0	0.0	0.0	0.0	0.0	0.0	43.3	0.3	0.1	43.6	0.7	0.0	0.3	0.0	1.0	
Exiting Leg Total					488					0					626					5	1119

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	77	0	0	77	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	116
3:15 PM	1	58	0	0	59	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	108
3:30 PM	0	53	0	0	53	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	84
3:45 PM	0	59	0	0	59	0	0	0	0	0	0	46	1	0	47	0	0	0	0	0	106
Total Volume	1	247	0	0	248	0	0	0	0	0	0	165	1	0	166	0	0	0	0	0	414
% Approach Total	0.4	99.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.4	0.6	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.802	0.000	0.000	0.805	0.000	0.000	0.000	0.000	0.000	0.000	0.842	0.250	0.000	0.847	0.000	0.000	0.000	0.000	0.000	0.892
Entering Leg	1	247	0	0	248	0	0	0	0	0	0	165	1	0	166	0	0	0	0	0	414
Exiting Leg					165					0					247					2	414
Total					413					0					413					2	828

PDI File #: 207444 CCC
 Location: N: Grove Street S: Grove Street
 Location: E: Driveway W: Grove Street Business Center
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Saturday, February 8, 2020
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0
3:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	3	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	6
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	2	0	0	5	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	6
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Grand Total	6	4	0	0	10	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	16
Approach %	60.0	40.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	0.0	0.0	0.0		
Total %	37.5	25.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0	18.8	18.8	0.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	3					0					4					9					16
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0
Single-Unit Trucks	6	4	0	0	10	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	0
% Single-Unit	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total	3					0					4					9					16
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0
Total Volume	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	9
% Approach Total	50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	33.3	66.7	0.0		0.0	0.0	0.0	0.0		
PHF	0.375	0.750	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.563
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0
Single-Unit %	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	9
Buses	0					0					0					0					0
Single-Unit Trucks	1					0					3					5					9
Articulated Trucks	0					0					0					0					0
Total Exiting Leg	1					0					3					5					9

PDI File #: **207444 CCC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Saturday, February 8, 2020**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0	

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0	
Total	0					0					0					0					0	

PDI File #: **207444 CCC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Saturday, February 8, 2020**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0
3:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	3	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	6
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	2	0	0	5	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	6
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	4
Grand Total	6	4	0	0	10	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	16
Approach %	60.0	40.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0		0.0	0.0	0.0	0.0		
Total %	37.5	25.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0	18.8	18.8	0.0	37.5	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	3					0					4					9					16

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	1	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0
Total Volume	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	9
% Approach Total	50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	33.3	66.7	0.0		0.0	0.0	0.0	0.0		
PHF	0.375	0.750	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.563
Entering Leg	3	3	0	0	6	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	9
Exiting Leg	1					0					3					5					9
Total	7					0					6					5					18

PDI File #: **207444 CCC**
 Location: **N: Grove Street S: Grove Street**
 Location: **E: Driveway W: Grove Street Business Center**
 City, State: **Franklin, MA**
 Client: **TetraTech/ S. Wood**
 Site Code: **143-276845-20002**
 Count Date: **Saturday, February 8, 2020**
 Start Time: **3:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street					Driveway					Grove Street					Grove Street Business Center					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: 207444 CCC
 Location: N: Grove Street S: Grove Street
 Location: E: Driveway W: Grove Street Business Center
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Saturday, February 8, 2020
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Bicycles (on Roadway and Crosswalks)

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: 207444 CCC
 Location: N: Grove Street S: Grove Street
 Location: E: Driveway W: Grove Street Business Center
 City, State: Franklin, MA
 Client: TetraTech/ S. Wood
 Site Code: 143-276845-20002
 Count Date: Saturday, February 8, 2020
 Start Time: 3:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 03:00 PM to 06:00 PM begins at:

	Grove Street							Driveway							Grove Street							Grove Street Business Center							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

Appendix B
Seasonal Adjustment Factors

Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

Round off:

0-999 = 10

>1000 = 100

U = Urban

R = Rural

1 - Interstate

2 - Freeway and Expressway

3 - Other Principal Arterial

4 - Minor Arterial

5 - Major Collector

6 - Minor Collector

7 - Local Road and Street

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113,1114,1116,2196,2197 and 2198.

Appendix C
Trip Generation Calculations

ITE Trip Generation Proposed Marijuana Dispensary Franklin, Massachusetts

Land Use Code 882 - Marijuana Dispensary					Size:	3.856	KSF
Time Period	R ² Value	Use Equation or Rate?	Rate	Percent Enter	In	Out	Total
Weekday Daily		Rate	252.7	50%	487	487	974
AM Street Peak Hour		Rate	10.44	56%	22	18	40
PM Street Peak Hour		Rate	21.83	50%	42	42	84
Saturday Daily		Rate	259.31	50%	500	500	1000
Saturday Peak Hour		Rate	36.43	50%	70	70	140

Source: *Trip Generation, Tenth Edition with Supplement*, (Institute of Transportation Engineers, 2020).

Land Use Code 150- Warehousing					Size:	7.584	KSF GFA
Time Period	R ² Value	Use Equation or Rate?	Rate	Percent Enter	In	Out	Total
Weekday Daily	0.93	Equation	1.74	50%	7	6	13
AM Street Peak Hour	0.69	Rate	0.17	77%	1	0	1
PM Street Peak Hour	0.65	Rate	0.19	27%	0	1	1
Saturday Daily		Rate	0.15	50%	1	0	1
Saturday Peak Hour		Rate	0.05	64%	0	0	0

Source: *Trip Generation, Tenth Edition with Supplement*, (Institute of Transportation Engineers, 2020).

Land Use Code 710 - General Office Building					Size:	4.647	KSF. GFA
Time Period	R ² Value	Use Equation or Rate?	Rate	Percent Enter	In	Out	Total
Weekday Daily		Rate	9.74	50%	22	23	45
AM Street Peak Hour		Rate	1.16	86%	4	1	5
PM Street Peak Hour		Rate	1.15	16%	1	4	5
Saturday Daily		Rate	2.21	50%	5	5	10
Saturday Peak Hour of Generator		Rate	0.53	54%	1	1	2

Source: *Trip Generation, Tenth Edition with Supplement*, (Institute of Transportation Engineers, 2020).

162 Grove Street - Warehouse, Office & Dispensary			
Time Period	In	Out	Total
Weekday Daily	516	516	1032
AM Street Peak Hour	27	19	46
PM Street Peak Hour	43	47	90
Saturday Daily	506	505	1011
Saturday Peak Hour	71	71	142

**NETA Transactions
Northampton, Massachusetts**

		8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	Grand Total
Sunday	10/13/2019	109	75	131	187	172	189	229	202	203	162	143	135	124	104	0	2165
Monday	10/14/2019	77	112	139	148	150	163	206	213	153	175	134	119	101	93	2	1985
Tuesday	10/15/2019	82	79	127	138	159	123	131	144	114	136	132	108	104	74	2	1653
Wednesday	10/16/2019	70	88	121	105	177	169	131	133	120	88	105	83	71	57	1	1519
Thursday	10/17/2019	67	84	92	142	165	148	150	167	143	146	120	138	101	60	1	1724
Friday	10/18/2019	117	115	143	177	195	195	229	212	207	222	205	188	174	126	0	2505
Saturday	10/19/2019	161	129	156	142	166	165	204	214	196	175	144	143	128	100	3	2226
Sunday	10/20/2019	94	153	179	176	172	196	174	228	161	150	148	122	95	83	0	2131
Monday	10/21/2019	63	94	128	149	176	163	146	135	138	123	120	107	117	85	4	1748
Tuesday	10/22/2019	76	89	88	116	155	108	103	128	108	120	115	105	90	83	1	1485
Wednesday	10/23/2019	70	96	107	152	161	148	150	144	161	158	137	140	115	76	2	1817
Thursday	10/24/2019	72	110	124	141	157	178	161	164	171	147	166	147	122	92	1	1953
Friday	10/25/2019	120	94	159	176	176	229	195	238	178	189	228	161	130	127	7	2407
Saturday	10/26/2019	141	160	197	209	240	203	221	193	211	199	144	138	96	129	2	2483
Sunday	10/27/2019	136	100	149	181	189	201	157	156	144	117	122	89	97	67	1	1906
Monday	10/28/2019	71	70	116	140	157	138	148	170	130	139	142	114	100	80	0	1715
Tuesday	10/29/2019	72	86	102	132	123	118	132	118	109	99	117	117	71	76	1	1473
Wednesday	10/30/2019	61	105	155	143	145	141	136	120	142	127	137	120	116	66	2	1716
Thursday	10/31/2019	76	84	133	131	160	146	136	146	133	132	122	100	90	83	1	1673
Friday	11/1/2019	136	130	187	176	188	253	203	253	198	192	192	187	161	149	3	2608
Saturday	11/2/2019	112	107	169	180	155	183	209	239	256	209	155	160	134	116	5	2389
Sunday	11/3/2019	188	167	164	160	185	189	188	201	180	138	146	120	71	63	2	2162
Monday	11/4/2019	63	78	124	122	160	131	144	127	130	105	108	95	88	59	0	1534
Tuesday	11/5/2019	45	79	87	129	126	146	131	135	120	120	100	95	96	56	5	1470
Wednesday	11/6/2019	77	88	120	152	138	122	125	140	110	146	132	109	61	68	1	1589
Thursday	11/7/2019	45	81	99	122	136	116	124	127	138	97	104	119	73	73	3	1457
Friday	11/8/2019	109	130	152	155	171	206	201	231	194	201	227	168	124	135	4	2408
Saturday	11/9/2019	191	163	155	229	234	259	267	307	239	198	186	140	129	91	6	2794
Sunday	11/10/2019	121	127	174	184	255	212	186	180	178	147	139	92	95	76	1	2167
Monday	11/11/2019	64	112	114	0	0	0	0	0	0	0	0	0	0	0	0	290
																	57152
Monday Average		69	89	127	140	161	149	161	161	138	136	126	109	102	79	2	1746
Tuesday Average		69	83	101	129	141	124	124	131	113	119	116	106	90	72	2	1520
Wednesday Average		70	94	126	138	155	145	136	134	133	130	128	113	91	67	2	1660
Thursday Average		65	90	112	134	155	147	143	151	146	131	128	126	97	77	2	1702
Friday Average		121	117	160	171	183	221	207	234	194	201	213	176	147	134	4	2482
Saturday Average		151	140	169	190	199	203	225	238	226	195	157	145	122	109	4	2473
Sunday Average		130	124	159	178	195	197	187	193	173	143	140	112	96	79	1	2106
Weekday Average		78	95	125	142	159	157	154	162	145	143	142	126	105	86	2	1822
Typ. Wkdy Average		68	89	113	134	150	139	134	139	131	126	124	115	93	72	2	1627

Northampton - Peak Transactions																	
Weekday Peak	136	130	187	176	188	253	203	253	198	192	192	187	161	149	3	2608	
Saturday Peak	191	163	155	229	234	259	267	307	239	198	186	140	129	91	6	2794	

Franklin - Projected Transactions																	
Weekday Peak	103	99	142	134	143	192	154	192	150	146	146	142	122	113	2	1982	
Saturday Peak	145	124	118	174	178	197	203	233	182	150	141	106	98	69	5	2123	

Registers
 Northampton 25
 Franklin (Proposed) 19

**Trip Generation based on NETA Data
Proposed Marijuana Dispensary
Franklin, Massachusetts**

Peak Hour	Transactions	Customer Trips			Customer Vehicle Trips ¹			Employee Vehicle Trips			Total Vehicle Trips		
		Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting	Total
AM	103	103	103	206	86	86	172	15	0	15	101	86	187
PM	192	192	192	384	160	160	320	0	15	15	160	175	335
Saturday	233	233	233	466	194	194	388	0	15	15	194	209	403

¹ Assumes customer trips/Vehicle Occupancy Rate

1.20 Vehicle Occupancy Rate

Appendix D

Mode Share

Workers Age 16+ by Mode of Transportation to Work
by Massachusetts Town of Employment in 2000

Source: 2000 Census Transportation Planning Package (CTPP)

CTPS
Central Transportation Planning Staff
Boston Metropolitan Planning Organization
10 Park Plaza, Suite 2150
Boston, MA 02116

Town#	Town	Total	Drove Alone	Carpooled	Public Transportation	Walked	Other Mode	Worked at Home	Percent Public Transportation
101	Franklin	16,752	14,180	1,429	148	265	85	645	0.9%
	State Total	3,178,368	2,352,744	288,244	274,485	135,045	30,355	97,495	8.6%

Appendix E
Traffic Projection Model

**Traffic Projection Model
Proposed Marijuana Dispensary
Franklin, Massachusetts**

AM Peak Hour

INTID	NAME	MOVEMENT	VOLUME	2020 Raw	Seasonal	2020 Existing	Entering	Exiting	Project In	Project Out	Entering	Exiting	Total Project Trips	2020 Build
	16 Grove Street & Business Park				1.00				101	86				
		NBL	12	10		10					0	0	0	10
		NBT	607	539		539		65%			0	56	56	595
		NBR	0	0		0					0	0	0	0
		SBL	0	0		0					0	0	0	0
		SBT	160	142		142	65%				66	0	66	208
		SBR	19	17		17					0	0	0	17
		EBL	5	5		5					0	0	0	5
		EBT	0	0		0					0	0	0	0
		EBR	1	1		1					0	0	0	1
		WBL	0	0		0					0	0	0	0
		WBT	0	0		0					0	0	0	0
		WBR	0	0		0					0	0	0	0
	21 Grove Street & Site Drive													0
		NBT	618	549		549					0	0	0	549
		NBR	0	0		0	35%				35	0	35	35
		SBL	0	0		0	65%				66	0	66	66
		SBT	161	143		143					0	0	0	143
		WBL	0	0		0		35%			0	30	30	30
		WBR	0	0		0		65%			0	56	56	56

**Traffic Projection Model
Proposed Marijuana Dispensary
Franklin, Massachusetts**

PM Peak Hour

INTID	NAME	MOVEMENT	VOLUME	2020 Raw	Seasonal	2020 Existing	Entering	Exiting	Project In	Project Out	Entering	Exiting	Total Project Trips	2020 Build
	16 Grove Street & Business Park				1.00				160	175				
		NBL	2	2		2					0	0	0	2
		NBT	291	277		277		65%			0	114	114	391
		NBR	0	0		0					0	0	0	0
		SBL	0	0		0					0	0	0	0
		SBT	530	505		505	65%				104	0	104	609
		SBR	3	3		3					0	0	0	3
		EBL	9	9		9					0	0	0	9
		EBT	0	0		0					0	0	0	0
		EBR	8	8		8					0	0	0	8
		WBL	0	0		0					0	0	0	0
		WBT	0	0		0					0	0	0	0
		WBR	0	0		0					0	0	0	0
	21 Grove Street & Site Drive													
		NBT	293	279		279					0	0	0	279
		NBR	0	0		0	35%				56	0	56	56
		SBL	0	0		0	65%				104	0	104	104
		SBT	539	513		513					0	0	0	513
		WBL	0	0		0		35%			0	61	61	61
		WBR	0	0		0		65%			0	114	114	114

**Traffic Projection Model
Proposed Marijuana Dispensary
Franklin, Massachusetts**

Saturday Peak Hour

INTID	NAME	MOVEMENT	VOLUME	2020 Raw	Seasonal	2020 Existing	Entering	Exiting	Project In	Project Out	Entering	Exiting	Total Project Trips	2020 Build
	16 Grove Street & Business Park				1.00				194	209				
		NBL	2	2		2					0	0	0	2
		NBT	167	167		167		65%			0	136	136	303
		NBR	0	0		0					0	0	0	0
		SBL	0	0		0					0	0	0	0
		SBT	248	248		248	65%				126	0	126	374
		SBR	3	3		3					0	0	0	3
		EBL	0	0		0					0	0	0	0
		EBT	0	0		0					0	0	0	0
		EBR	0	0		0					0	0	0	0
		WBL	0	0		0					0	0	0	0
		WBT	0	0		0					0	0	0	0
		WBR	0	0		0					0	0	0	0
	21 Grove Street & Site Drive													
		NBT	169	169		169					0	0	0	169
		NBR	0	0		0	35%				68	0	68	68
		SBL	0	0		0	65%				126	0	126	126
		SBT	248	248		248					0	0	0	248
		WBL	0	0		0		35%			0	73	73	73
		WBR	0	0		0		65%			0	136	136	136

Appendix F
Capacity Analysis Worksheets

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	5	0	1	0	0	0	10	539	0	0	142	17
Future Vol, veh/h	5	0	1	0	0	0	10	539	0	0	142	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	40	0	0	0	0	0	10	3	0	0	6	0
Mvmt Flow	5	0	1	0	0	0	11	573	0	0	151	18

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	755	755	160	756	764	573	169	0	0	573	0	0
Stage 1	160	160	-	595	595	-	-	-	-	-	-	-
Stage 2	595	595	-	161	169	-	-	-	-	-	-	-
Critical Hdwy	6.7	5.7	5.8	7.9	7.3	6.6	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.7	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.86	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	334	402	906	276	284	490	1361	-	-	1010	-	-
Stage 1	788	797	-	433	434	-	-	-	-	-	-	-
Stage 2	492	566	-	816	734	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	332	399	906	274	282	490	1361	-	-	1010	-	-
Mov Cap-2 Maneuver	332	399	-	274	282	-	-	-	-	-	-	-
Stage 1	782	797	-	430	430	-	-	-	-	-	-	-
Stage 2	488	561	-	815	734	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	14.9		0		0.1		0			
HCM LOS	B		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1361	-	-	371	-	1010	-	-
HCM Lane V/C Ratio	0.008	-	-	0.017	-	-	-	-
HCM Control Delay (s)	7.7	-	-	14.9	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		T			T
Traffic Vol, veh/h	0	0	549	0	0	143
Future Vol, veh/h	0	0	549	0	0	143
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	94	92	92	94
Heavy Vehicles, %	2	2	3	2	2	6
Mvmt Flow	0	0	584	0	0	152

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	736	584	0	0	584	0
Stage 1	584	-	-	-	-	-
Stage 2	152	-	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12	-
Critical Hdwy Stg 1	6.62	-	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	302	464	-	-	991	-
Stage 1	459	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	302	464	-	-	991	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	991
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	9	0	8	0	0	0	2	277	0	0	505	3
Future Vol, veh/h	9	0	8	0	0	0	2	277	0	0	505	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	50	1	0	0	2	33
Mvmt Flow	9	0	8	0	0	0	2	292	0	0	532	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	829	829	533	833	831	292	535	0	0	292	0	0
Stage 1	533	533	-	296	296	-	-	-	-	-	-	-
Stage 2	296	296	-	537	535	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.7	5.8	7.9	7.3	6.6	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	351	371	584	241	256	728	830	-	-	1281	-	-
Stage 1	601	595	-	671	629	-	-	-	-	-	-	-
Stage 2	766	718	-	472	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	350	370	584	237	255	728	830	-	-	1281	-	-
Mov Cap-2 Maneuver	350	370	-	237	255	-	-	-	-	-	-	-
Stage 1	600	595	-	669	627	-	-	-	-	-	-	-
Stage 2	764	716	-	465	468	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.7		0		0.1		0	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	830	-	-	431	-	1281	-	-
HCM Lane V/C Ratio	0.003	-	-	0.042	-	-	-	-
HCM Control Delay (s)	9.3	-	-	13.7	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	279	0	0	513
Future Vol, veh/h	0	0	279	0	0	513
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	95	92	92	95
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	0	0	294	0	0	540

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	834	294	0	0	294
Stage 1	294	-	-	-	-
Stage 2	540	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	256	710	-	-	1268
Stage 1	686	-	-	-	-
Stage 2	488	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	256	710	-	-	1268
Mov Cap-2 Maneuver	256	-	-	-	-
Stage 1	686	-	-	-	-
Stage 2	488	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1268	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	2	167	0	0	248	3
Future Vol, veh/h	0	0	0	0	0	0	2	167	0	0	248	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	50	1	0	0	0	67
Mvmt Flow	0	0	0	0	0	0	2	184	0	0	273	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	462	462	274	462	464	184	276	0	0	184	0	0
Stage 1	274	274	-	188	188	-	-	-	-	-	-	-
Stage 2	188	188	-	274	276	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.7	5.8	7.9	7.3	6.6	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	569	554	793	463	450	846	1055	-	-	1403	-	-
Stage 1	783	730	-	785	718	-	-	-	-	-	-	-
Stage 2	853	780	-	693	645	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	568	553	793	462	449	846	1055	-	-	1403	-	-
Mov Cap-2 Maneuver	568	553	-	462	449	-	-	-	-	-	-	-
Stage 1	782	730	-	784	717	-	-	-	-	-	-	-
Stage 2	851	779	-	693	645	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		0		0.1		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1055	-	-	-	-	1403	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-	-	-	-
HCM Control Delay (s)	8.4	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT			TT
Traffic Vol, veh/h	0	0	169	0	0	248
Future Vol, veh/h	0	0	169	0	0	248
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	91	92	92	91
Heavy Vehicles, %	2	2	1	2	2	0
Mvmt Flow	0	0	186	0	0	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	459	186	0	0	186
Stage 1	186	-	-	-	-
Stage 2	273	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	481	830	-	-	1388
Stage 1	795	-	-	-	-
Stage 2	706	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	481	830	-	-	1388
Mov Cap-2 Maneuver	481	-	-	-	-
Stage 1	795	-	-	-	-
Stage 2	706	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1388
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	5	0	1	0	0	0	10	595	0	0	208	17
Future Vol, veh/h	5	0	1	0	0	0	10	595	0	0	208	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	40	0	0	0	0	0	10	3	0	0	6	0
Mvmt Flow	5	0	1	0	0	0	11	633	0	0	221	18

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	884	884	230	885	893	633	239	0	0	633	0	0
Stage 1	230	230	-	654	654	-	-	-	-	-	-	-
Stage 2	654	654	-	231	239	-	-	-	-	-	-	-
Critical Hdwy	6.7	5.7	5.8	7.9	7.3	6.6	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.7	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.7	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.86	4	3.3	3.5	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	279	349	835	220	232	451	1282	-	-	960	-	-
Stage 1	731	755	-	397	403	-	-	-	-	-	-	-
Stage 2	461	539	-	738	675	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	277	346	835	218	230	451	1282	-	-	960	-	-
Mov Cap-2 Maneuver	277	346	-	218	230	-	-	-	-	-	-	-
Stage 1	725	755	-	394	400	-	-	-	-	-	-	-
Stage 2	457	534	-	737	675	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	0	0.1	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1282	-	-	312	-	960	-
HCM Lane V/C Ratio	0.008	-	-	0.02	-	-	-
HCM Control Delay (s)	7.8	-	-	16.8	0	0	-
HCM Lane LOS	A	-	-	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	56	549	35	66	143
Future Vol, veh/h	30	56	549	35	66	143
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	94	92	92	94
Heavy Vehicles, %	2	2	3	2	2	6
Mvmt Flow	33	61	584	38	72	152

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	899	603	0	0	622
Stage 1	603	-	-	-	-
Stage 2	296	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	229	451	-	-	959
Stage 1	447	-	-	-	-
Stage 2	684	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	210	451	-	-	959
Mov Cap-2 Maneuver	210	-	-	-	-
Stage 1	447	-	-	-	-
Stage 2	628	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	2.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	322	959
HCM Lane V/C Ratio	-	-	0.29	0.075
HCM Control Delay (s)	-	-	20.7	9.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	9	0	8	0	0	0	2	391	0	0	609	3
Future Vol, veh/h	9	0	8	0	0	0	2	391	0	0	609	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	50	1	0	0	2	33
Mvmt Flow	9	0	8	0	0	0	2	412	0	0	641	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1059	1059	643	1063	1060	412	644	0	0	412	0	0
Stage 1	643	643	-	416	416	-	-	-	-	-	-	-
Stage 2	416	416	-	647	644	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.7	5.8	7.9	7.3	6.6	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	258	286	512	160	179	615	749	-	-	1158	-	-
Stage 1	537	544	-	563	543	-	-	-	-	-	-	-
Stage 2	678	653	-	401	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	257	285	512	157	179	615	749	-	-	1158	-	-
Mov Cap-2 Maneuver	257	285	-	157	179	-	-	-	-	-	-	-
Stage 1	536	544	-	561	542	-	-	-	-	-	-	-
Stage 2	676	651	-	394	408	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	0	0	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	749	-	-	336	-	1158	-	-
HCM Lane V/C Ratio	0.003	-	-	0.053	-	-	-	-
HCM Control Delay (s)	9.8	-	-	16.3	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-

Intersection						
Int Delay, s/veh	6.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	61	114	279	56	104	513
Future Vol, veh/h	61	114	279	56	104	513
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	95	92	92	95
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	66	124	294	61	113	540

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1090	324	0	0	355
Stage 1	324	-	-	-	-
Stage 2	766	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	166	679	-	-	1204
Stage 1	658	-	-	-	-
Stage 2	355	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	144	679	-	-	1204
Mov Cap-2 Maneuver	144	-	-	-	-
Stage 1	658	-	-	-	-
Stage 2	307	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.7	0	1.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	296	1204
HCM Lane V/C Ratio	-	-	0.643	0.094
HCM Control Delay (s)	-	-	36.7	8.3
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	4.1	0.3

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	2	303	0	0	374	3
Future Vol, veh/h	0	0	0	0	0	0	2	303	0	0	374	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-4	-	-	4	-	-	2	-	-	-3	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	50	1	0	0	0	67
Mvmt Flow	0	0	0	0	0	0	2	333	0	0	411	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	750	750	413	750	751	333	414	0	0	333	0	0
Stage 1	413	413	-	337	337	-	-	-	-	-	-	-
Stage 2	337	337	-	413	414	-	-	-	-	-	-	-
Critical Hdwy	6.3	5.7	5.8	7.9	7.3	6.6	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.3	4.7	-	6.9	6.3	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	390	405	674	279	289	687	929	-	-	1238	-	-
Stage 1	680	655	-	632	598	-	-	-	-	-	-	-
Stage 2	734	695	-	566	544	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	389	404	674	279	288	687	929	-	-	1238	-	-
Mov Cap-2 Maneuver	389	404	-	279	288	-	-	-	-	-	-	-
Stage 1	679	655	-	631	597	-	-	-	-	-	-	-
Stage 2	732	694	-	566	544	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	0		0		0.1		0			
HCM LOS	A		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	929	-	-	-	-	1238	-	-
HCM Lane V/C Ratio	0.002	-	-	-	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		B			A
Traffic Vol, veh/h	73	136	169	68	126	248
Future Vol, veh/h	73	136	169	68	126	248
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, %	6	-	0	-	-	-4
Peak Hour Factor	92	92	91	92	92	91
Heavy Vehicles, %	2	2	1	2	2	0
Mvmt Flow	79	148	186	74	137	273

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	769	223	0	0	260
Stage 1	223	-	-	-	-
Stage 2	546	-	-	-	-
Critical Hdwy	7.62	6.82	-	-	4.12
Critical Hdwy Stg 1	6.62	-	-	-	-
Critical Hdwy Stg 2	6.62	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	286	787	-	-	1304
Stage 1	756	-	-	-	-
Stage 2	484	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	251	787	-	-	1304
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	756	-	-	-	-
Stage 2	424	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.8	0	2.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	451	1304
HCM Lane V/C Ratio	-	-	0.504	0.105
HCM Control Delay (s)	-	-	20.8	8.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.8	0.4

Appendix G

Parking Calculations

NETA Transactions
Northampton, Massachusetts

		8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	Grand Total
Sunday	10/13/2019	109	75	131	187	172	189	229	202	203	162	143	135	124	104	0	2165
Monday	10/14/2019	77	112	139	148	150	163	206	213	153	175	134	119	101	93	2	1985
Tuesday	10/15/2019	82	79	127	138	159	123	131	144	114	136	132	108	104	74	2	1653
Wednesday	10/16/2019	70	88	121	105	177	169	131	133	120	88	105	83	71	57	1	1519
Thursday	10/17/2019	67	84	92	142	165	148	150	167	143	146	120	138	101	60	1	1724
Friday	10/18/2019	117	115	143	177	195	195	229	212	207	222	205	188	174	126	0	2505
Saturday	10/19/2019	161	129	156	142	166	165	204	214	196	175	144	143	128	100	3	2226
Sunday	10/20/2019	94	153	179	176	172	196	174	228	161	150	148	122	95	83	0	2131
Monday	10/21/2019	63	94	128	149	176	163	146	135	138	123	120	107	117	85	4	1748
Tuesday	10/22/2019	76	89	88	116	155	108	103	128	108	120	115	105	90	83	1	1485
Wednesday	10/23/2019	70	96	107	152	161	148	150	144	161	158	137	140	115	76	2	1817
Thursday	10/24/2019	72	110	124	141	157	178	161	164	171	147	166	147	122	92	1	1953
Friday	10/25/2019	120	94	159	176	176	229	195	238	178	189	228	161	130	127	7	2407
Saturday	10/26/2019	141	160	197	209	240	203	221	193	211	199	144	138	96	129	2	2483
Sunday	10/27/2019	136	100	149	181	189	201	157	156	144	117	122	89	97	67	1	1906
Monday	10/28/2019	71	70	116	140	157	138	148	170	130	139	142	114	100	80	0	1715
Tuesday	10/29/2019	72	86	102	132	123	118	132	118	109	99	117	117	71	76	1	1473
Wednesday	10/30/2019	61	105	155	143	145	141	136	120	142	127	137	120	116	66	2	1716
Thursday	10/31/2019	76	84	133	131	160	146	136	146	133	132	122	100	90	83	1	1673
Friday	11/1/2019	136	130	187	176	188	253	203	253	198	192	192	187	161	149	3	2608
Saturday	11/2/2019	112	107	169	180	155	183	209	239	256	209	155	160	134	116	5	2389
Sunday	11/3/2019	188	167	164	160	185	189	188	201	180	138	146	120	71	63	2	2162
Monday	11/4/2019	63	78	124	122	160	131	144	127	130	105	108	95	88	59	0	1534
Tuesday	11/5/2019	45	79	87	129	126	146	131	135	120	120	100	95	96	56	5	1470
Wednesday	11/6/2019	77	88	120	152	138	122	125	140	110	146	132	109	61	68	1	1589
Thursday	11/7/2019	45	81	99	122	136	116	124	127	138	97	104	119	73	73	3	1457
Friday	11/8/2019	109	130	152	155	171	206	201	231	194	201	227	168	124	135	4	2408
Saturday	11/9/2019	191	163	155	229	234	259	267	307	239	198	186	140	129	91	6	2794
Sunday	11/10/2019	121	127	174	184	255	212	186	180	178	147	139	92	95	76	1	2167
Monday	11/11/2019	64	112	114	0	0	0	0	0	0	0	0	0	0	0	0	290
57152																	
Monday Average		69	89	127	140	161	149	161	161	138	136	126	109	102	79	2	1746
Tuesday Average		69	83	101	129	141	124	124	131	113	119	116	106	90	72	2	1520
Wednesday Average		70	94	126	138	155	145	136	134	133	130	128	113	91	67	2	1660
Thursday Average		65	90	112	134	155	147	143	151	146	131	128	126	97	77	2	1702
Friday Average		121	117	160	171	183	221	207	234	194	201	213	176	147	134	4	2482
Saturday Average		151	140	169	190	199	203	225	238	226	195	157	145	122	109	4	2473
Sunday Average		130	124	159	178	195	197	187	193	173	143	140	112	96	79	1	2106
Weekday Average		78	95	125	142	159	157	154	162	145	143	142	126	105	86	2	1822
Typ. Wkdy Average		68	89	113	134	150	139	134	139	131	126	124	115	93	72	2	1627

Northampton - Peak Transactions																	
Weekday Peak	136	130	187	176	188	253	203	253	198	192	192	187	161	149	3	2608	
Saturday Peak	191	163	155	229	234	259	267	307	239	198	186	140	129	91	6	2794	

Franklin - Projected Transactions																	
Weekday Peak	103	99	142	134	143	192	154	192	150	146	146	142	122	113	2	1982	
Saturday Peak	145	124	118	174	178	197	203	233	182	150	141	106	98	69	5	2123	

Registers

Northampton	25
Franklin (Proposed)	19

**NETA Franklin
Customer Projections**

Franklin - Projected Transactions¹

		8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	Daily Total
Weekday	Peak	103	99	142	134	143	192	154	192	150	146	146	142	122	113	2	1982
Saturday	Peak	145	124	118	174	178	197	203	233	182	150	141	106	98	69	5	2123

Franklin - Parking Spaces Needed²

		8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	Daily Max
Weekday	Peak	35	33	48	45	48	64	52	64	50	49	49	48	41	38	1	64
Saturday	Peak	49	42	40	58	60	66	68	78	61	50	47	36	33	23	2	78

	Duration (minutes)		Turnover (per hour)
	Avg (Noho)	Assumed	
Weekday	13:24	20	3
Saturday	14:49	20	3

Notes:

1. Projected transactions based on transactions from Northampton facility, factored down to represent 19 registers.
2. Parking spaces needed assume durations shown above for weekday and Saturday (higher than observed in Northampton due to novelty factor).

NETA Franklin
Projected Weekday Hourly Parking Demand

	Time of Day																
	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM
Warehouse	3	3	3	6	6	6	6	6	6	6	6	3	3	3	0	0	0
Retail	0	15	15	25	40	40	50	50	50	50	50	50	35	35	25	10	10
Total	3	18	18	31	46	46	56	56	56	56	56	53	38	38	25	10	10
Employees-Warehouse	3	3	3	6	6	6	6	6	6	6	6	3	3	3	0	0	0
Employees-Retail	0	15	15	25	40	40	50	50	50	50	50	50	35	35	25	10	10
Customers	0	0	35	33	48	45	48	64	52	64	50	49	49	48	41	38	1
Total Parking Demand	3	18	53	64	94	91	104	120	108	120	106	102	87	86	66	48	11
Existing Parking Supply	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Proposed Parking Supply	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141
Surplus Parking	138	123	88	77	47	50	37	21	33	21	35	39	54	55	75	93	130

NETA Franklin - Projected Weekday Staffing Levels					
	6-4:30	7-5:30	8:30-7:00	10:00-8:30	12:00-10:30
Warehouse	3	0	3	0	0
Retail/Office	0	15	10	15	10
Total	3	15	13	15	10

NETA Franklin
Projected Saturday Hourly Parking Demand

	Time of Day																
	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM
Warehouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Retail	0	15	15	25	40	40	50	50	50	50	50	50	35	35	25	10	10
Total	0	15	15	25	40	40	50	50	50	50	50	50	35	35	25	10	10
Employees-Warehouse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Employees-Retail	0	15	15	25	40	40	50	50	50	50	50	50	35	35	25	10	10
Customers	0	0	49	42	40	58	60	66	68	78	61	50	47	36	33	23	2
Total Parking Demand	0	15	64	67	80	98	110	116	118	128	111	100	82	71	58	33	12
Existing Parking Supply	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Proposed Parking Supply	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141	141
Surplus Parking	141	126	77	74	61	43	31	25	23	13	30	41	59	70	83	108	129

NETA Franklin - Projected Weekday Staffing Levels					
	6-4:30	7-5:30	8:30-7:00	10:00-8:30	12:00-10:30
Warehouse	0	0	0	0	0
Retail/Office	0	15	10	15	10
Total	0	15	10	15	10



June 25, 2020

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

Re: 162 Grove Street
Traffic Peer Review

Dear Mr. Padula:

BETA Group, Inc. (BETA) is pleased to provide traffic engineering peer review services for the traffic related items for proposed Site Plan Approval application, "Site Layout Plan – 162 Grove Street, Franklin, Massachusetts." This letter is provided to outline findings, comments, and recommendations.

BASIS OF REVIEW

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

- Traffic Summary, dated May 22, 2020 and prepared by Tetra Tech of Marlborough, MA.
- Site Plan set (10 Sheets) entitled Site Plan 162 Grove Street dated May 21, 2020 and prepared by United Consultants, Inc. of Wrentham, MA.

INTRODUCTION

The project site consists of 162 Grove Street, a vacant, developed parcel formerly used as a truck terminal (the "Site"). The parcel contains an area of 4.003 Acres and is located along the eastern side of Grove Street. The Site and all surrounding properties are located within the Industrial Zoning District. The parcel is also within the Marijuana Use Overlay District.

The existing Site includes a house and a warehouse. The applicant proposes to retain the existing building for conversion into a Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment. Associated site developments will include expansion of the existing parking area, and a 2,583 sq. ft. new addition to the existing building.

FINDINGS, COMMENTS AND RECOMMENDATIONS

Access to the site will be provided via the existing driveway.

The study area includes the following intersections.

- Grove Street at 162 Grove Street driveway (unsignalized)
- Grove Street at Business Park (unsignalized)

The study area was found to be inadequate due to the number of vehicles trips generated by this project.

- T1. Additional intersections, including the intersections of Grove Street at Washington Street and Grove Street and Route 140, should be added to the study area

Manual turning movement counts (TMCs) were collected on Thursday, February 6th, 2020 from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, and Saturday, February 8th, 2020 from 3:00 PM to 6:00 PM. These time periods were chosen because they are representative of the peak traffic volume period for the development. Traffic volume data were also collected via automatic traffic recorder (ATR) on Grove Street, south of 162 Grove Street, over a 72-hour period between Thursday, February 6th, 2020 and Saturday, February 8th, 2020. These volumes are consistent with data recently collected as part of another project. and the collection occurred prior to the decrease in traffic patterns related to COVID-19. BETA concurs with the traffic data collection time periods.

Historical traffic count data collected by MassDOT were reviewed to determine the need for a seasonal adjustment. Traffic volumes in February were found to be average-month conditions. As a result, no seasonal adjustment was added to the existing volumes. BETA finds this methodology acceptable.

Vehicle speeds were measured via ATR along Grove Street. The posted speed limit on Grove Street is 40 miles per hour (mph). The 85th percentile speeds were measured at 40 mph northbound and 41 mph southbound, which are acceptable for a posted 40 mph roadway.

Project-generated traffic volumes were determined by utilizing trip-generation statistics published by the Institute of Transportation Engineers (ITE) for land use code (LUC) 150 - Warehouse, LUC 882 – Marijuana Dispensary, and LUC 710 General Office Building.

Based on the Institute of Transportation Engineers (ITE) for land use code (LUC) 150 - Warehouse, LUC 882 – Marijuana Dispensary, and LUC 710 General Office Building the project site would generate a total of 1,032 new trips on an average weekday and with 46 (27 entering, 19 exiting) during the weekday morning peak hour and 90 (43 entering, 47 exiting) during the weekday afternoon peak hour. The Saturday daily trips of 1,011 and mid-day peak trips are 142 (71 entering, 71 exiting).

Additionally, empirical trip data collected at a similar NETA facility in Northampton from October 13, 2019 to November 11, 2019 was provided. The Northampton facility consists of 25 registers while the proposed facility would have 19 registers.

The trips from both resources were compared, and it was determined that the empirical data was higher than the ITE data, and therefore, the empirical data was utilized for the marijuana dispensary trip generation and factored down to represent 19 registers. A maximum number of 56 employees between the retail and warehouse will be onsite during the weekday afternoon peak, and 50 during the Saturday peak, which was not included as part of the NETA empirical data. A portion of those employees will be entering and exiting during the peak periods.

The 4,647 square feet of office does not appear to be included in the trip generation calculations.

- T2. Verify that office space is included within the NETA Northampton facility and the associated square footage.

Next, based on customer surveys conducted at the NETA facility in Brookline, it was determined that the vehicle occupancy rate (VOR) for that facility was 1.25 persons per vehicle. To provide a more conservative estimate a VOR of 1.20 persons per vehicle was used for the project site. BETA finds this methodology reasonable.

Based on the described methodology, the project site would generate a total of 3,416 new trips on an average weekday and with 187 (101 entering, 86 exiting) during the weekday morning peak hour and 335 (160 entering, 175 exiting) during the weekday afternoon peak hour. The Saturday daily trips of 3,638 and mid-day peak trips are 403 (194 entering, 209 exiting).

New trips were distributed based on existing traffic patterns with approximately 35 percent of traffic heading to and from Washington Street and the remaining 65 percent heading to and from Route 140.

T3. The travel splits shown in Table 1 significantly differ those used in the study., especially for Saturday. Verify the distribution splits applied to the new trips.

Traffic operations analysis was performed with Synchro software based on the 2010 Highway Capacity Manual methodologies. Most movements during the 2020 Build condition would continue to operate at LOS C or better. The site driveway left-turn movement would operate at LOS E. Based on this study, the project appears to have minimal impacts to Level of Service (LOS) when compared to the Existing conditions, however, the study area only consists of the unsignalized intersections of Grove Street at the site driveway and Grove Street at Business Park intersections and does not include a seven-year horizon analysis.

T4. The Board has expressed concern about the number of developments contributing to existing traffic and safety issues along Grove Street. The following standard traffic study components were not included as part of the submission and should be included to understand the full impacts of this project to the surrounding infrastructure:

- Sight distance analysis. Based on field observations, there is limited sight distance approaching the site from the south.
- Background development-related traffic growth that may increase traffic within the study area was not identified.
- Growth rate was not included because the Build analysis was performed using the year 2020 and not a seven-year horizon. A 1 percent growth has been applied for other recently proposed developments in Franklin.
- No-Build analysis.
- Crash data for the most recent three years.

The parking demand was determined by providing up to 56 employee parking spaces during the weekday and 50 spaces during the Saturday highest peak hours and assuming a turnover rate of three vehicles per hour (every 20 minutes). The highest peak is anticipated on Saturday from 3:00 PM – 4:00 PM. The study indicated that the parking anticipated for the peak is anticipated to be 50 employee spaces and 78 additional spaces, for a total of 128 parking spaces needed during the highest peak hour. Based on BETA's experience, and as would be expected, patrons are processed at a faster rate with the larger number of registers at a facility, and therefore the turnover rate would be higher. However, the anticipated 128 parking space demand during the highest peak periods would be very close to the proposed parking supply of 141 spaces.

T5. If available, empirical data of 15-minute interval parking demands for a similar facility, not near public transit and with an on-site parking lot, should be provided to further support the proposed parking supply.

Mr. Anthony Padula, Chairman

June 25, 2020

Page 4 of 4

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

Very truly yours,
BETA Group, Inc.

Jaklyn Centracchio

Jaklyn Centracchio, PE, PTOE
Senior Project Engineer

cc: Amy Love, Planner
Job No: 4830-64



May 22, 2020

Ms. Amanda Rositano, President
NETA, LLC
5 Forge Parkway
Franklin MA 02038

**Re: Traffic Summary
Proposed Marijuana Dispensary
162 Grove Street, Franklin**

Dear Ms. Rositano:

This letter provides a summary of our review of potential traffic and parking impacts associated with the proposed redevelopment of the former Doering Equipment Company, located at 162 Grove Street in Franklin, Massachusetts. The project site had previously supported the former commercial vehicle design and fabrication facility, which is currently vacant. The proposed project calls for the reuse of the existing commercial buildings with an infill expansion for a total of 16,087 square feet of development to support the proposed marijuana dispensary and supporting office and warehouse space.

Access to the site will be provided by the existing driveway located on the east side of Grove Street, approximately 160 feet south of the Grove Street Business Park. The anticipated parking demands associated with the proposed project will be accommodated by 141 on-site parking spaces. This letter documents our findings.

Project Description

The project site consists of approximately four acres of land located on the east side of Grove Street in Franklin, Massachusetts. The project site location in relation to the surrounding area roadways is shown on Figure 1. The project site currently includes a house and a 9,640 square foot rear warehouse and is unoccupied. A 2,583 square foot building addition is proposed which would bring the total building area up to 16,087 square feet (sf), including 3,856 sf of retail space, 4,647 sf of office space, and 7,584 sf of warehouse space related to the sale of medical and adult-use marijuana products. A total of 141 parking spaces, including five handicap accessible spaces, is proposed.

Existing Conditions

The site is accessed by Grove Street, which is a 2.5-mile long minor arterial under local jurisdiction that generally runs in a north-south direction, connecting Route 140 to Washington Street. Grove Street generally provides a single travel lane in each direction with left-turn lanes at some intersections. There are no sidewalks along Grove Street, but there is one pedestrian crossing across Grove Street south of the site at the Southern New England Trunkline Trail crossing. Land uses along Grove Street include a mix of industrial, residential, and business. The Marijuana Overlay District exists along Grove Street in the vicinity of Kenwood Circle and includes the site of the proposed retail marijuana facility. The posted speed limit is 40 miles per hour (mph) along Grove Street.

Existing Traffic Volumes

Peak period intersection turning movement counts (TMCs) were collected in February 2020 to establish existing traffic levels in the vicinity of the project site. Automatic traffic recorder (ATR) counts were also collected in February 2020 to establish daily traffic volumes on Grove Street adjacent to the project site. A brief summary of the daily and peak period traffic counts collected as part of this study is presented below.

Daily Traffic Volumes

ATR counts were conducted along Grove Street in the site vicinity on Thursday, February 6, 2020 through Saturday, February 8, 2020 to establish weekday daily traffic volume patterns. The ATR data indicates that Grove Street carries a total two-way traffic volume of approximately 7,105 vehicles per day (vpd) on a typical weekday. On a typical Saturday, Grove Street carries approximately 5,372 vpd. A more detailed summary of the ATR data is presented in Table 1.

Table 1 Daily Traffic Volume Summary – Grove Street

Date	Daily (vpd) ¹	AM Peak Hour (vph) ²	AM Peak Hour Travel Split	PM Peak Hour (vph)	PM Peak Hour Travel Split
Thursday, February 6, 2020	7,105	687	80% NB	744	67% SB
Friday, February 7, 2020	7,482	684	78% NB	662	58% SB
Saturday, February 8, 2020	5,372	548	51% SB	572	51% SB

Based on automatic traffic recorder counts collected on Thursday, February 6, 2020 through Saturday, February 8, 2020

¹vpd = vehicles per day
²vph = vehicles per hour

Speed data was also collected with the ATRs that were placed along Grove Street. The ATR data indicates the 85th percentile speeds are 40 miles per hour (mph) in the northbound direction and 41 mph in the southbound direction. This is consistent with the posted speed limit of 40 mph. The ATR daily traffic volume and speed data is presented in Appendix A.

Peak Hour Traffic Volumes

The combined critical peak demand periods of site traffic and adjacent street traffic will occur during the weekday morning and weekday evening commuter peak hours. Since the retail component is expected to peak on a Saturday, the Saturday afternoon time period was also evaluated. The TMCs were collected on Thursday, February 6, 2020 and Saturday, February 8, 2020 at the study intersections. The TMC data was collected during the typical weekday morning and weekday evening commuter “peak periods” (from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM) and on Saturday from 3:00 PM to 6:00 PM. The weekday morning peak hour occurred from 7:00 AM to 8:00 AM and the evening peak hour occurred from 4:30 PM to 5:30 PM. The Saturday afternoon peak hour occurred from 3:00 to 4:00 PM. The turning movement counts are provided in Appendix A.

Over the course of the year, traffic volumes can vary by season due to many factors. MassDOT seasonal factors were reviewed to determine if seasonal adjustments were necessary for the traffic counts collected in February. Based on latest published MassDOT seasonal adjustment factors, traffic volume data collected in the month of February for urban minor arterials are equal to the average annual daily traffic volumes. Therefore, no seasonal adjustment was applied to the as-counted 2020 volumes. The MassDOT seasonal adjustment factors are provided in Appendix B. The 2020 Existing Conditions traffic volumes are presented in Figure 2 for the weekday morning, weekday evening, and Saturday evening peak hours.

Project Trip Generation

Trip generation estimates for the project were first developed based on data presented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition with Supplement* (2020). The project will consist of approximately 3,856 sf of retail space, 4,647 sf of office space, and 7,584 sf of warehouse space. Trip estimates for the proposed dispensary at the site were based on the ITE trip rates for land use code 882 (Marijuana Dispensary), land use code 710 (General Office Building) and land use code 150 (Warehousing). The ITE trip generation is shown in Table 2.

Table 2 Project Trip Generation Summary

Time Period	Warehouse ¹ (7,584 SF)	Marijuana Dispensary ² (3,856 SF)	Office ³ (4,647 SF)	Total Trip Generation ⁴ (17,526 SF)
Weekday Daily				
Enter	7	487	22	516
Exit	<u>6</u>	<u>487</u>	<u>23</u>	516
Total	13	974	45	1,032
Weekday Morning Peak Hour				
Enter	1	22	4	27
Exit	<u>0</u>	<u>18</u>	<u>1</u>	19
Total	1	40	5	46
Weekday Evening Peak Hour				
Enter	0	42	1	43
Exit	<u>1</u>	<u>42</u>	<u>4</u>	47
Total	1	84	5	90
Saturday Daily				
Enter	1	500	5	506
Exit	<u>0</u>	<u>500</u>	<u>5</u>	505
Total	1	1000	10	1011
Saturday Peak Hour				
Enter	0	70	1	71
Exit	<u>0</u>	<u>70</u>	<u>1</u>	71
Total	0	140	2	142

¹Based on ITE *Trip Generation Manual, 10th Edition* trip rates for Land Use 150 (Warehousing) applied to 7,584 sf.

²Based on ITE *Trip Generation Manual, 10th Edition* trip rates for Land Use 882 (Marijuana Dispensary) applied to 3,856 sf.

³Based on ITE *Trip Generation Manual, 10th Edition* trip rates for Land Use 710 (General Office Building) applied to 4,647 sf.

Based on ITE data, the site would be expected to generate approximately 46 trips (27 entering trips and 19 exiting trips) during the weekday morning commuter peak hour, 90 trips (43 entering trips and 47 exiting trips) during the weekday afternoon commuter peak hour, and 142 vehicle trips (71 entering trips and 40 exiting trips) during the Saturday peak hour.

Transaction and traffic count data from NETA's Northampton dispensary were obtained in order to determine if the ITE data was suitable for use in this study. Based on ITE data, the Northampton site would be expected to generate 1,845 weekday daily vehicle trips, but the site generated more than 2,000 trips on a Thursday and more than 2,800 vehicle trips on a Friday and Saturday. Since the NETA site generates more than would be expected using ITE

data, the project trip generation estimates for the proposed Franklin site were calculated based on the number of transactions at the existing Northampton site.

The Northampton dispensary has 25 registers and generated a maximum of 2,608 and 2,794 daily transactions on a weekday and Saturday, respectively. This included a maximum of 136, 253, and 307 hourly transactions during the weekday morning, weekday afternoon, and Saturday peak hours, respectively. The proposed retail space in Franklin is expected to have less traffic with only 19 registers. In order to estimate the number of transactions in Franklin, the Northampton transaction data was factored down to account for the 19 registers in Franklin. Based on this, the Franklin facility would be expected to generate approximately 1,982 transactions on a weekday and 2,123 transactions on a Saturday. A summary of the transactions is shown in Table 3.

Table 3 Transaction Summary

Time Period	Northampton (Actual) ¹	Franklin (Projected) ²
Registers	25	19
Maximum Weekday Transactions		
Daily	2,608	1,982
AM Peak Hour	136	103
PM Peak Hour	253	192
Maximum Saturday Transactions		
Daily	2,794	2,123
Peak Hour	307	233

¹Based on NETA transaction data from 10/13/19 to 11/11/19.

²Franklin projected transactions are based on Northampton transactions factored down to account for smaller number of registers.

Employee trips would also contribute to the overall trip generation for the site. NETA provided projected staffing levels for shift times throughout the day. The staffing levels were used to calculate the new employee trips associated with the proposed retail on the site. A total of 50 retail employees are projected each day, staggered over the course of the day, but with all 50 retail employees expected to be on site from noon to 5:00 PM.

Up to an additional six warehouse employees are expected on site over the course of the day on weekdays, including up to three employees during each of the two shifts. A breakdown of employees by shift is included in Table 4.

Table 4 NETA Staffing Levels

Employee Type	6:00 AM – 4:30 PM	7:00 AM – 5:30 PM	9:00 AM – 7:30 PM	10:00 AM – 8:30 PM	12:00 PM – 10:30 PM	Total
Warehouse	3	0	3	0	0	6
Retail	0	15	10	15	10	50
Total	3	15	13	15	10	56

As shown in Table 4, the total number of employees is expected to be a maximum of 56 on a weekday. On a Saturday, the warehouse employees are not assumed to work, so the maximum employees would be 50.

The projected customer transactions were converted to vehicle trips, as shown in Table 5, assuming one entering and one exiting trip for each customer. As shown, the proposed marijuana dispensary is expected to generate approximately 3,964 customer trips on a weekday, including approximately 206 and 384 customer trips during the morning and afternoon peak hours, respectively. On a Saturday, the retail addition is expected to generate approximately 4,246 customer trips, including 466 customer trips during the peak hour. The trip generation calculations are provided in Appendix C.

Travel Mode Share

The site is located approximately two miles away from the nearest MBTA commuter rail stations. Consequently, it is not likely that many customers and/or employees of the proposed retail operation would use mass transit. Mode of transportation data for employees working in Franklin shows that less than one percent of employees in Franklin commute to work by public transit. In order to provide a conservative estimate of the traffic impacts of this site, all trips are assumed to be made by automobile. Customers to the site may share rides and carpool. Based on customer surveys conducted at NETA's existing dispensary in Brookline, the vehicle occupancy rate (VOR) was calculated to be 1.25 persons per vehicle. In order to provide a conservative estimate, a VOR of 1.20 persons/vehicle was assumed. The carpool reduction is also shown in Table 5. The mode share data is provided in Appendix D.

The retail marijuana employee trips were then added to the retail customer trips and warehouse trips to determine the total trip generation for the proposed site. The total trip generation is shown in Table 5.

Table 5 Project Trip Generation Summary

Time Period	ITE		NETA		
	Total Trip Generation ¹	Customer Trips ²	Customer Vehicle Trips ³	Employee Trips ⁴	Total Trip Generation ⁵
Weekday Daily					
Enter	516	1,982	1,652	56	1,708
Exit	<u>516</u>	<u>1,982</u>	<u>1,652</u>	<u>56</u>	<u>1,708</u>
<i>Total</i>	1,032	3,964	3,304	112	3,416
Weekday Morning Peak Hour					
Enter	27	103	86	15	101
Exit	<u>19</u>	<u>103</u>	<u>86</u>	<u>0</u>	<u>86</u>
<i>Total</i>	46	206	172	15	187
Weekday Evening Peak Hour					
Enter	43	192	160	0	160
Exit	<u>47</u>	<u>192</u>	<u>160</u>	<u>15</u>	<u>175</u>
<i>Total</i>	90	384	320	15	335
Saturday Daily					
Enter	506	2,123	1,769	50	1,819
Exit	<u>505</u>	<u>2,123</u>	<u>1,769</u>	<u>50</u>	<u>1,819</u>
<i>Total</i>	1,011	4,246	3,538	100	3,638
Saturday Peak Hour					
Enter	71	233	194	0	194
Exit	<u>71</u>	<u>233</u>	<u>194</u>	<u>15</u>	<u>209</u>
<i>Total</i>	142	466	388	15	403

¹Based on ITE *Trip Generation Manual, 10th Edition* as detailed in Table 4.

²Based on Northampton transaction data factored down to account for number of registers proposed in Franklin, assuming one trip in and one trip out per customer.

³Based on a Vehicle Occupancy Rate (VOR) of 1.20 persons/vehicle.

⁴Based on NETA employee shift projections.

⁵Sum of employee and customer vehicle trips.

As shown in Table 5, the NETA dispensary with associated office and warehouse space is expected to generate approximately 3,416 vehicle trips on a weekday, including 187 during the morning peak hour and 335 trips during the afternoon peak hour. On a Saturday, the site is expected to generate approximately 3,638 vehicle trips, including 403 peak hour trips.

Project Trip Distribution

The project-related traffic was distributed to the study roadway system based on a review of existing travel patterns of the adjacent roadway network. Based on the existing travel patterns, approximately 35 percent of traffic on Grove Street travels to and from the south with the remaining 65 percent oriented to and from the north. The potential traffic increases associated with the proposed project were then assigned to the roadway network based on the

existing travel patterns on Grove Street. The resulting project-related traffic volumes are presented in Figure 3 for the weekday morning, weekday afternoon, and Saturday peak hours.

2020 Build

The new trips associated with the proposed project were then added to the 2020 Existing traffic volumes. The resulting 2020 Build (With Project) weekday morning, weekday afternoon and Saturday peak hour traffic volumes are presented in Figure 4. The project Traffic Projection Model detailing the traffic volumes for the existing and Build conditions is provided in Appendix E.

Operations Analysis

Level-of-service (LOS) is a term used to describe the quality of traffic flow on roadways or at intersections. It is an aggregate measure of travel delay, driver convenience and safety based on a comparison of a roadway facility’s capacity relative to the traffic demands. Operating levels of service are reported on a scale of A to F, with A representing the best operating conditions (with little or no vehicle delay) and F representing the worst operating conditions (with long delays). The capacity analyses for the study intersections were based on the 2010 Highway Capacity Manual (HCM). The level-of-service criteria for signalized and unsignalized intersections are presented in Table 6.

Table 6 Intersection Level-of-Service Criteria

Level of Service ¹	Average Delay per Vehicle (Seconds)
	Unsignalized Intersections
A	≤10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	>50.0

Source: Transportation Research Board Highway Capacity Manual, HCM 2010

¹If the v/c is greater than 1.0, than the level-of-service designation is LOS F, regardless of delays

The results of the intersection capacity analyses for the weekday morning, weekday evening, and Saturday afternoon peak hour conditions are summarized in Table 7. Detailed intersection capacity analysis worksheets are provided in Appendix F. As shown in Table 7, Grove Street operates at LOS A during all three peak hours under existing conditions and will continue to operate at LOS A with the proposed project in place. Delays along the Business Park driveway are currently 15 seconds or less and will continue to operate at acceptable LOS C or better with delays less than 17 seconds during all three peak hours through the projected 2020 Build (With Project) conditions. The site driveway is also expected to operate well below capacity (LOS E or better) during all three peak hours.

Table 7 Unsignalized Intersection Capacity Analysis Summary

Intersection	Movement	2020 Existing				2020 Build			
		v/c ¹	Delay ²	LOS ³	95 th Q ⁴	v/c	Delay	LOS	95 th Q
Grove Street & Business Park									
AM Peak Hour	NB L	0.01	7.7	A	0	0.01	7.8	A	0
	EB Ln1	0.02	14.9	B	0.1	0.02	16.8	C	0.1
	WB Ln1	0.00	0.0	A	0	0.00	0.0	A	0
	SB L	0.00	0.0	A	0	0.00	0.0	A	0
PM Peak Hour	NB L	0.00	9.3	A	0	0.00	9.8	A	0
	EB Ln1	0.04	13.7	B	0.1	0.05	16.3	C	0.2
	WB Ln1	0.00	0.0	A	0	0.00	0.0	A	0
	SB L	0.00	0.0	A	0	0.00	0.0	A	0
Saturday Peak Hour	NB L	0.00	8.4	A	0	0.00	8.9	A	0
	EB Ln1	0.00	0.0	A	0	0.00	0.0	A	0
	WB Ln1	0.00	0.0	A	0	0.00	0.0	A	0
	SB L	0.00	0.0	A	0	0.00	0.0	A	0
Grove Street & Site Drive									
AM Peak Hour	SB L	-	-	-	-	0.08	9.1	A	0.2
	WB Ln1	-	-	-	-	0.29	20.7	C	1.2
PM Peak Hour	SB L	-	-	-	-	0.09	8.3	A	0.3
	WB Ln1	-	-	-	-	0.64	36.7	E	4.1
Saturday Peak Hour	SB L	-	-	-	-	0.11	8.1	A	0.4
	WB Ln1	-	-	-	-	0.50	20.8	C	2.8

¹v/c = Volume to capacity ratio ²Delay = Average delay per vehicle (seconds) ³LOS = Level of Service ⁴95th percentile queue (vehicles)

Project Parking Demands

The existing parking supply will be expanded to accommodate the total number of employees and customers at the site at any given time. In order to determine the total number of spaces needed to accommodate the marijuana facility operations, parking projections for the proposed employees and customers have been made based on NETA's shift schedule. The total hourly parking demand is shown for a weekday and Saturday is shown in Charts 1 and 2, below. As shown in the charts, the maximum projected parking demand is expected to be 120 parking spaces on a weekday and 128 parking spaces on a Saturday. The proposed parking supply of 141 spaces is adequate to support the projected parking demands. The supporting parking calculations are included in Appendix G.

Conclusions

Based on the analysis presented in this report, the projected traffic increases associated with the proposed project can be accommodated at the proposed site driveway with no noticeable impact on the future traffic operations at the adjacent study area intersection (through the projected 2020 Build (With Project) weekday commuter peak hour and Saturday afternoon peak conditions). In addition, the existing parking lot will be expanded to provide a total of 141 parking spaces to accommodate the anticipated future peak parking demands.

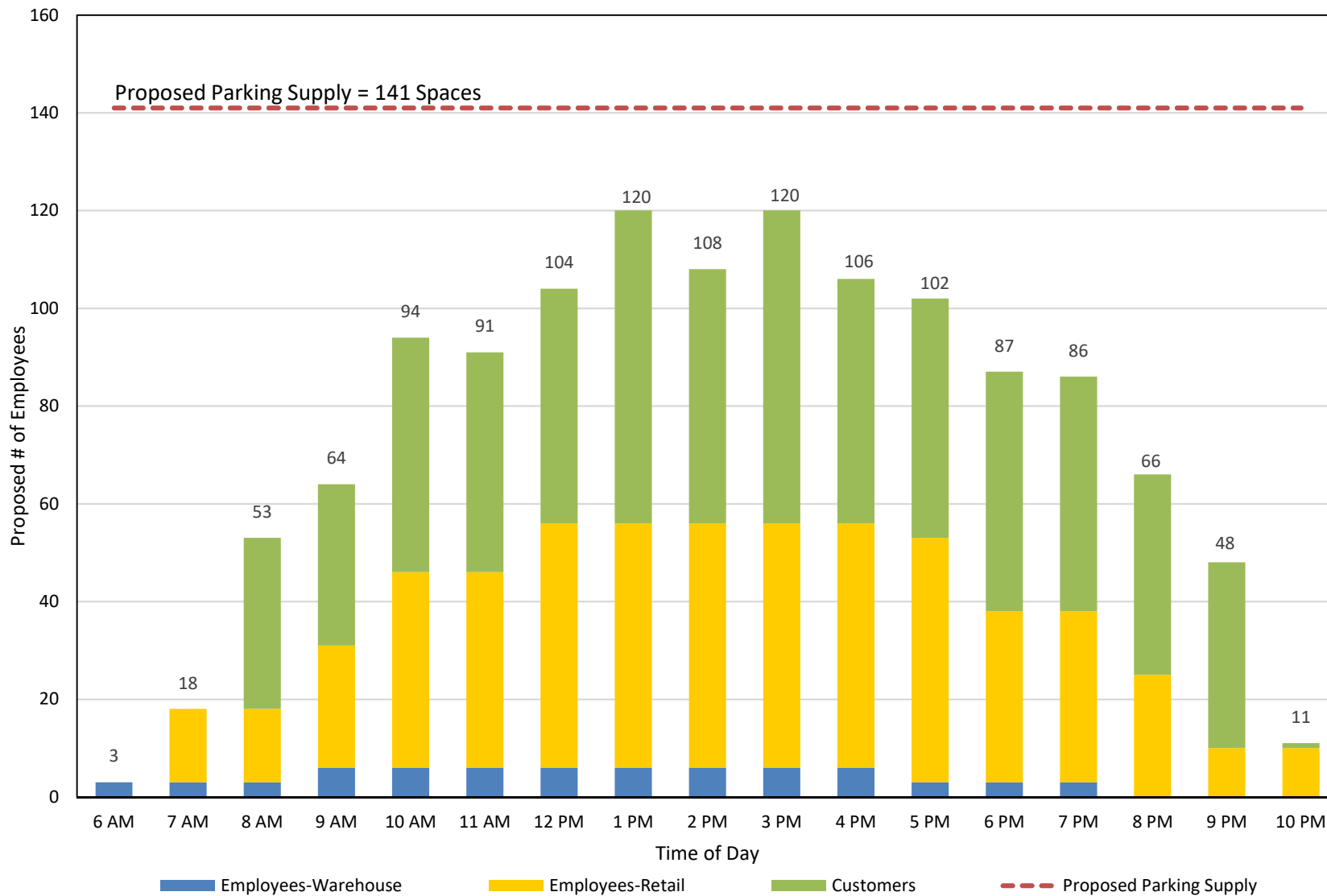
We trust that this information will prove useful in the Town's review of the proposed project. If you have any questions or require any further information, please feel free to call.

Very truly yours,

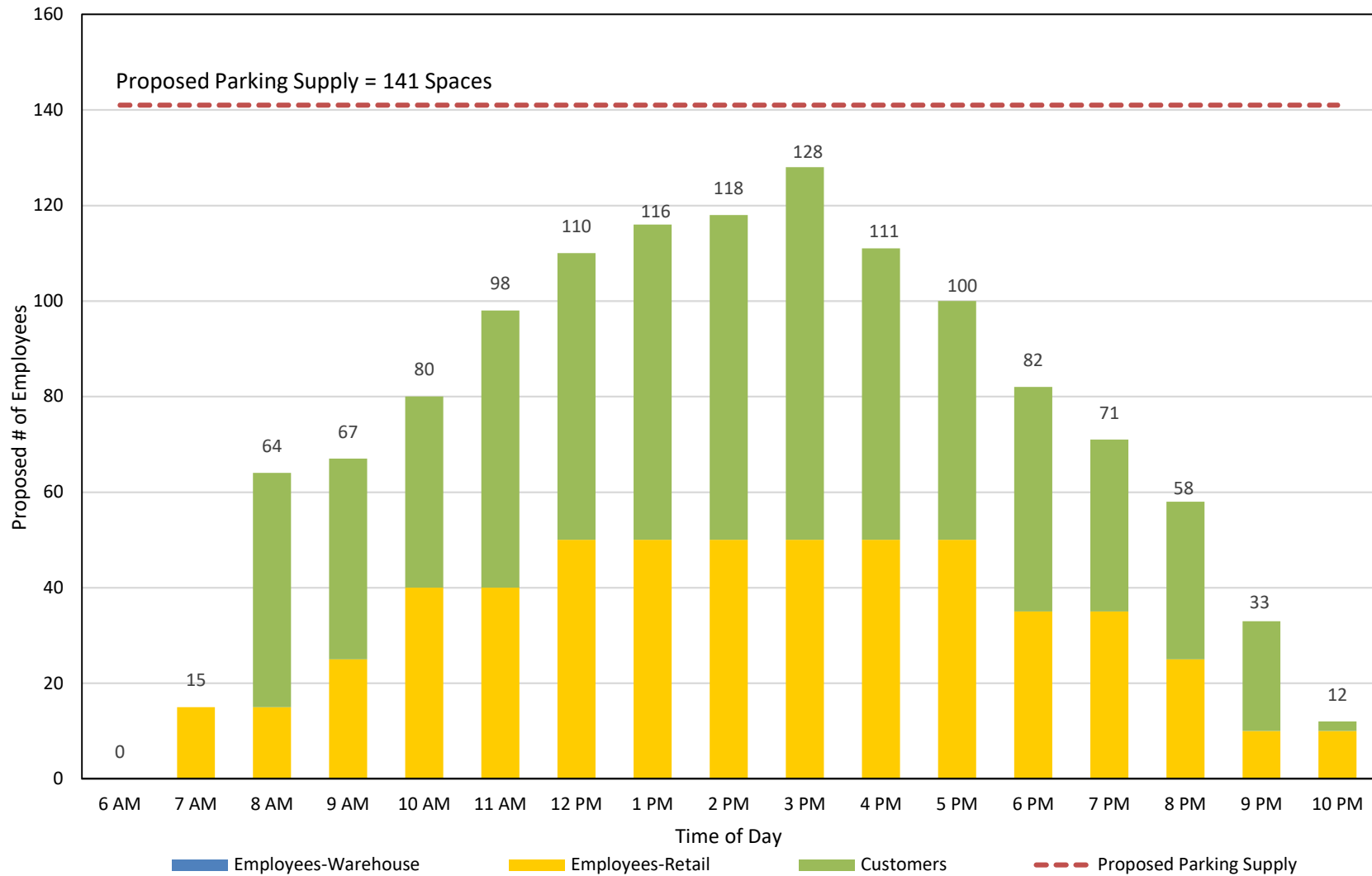


Sasha L. Wood, PE

**Chart 1 - NETA Franklin
Weekday Parking Demand (Up to 50 Retail Employees)**



**Chart 2 - NETA Franklin
Saturday Parking Demand (Up to 50 Retail Employees)**





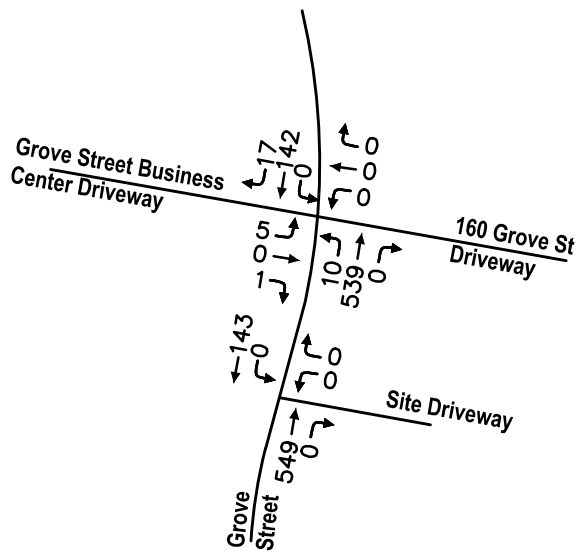
Proposed Marijuana Dispensary
162 Grove Street
Franklin, Massachusetts

Study Area Intersections

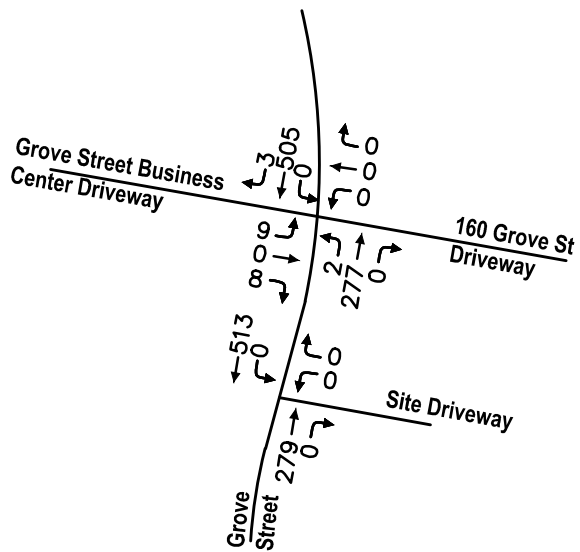
FIGURE

1

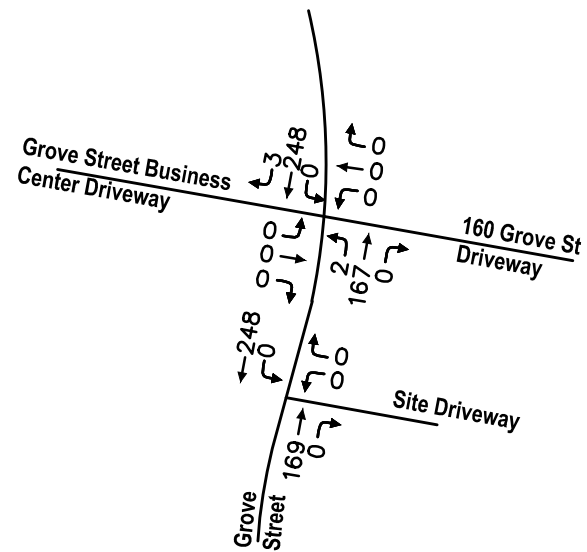
Weekday Morning



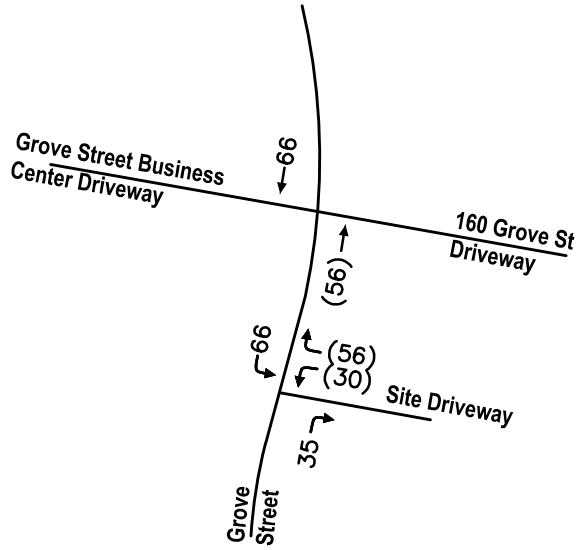
Weekday Evening



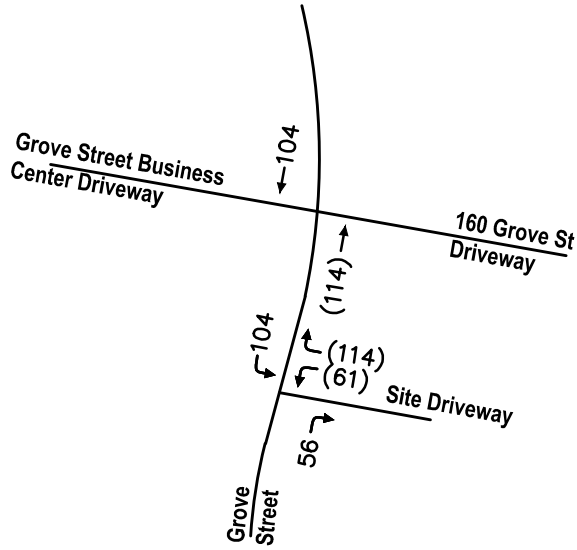
Saturday Afternoon



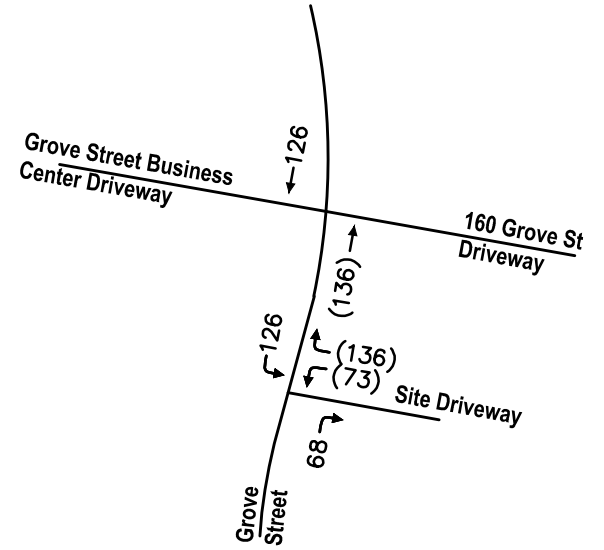
Weekday Morning



Weekday Evening



Saturday Afternoon



Legend:

XX = Entering Trips

(XX) = Exiting Trips



NOT TO SCALE

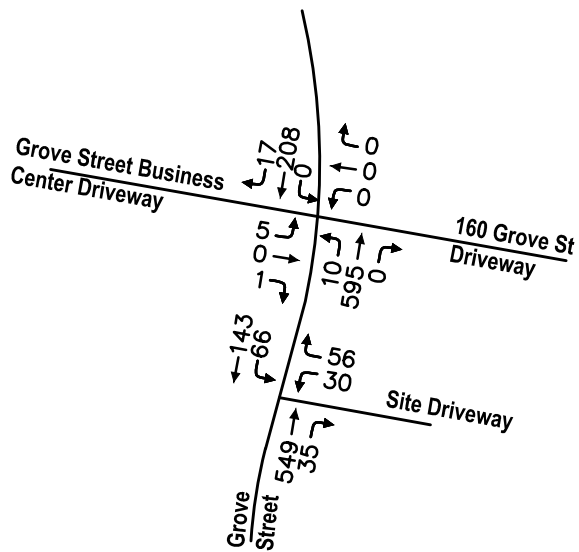
Proposed Marijuana Dispensary
162 Grove Street
Franklin, Massachusetts

Peak Hour Project Trips

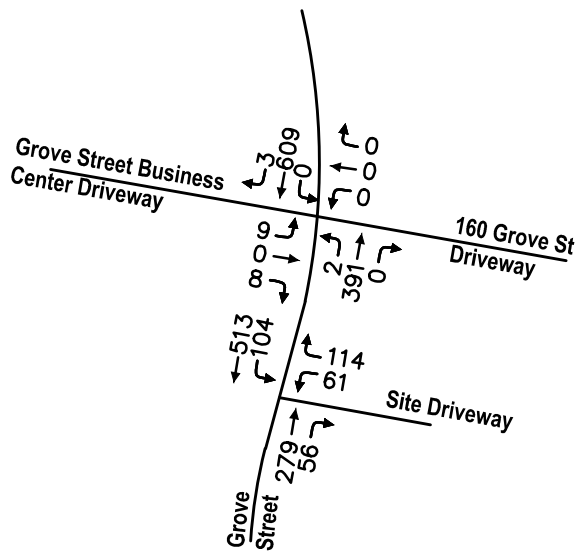
FIGURE

3

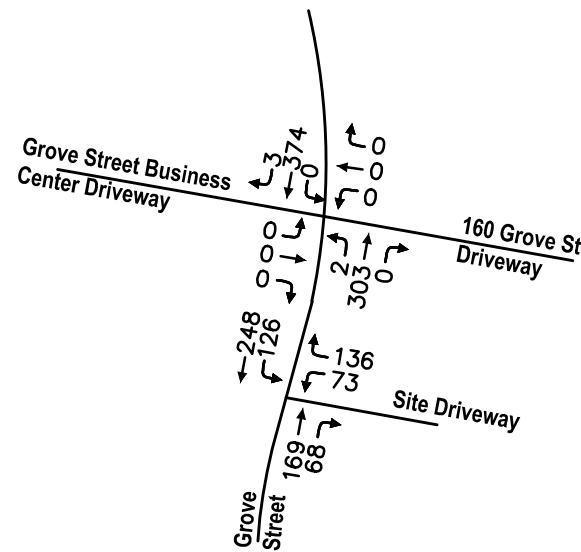
Weekday Morning



Weekday Evening



Saturday Afternoon



APPLICATION BY NEW ENGLAND TREATMENT ACCESS, LLC FOR
SPECIAL PERMIT AND SITE PLAN APPROVAL FOR MEDICAL MARIJUANA
TREATMENT CENTER AND NON-MEDICAL MARIJUANA RETAIL ESTABLISHMENT
WITHIN MARIJUANA USE OVERLAY DISTRICT
PURSUANT TO SECTION 185-49 OF THE FRANKLIN ZONING BYLAWS
DATED MAY 22, 2020

Introduction

New England Treatment Access, LLC (“NETA”) submits this Application for a Special Permit with Site Plan Approval pursuant to Section 185-49(4)(b)(i) and Section 185-49(4)(b)(iii) of the Franklin Zoning Bylaws. NETA proposes to modify the existing buildings and to operate a Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment (the “Facility”) at 162 Grove Street, Franklin, Massachusetts (the “Property”). The Property is located in the Industrial Zoning District and the Marijuana Use Overlay District as well as the Water Resource Overlay District.

The footprint of the existing buildings is approximately 12,421 square feet. NETA proposes to expand the existing buildings, as shown on the proposed Site Plans and to convert the existing buildings into approximately 3,856 square feet of retail space, approximately 4,647 square feet of office space, and approximately 7,584 square feet of warehouse space. There will be no product manufacturing, testing or research operations at the Facility.

Pursuant to Section 185-49(4)(b)(i) and Section 185-49(4)(b)(iii) of the Zoning Bylaws, a Medical Marijuana Treatment Center and a Non-Medical Marijuana Retail Establishment located within the Marijuana Use Overlay District require a Special Permit from the Planning Board. Section 185-31(1)(E) of the Zoning Bylaws states that where a special permit is required, site plan approval is also required as part of the special permit approval process.

Documents Submitted in Support of Application

NETA submits the following documents in support of its application (one electronic version will be emailed and the hard copies will be delivered to Town Hall):

1. Application for Approval of a Site Plan and Special Permit(s) (Exhibit 1) – two duplicate originals;
2. Form P – Application for Approval of Site Plan (Exhibit 2) - two duplicate originals;
3. Certificate of Ownership - notarized (Exhibit 3) – two duplicate originals;
4. Site Plans (Exhibit 4) – One 11” x 17” reduced copy and One set of 24” x 36” Plans;
5. Special Permit Findings (Exhibit 5);
6. Certified Abutters List (Exhibit 6);
7. Traffic Summary (Exhibit 7);
8. Filing Fees (Exhibit 8) payable to the Town of Franklin (originals in separate envelope to Amy Love, Town Planner):
 - a. \$750.00 for Special Permit;
 - b. \$4,300.00 for Site Plan Approval;

- c. \$50.00 for Fire Department Site Plan Review.

Description of the Property and the Facility

The Property contains approximately 4 acres (174,351± square feet), of which approximately 3.5 acres (152,781± square feet) is upland area. The Property is located on Grove Street in the Industrial Zoning District, Marijuana Use Overlay District and Water Resource Overlay District. The Facility will be comprised of one building, utilizing the existing “house” at the front of the Property, creating an addition between the “house” and the warehouse and utilizing the existing warehouse, as well as the associated parking areas and driveway. Areas of the Property that do not include the Facility building and parking lot contain a detention basin, landscaped areas or wooded areas.

The existing buildings on the Property are currently vacant. NETA seeks to expand the existing breezeway connecting the front building (known as the “house”) to the rear warehouse building by approximately 2,583 square feet and to operate a Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment as well as office and warehouse space within the building. There will be a concrete courtyard area as well as an asphalt walkway from the retail entrance to the parking lot. There will be a separate employee entrance on the south side of the building.

In addition, the existing driveway and parking areas will be altered, although the curb cut on Grove Street will not change. The parking areas will be increased, from the approximately 52 current parking spaces to 141 parking spaces (including 5 handicapped spaces). Parking for retail customers will be located to the south side and immediate rear of the building; employee parking will be to the on the south side of the Property (seven spaces closest to Grove Street) as well as the rear of the Property and will be marked with appropriate signage. Landscaping will be added to the parking areas as shown on the Site Plans. The existing sign close to Grove Street will be removed and a new sign will be installed.

With respect to traffic, as detailed in the Traffic Summary (Exhibit 7), the projected traffic increases associated with the Project can be accommodated at the proposed site driveway with no noticeable impact on the future traffic operations at nearby intersections, even at the times of highest demand for the Facility. The proposed 141 parking spaces will accommodate the required customer and staff parking.

**APPLICATION FOR APPROVAL OF A SITE PLAN
AND SPECIAL PERMIT(S)**

To the Franklin Planning Board:

The undersigned, herewith, submits the accompanying Site Plan entitled “**Site Layout Plan - 162 Grove Street, Franklin, Massachusetts**” and Special Permit(s) for **Medical Marijuana Treatment Facility and Non-Medical Marijuana Establishment** and requests approval for under the provisions of the Zoning By-Laws of the Town of Franklin covering Site Plans and Special Permits.

1. Name of Applicant:**New England Treatment Access, LLC**
Address of Applicant:**5 Forge Parkway, Franklin, MA 02038**
Phone No.: **617-285-4461** Email: **arositano@liveparallel.com**

2. Name of Owner (if not the Applicant):**Charley2017, LLC**
Address of Owner:**7 Myrtle Street, Norfolk, MA 02056**
Phone No.: **508-541-7217** Email: **bmholmes5@comcast.net**

3. Name of Engineer:**United Consultants, Inc. - Rick Goodreau**
Address of Engineer:**850 Franklin Street, Suite 11D, Wrentham, MA 02056**
Phone No.:**508-384-6560** Email: **Rick@uci850.com**

1. Deed of Property recorded with Norfolk Registry of Deeds in Book **35681**, Page **179**, (or Certificate of Title No. _____)

2. Location and Description of Property: **162 Grove Street, Franklin, MA**

Zoning District: **Industrial; Marijuana Use Overlay District; Water Resource District**

Assessor’s Map: **306** Lot: **3**

Square Footage of Building(s): **16,087** sf

Impervious Coverage of Existing Upland: **50% (76,417 sf)**

3. Purpose of Site Plan: **To allow modifications and minor expansion to existing improvements and approval pursuant to Section 185-31(1)(a); to allow improvements within Water Resource Overlay District pursuant to Section 185-40(D)(1)(I)(ii).**

4. Special Permit(s) Requested:
Medical Marijuana Treatment Center - Section 185-49(4)(b)(i)
Non-Medical Marijuana Establishment - Section 185-49(4)(b)(iii)

5. Special Permit Criteria: please provide on a separate document, written findings for special permit criteria a-g for each special permit being requested. Criteria are listed below. Applications will not be accepted until findings are submitted.

Chapter 185, Section 45.E

(3). Findings. Special permits shall be granted by the special permit granting authority only upon its written determination that the proposed use will not have adverse effects which overbalance its beneficial effects on either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site. This determination shall be in addition to the following specific findings:

- (a) Proposed project addresses or is consistent with neighborhood or Town need.
 - (b) Vehicular traffic flow, access and parking and pedestrian safety are properly addressed.
 - (c) Public roadways, drainage, utilities and other infrastructure are adequate or will be upgraded to accommodate development.
 - (d) Neighborhood character and social structure will not be negatively impacted.
 - (e) Project will not destroy or cause substantial damage to any environmentally significant natural resource, habitat, or feature or, if it will, proposed mitigation, remediation, replication, or compensatory measures are adequate.
 - (f) Number, height, bulk, location and siting of building(s) and structure(s) will not result in abutting properties being deprived of light or fresh air circulation or being exposed to flooding or subjected to excessive noise, odor, light, vibrations, or airborne particulates.
 - (g) Water consumption and sewer use, taking into consideration current and projected future local water supply and demand and wastewater treatment capacity, will not be excessive.
6. Other issues requiring Planning Board Consideration: **Approval for improvements in Water Resource District - rendering impervious up to 80% upland area of a non-residential lot.**
7. A certified list (by Office of the Assessors) of abutters within 300 feet of the site is also submitted with the application.

8. Certificate of Ownership.



Signature of Applicant

Amanda Rositano

Print Name of Applicant

B. R. Holden

Signature of Owner

Brian R Holden

Print Name of Owner

EXHIBIT 5 – SPECIAL PERMIT FINDINGS

The Project Satisfies the Special Permit and Site Plan Approval Criteria

A. Special Permit Criteria

As set forth on Exhibit 5, the proposed non-medical marijuana cultivation, product manufacturing and research facility uses satisfy the Special Permit Criteria in Section 185-45(E)(3) because the proposed uses will not have adverse effects which overbalance their beneficial effects on either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site. The Planning Board should grant the requested Special Permit.

B. Site Plan Approval

Section 185-31(1)(C)(4) sets forth the review criteria for the Planning Board in considering a site plan approval request. The criteria include:

- a. *Internal circulation, queuing, entrance and egress are such that traffic safety is protected and access via secondary streets servicing residential neighborhoods is minimized.*

The proposed Medical Marijuana Treatment Center and Non-Medical Marijuana Retail Establishment as shown on the Site Plans will provide sufficient internal circulation, queuing and proper entrance and egress so that traffic safety is protected and access via secondary streets serving residential neighborhoods is minimized. The Traffic Summary (Exhibit 7) details the estimated trip generation and concludes that there will be no adverse impact to traffic as a result of the Facility.

- b. *Reasonable use is made of building location, grading and vegetation to reduce visibility of structures, parking area, outside storage or other outdoor service areas (e.g., waste removal) from public views.*

The proposed expansion is the minimal square footage needed to connect the existing buildings and to enable the office, warehouse and retail areas all to be incorporated at the Facility. Due to the topography at the Property, a retaining wall will be installed, as shown on the Site Plans. The expanded area and the retaining wall are both proposed to be located on the southern side of the existing buildings, thus the view from Grove Street will not be altered significantly. The expanded parking lot will be to the rear of the Property, thus also reducing its visibility from Grove Street. There will be no outdoor storage. Trash and

recycling will be located in the dumpster location to the rear of the parking lot, noted on the Site Plans.

- c. *Adequate access to each structure for fire and service equipment is provided.*

NETA has reviewed the Site Plans with the Fire Department and the Fire Department is satisfied that adequate access is provided to the proposed Facility. The revised driveway and parking areas are configured to allow a fire truck to access the Facility from the south or east; the area to the north of the Facility is very narrow and the topography is steep, making it insufficient for access from that direction.

- d. *Utilities, drainage and fire-protection provisions serving the site provide functional service to each structure and paved area in the same manner as required for lots within a subdivision.*

Utilities serving the Property include electric service and gas service. The Property is served by an on-site septic system which will be sufficient for the proposed Facility uses. The Facility will be sprinklered and will comply with current fire code and fire-protection requirements.

Drainage from the Facility roof will be captured and directed to an on-site underground infiltration system, ultimately draining to the detention basin on the eastern portion of the property. Drainage from the parking areas and driveway will continue to be collected (as it is currently) and directed to the detention basin on the eastern portion of the Property.

- e. *No site feature or activity shall create glare or illumination which extends beyond a site's property lines and creates a hazard or nuisance to neighboring property owners or on adjacent roadways. Lighting shall be designed to provide the minimum illumination necessary for the safety and security of the proposed activity. Lighting shall be designed such that the light source is shielded and the light is directed downward.*

The Facility will not create glare or illumination which extends beyond the Property lines and will not create a hazard or nuisance to neighboring property owners or adjacent roadways. Lighting of the building and parking areas has been designed to provide the minimum illumination necessary for the safety and security of the employees, patrons and visitors to the Facility. All lighting will be designed to be shielded and directed downward.

- f. Proposed limit of work is reasonable and protects sensitive environmental and/or cultural resources. The site plan as designed will not cause substantial or irrevocable damage to the environment, which damage could be avoided or mitigated through an alternative development plan.*

The proposed expansion to the existing buildings, areas surrounding the buildings, driveway, and parking areas are all reasonable and protective of sensitive environmental resources – in this case the wetlands located nearby. NETA will file an application for approval with the Franklin Conservation Commission. The Facility will not cause substantial or irrevocable damage to the environment, as the proposed expansion is the least area necessary to enable the Facility to function appropriately.

- g. All other requirements of the Zoning Bylaw are satisfied.*

In addition to the Special Permit and Site Plan Approval requested, NETA requests that the Planning Board approve the improvements within the Water Resource Overlay District pursuant to Section 185-40(D)(1)(I)(ii). The proposed building expansion and revisions to the parking areas and driveway will result in approximately 29.9 percent of the upland area being rendered impervious.

The Facility will also require approval from the Design Review Commission. The Facility will also require approval from the Conservation Commission due to the proximity of wetlands.

FORM P

APPLICATION FOR APPROVAL OF A SITE PLAN

To the Franklin Planning Board:

The undersigned, herewith, submits the accompanying Site Plan entitled "Site Layout Plan - 162 Grove Street, Franklin, Massachusetts" for approval under the provisions of the Zoning By-Laws of the Town of Franklin covering Site Plans.

1. Name of Applicant:**New England Treatment Access, LLC**
Address of Applicant:**5 Forge Parkway, Franklin, MA 02038**
Phone No.: **617-285-4461** Email: **arositano@liveparallel.com**

2. Name of Owner (if not the Applicant):**Charley2017, LLC**
Address of Owner:**7 Myrtle Street, Norfolk, MA 02056**
Phone No.: **508-541-7217** Email: **bmholmes5@comcast.net**

3. Name of Engineer:**United Consultants Inc. - Rick Goodreau**
Address of Engineer:**850 Franklin Street, Suite 11D, Wrentham, MA 02093**
Phone No.:**508-384-6560** Email: **Rick@uci850.com**

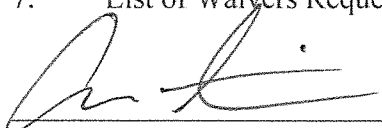
4. Deed of Property recorded with Norfolk Registry of Deeds in Book **35681**, Page **179**, (or Certificate of Title No. _____)

5. Location and Description of Property:
162 Grove Street, Franklin

Square Footage of Building(s) **16,087 sf**
Assessor's Map **306 Lot 3**

6. Purpose of Site Plan:**To allow modifications and minor expansion to existing improvements and approval pursuant to Section 185-31(1)(a); to allow improvements within Water Resource Overlay District pursuant to Section 185-40(D)(1)(i)(ii).**

7. List of Waivers Requested (if any): Attach Form R for each waiver



Signature of Applicant

Amanda Rositano

Print Name of Applicant

B. R. Holmes

Signature of Owner

Brian R Holmes

Print Name of Owner

CERTIFICATE OF OWNERSHIP

I the undersigned Applicant, do hereby certify to the Town of Franklin, through its Planning Board, that all parties of interest to the below-listed plan are identified in Section B: below,

SECTION A:

Title of Plan: Site Layout Plan - 162 Grove Street, Franklin, Massachusetts

Date of Plan: May 21, 2020 Assessor's Information: Map 306, Lot 3

Prepared by: United Consultants Inc.

Type of Plan: 81-P; Prelim.; Def.; **Site Plan**

SECTION B:

Name of Record Owner(s): Charley2017, LLC

Address of Record Owner(s): 7 Myrtle Street, Norfolk, MA 02056

*If in the name of a Trust, Corporation or Partnership, list the names and addresses of all Trustee(s), Corporate Officer(s) or Partner(s): **Managers are William Wrigley, James Whitcomb and Charles May**

*If in the name of a Trust or Corporation, list the Beneficiary(ies) of the Trust or the Shareholder(s) of the Corporation:

*If in the name of a Trust or Corporation, list the date, county, book and page of recording of the Trust Instrument, or the date and State of incorporation: **March 19, 2018 - Commonwealth of Massachusetts**

Executed as a sealed instrument this 22 day of May 20 20


Signature of Applicant

Amanda Rositano
Print name of Applicant

Signature of Owner
Brian R. Holmes

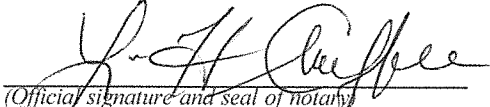
Print name of Owner
Brian R. Holmes

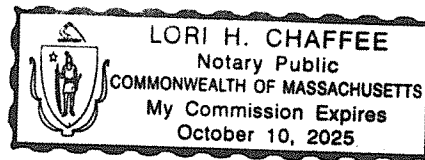
COMMONWEALTH OF MASSACHUSETTS

Norfolk ss.

2020

On this 22 day of May 2020, before me, the undersigned notary public, personally appeared Brian Holmes (name of owner), proved to me through satisfactory evidence of identification, which were drivers license to be the person whose name is signed on the preceding document in my presence.


(Official signature and seal of notary)
Notary Public:
My Commission Expires: 10/10/25



Town of Franklin



Planning Board

The following notice will be published in the Milford Daily Newspaper once on Monday, June 15, 2020 and again on June 22, 2020

FRANKLIN PLANNING BOARD PUBLIC HEARING NOTICE

In accordance with the Town of Franklin Zoning By-Laws, the Franklin Planning Board will hold a Remote Public Hearing on **Monday, June 29, 2020 at 7:05 PM**, for a Special Permit and Site Plan application titled “Site Plan, 162 Grove Street” Franklin, MA prepared by United Consultant, Wrentham, MA, and submitted to the Department of Planning & Community Development on May 26, 2020, by New England Treatment Access, LLC, 5 Forge Parkway, Franklin, MA.

The property is located in the Industrial Zoning District and Marijuana Overlay District (Assessors Map 306 Lot 003) at 162 Grove Street. The applicant is proposing to convert the existing building to 3,856sq/ft for retail space, 4,647sq/ft for office space and 7,584sq/ft for warehouse space. The purpose of the Special Permit and Site Plan Modification is to allow non-medical marijuana facility under 185 Attachment 3, Part II Section 2.23 of Franklin’s Zoning By-Law regulations.

Please note: This will be your only written notice of this public hearing. Should the Planning Board vote to continue this Public Hearing, the date and time will be posted on the Planning Board’s website under Agendas.

This meeting will be done remotely via “ZOOM” platform. Residents can view the Town Website and click on the Town Calendar for up to date information on to access the meeting.

Please contact the Department of Planning & Community Development at (508) 520-4907 if you require further information or if you need to make arrangements to provide translation services for the hearing impaired, or for persons with language barriers.

To access records and files for this project, please go to <https://www.franklinma.gov/planning-board/pages/162-grove-street>

Anthony Padula, Chairman

UNITED STATES OF AMERICA
696 VIRGINIA ROAD
CONCORD, MA 01742

LEWIS ALBERT G, TR
GROVE STREET REALTY TRUST
7 UNCAS BROOK ROW
FRANKLIN, MA 02038

HENNEP PROPERTIES LLC
200 BROOKLINE AVE #508
BOSTON, MA 02215

CHARLEY2017 LLC
7 MYRTLE ST
NORFOLK, MA 02056

NLCP 164 GROVE STREET MA
C/O NEW LAKE CAPITAL
549 W RANDOLPH STE 200
CHICAGO, IL 60661

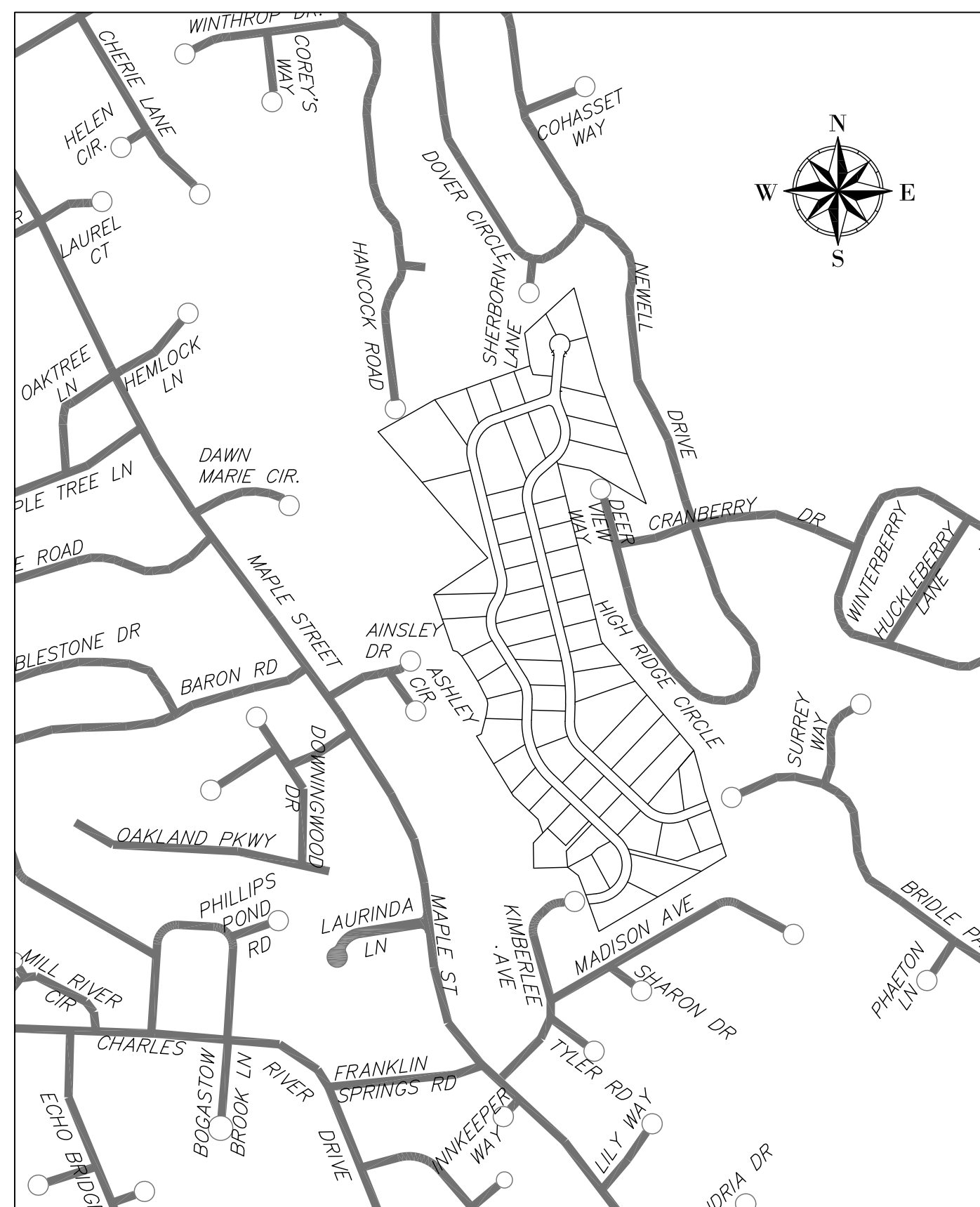
CORE REAL ESTATE HOLDINGS
166 GROVE ST
FRANKLIN, MA 02038

YERGATIAN VERNON C
V & A REALTY TRUST AVEDIS
168 GROVE STREET
FRANKLIN, MA 02038

TRPF 157 165 GROVE ST LLC
C/O NUVEEN
PO BOX 30428
CHARLOTTE, NC 28230

TRPF 157 165 GROVE STREET
C/O NUVEEN
PO BOX 30428
CHARLOTTE, NC 28230

MCP III 176 GROVE LLC
C/O MARCUS PARTNERS, INC.
260 FRANKLIN ST
BOSTON, MA 02110



LOCUS 1"=800'

DEFINITIVE PLAN OF LAND IN FRANKLIN, MA "MAPLE HILL"

DEC. 15, 2019 — SCALE: AS NOTED

BAY COLONY GROUP, INC.

**PROFESSIONAL CIVIL ENGINEERS & LAND SURVEYORS
FOUR SCHOOL STREET, P.O. BOX 9136
FOXBOROUGH, MA 02035
(508) 543-3939**

**OWNERS: STEVEN LABASTIE
THE FRANKLIN LABASTIE FAMILY, LLC &
THE KATHLEEN A. LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

**APPLICANT: CARROLL CONSTRUCTION CORP.
P.O. BOX 395
FOXBOROUGH, MA 02035**

**ZONING:
RURAL RESIDENTIAL II**

**ASSESSORS REF:
234-012-000
235-142-000
242-027-000**

ZONING DIMENSIONAL REQUIREMENTS:

ZONING DISTRICT: RURAL RESIDENTIAL II
MINIMUM AREA = 30,000sf
FRONTAGE - 150'
DEPTH - 200'
LOT WIDTH - 135'
FRONT YARD - 40'
SIDE YARD - 35'
REAR YARD - 35'
IMPERVIOUS COVER (STRUCTURES) - 20%
IMPERVIOUS COVER (STRUCTURE + PAVING) - 25%

SUBDIVISION DATA

- NEW HOMES - 58
- LENGTH OF ROADWAY - 7,255 FT.
- TOTAL AREA- 73.3± acres

WAIVERS REQUESTED

- SECTION 300-8 A (1) (C): NOT REQUIRE ANOTHER ALTERNATIVE DEVELOPMENT PLAN
- SECTION 300-8 C (10): SETTING STAKES EVERY 100' FOR SIDELINES AND SIDEWALKS
- SECTION 300-10 D (5): CUTS/FILLS MORE THAN 5' IN SOME AREAS
- SECTION 300-10 E (4): BRIDLE PATH DEAD-END BE LESS THAN 400' LONG
- SECTION 300-11-B (2): LESS THAN 42" OF COVER OVER DRAIN PIPES IN SOME AREAS
- SECTION 300-13-A: SIDEWALK ON ONE SIDE WHERE THEY ARE REQUIRED ON BOTH SIDES.

PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



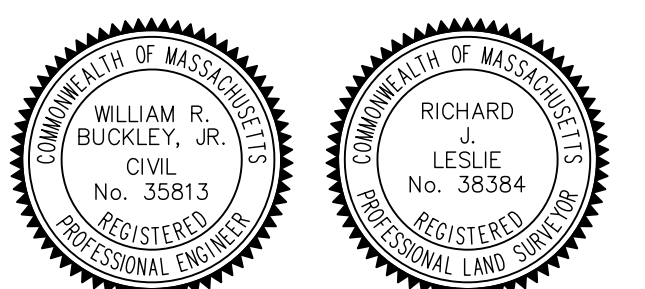
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

Cover Sheet

LIST OF PLAN SHEETS

SHEET NO.	DESCRIPTION	LAST REVISED
SHEET 1	LEGEND	6-8-2020
SHEET 2	INDEX & PHASING PLAN	12-15-2019
SHEETS 3-13	PROPERTY LINE PLANS	6-8-2020
SHEETS 14-24	TOPOGRAPHIC & UTILITY PLANS	6-8-2020
SHEETS 25-28	BRIDLE PATH PROFILE	6-8-2020
SHEETS 29-32	KIMBERLEE AVENUE PROFILE	6-8-2020
SHEETS 33-35	DRAIN CROSS SECTIONS	6-8-2020
SHEETS 36-38	CONSTRUCTION DETAILS	6-8-2020
SHEET 39	SWPPP	6-8-2020

THE LAST REVISED DATE FOR PLANS IN THIS SET IS: 6-8-2020

DEC. 15, 2019 SHEET NUMBER
16-0148H CV

GENERAL NOTES

- ON SITE TOPOGRAPHICAL INFORMATION OBTAINED FROM AN AERIAL SURVEY CONDUCTED BY COL-EAST, INC. IN OCTOBER 2016 AT A HORIZONTAL SCALE OF 1"=40 AND 2' CONTOUR INTERVAL. VERTICAL DATUM IS NAVD 88 AND HORIZONTAL DATUM IS NAD 83. OFF SITE DATA FROM TOWN OF FRANKLIN GIS.
- UNDERGROUND UTILITIES ARE SHOWN HEREON AS COMPILED FROM RECORD PLANS AND VISIBLE UTILITY STRUCTURES. BAY COLONY GROUP DOES NOT WARRANT THE ACTUAL DEPTH AND LOCATIONS OF ANY UTILITIES SHOWN HEREON. CONTACT DIGSAFE AT 1-800-322-4844 AND THE TOWN DPW WHERE APPROPRIATE AT LEAST 72 HOURS, SATURDAYS, SUNDAYS AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
- HOUSES, DRIVEWAYS, AND SEPTIC SYSTEMS ARE SHOWN IN A GENERAL MANNER AND ARE NOT MEANT TO BE DEFINITIVE. LOCATIONS WILL CHANGE BASED ON HOUSE PLANS, TEST PIT DATA, AND OWNER PREFERENCE.
- WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER IMMEDIATELY.
- TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE RESPECTIVE COMPANIES.
- AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE.
- STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES ETC. ALONG EXISTING ROADWAYS SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK.
- ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS OR THE REQUIREMENTS OF THE TOWN OF FRANKLIN DPW.
- CONTRACTOR SHALL NOT STORE ANY EQUIPMENT, MATERIALS, SUPPLIES ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
- OPENINGS FOR PIPE IN PRECAST CONCRETE STRUCTURES SHALL BE CAST IN THE REQUIRED LOCATIONS DURING MANHOLE MANUFACTURE. FIELD CUT OPENINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
- IN PAVED AND GRAVEL AREAS THE TOP OF THE STRUCTURE COVERS SHALL BE SET FLUSH WITH THE PAVED SURFACE. IN CROSS-COUNTRY AREAS THE TOP OF THE COVER SHALL EXTEND 6 INCHES ABOVE FINISHED GRADE, OR AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER.
- THE TERM "PROPOSED" (PROP OR PR-) SHALL BE UNDERSTOOD TO MEAN WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED ON THE PLAN AS R&R (REMOVE AND RESET).
- STORM WATER ANALYSIS ASSUMES A 1,800 SF HOUSE FOOTPRINT AND 1,400 SF DRIVEWAY. IF THE ACTUAL DESIGN EXCEEDS THIS AMOUNT OF IMPERVIOUS THEN A ROOF RUNOFF RECHARGE SYSTEM THAT WILL RECHARGE 0.5" OF ROOF RUNOFF SHALL BE INSTALLED.
- THE LOCATION OF SUBDRAINS MAY BE ADJUSTED - INCREASED OR DECREASED - BY THE TOWN ENGINEER OR TOWN ENGINEERING CONSULTANT BASED ON THE SOIL CONDITIONS FOUND DURING CONSTRUCTION.







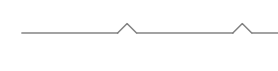
PAVEMENT MARKINGS

SWL	SWL - SOLID WHITE LINE - 6" STATE HIGHWAY, 4" LOCAL STREETS
SYL	SYL - SOLID YELLOW LINE - 6" STATE HIGHWAY, 4" LOCAL STREETS
DWL	DWL - DOTTED WHITE LINE - 6" (2' STRIPE w/4' GAP) STATE HIGHWAY DOTTED WHITE LINE - 4" (2' STRIPE w/4' GAP) LOCAL STREETS
WLDL	WHITE LANE DELINEATION LINE - 6" (3' STRIPE w/9' GAP) STATE HIGHWAY WHITE LANE DELINEATION LINE - 4" (3' STRIPE w/9' GAP) LOCAL STREETS
DDYL	DOUBLE DOTTED YELLOW LINE - 6" (2' STRIPE w/4' GAP) STATE HIGHWAY DOUBLE DOTTED YELLOW LINE - 4" (2' STRIPE w/4' GAP) LOCAL STREETS
BWLL	BROKEN WHITE LANE LINE - 6" (10' STRIPE w/30' GAP) STATE HIGHWAY BROKEN WHITE LANE LINE - 4" (10' STRIPE w/30' GAP) LOCAL STREETS
SWLL	SOLID WHITE LANE LINE - 6" STATE HIGHWAY, 4" LOCAL STREETS
SWEL	SOLID WHITE EDGE LINE - 6" STATE HIGHWAY, 4" LOCAL STREETS
SWG	SOLID WHITE GORE LINE - 12"
SYEL	SOLID YELLOW EDGE LINE - 6" STATE HIGHWAY, 4" LOCAL STREETS
SYGL	SOLID YELLOW GORE LINE - 12"
DYL	DOUBLE YELLOW LINE - 2-6" LINES STATE HIGHWAY DOUBLE YELLOW LINE - 2-4" LINES LOCAL STREETS






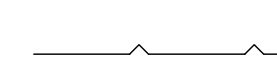
 PAVEMENT ARROW AND LEGEND

SYMBOLS & LEGEND

EXISTING

n.t.s.	- NOT TO SCALE
T.B.M.	- TEMPORARY BENCH MARK
□	- BOUND (TYPE NOTED)
	- STAKE & STONE
DH ●	- DRILL HOLE
IP ○	- IRON PIPE/PIN
□MHB	- MASS HIGHWAY BOUND
△s/n	- STAKE & NAIL
(fd)	- FOUND
(set)	- SET IN PLACE
⊕	- UTILITY POLE
UPLP	- UTILITY POLE/LIGHT POLE
UP	- UTILITY POLE
⊙	- WELL
n/f	- NOW OR FORMERLY
	- TREE (SIZE NOTED)
(rec)	- RECORD
⊙	- DRAIN MANHOLE
⊙	- TELEPHONE MANHOLE
⊙	- ELECTRIC MANHOLE
⊙	- SEWER MANHOLE
□	- CATCH BASIN
WG ⊕	- WATER GATE
WS ⊕	- WATER SERVICE
GG ⊕	- GAS GATE
	- EXISTING HYDRANT
SGC	- SLOPED GRANITE CURBING
VGC	- VERTICAL GRANITE CURBING
PVC	- POLYVINYL CHLORIDE PIPE
CMP	- CORRUGATED METAL PIPE
VCP	- VITREOUS CLAY PIPE
CLF	- CHAIN LINK FENCE
OHW	- OVERHEAD WIRE
SIGN 	- SIGN (SIZE & TYPE NOTED)
TP	- TEST PIT
— D —	- DRAIN PIPE (SIZE & TYPE NOTED)
— S —	- SEWER PIPE (SIZE & TYPE NOTED)
— E —	- ELECTRIC DUCT (SIZE & TYPE NOTED)
— G —	- GAS MAIN (SIZE & TYPE NOTED)
— W —	- WATER MAIN (SIZE & TYPE NOTED)
— T —	- TELEPHONE DUCT
○○○○○○○○	- STONE WALL
	- EDGE OF TREELINE
— + —	- GUARD-RAIL (TYPE NOTED)
	- RAILROAD TRACKS
	- RETAINING WALL (SIZE & TYPE NOTED)
-x-x-x-x-x-x-	- BARBED WIRE FENCE
—□—□—□—□—	- STOCKADE FENCE
—○—○—○—○—	- CHAIN-LINK FENCE

PROPOSED

n.t.s.	- NOT TO SCALE
T.B.M.	- TEMPORARY BENCH MARK
□	- BOUND (TYPE NOTED)
	- STAKE & STONE
DH ●	- DRILL HOLE
IP ○	- IRON PIPE/PIN
□MHB	- MASS HIGHWAY BOUND
△s/n	- STAKE & NAIL
(fd)	- FOUND
(set)	- SET IN PLACE
⊕	- UTILITY POLE
UPLP	- UTILITY POLE/LIGHT POLE
UP	- UTILITY POLE
⊙	- WELL
n/f	- NOW OR FORMERLY
	- TREE (SIZE NOTED)
(rec)	- RECORD
⊙	- DRAIN MANHOLE
⊙	- TELEPHONE MANHOLE
⊙	- ELECTRIC MANHOLE
⊙	- SEWER MANHOLE
□	- CATCH BASIN
WG ⊕	- WATER GATE
WS ⊕	- WATER SERVICE
GG ⊕	- GAS GATE
	- PROPOSED HYDRANT
SGC	- SLOPED GRANITE CURBING
VGC	- VERTICAL GRANITE CURBING
PVC	- POLYVINYL CHLORIDE PIPE
CMP	- CORRUGATED METAL PIPE
VCP	- VITREOUS CLAY PIPE
CLF	- CHAIN LINK FENCE
OHW	- OVERHEAD WIRE
R&R	- REMOVE AND RE-USE
R&S	- REMOVE AND STACK
SIGN 	- SIGN (SIZE & TYPE NOTED)
— D —	- DRAIN PIPE (SIZE & TYPE NOTED)
— S —	- SEWER PIPE (SIZE & TYPE NOTED)
— E —	- UNDERGROUND ELECTRIC
— G —	- GAS MAIN (SIZE & TYPE NOTED)
— W —	- WATER MAIN (SIZE & TYPE NOTED)
— T —	- TELEPHONE DUCT
○○○○○○○○	- STONE WALL
	- EDGE OF TREELINE
— + —	- GUARD-RAIL (TYPE NOTED)
	- RETAINING WALL (SIZE & TYPE NOTED)
-x-x-x-x-x-x-	- BARBED WIRE FENCE
—□—□—□—□—	- STOCKADE FENCE
—○—○—○—○—	- CHAIN-LINK FENCE

PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



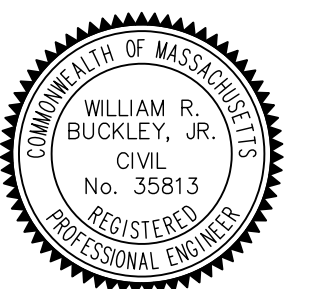
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

6-8-2020	ROOF RECHARGE NOTE ADDED/SUBDRAIN NOTE ADDED
DATE	DESCRIPTION
REVISIONS	

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK



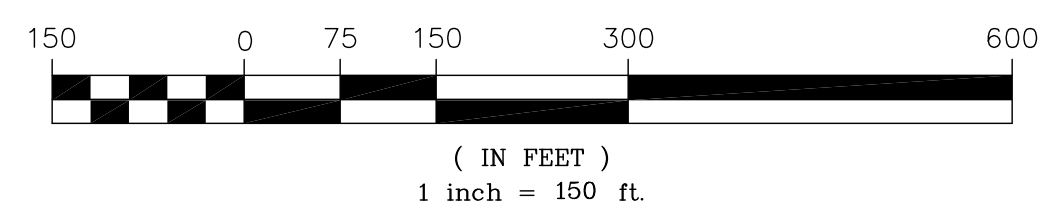
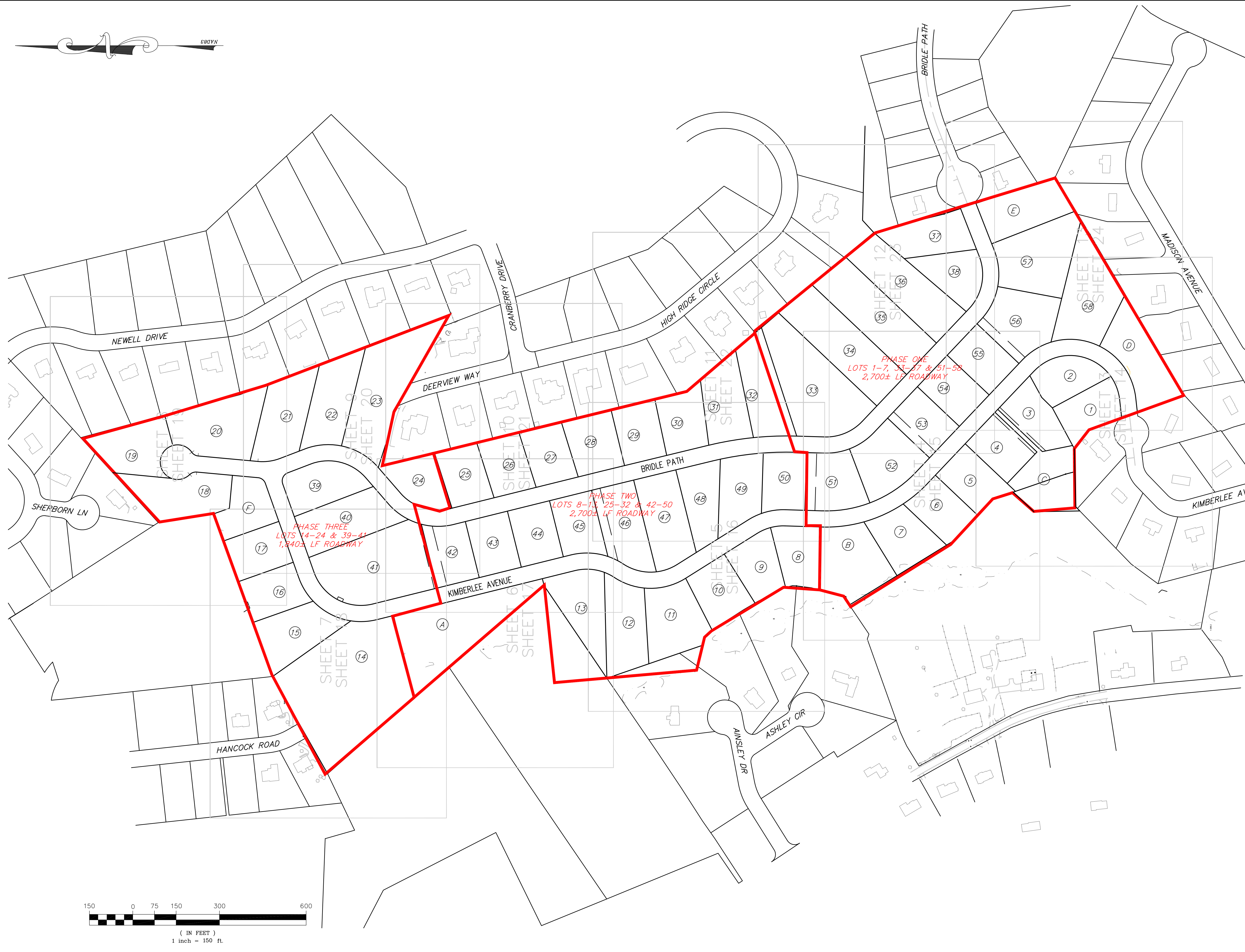
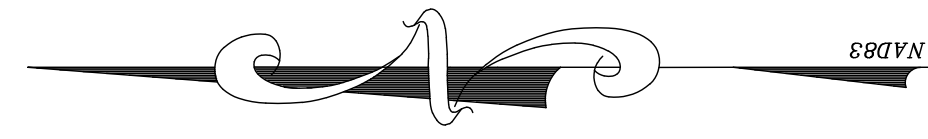
DRAWING TITLE

Legend

DEC. 15, 2019 SHEET NUMBER

16-0148H

1



PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



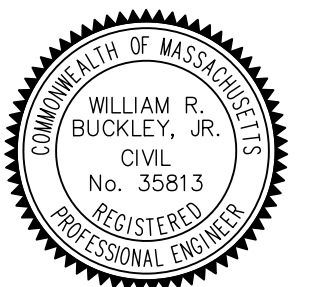
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE
ELAPSED SINCE PLANNING BOARD APPROVAL
AND THAT NO APPEAL HAS BEEN FILED IN
THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

Index & Phasing
Plan

SCALE: 1" = 150'

DEC. 15, 2019 SHEET NUMBER

16-0148H

2

DEED REF:

BK.25317, PG.578
 BK.35729, PG.273
 BK.35754, PG.562

PLAN REF:

LCP No.38163
 PB.353, PLAN No.506-1987
 PB.355, PLAN No.708-1987
 PB.355, PLAN No.800-1987
 PB.385, PLAN No.857-1989
 PB.389, PLAN No.97-1990
 PB.390, PLAN No.146-1990
 PB.396, PLAN No.853-1990
 PB.414, PLAN No.410-1993
 PB.424, PLAN No.562-1994
 PB.424, PLAN No.588-1994
 PB.431, PLAN No.445-1995
 PB.431, PLAN No.446-1995
 PB.437, PLAN No.139-1996
 PB.437, PLAN No.190-1996
 PB.446, PLAN No.161-1997
 PB.447, PLAN No.265-1997
 PB.447, PLAN No.271-1997
 PB.447, PLAN No.272-1997
 PB.489, PLAN No.575-2001
 PB.493, PLAN No.120-2002
 PB.588, PLAN No.10-2008
 PB.588, PLAN No.13-2008

ASSESSOR'S REF:

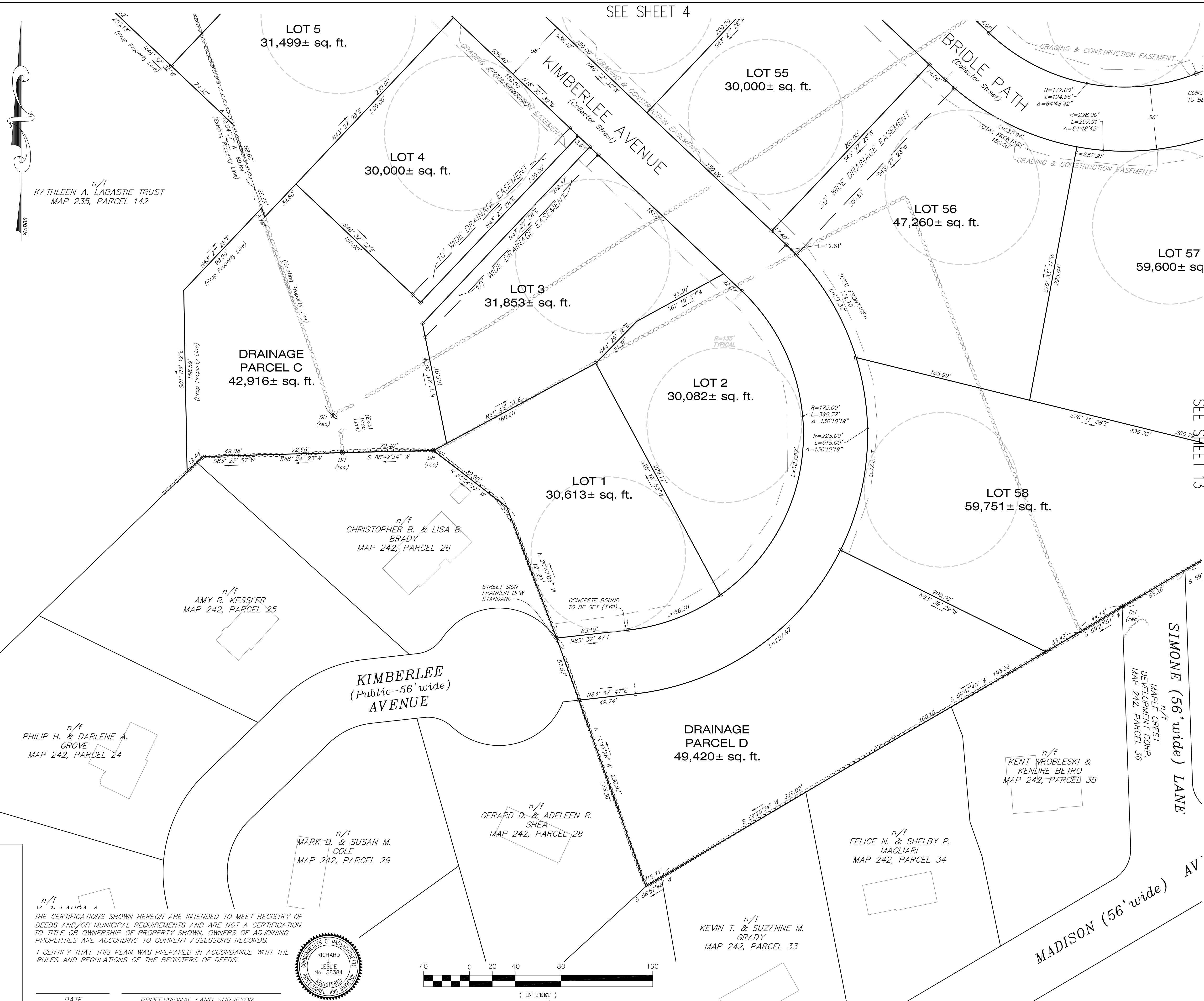
MAP 242, PARCEL 027-000
 MAP 235, PARCEL 142-000
 MAP 234, PARCEL 012-000

ZONING REF:

RURAL RESIDENTIAL II

FLOOD ZONE:

ZONE X
 MAP NUMBER: 25021C0306E &
 25021C0307E
 EFFECTIVE DATE: 7/17/2012



n/f
 KATHLEEN A. LABASTIE TRUST
 MAP 235, PARCEL 142

DRAINAGE
 PARCEL C
 42,916± sq. ft.

n/f
 CHRISTOPHER B. & LISA B.
 BRADY
 MAP 242, PARCEL 26

n/f
 AMY B. KESSLER
 MAP 242, PARCEL 25

n/f
 PHILIP H. & DARLENE A.
 GROVE
 MAP 242, PARCEL 24

n/f
 MARK D. & SUSAN M.
 COLE
 MAP 242, PARCEL 29

n/f
 GERARD D. & ADELEEN R.
 SHEA
 MAP 242, PARCEL 28

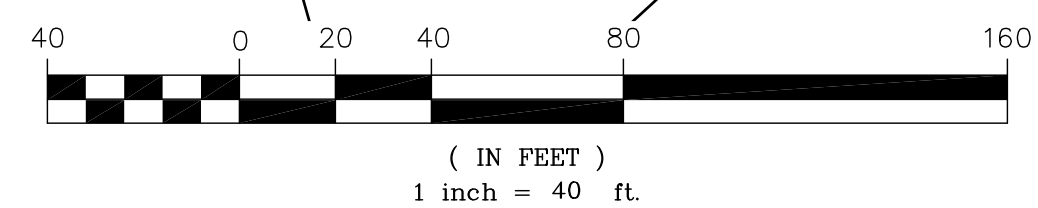
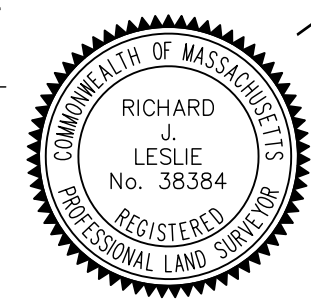
DRAINAGE
 PARCEL D
 49,420± sq. ft.

n/f
 FELICE N. & SHELBY P.
 MAGLIARI
 MAP 242, PARCEL 34

n/f
 KEVIN T. & SUZANNE M.
 GRADY
 MAP 242, PARCEL 33

n/f
 KENT WROBLESKI &
 KENDRE BETRO
 MAP 242, PARCEL 35

n/f
 V. O. LAINDA A
 THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF
 DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION
 TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING
 PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
 I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE
 RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.



(REGISTRY)

DATE _____ PROFESSIONAL LAND SURVEYOR _____

SEE SHEET 4

SEE SHEET 13

PROJECT:

Maple Hill
 Franklin
 Massachusetts

OWNERS:

STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038

FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038

APPLICANT:

CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE
 ELAPSED SINCE PLANNING BOARD APPROVAL
 AND THAT NO APPEAL HAS BEEN FILED IN
 THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	INTERIOR LOT LINES LABELLED/LOTS 3 & 4 DRAIN EASEMENTS ADDED/LOT 3 & PARCEL C MODIFIED/BOUNDS ADDED

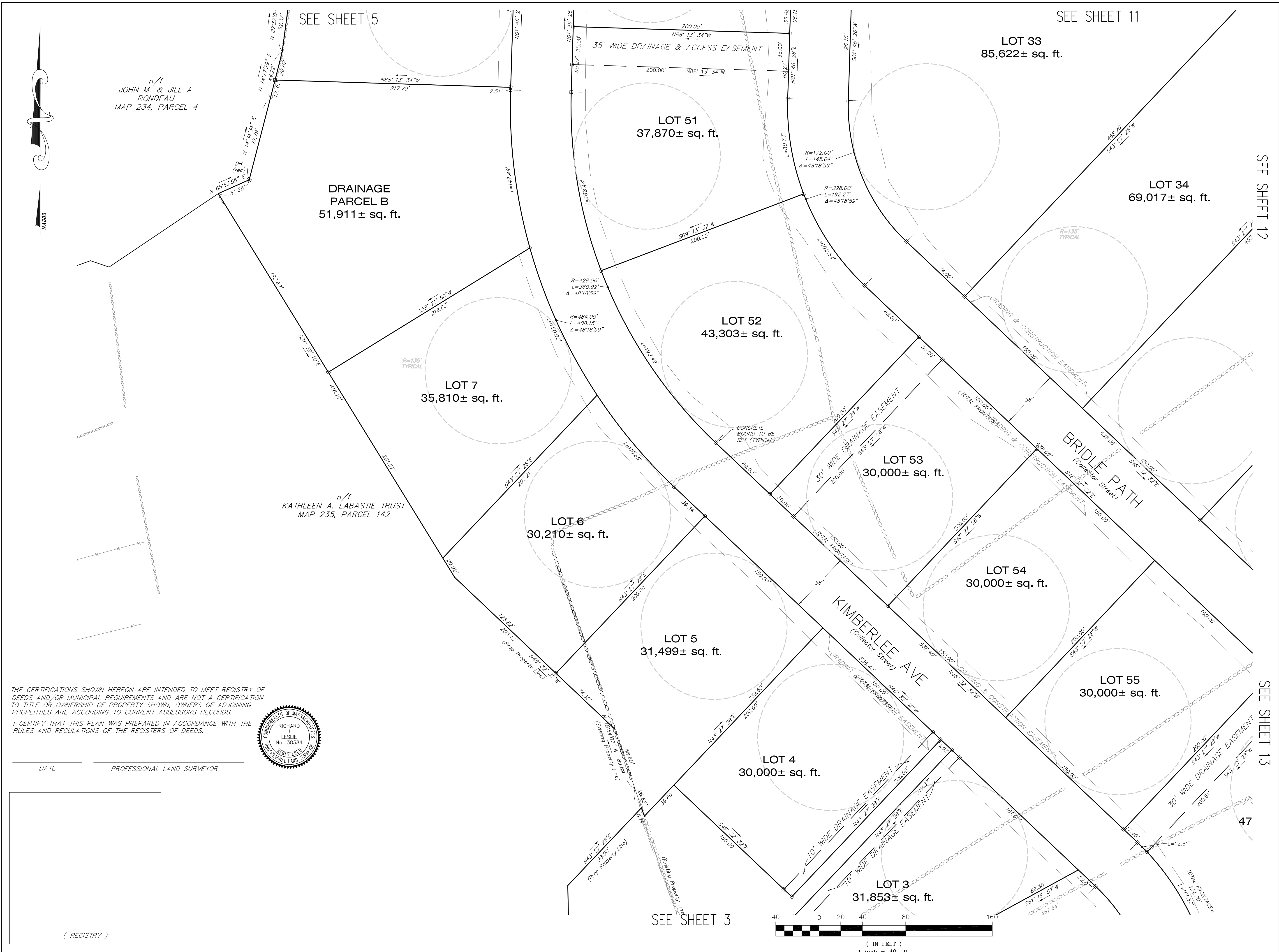
DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H **3**



n/f
JOHN M. & JILL A.
RONDEAU
MAP 234, PARCEL 4

DRAINAGE
PARCEL B
51,911± sq. ft.

n/f
KATHLEEN A. LABASTIE TRUST
MAP 235, PARCEL 142

LOT 51
37,870± sq. ft.

LOT 52
43,303± sq. ft.

LOT 7
35,810± sq. ft.

LOT 6
30,210± sq. ft.

LOT 5
31,499± sq. ft.

LOT 4
30,000± sq. ft.

LOT 53
30,000± sq. ft.

LOT 54
30,000± sq. ft.

LOT 55
30,000± sq. ft.

LOT 3
31,853± sq. ft.

LOT 33
85,622± sq. ft.

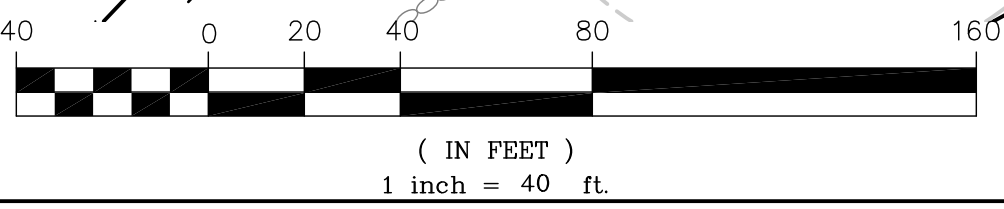
LOT 34
69,017± sq. ft.

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.



DATE _____ PROFESSIONAL LAND SURVEYOR _____

(REGISTRY)



PROJECT:
**Maple Hill
Franklin
Massachusetts**

OWNERS:
**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	INTERIOR LOT LINES LABELLED/LOTS 3 & 4 DRAIN EASEMENTS ADDED/LOT 51 EASEMENT EXPANDED/BOUNDS ADDED

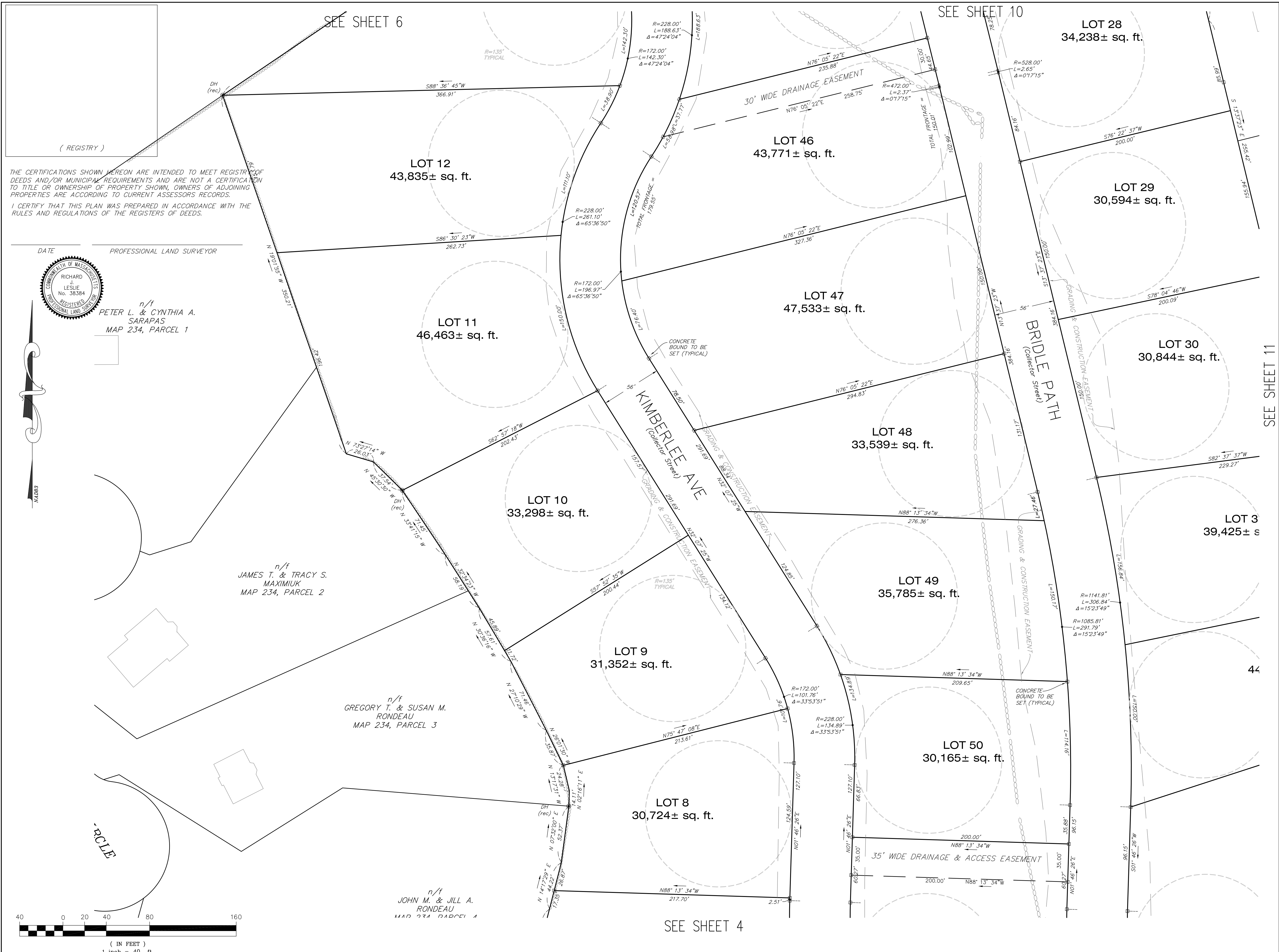
DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H **4**



SEE SHEET 6

SEE SHEET 10

SEE SHEET 4

SEE SHEET 11

PROJECT:
Maple Hill Franklin Massachusetts

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY, LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

DATE	DESCRIPTION
6-8-2020	LOT 51 EASEMENT EXPANDED/BOUNDS ADDED/LOTS 28-33, 46-50 MODIFIED

DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H **5**

(REGISTRY)
 THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTERED DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
 I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR

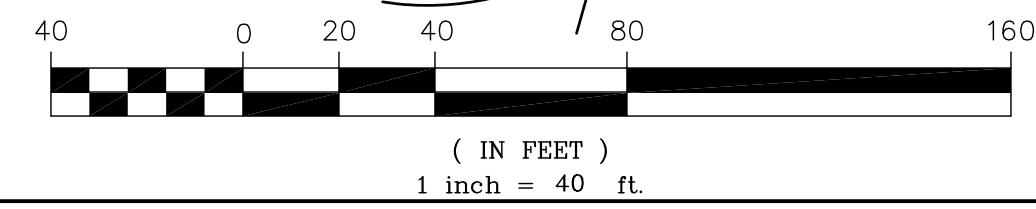


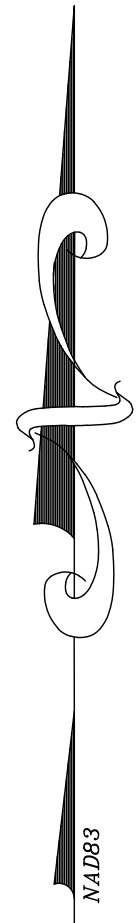
n/f
**PETER L. & CYNTHIA A.
 SARAPAS
 MAP 234, PARCEL 1**

n/f
**JAMES T. & TRACY S.
 MAXIMIUK
 MAP 234, PARCEL 2**

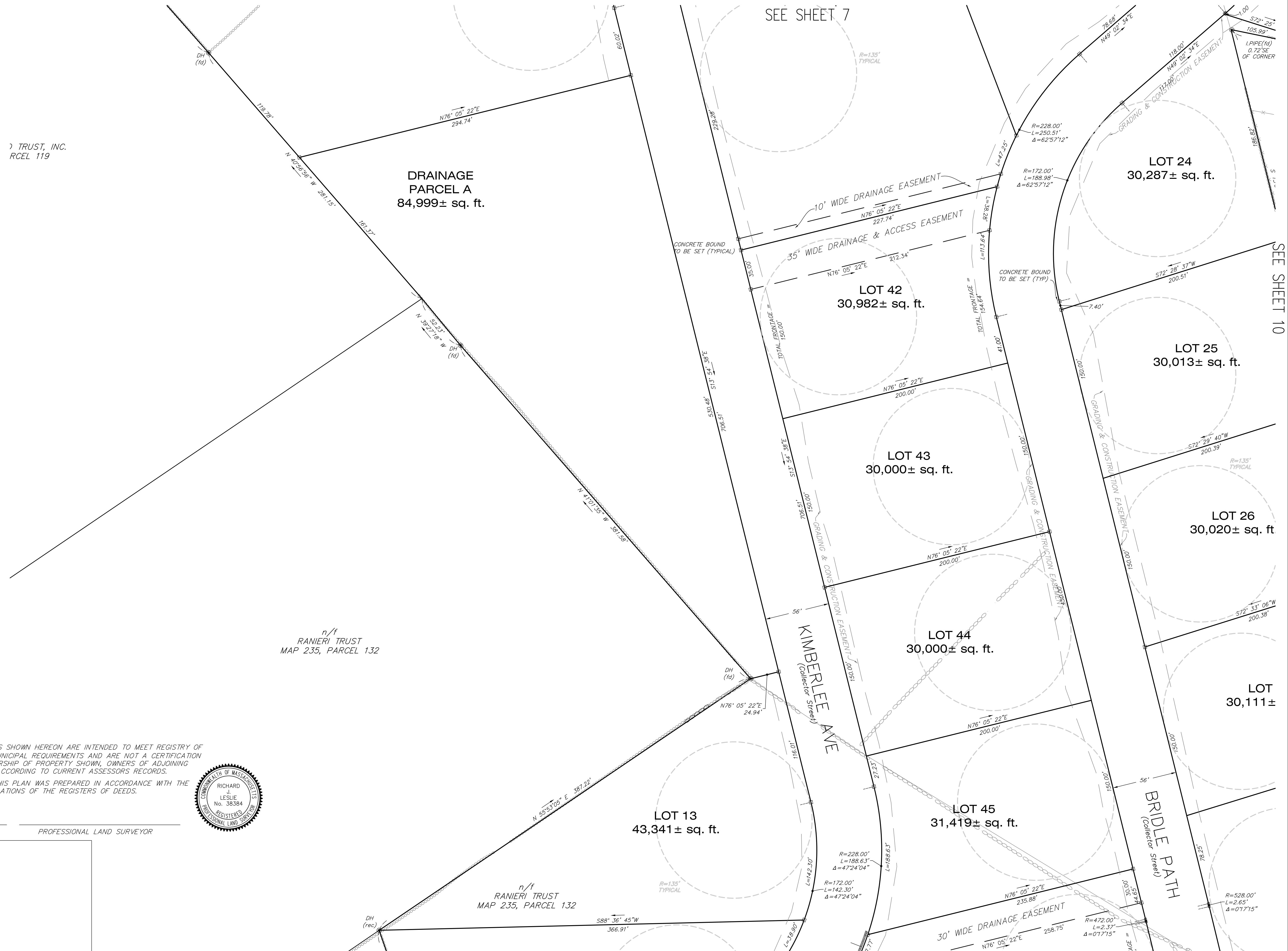
n/f
**GREGORY T. & SUSAN M.
 RONDEAU
 MAP 234, PARCEL 3**

n/f
**JOHN M. & JILL A.
 RONDEAU
 MAP 234, PARCEL 4**





TRUST, INC.
RCEL 119

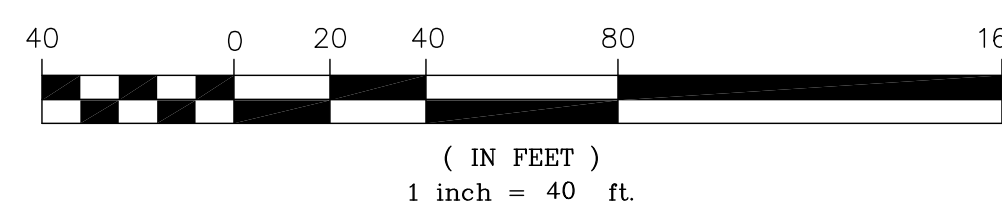
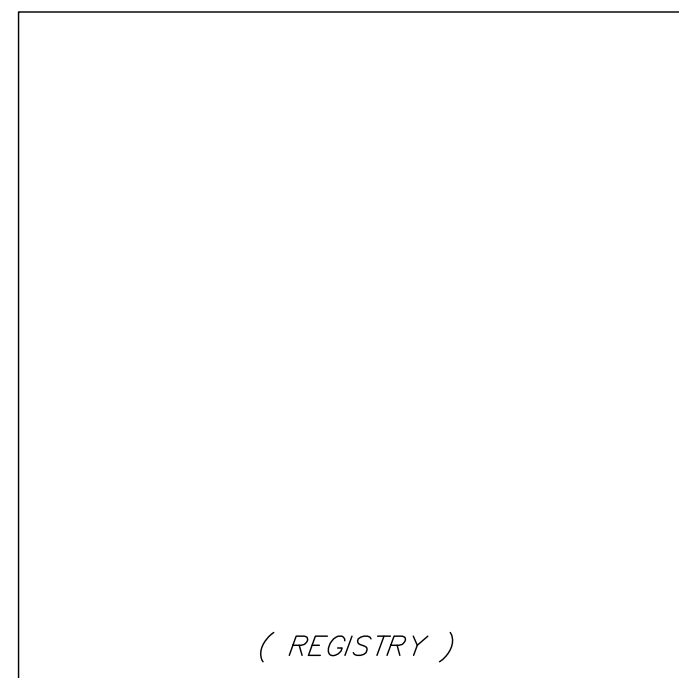


n/f
RANIERI TRUST
MAP 235, PARCEL 132

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.



DATE _____ PROFESSIONAL LAND SURVEYOR



(IN FEET)
1 inch = 40 ft.

SEE SHEET 7

SEE SHEET 5

SEE SHEET 10

PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

DATE	DESCRIPTION
6-8-2020	LOT 41 DRAIN EASEMENT ADDED/LOT 42 DRAIN EASEMENT EXPANDED/BOUNDS ADDED

DRAWING TITLE

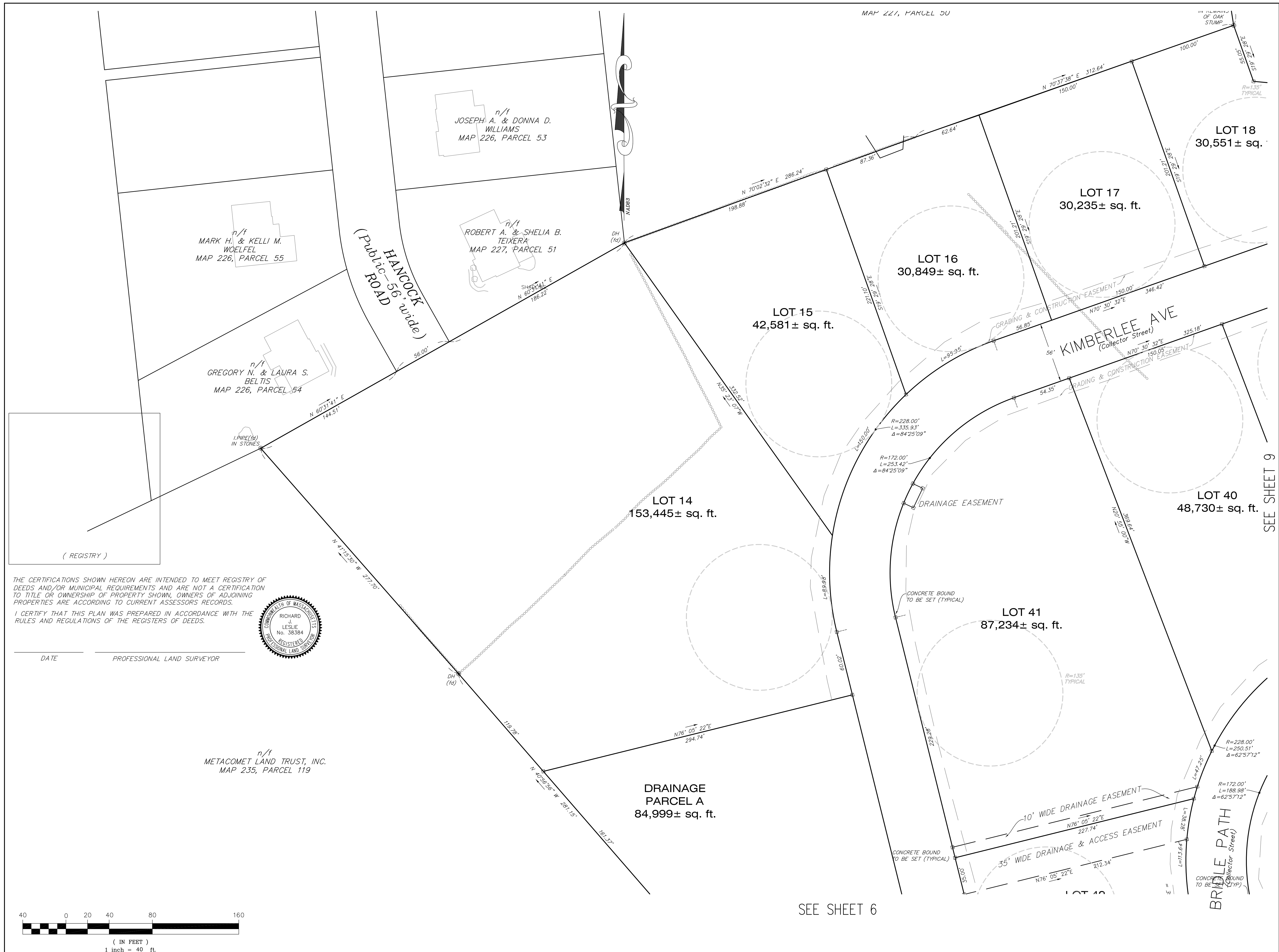
Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

6



PROJECT:
**Maple Hill
 Franklin
 Massachusetts**

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

DATE	DESCRIPTION
6-8-2020	LOT 41 DRAIN EASEMENT ADDED/LOT 42 DRAIN EASEMENT WIDENED/BOUNDS ADDED/LOT 18 MODIFIED

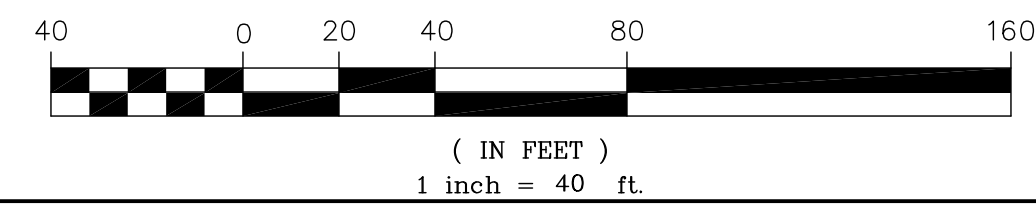
DRAWING TITLE
Property Line Plan

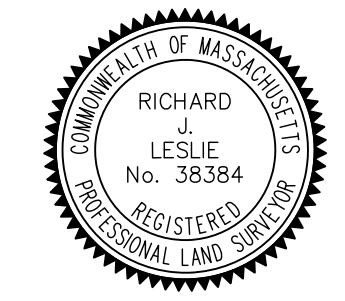
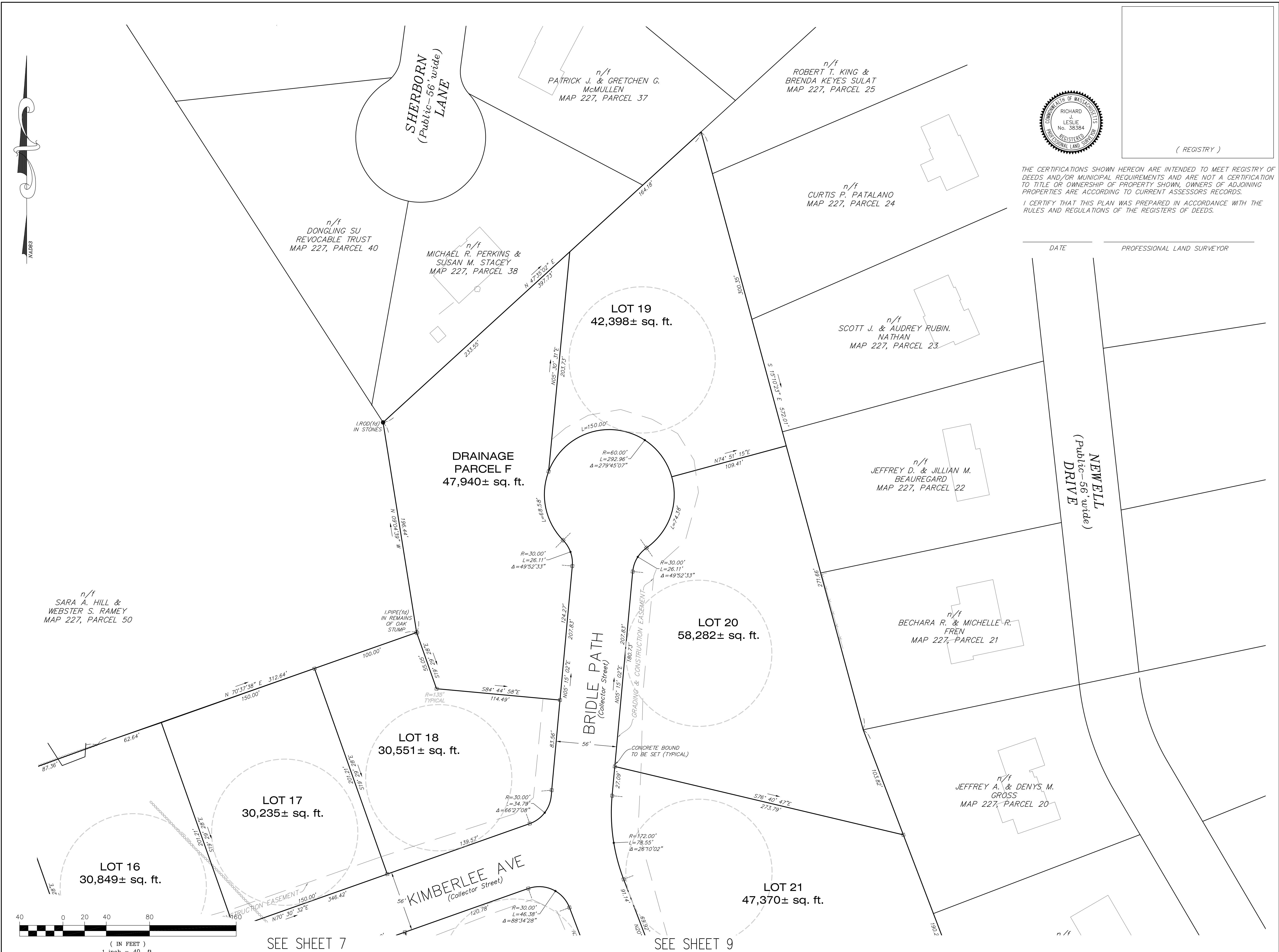
SCALE: 1" = 40'
 DEC. 15, 2019 SHEET NUMBER
16-0148H 7

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.

I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR





THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR _____

PROJECT:
Maple Hill
Franklin
Massachusetts

OWNERS:
STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

**FITZGERALD FAMILY
IRREVOCABLE TRUST**
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:
CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	BOUNDS ADDED/LOT 18 & DRAINAGE PARCEL F SWAPPED

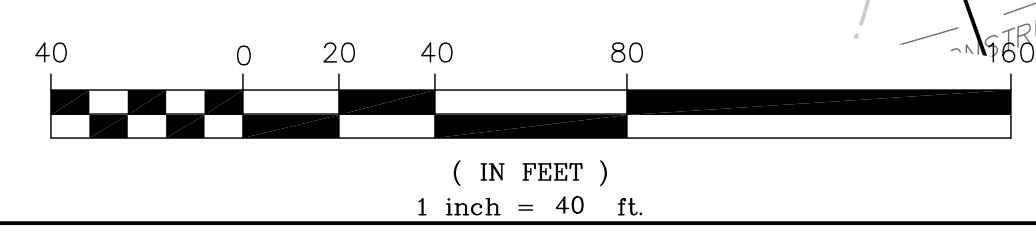
DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H **8**



SEE SHEET 7

SEE SHEET 9



THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR _____

PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	BOUNDS ADDED/LOT 18 MODIFIED

DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

9



PROJECT:
**Maple Hill
 Franklin
 Massachusetts**

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

DATE	DESCRIPTION
6-8-2020	LOT 41 DRAIN EASEMENT ADDED/LOT 42 DRAIN EASEMENT WIDENED/BOUNDS ADDED/LOTS 28-33, 45-50 MODIFIED
REVISIONS	

DRAWING TITLE

Property Line Plan

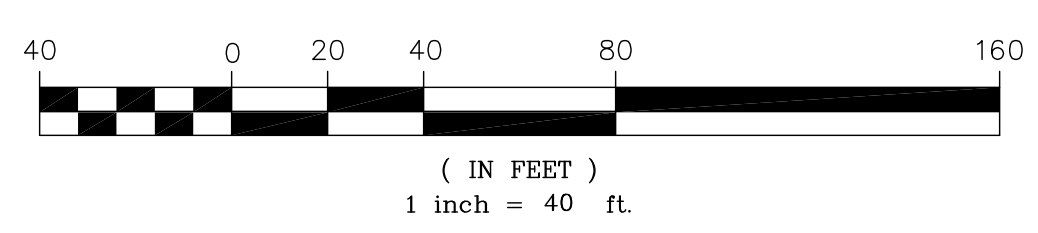
SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H **10**

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
 I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR



SEE SHEET 6

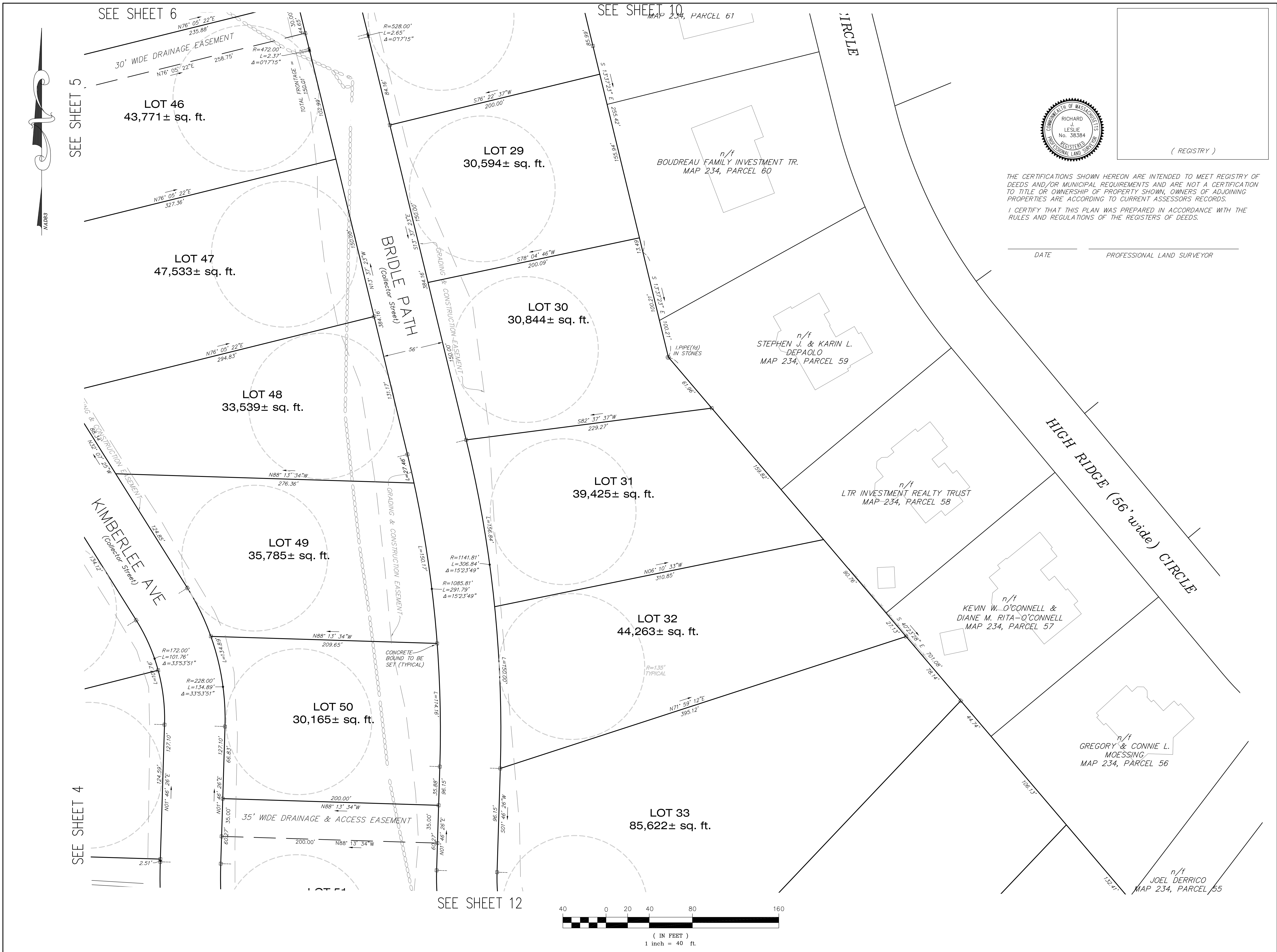
SEE SHEET 7

SEE SHEET 9

SEE SHEET 5

SEE SHEET 11

(REGISTRY)



THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
 I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR _____

PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	BOUNDS ADDED/LOTS 28-33, 46-50 MODIFIED

DRAWING TITLE

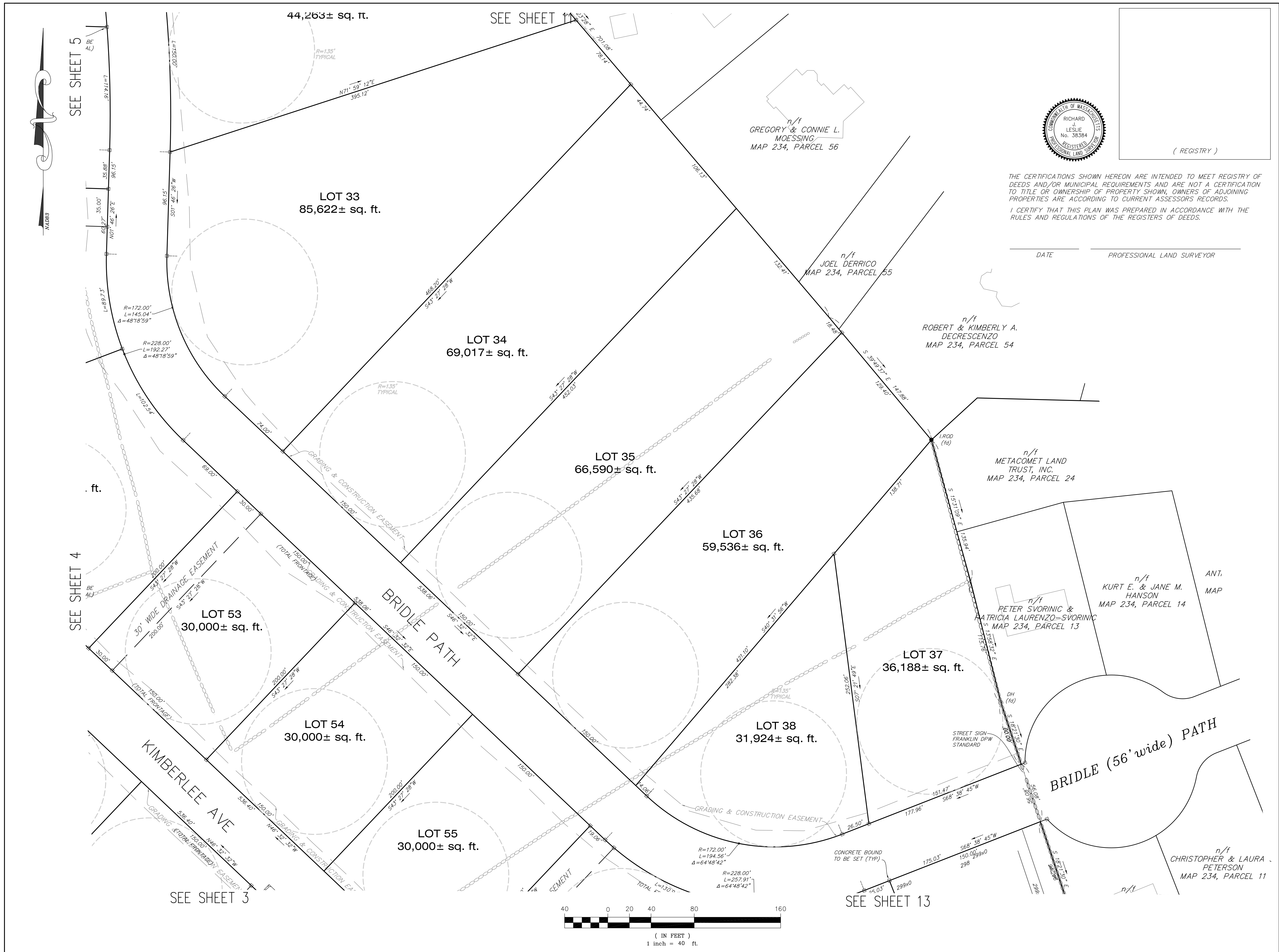
Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

11



THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
 I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR _____

PROJECT:
 Maple Hill
 Franklin
 Massachusetts

OWNERS:
 STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038

**FITZGERALD FAMILY
 IRREVOCABLE TRUST**
 441 MAPLE STREET
 FRANKLIN, MA 02038

APPLICANT:
 CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

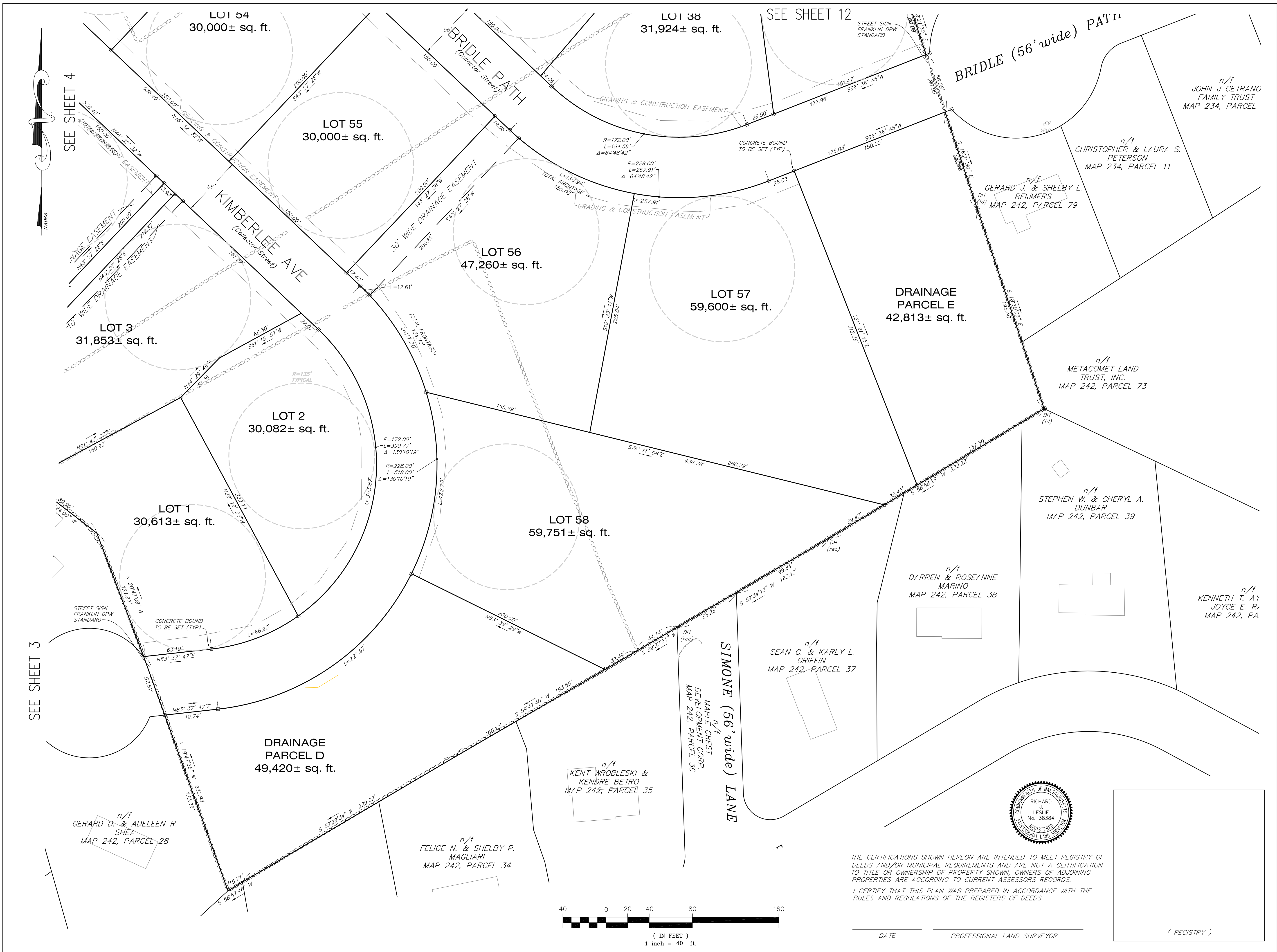
I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK _____

DATE	DESCRIPTION
6-8-2020	BOUNDS ADDED/LOTS 28-33, 46-50 MODIFIED

DRAWING TITLE
 Property Line Plan

SCALE: 1" = 40'
 DEC. 15, 2019 SHEET NUMBER
 16-0148H **12**



PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE
ELAPSED SINCE PLANNING BOARD APPROVAL
AND THAT NO APPEAL HAS BEEN FILED IN
THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

6-8-2020	BOUNDS ADDED
DATE	DESCRIPTION
	REVISIONS

DRAWING TITLE

Property Line Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

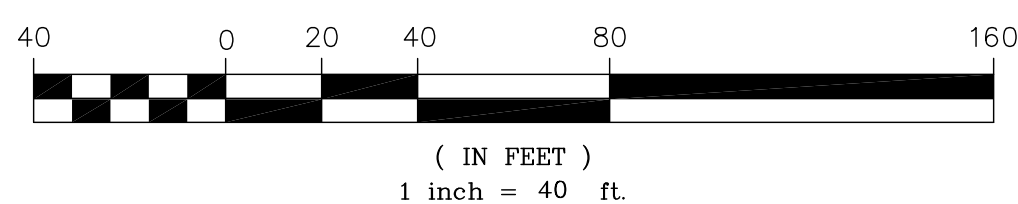
13

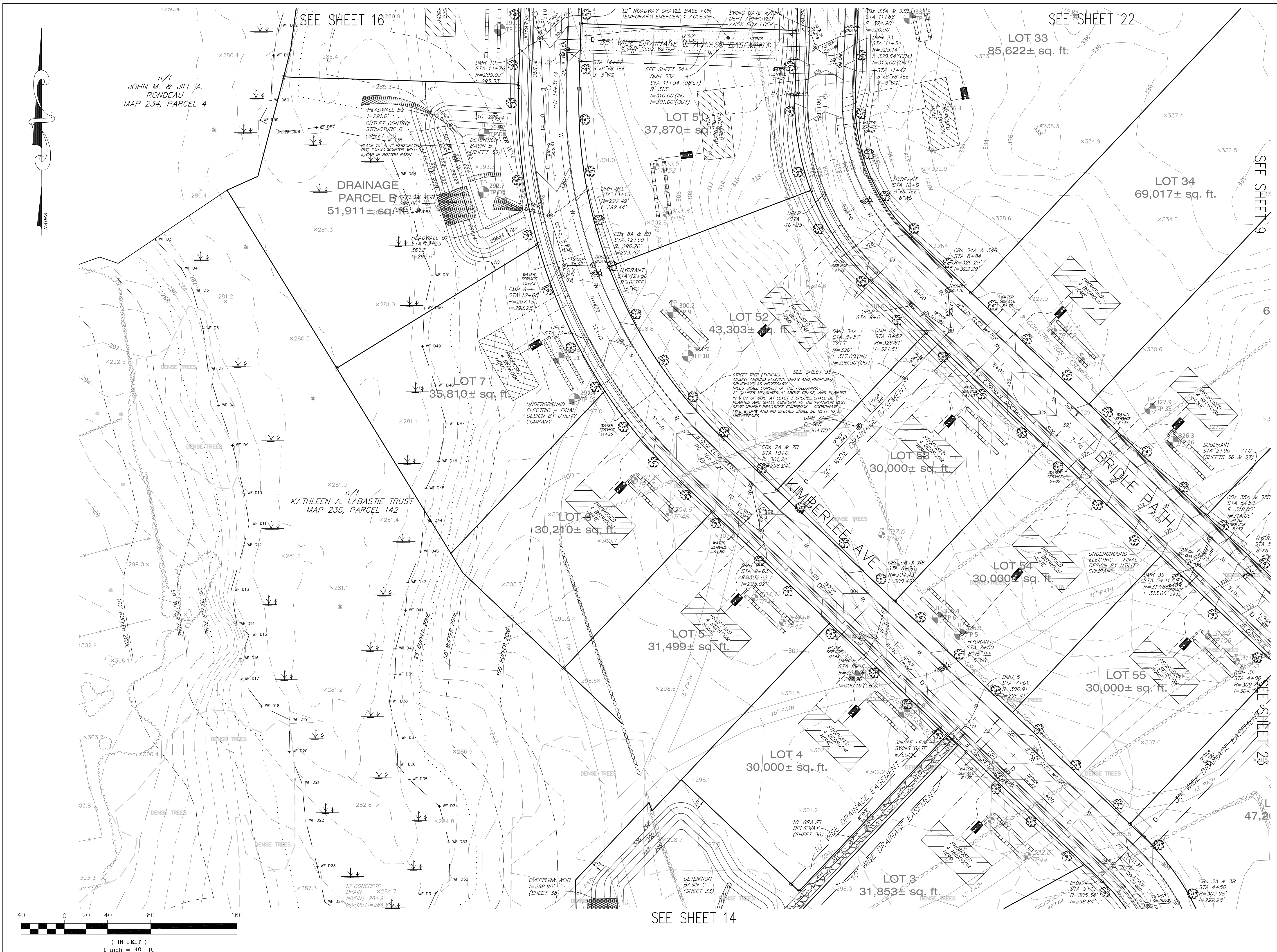


THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF
DEEDS AND/OR MUNICIPAL REQUIREMENTS AND ARE NOT A CERTIFICATION
TO TITLE OR OWNERSHIP OF PROPERTY SHOWN, OWNERS OF ADJOINING
PROPERTIES ARE ACCORDING TO CURRENT ASSESSORS RECORDS.
I CERTIFY THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE
RULES AND REGULATIONS OF THE REGISTERS OF DEEDS.

DATE _____ PROFESSIONAL LAND SURVEYOR

(REGISTRY)





PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	BASIN B MODIFIED/STREET TREES ADDED/STREET LIGHT MOVED TO STA 10+25 BRIDLE PATH/CB#88 DOUBLE GRATE/SUBDRAIN ADDED/DMH#33A & 34A ADDED/KIMBERLEE AVE SIDEWALK MOVED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

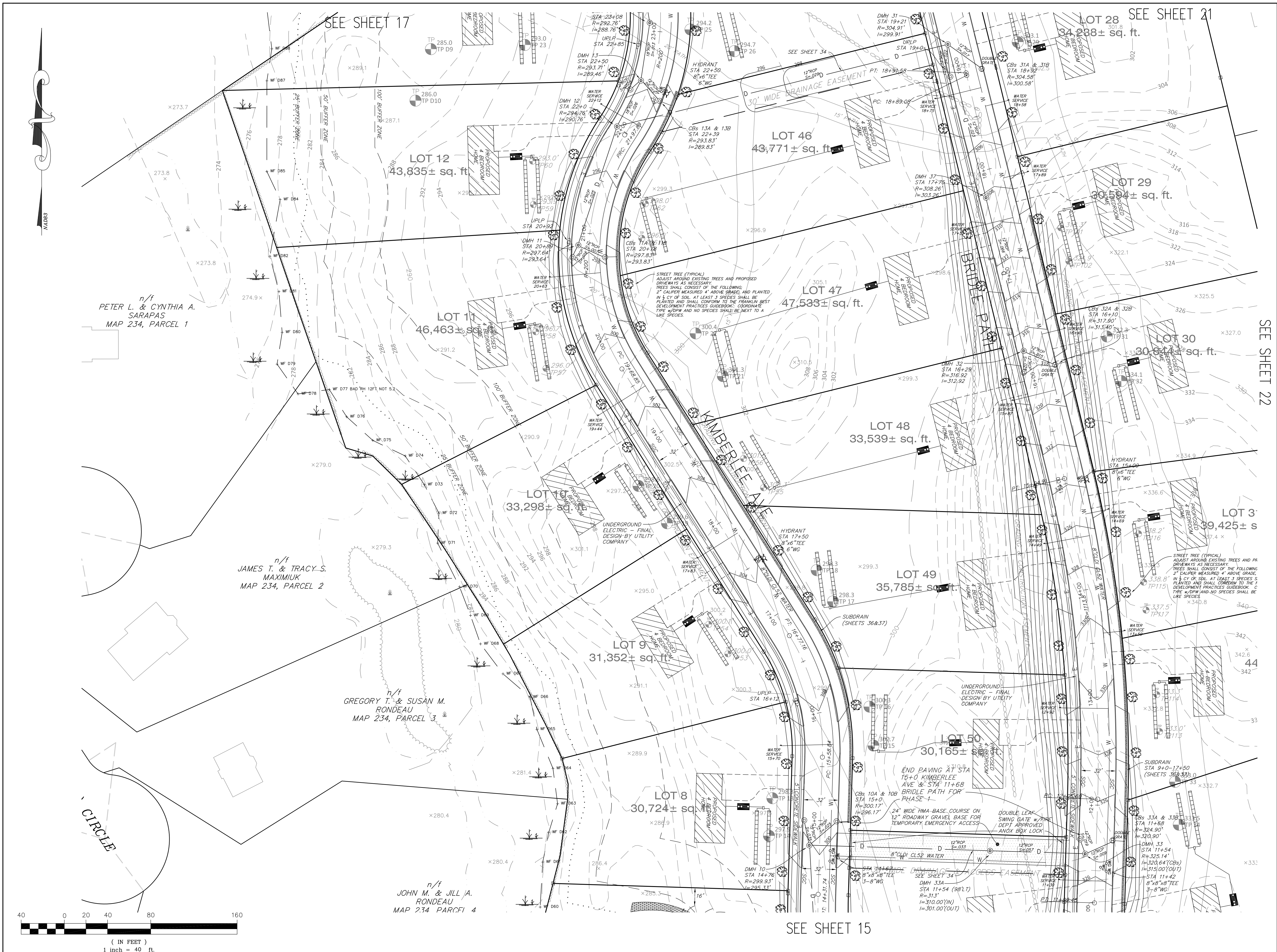
**Topographic & Utility
Plan**

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

15



PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

SEE SHEET 22

DATE	DESCRIPTION
6-8-2020	PAVEMENT LIMITS PHASE 1/TEMPORARY ACCESS DRIVE MODIFIED/STREET TREES ADDED/SUBDRAIN ADDED/KIMBERLEE AVE SIDEWALK MOVED/DMH#33A ADDED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

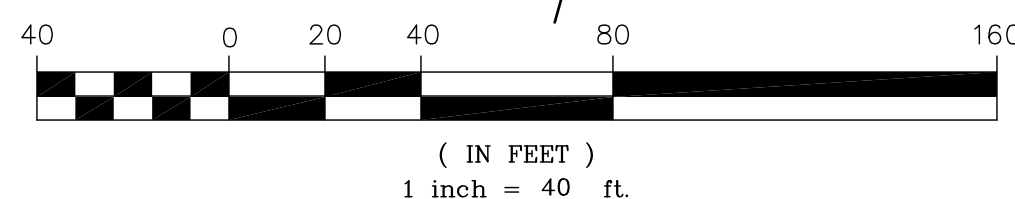
Topographic & Utility
Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

16



SEE SHEET 15

n/ ND TRUST, INC.
PARCEL 119

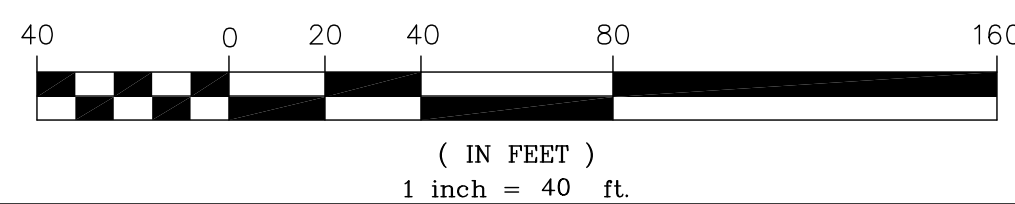
DRAINAGE
PARCEL A
84,999± sq. ft.

n/ RANIERI TRUST
MAP 235, PARCEL 132

SEE SHEET 18

SEE SHEET 21

SEE SHEET 16



PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

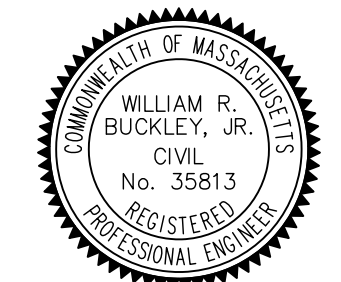
DATE	DESCRIPTION
6-8-2020	PAVEMENT LIMITS PHASE 2/TEMPORARY ACCESS DRIVE MODIFIED/BASIN A MODIFIED/KIMBERLEE AVE SIDEWALK MOVED/LIGHT POLE ADDED STA 28+50
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

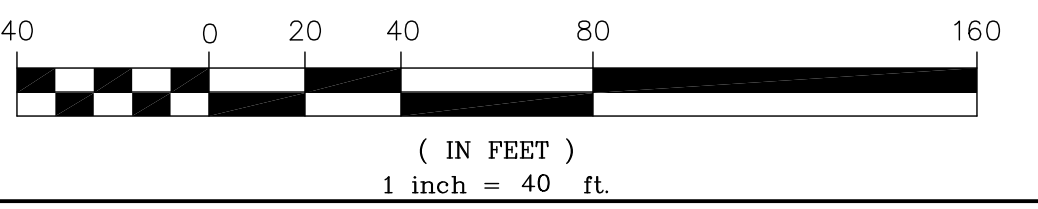
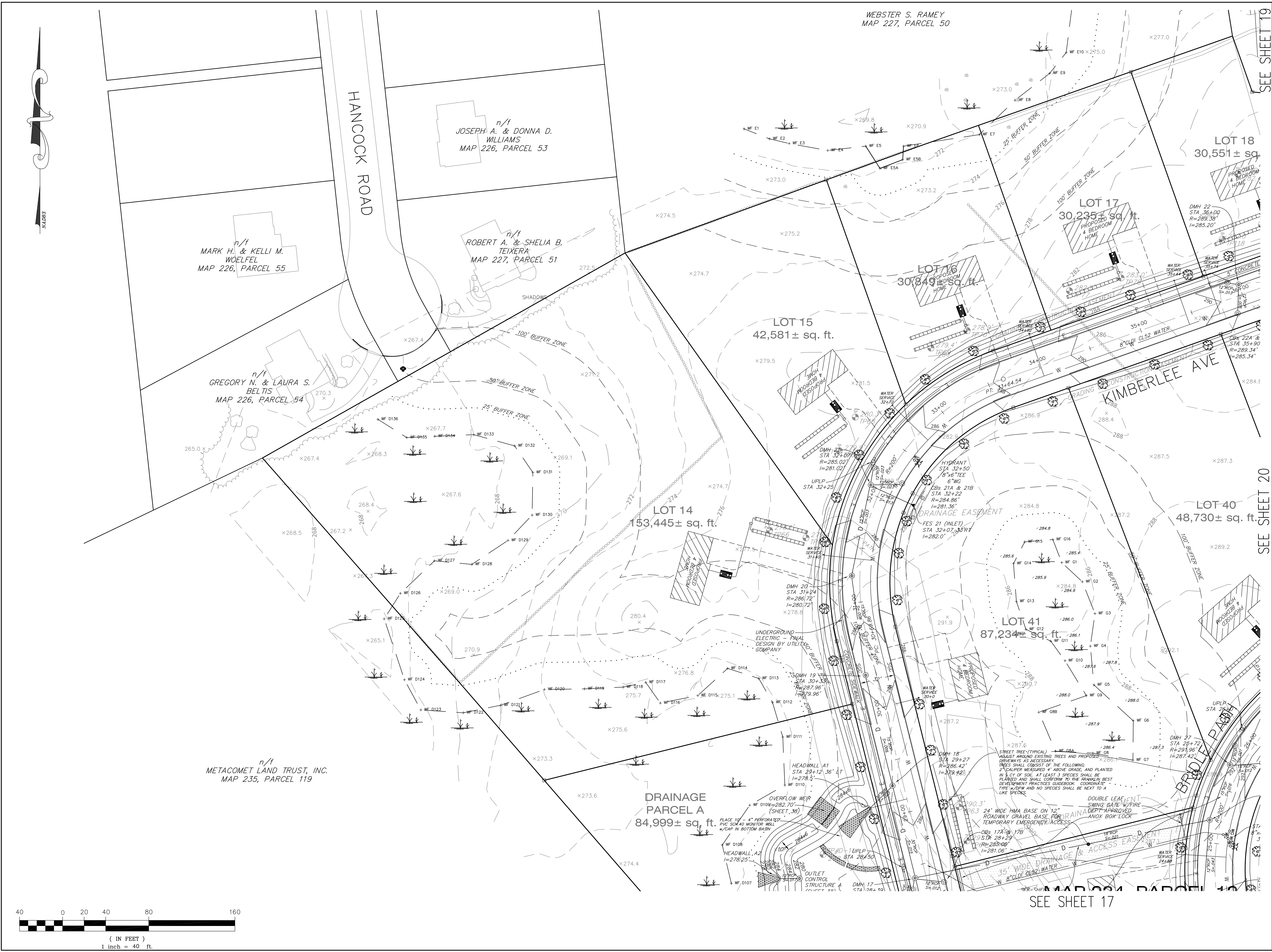
Topographic & Utility
Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

17



PROJECT:
**Maple Hill
Franklin
Massachusetts**

OWNERS:
**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



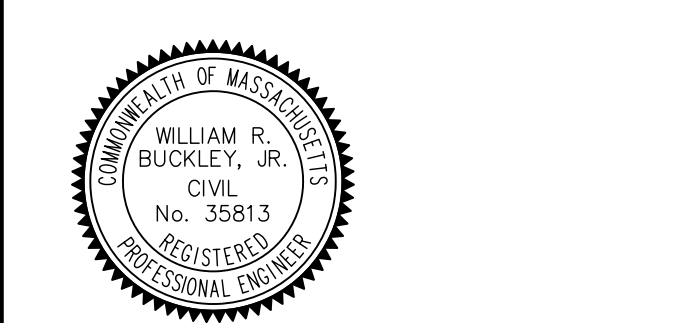
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	BASINS A & F MODIFIED/STREET TREES ADDED/KIMBERLEE AVE SIDEWALK MOVED/LIGHT POLE MOVED STA 32+25
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

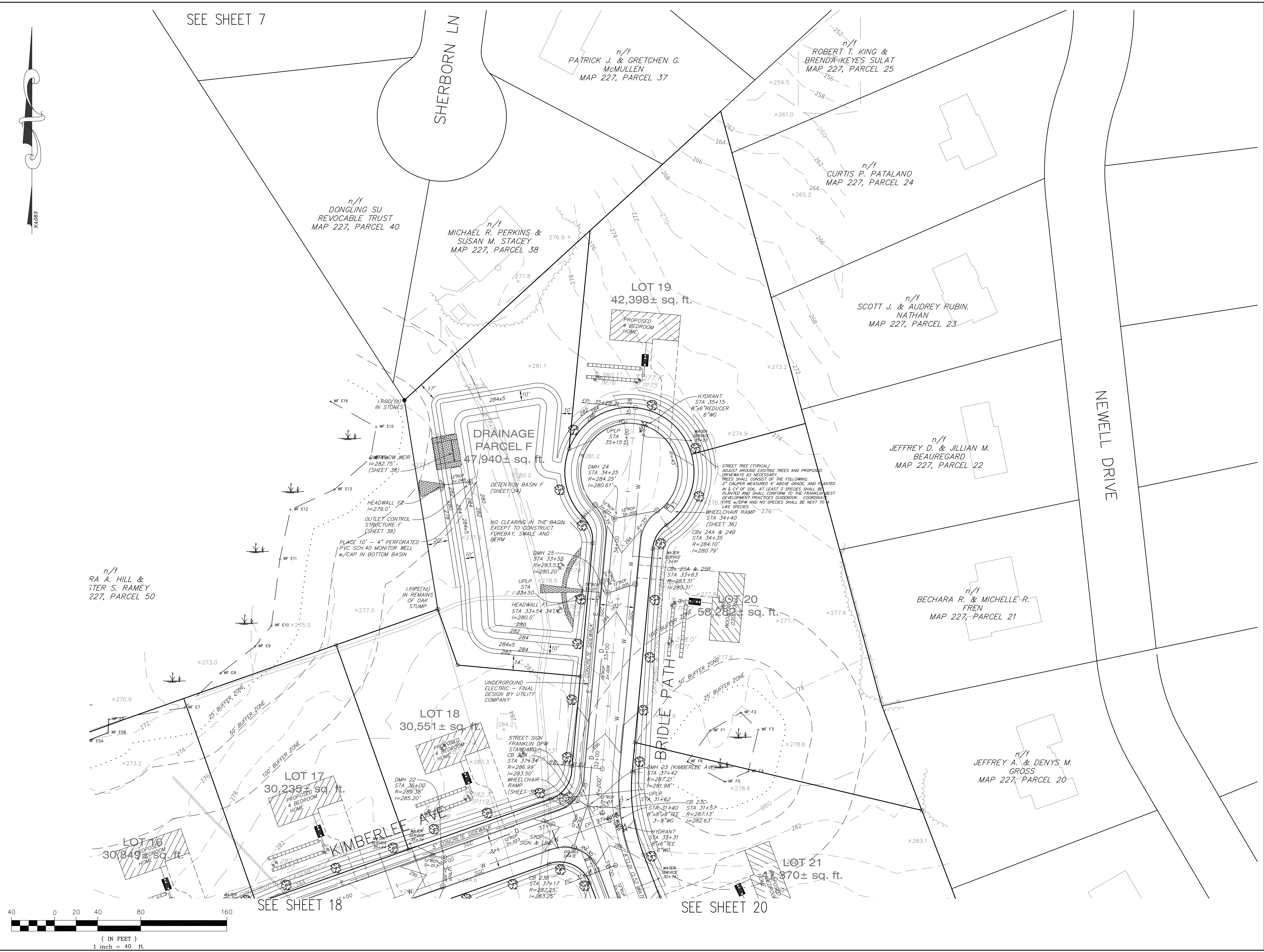
I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK



DRAWING TITLE
**Topographic & Utility
Plan**

SCALE: 1" = 40'
DEC. 15, 2019 SHEET NUMBER
18
16-0148H



PROJECT:
Maple Hill
Franklin
Massachusetts

OWNERS:
STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:
CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



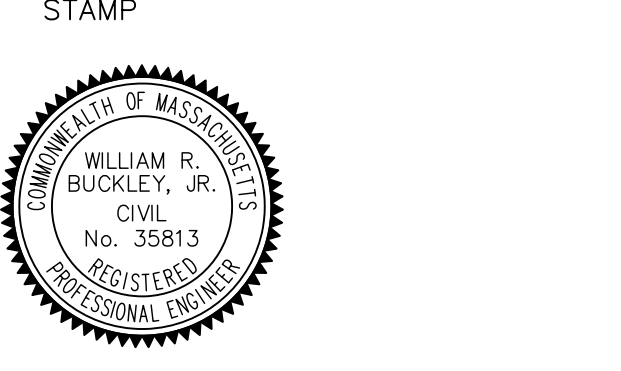
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	STORMWATER MODIFIED/BASIN F & LOT 18 SWAPPED/WHEELCHAIR RAMP ADDED/KIMBERLEE AVE & BRIDLE PATH SIDEWALK MOVED/LIGHT POLE ADDED STA 33+50
DATE	DESCRIPTION
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

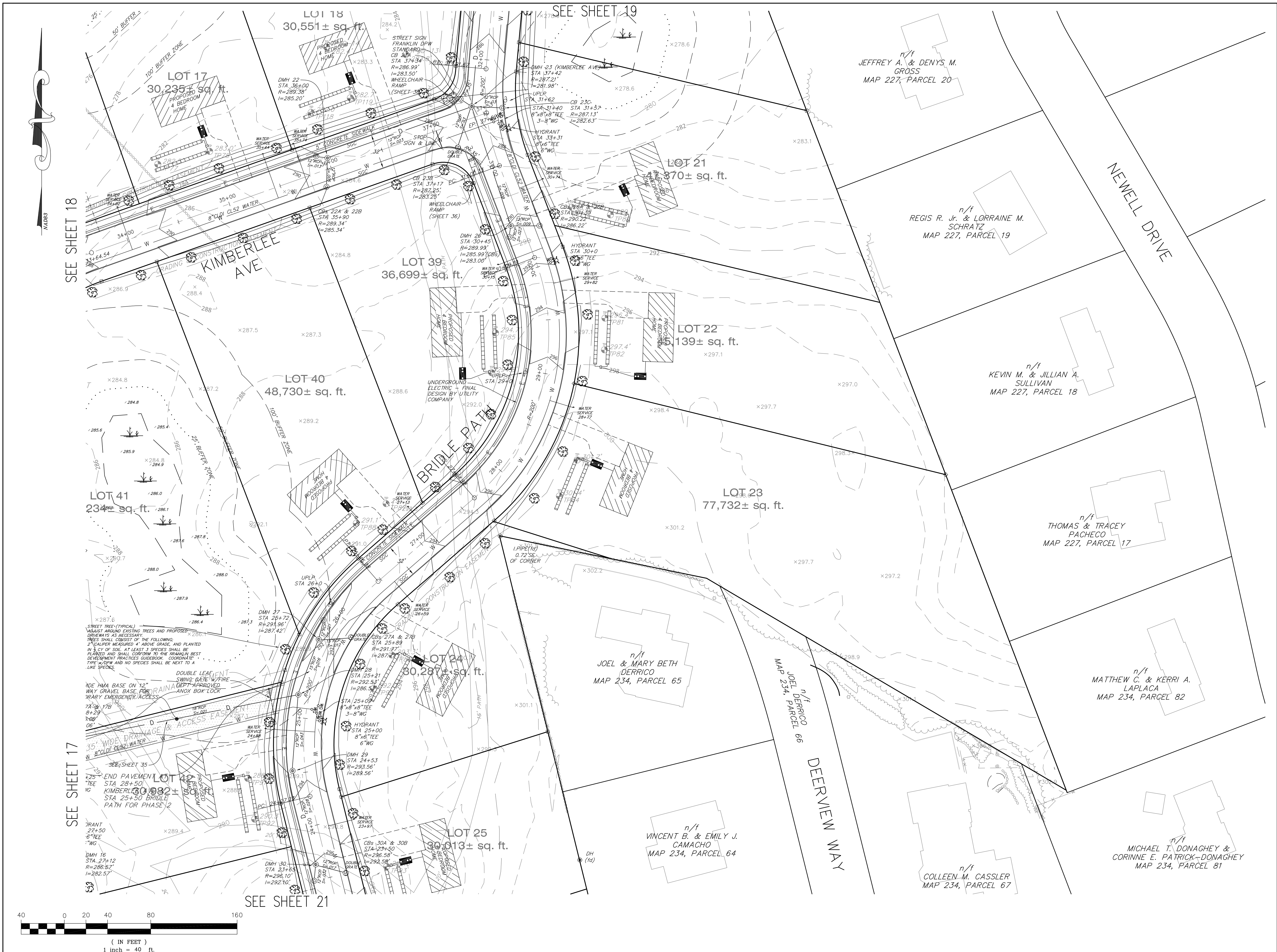
I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ **FRANKLIN TOWN CLERK**



DRAWING TITLE
Topographic & Utility
Plan

SCALE: 1" = 40'
DEC. 15, 2019 **SHEET NUMBER**
16-0148H **19**



PROJECT:
Maple Hill Franklin Massachusetts

OWNERS:
STEVEN LABASTIE THE FRANKLIN LABASTIE FAMILY.LLC & THE KATHLEEN A. LABASTIE TRUST 469 MAPLE STREET FRANKLIN, MA 02038

FITZGERALD FAMILY IRREVOCABLE TRUST 441 MAPLE STREET FRANKLIN, MA 02038

APPLICANT:
CARROLL CONSTRUCTION CORP. BOX 395 FOXBOROUGH, MA 02035



FOUR SCHOOL STREET P.O. BOX 9136 FOXBOROUGH, MA 02035 508-543-3939

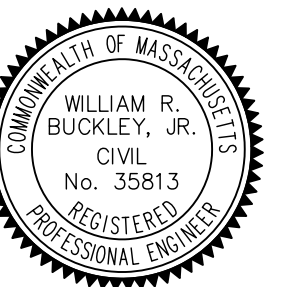
DATE	DESCRIPTION
6-8-2020	CB#23B & 27B DOUBLE GRADE/LIGHT POLE MOVED STA. 26+0
	REVISIONS

DATE APPROVED:
DATE ENDORSED:
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE: FRANKLIN TOWN CLERK

STAMP



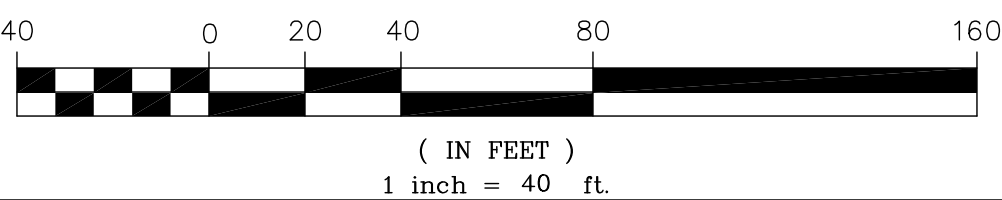
DRAWING TITLE

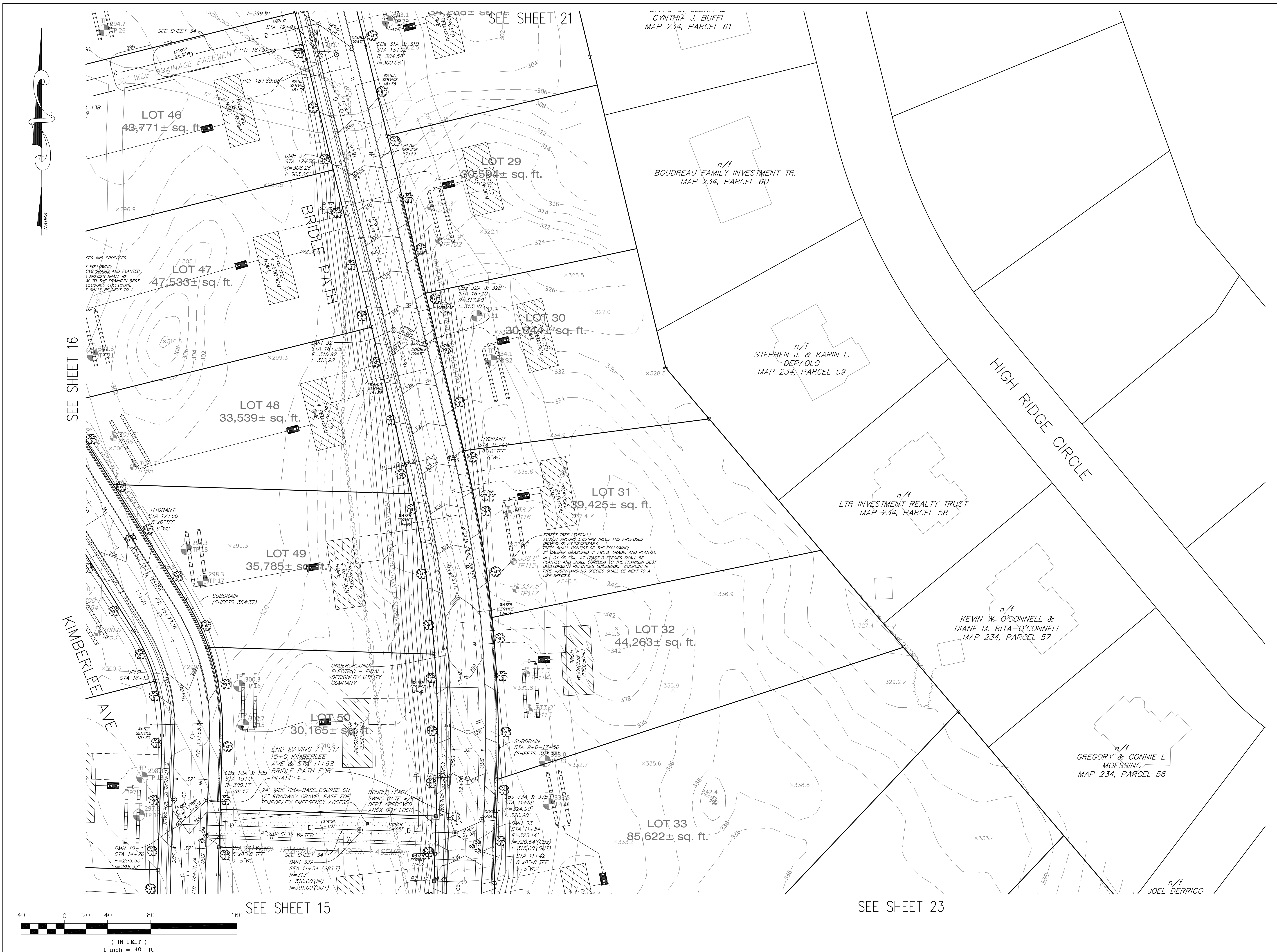
Topographic & Utility Plan

SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H 20





PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

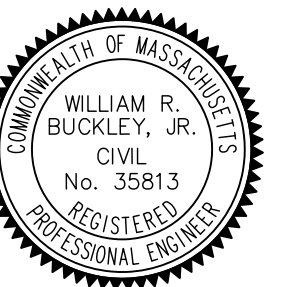
DATE	DESCRIPTION	REVISIONS
6-8-2020	SUBDRAIN ADDED	

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

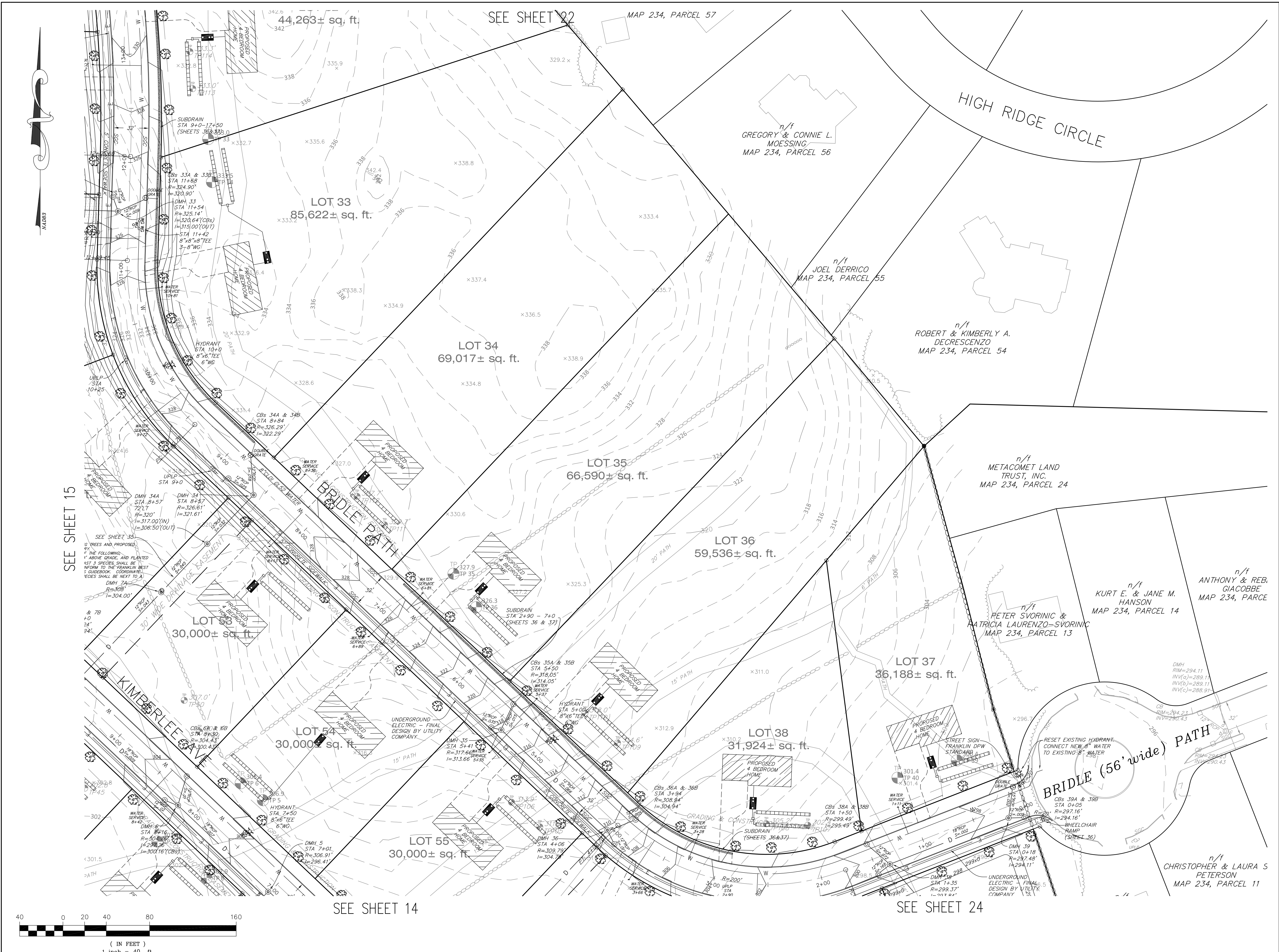
**Topographic & Utility
Plan**

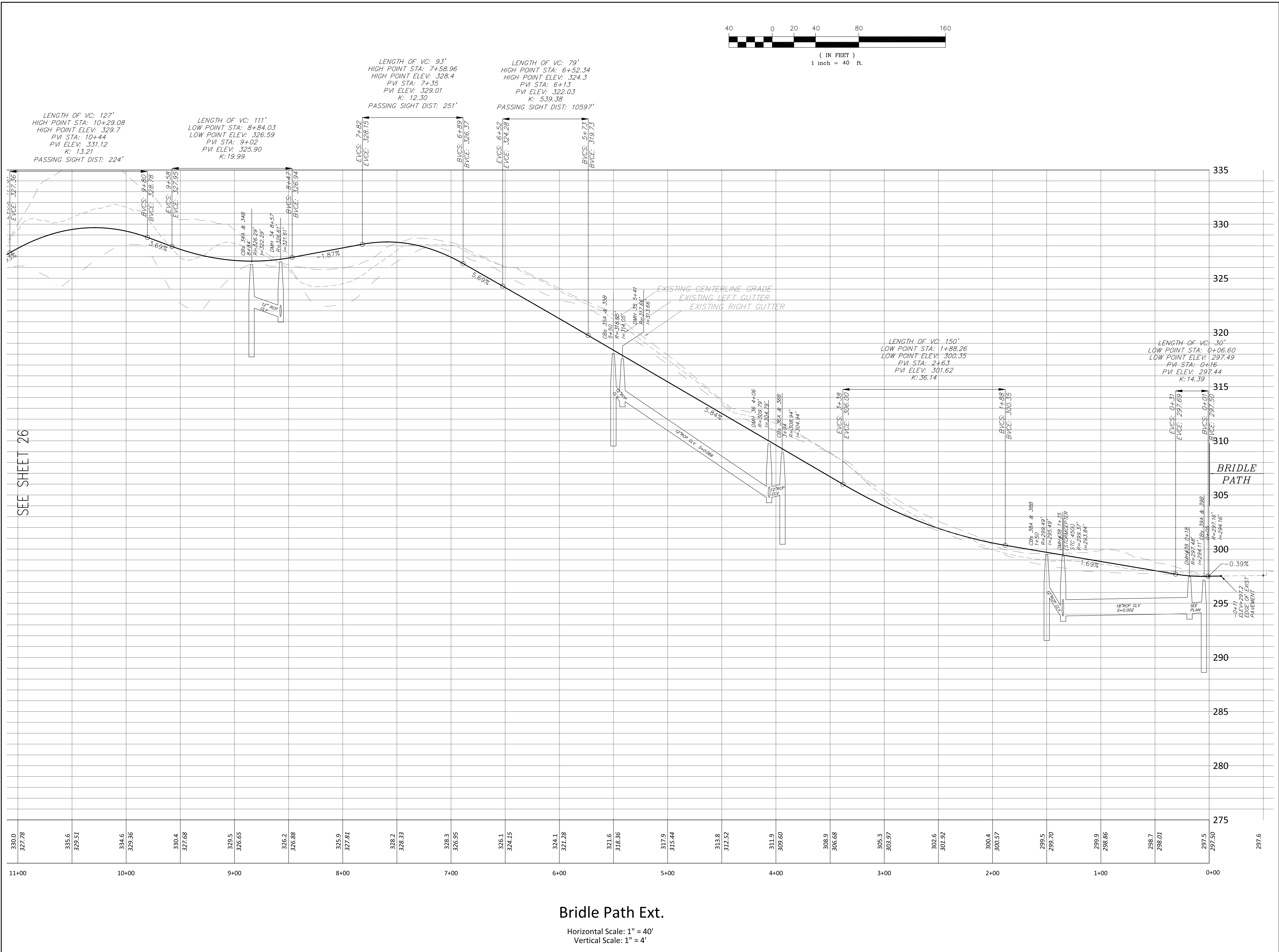
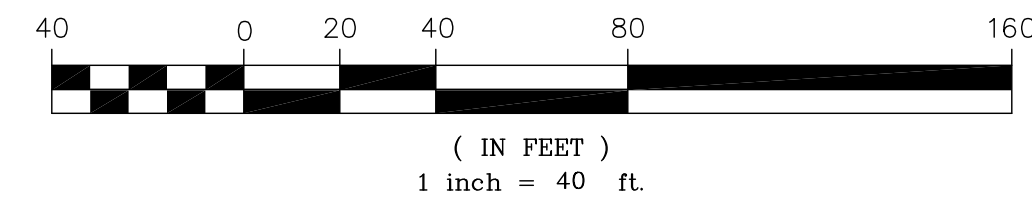
SCALE: 1" = 40'

DEC. 15, 2019 SHEET NUMBER

16-0148H

22





SEE SHEET 26

Bridle Path Ext.
 Horizontal Scale: 1" = 40'
 Vertical Scale: 1" = 4'

PROJECT:

**Maple Hill
 Franklin
 Massachusetts**

OWNERS:

**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



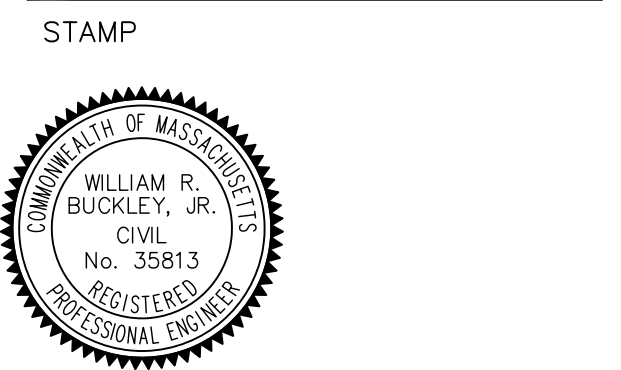
FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE	DESCRIPTION
6-8-2020	CLV PIPE NOTED/ENTRANCE PROFILE MODIFIED

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

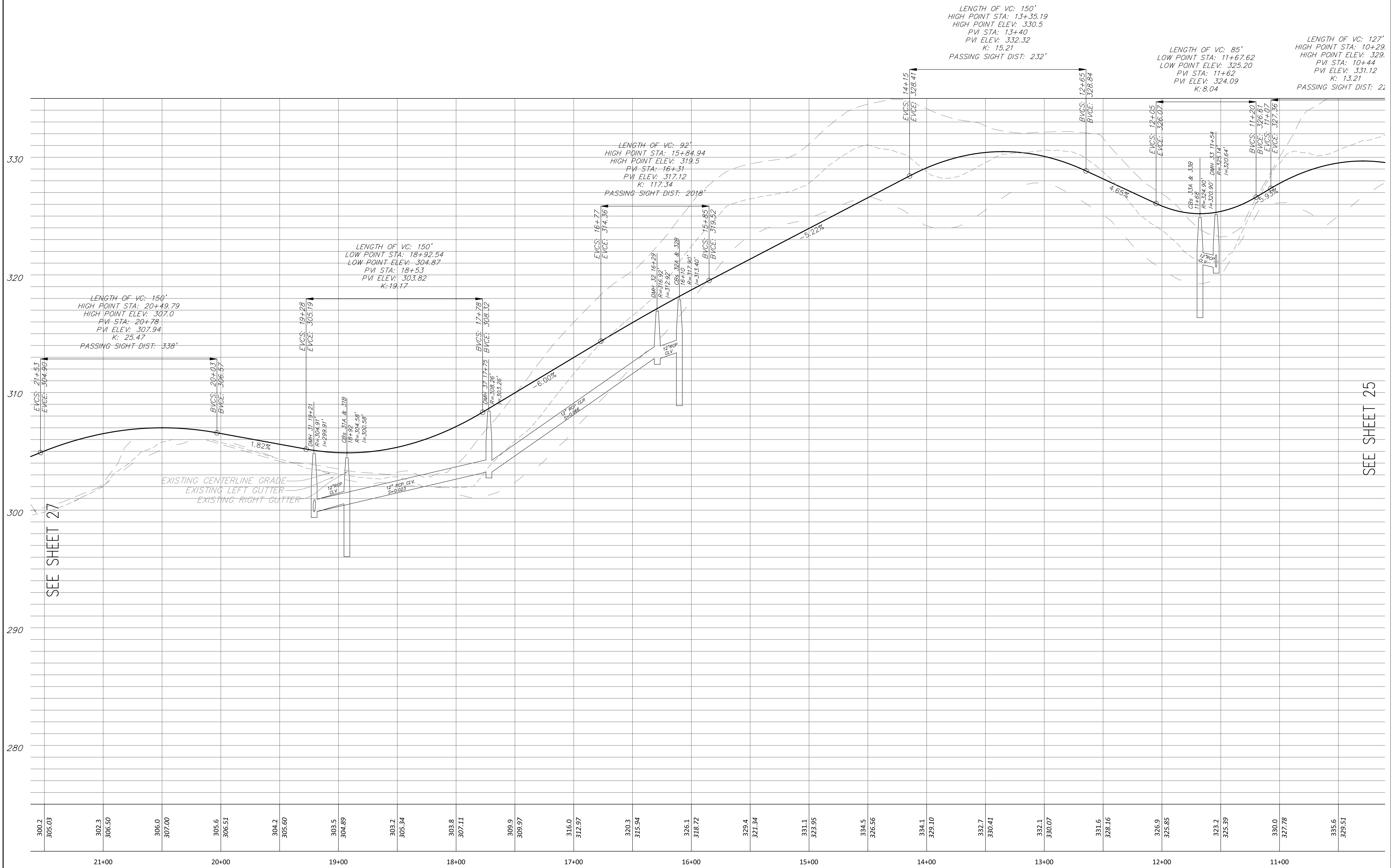
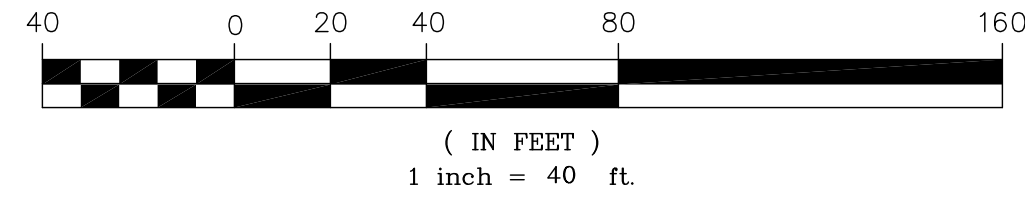
I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK



DRAWING TITLE

Definitive Profile –
 Bridle Path



SEE SHEET 27

SEE SHEET 25

Bridle Path Ext2

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

PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

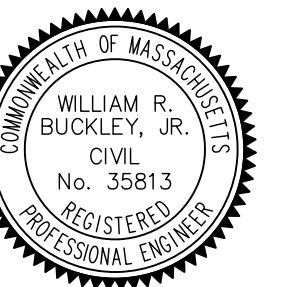
DATE	DESCRIPTION
6-8-2020	CLV PIPE NOTED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



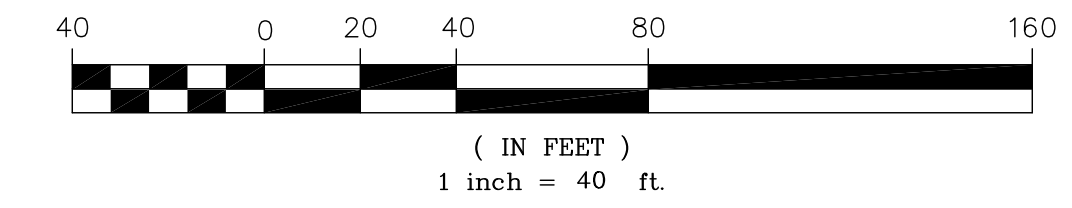
DRAWING TITLE

Definitive Profile –
Bridle Path

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **26**



PROJECT:
**Maple Hill
 Franklin
 Massachusetts**

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



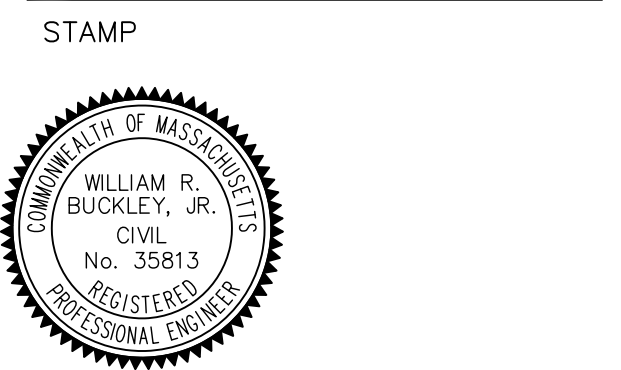
FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE	DESCRIPTION
6-8-2020	CLV PIPE NOTED
	REVISIONS

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK



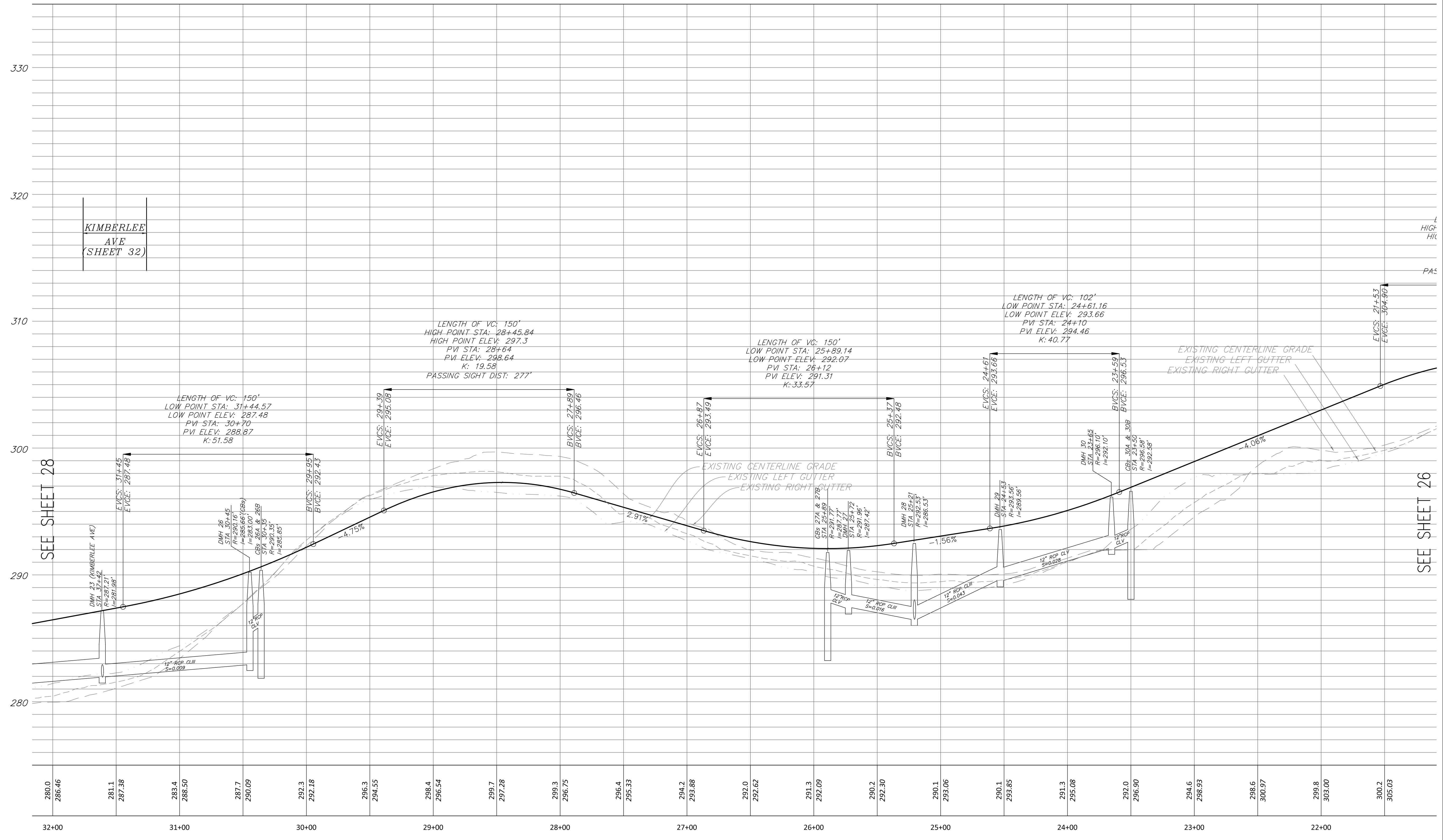
DRAWING TITLE

Definitive Profile –
 Bridle Path

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **27**

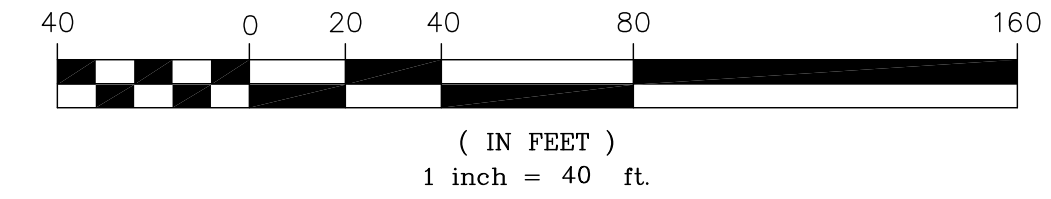


KIMBERLEE
 AVE
 (SHEET 32)

SEE SHEET 28

SEE SHEET 26

Bridle Path Ext.
 Horizontal Scale: 1" = 40'
 Vertical Scale: 1" = 4'



PROJECT:

**Maple Hill
Franklin
Massachusetts**

OWNERS:

**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

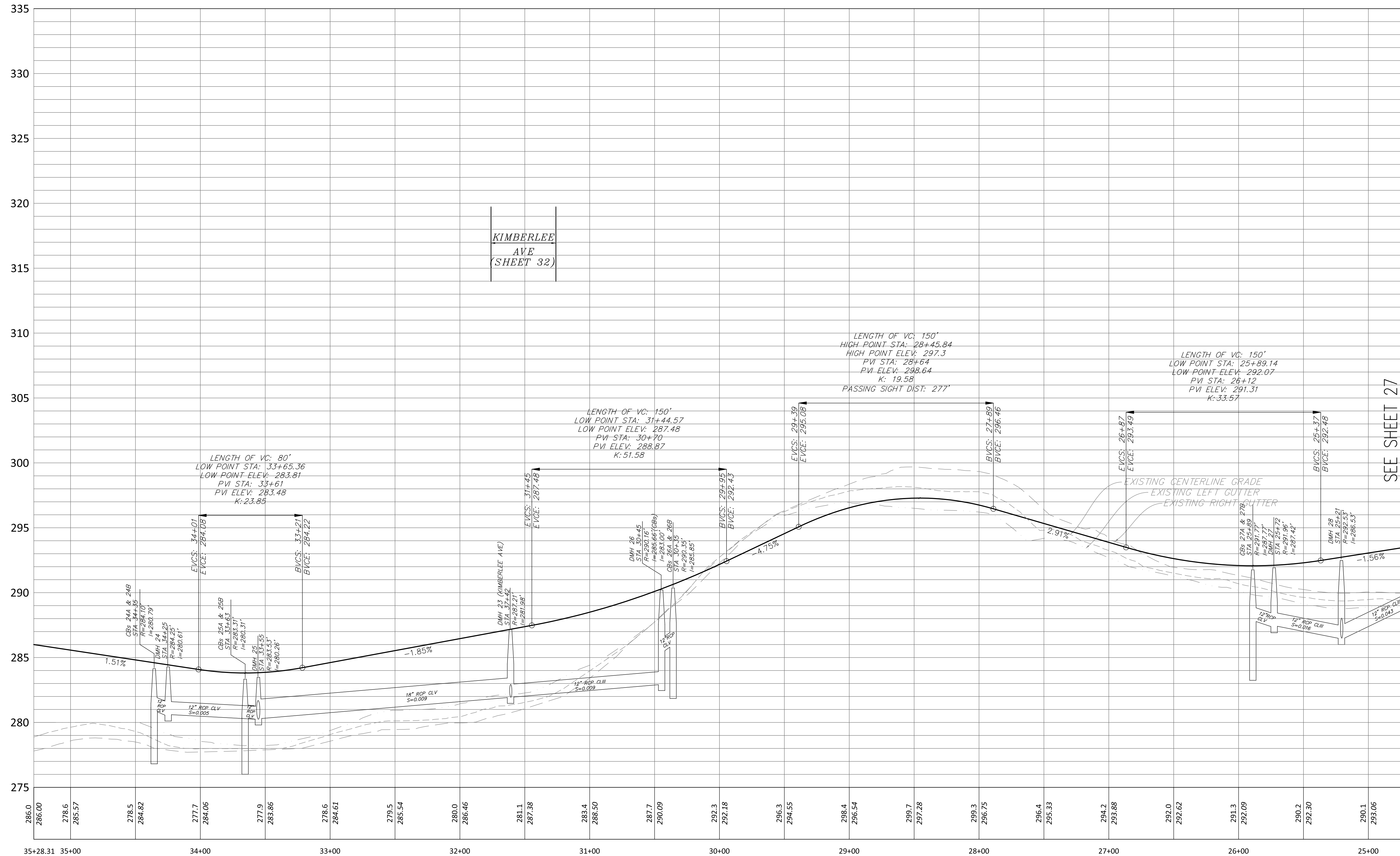
**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939



SEE SHEET 27

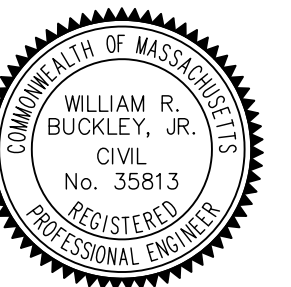
DATE	DESCRIPTION
6-8-2020	STORMWATER DMH23-25 MODIFIED/CLV PIPE NOTED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

**Definitive Profile –
Bridle Path**

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **28**

Bridle Path Ext.

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

PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

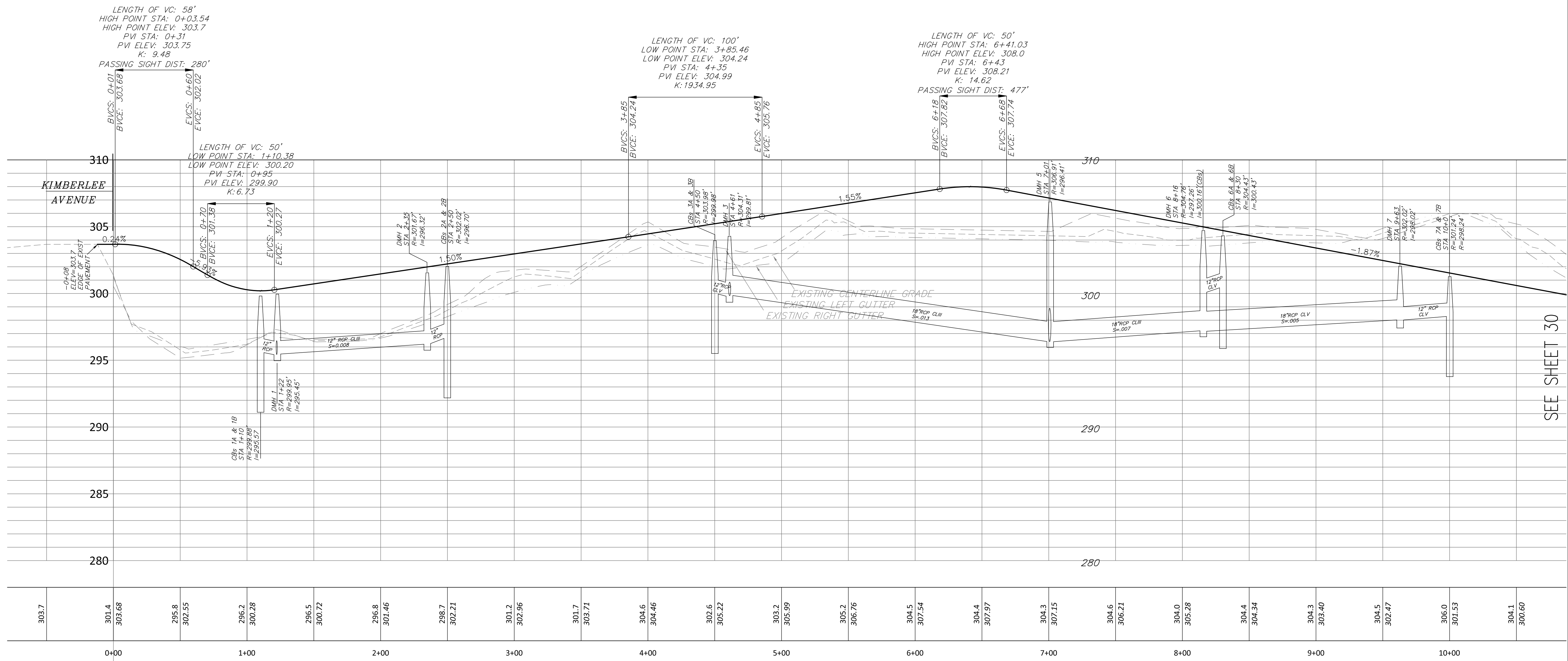
FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



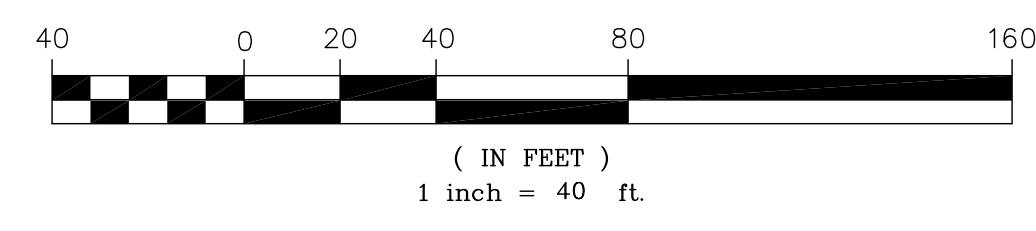
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939



SEE SHEET 30

303.7	301.4	295.8	296.2	296.5	296.8	298.7	301.2	301.7	304.6	302.6	303.2	305.2	304.5	304.4	304.3	304.6	304.0	304.4	304.3	304.5	306.0	304.1
0+00	0+08	0+55	0+62	0+72	0+86	1+10	2+06	2+17	3+06	3+22	3+59	4+76	5+54	6+07	6+15	6+21	6+28	6+34	6+40	6+47	6+53	6+60

Kimberlee Ave Ext
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'



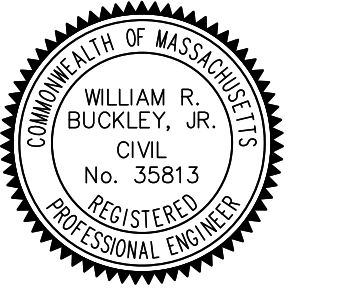
DATE	DESCRIPTION
6-8-2020	CLV PIPE NOTED

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

Definitive Profile -
Kimberlee Avenue

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **29**

PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

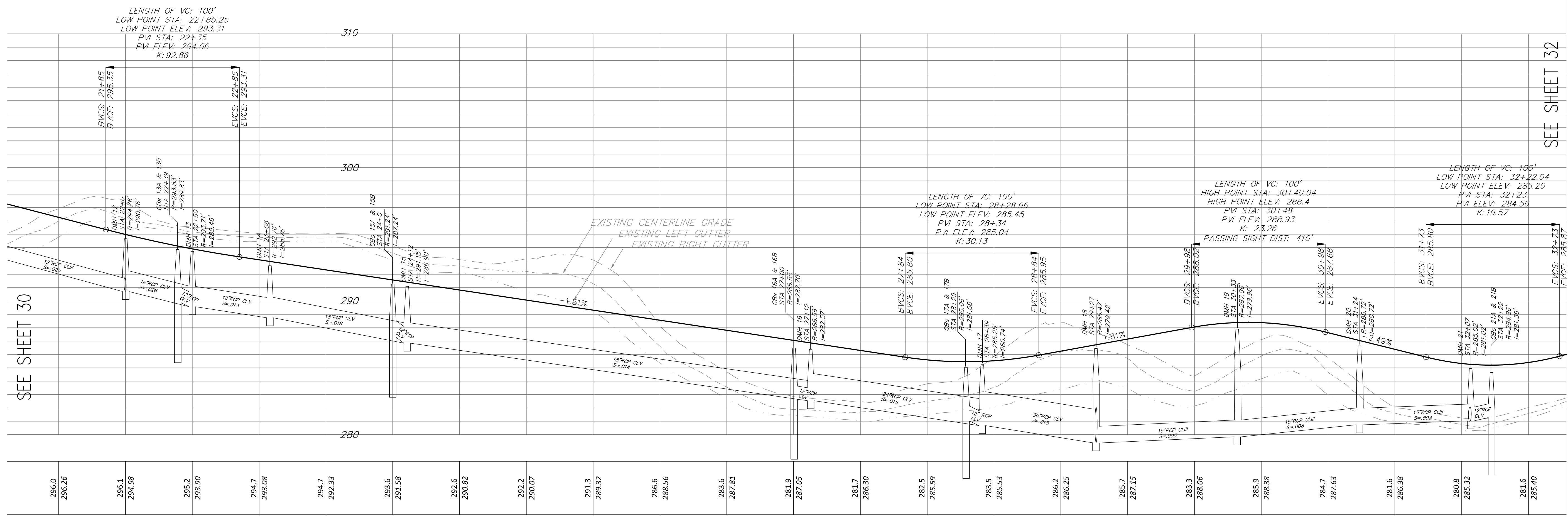
FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

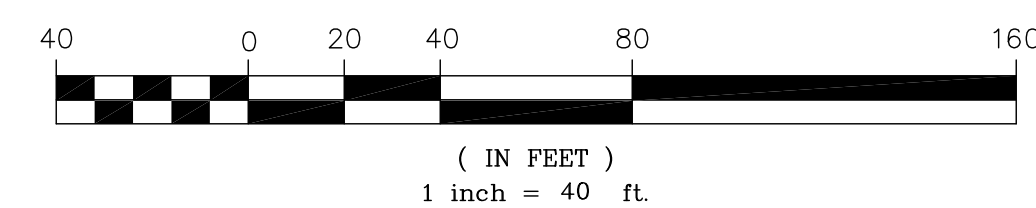


SEE SHEET 30

SEE SHEET 32

Kimberlee Ave Ext

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



DATE	DESCRIPTION
6-8-2020	CLV PIPE ADDED

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 30 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

Definitive Profile -
Kimberlee Avenue

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **31**

PROJECT:

Maple Hill
Franklin
Massachusetts

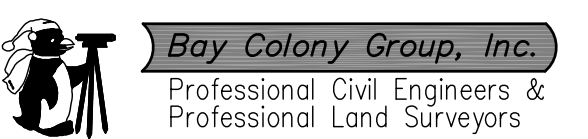
OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

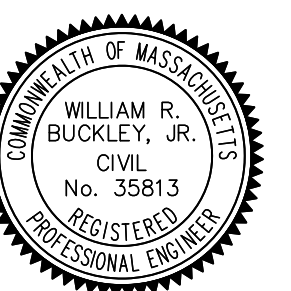
DATE	DESCRIPTION
4-17-2020	STORMWATER DMH23-25 MODIFIED/CLV PIPE NOTED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

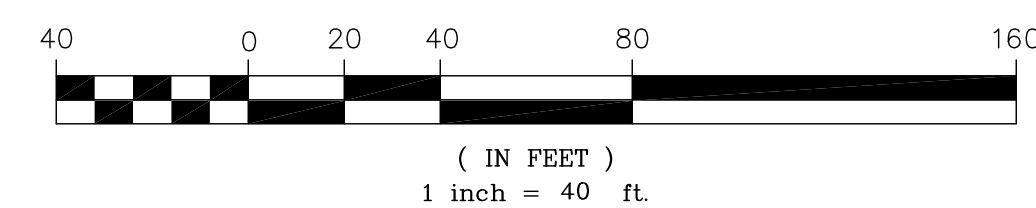
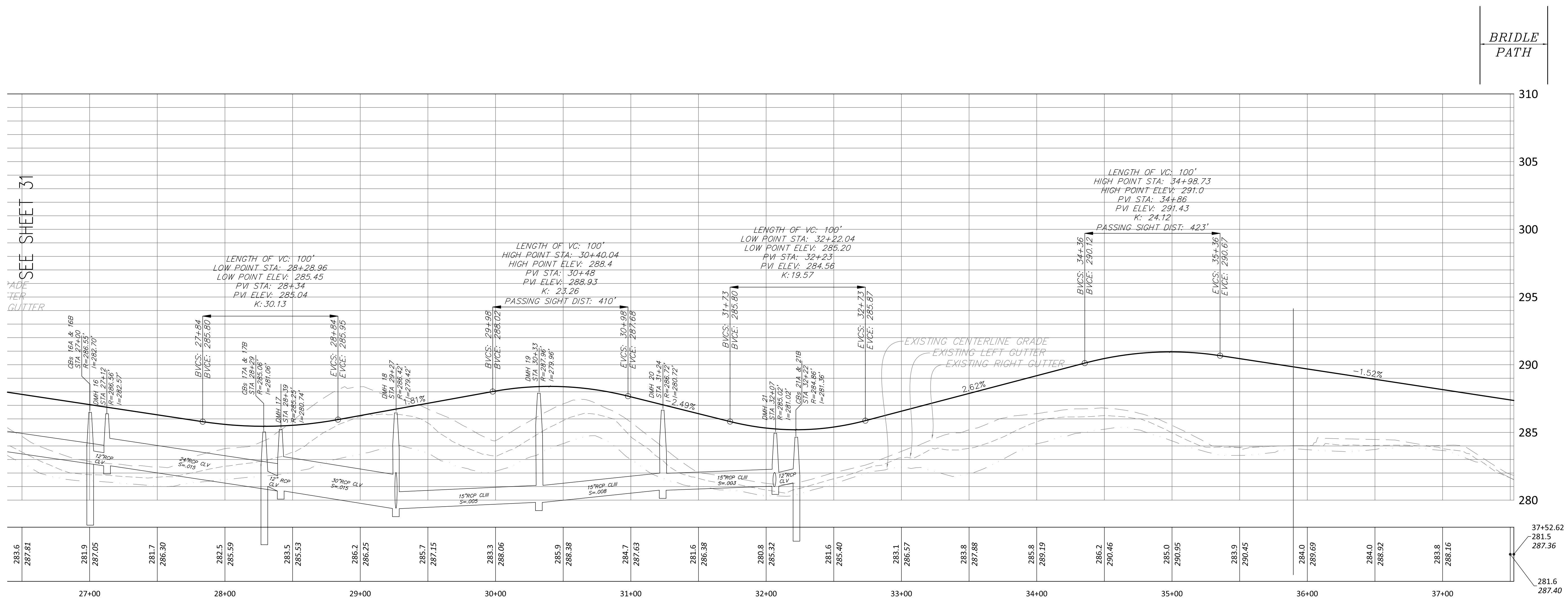
Definitive Profile -
Kimberlee Avenue

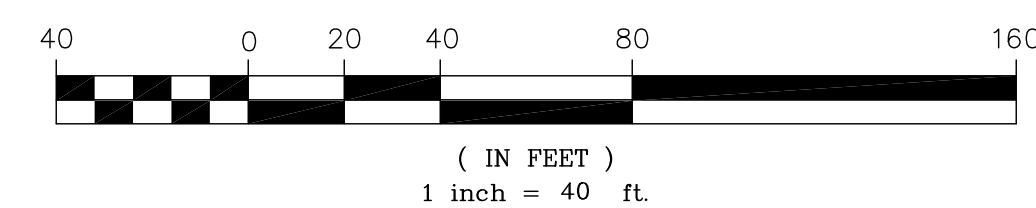
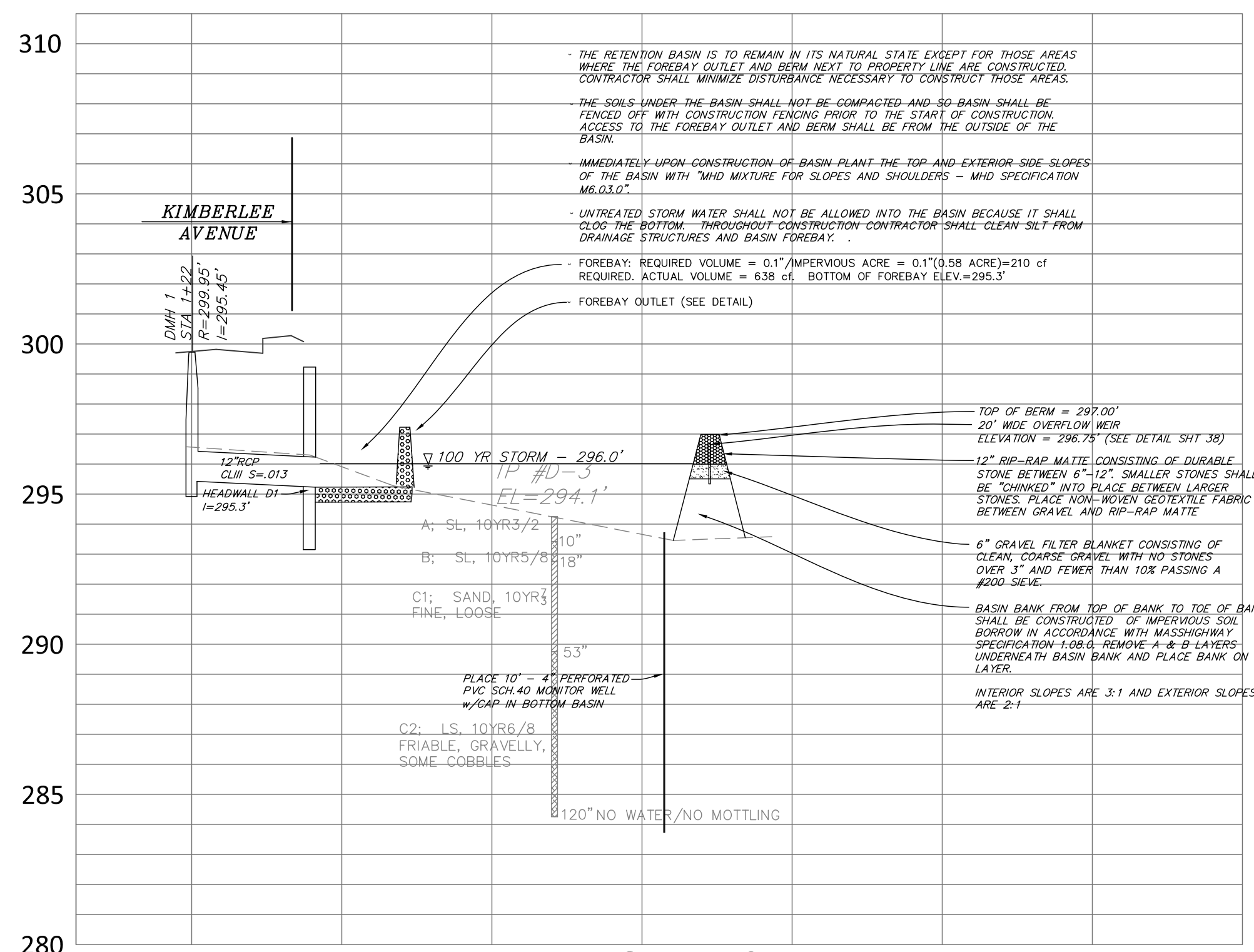
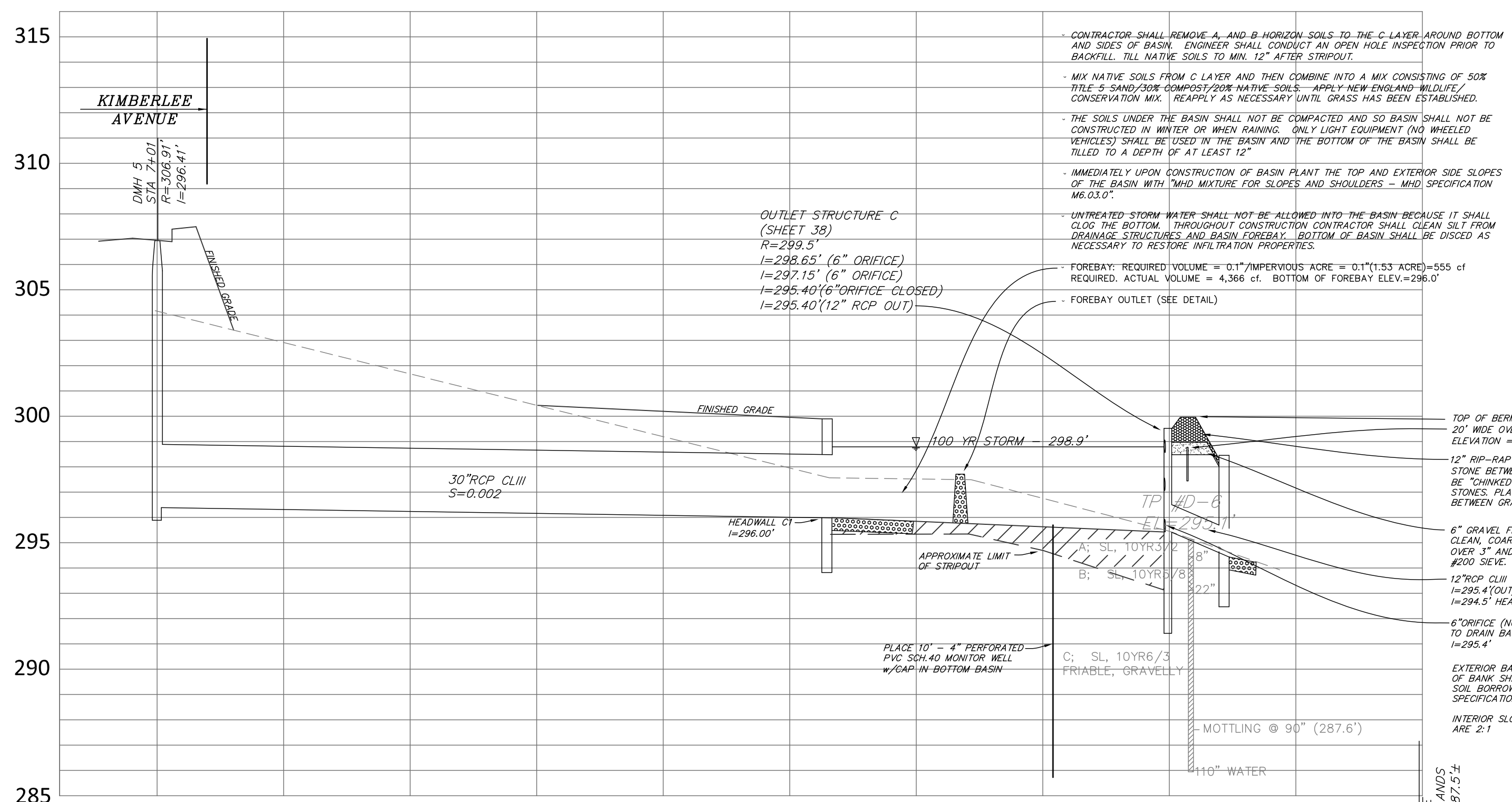
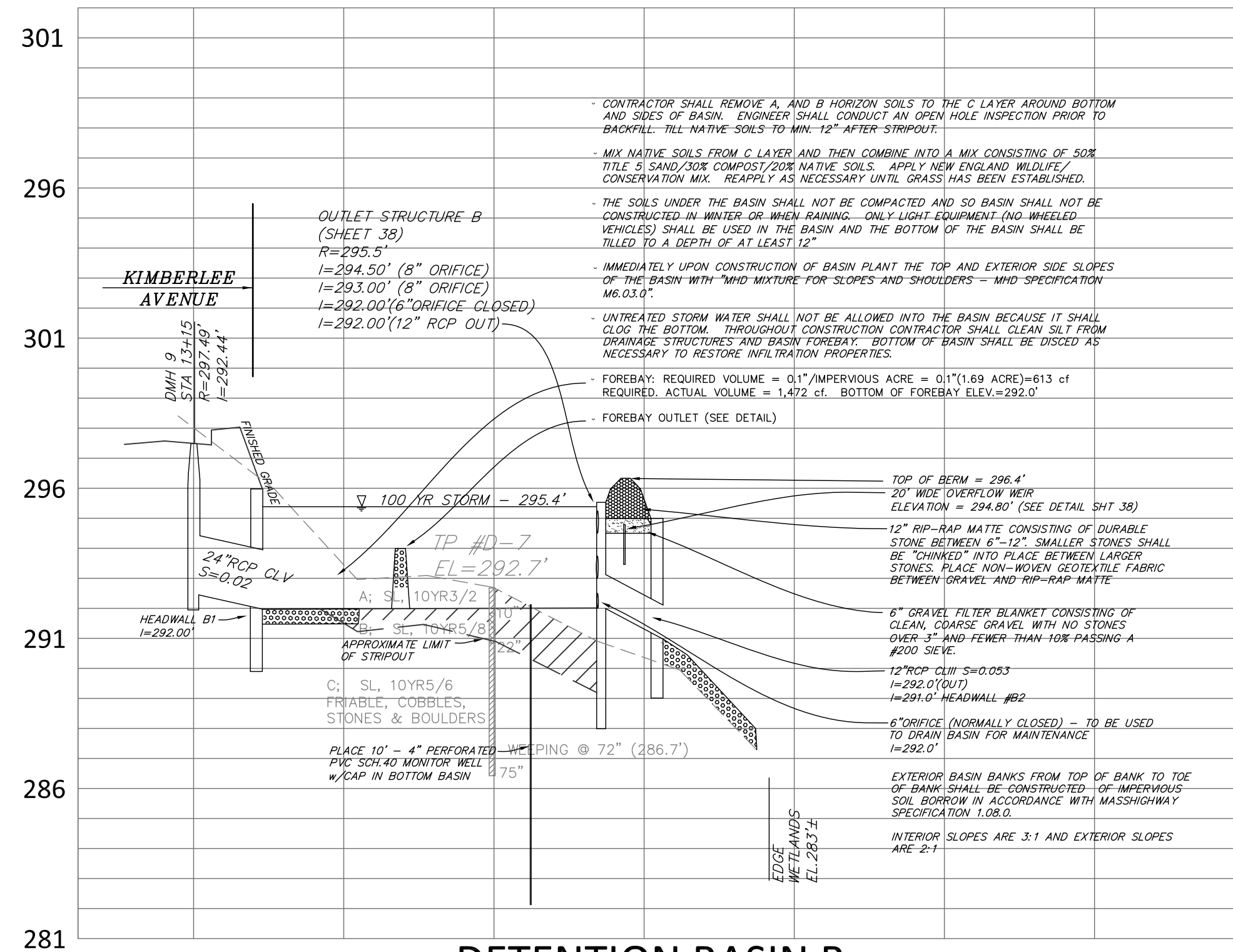
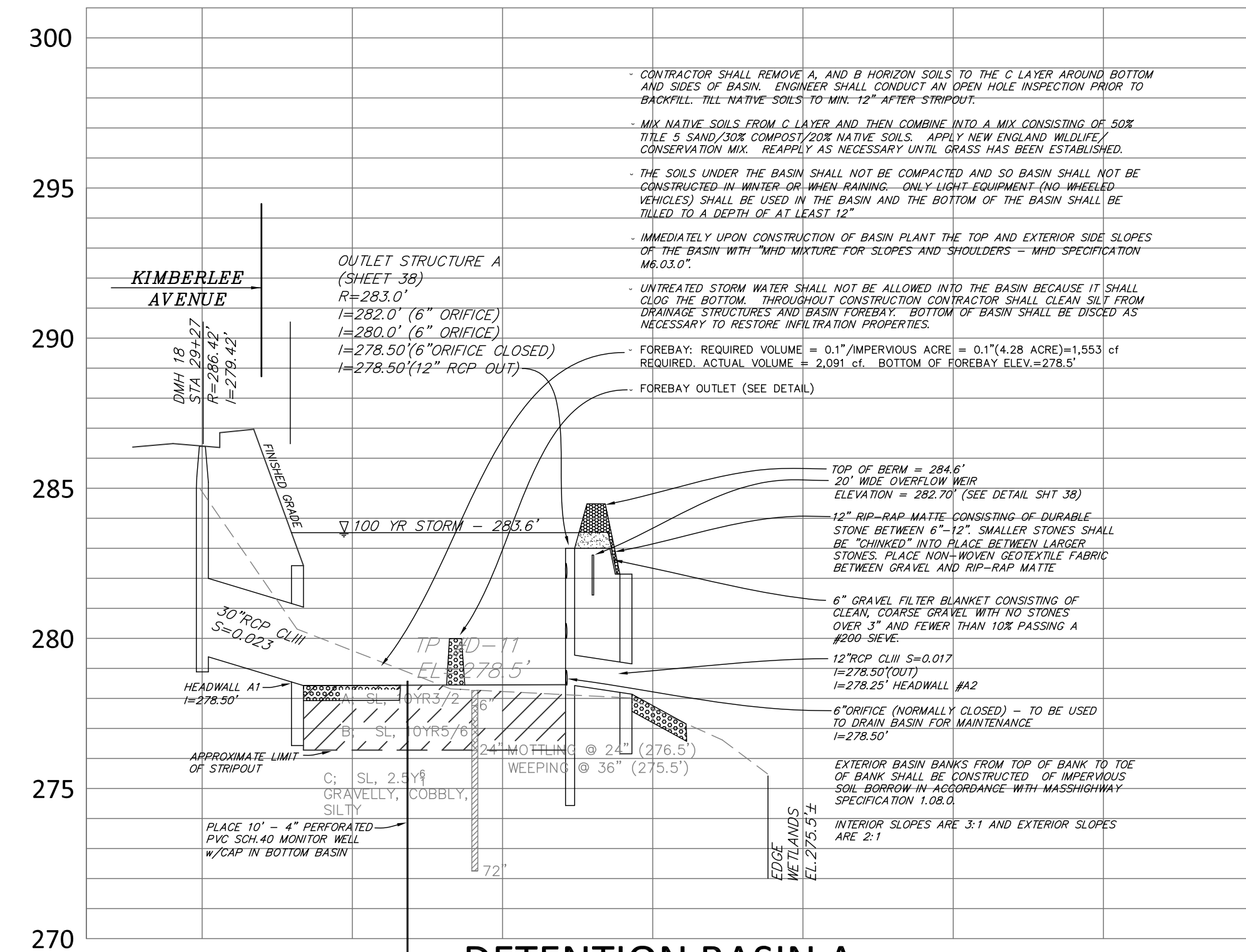
SCALE: 1" = 40'/4"

DEC. 15, 2019 SHEET NUMBER

16-0148H

32





PROJECT:
**Maple Hill
Franklin
Massachusetts**

OWNERS:
**STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038**

**FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035**



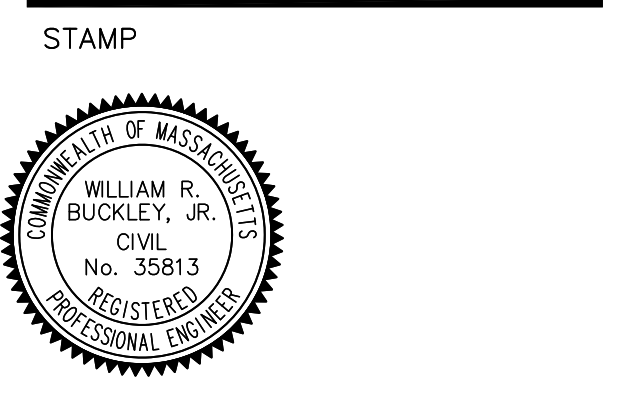
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	BASIN D 100-YR STORM EL. REVISED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____
FRANKLIN TOWN CLERK



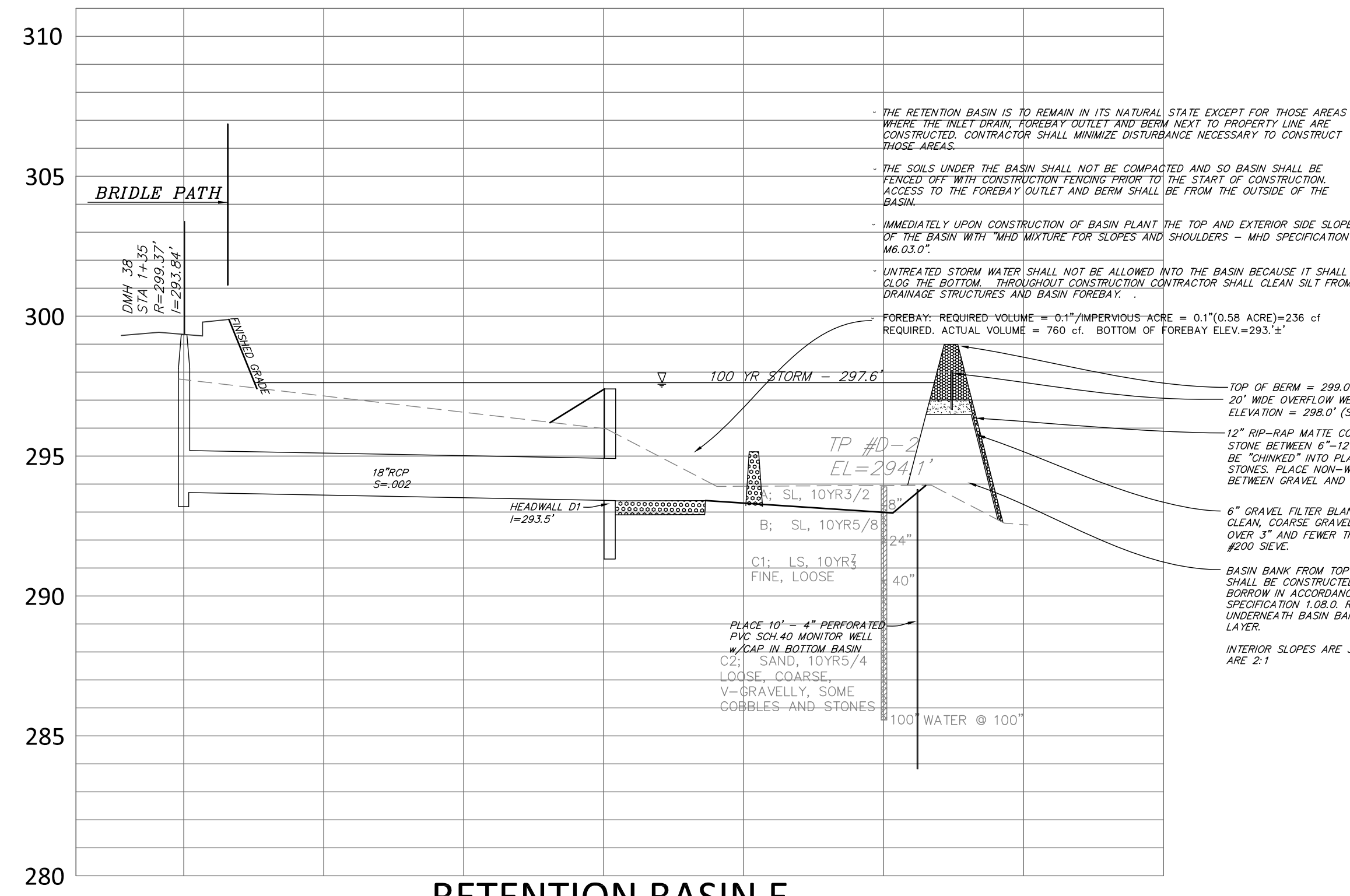
DRAWING TITLE

Drain Cross
Sections

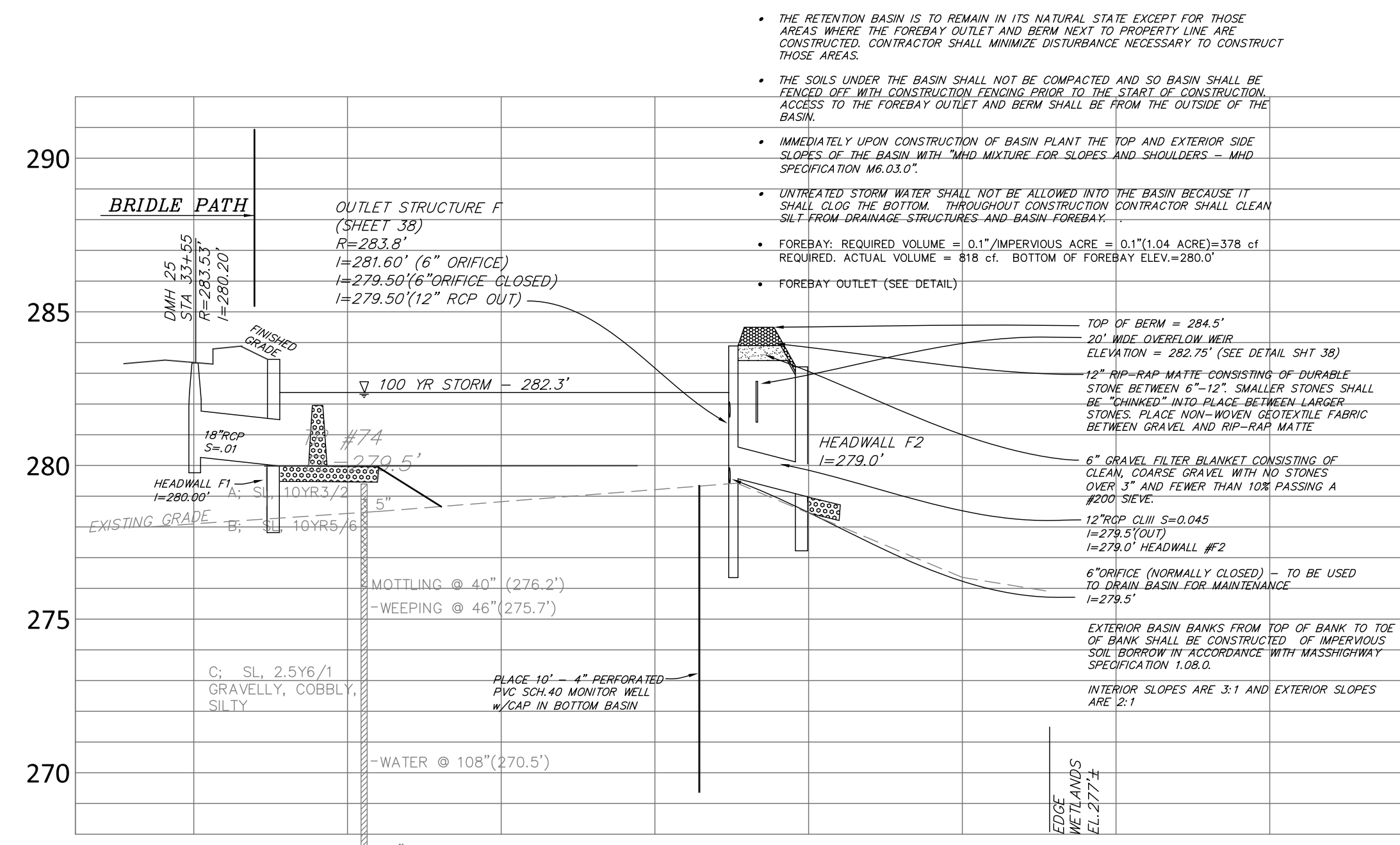
SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H **33**

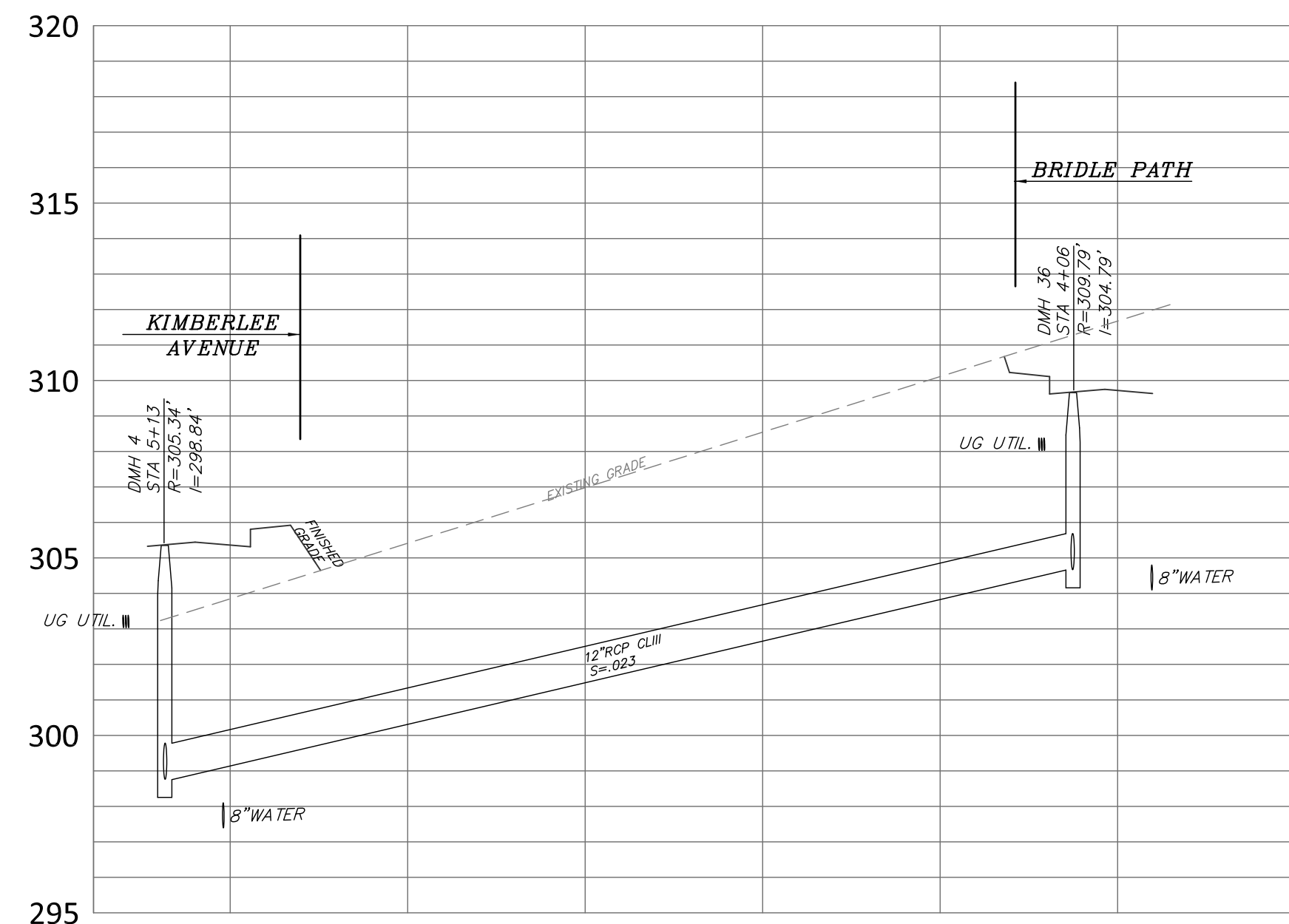
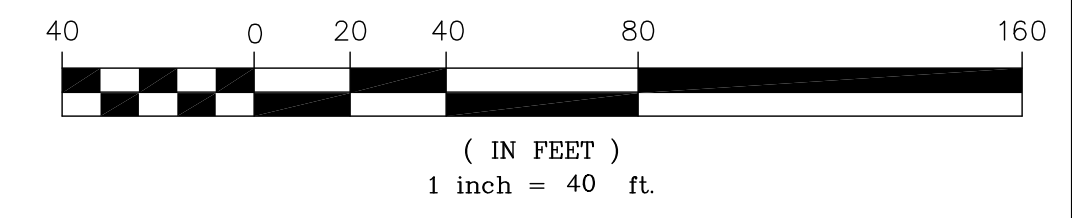


RETENTION BASIN E
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

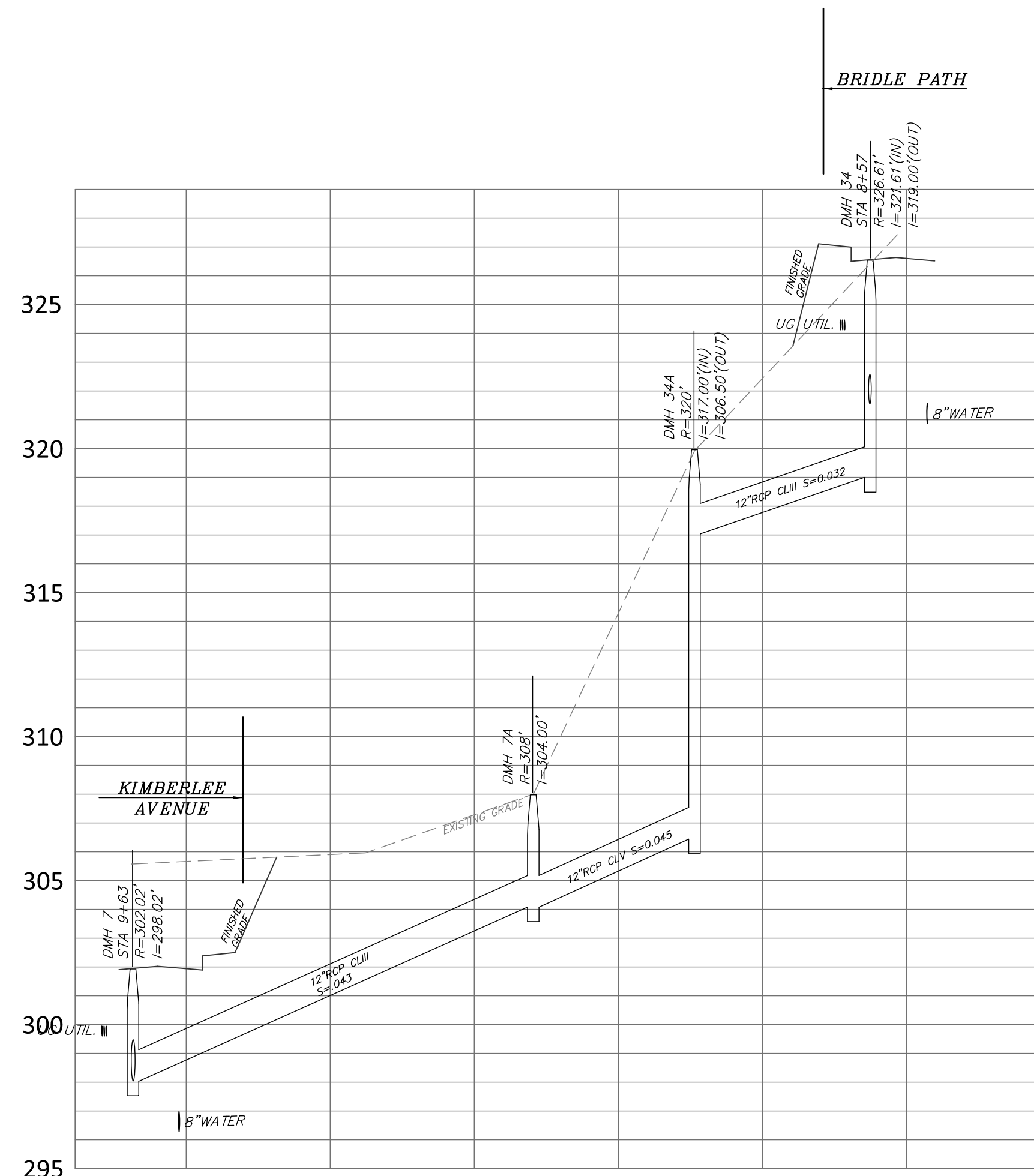


DETENTION BASIN F
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

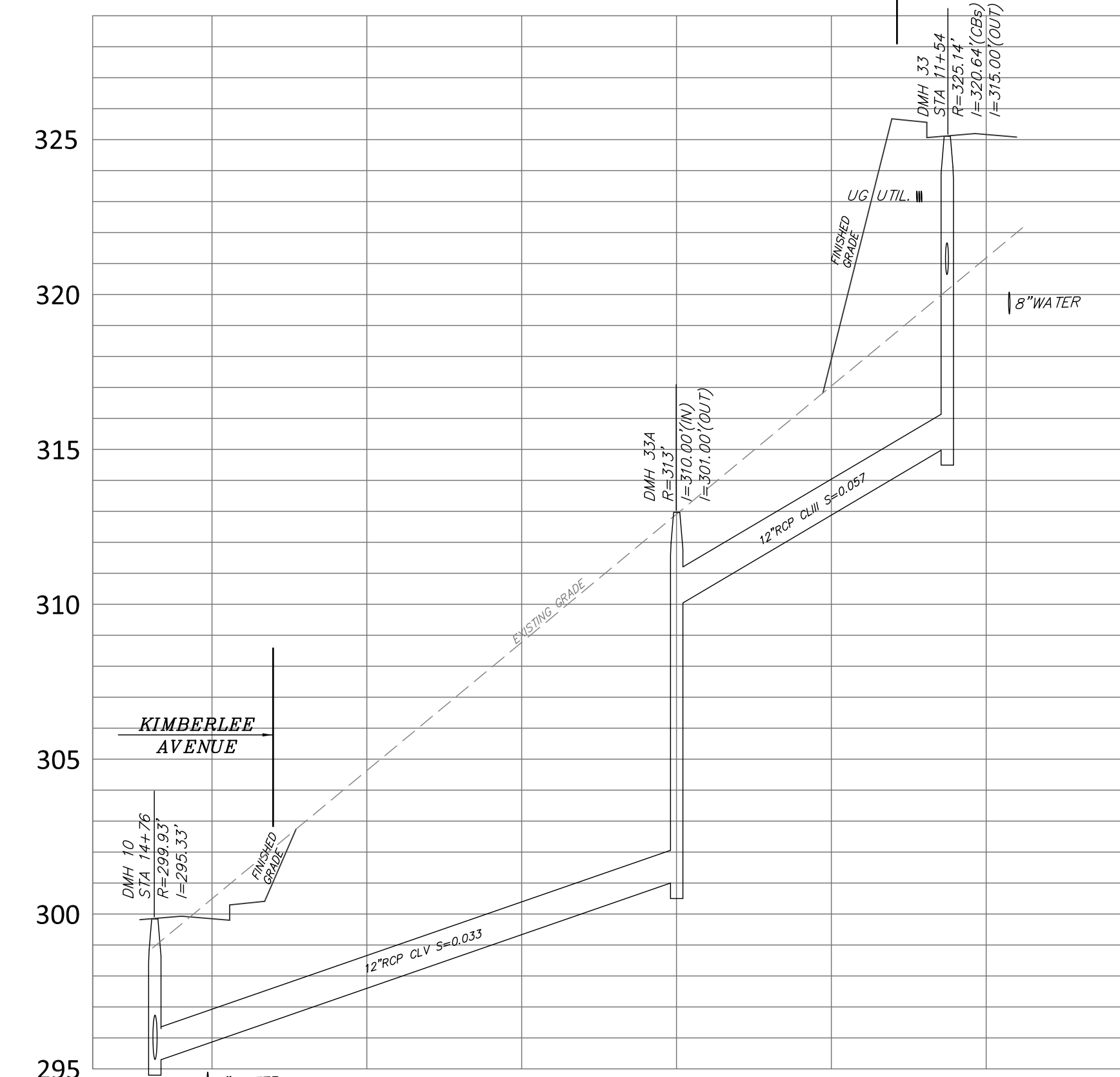
- THE RETENTION BASIN IS TO REMAIN IN ITS NATURAL STATE EXCEPT FOR THOSE AREAS WHERE THE FOREBAY OUTLET AND BERM NEXT TO PROPERTY LINE ARE CONSTRUCTED. CONTRACTOR SHALL MINIMIZE DISTURBANCE NECESSARY TO CONSTRUCT THESE AREAS.
- THE SOILS UNDER THE BASIN SHALL NOT BE COMPACTED AND SO BASIN SHALL BE FENCED OFF WITH CONSTRUCTION FENCING PRIOR TO THE START OF CONSTRUCTION. ACCESS TO THE FOREBAY OUTLET AND BERM SHALL BE FROM THE OUTSIDE OF THE BASIN.
- IMMEDIATELY UPON CONSTRUCTION OF BASIN PLANT THE TOP AND EXTERIOR SIDE SLOPES OF THE BASIN WITH "MND MIXTURE FOR SLOPES AND SHOULDERS - MND SPECIFICATION M6.0.1."
- UNTREATED STORM WATER SHALL NOT BE ALLOWED INTO THE BASIN BECAUSE IT SHALL CLOG THE BOTTOM. THROUGHOUT CONSTRUCTION CONTRACTOR SHALL CLEAN SILT FROM DRAINAGE STRUCTURES AND BASIN FOREBAY.
- FOREBAY: REQUIRED VOLUME = 0.17 IMPERVIOUS ACRE = 0.17(0.58 ACRE) = 0.10 ac. REQUIRED ACTUAL VOLUME = 760 cf. BOTTOM OF FOREBAY ELEV. = 293.5'
- TOP OF BERM = 298.0'
- 20" HIGH OVERFLOW WEIR ELEVATION = 298.0' (SEE DETAIL SHT 38)
- 12" RIP-RAP MATTE CONSISTING OF DURABLE STONE BETWEEN 6"-12". SMALLER STONES SHALL BE "DUNKED" INTO PLACE BETWEEN LARGER STONES. PLACE NON-WOVEN GEOTEXTILE FABRIC BETWEEN GRAVEL AND RIP-RAP MATTE.
- 6" GRAVEL FILTER BLANKET CONSISTING OF CLEAN, COARSE GRAVEL WITH NO STONES OVER 3" AND FEWER THAN 10% PASSING A #200 SIEVE.
- BASIN BANK FROM TOP OF BANK TO TOE OF BANK SHALL BE CONSTRUCTED OF IMPERVIOUS SOIL BORROW IN ACCORDANCE WITH MASSHIGHWAY SPECIFICATION 1.08.0. REMOVE A & B LAYERS UNDERNEATH BASIN BANK AND PLACE BANK ON C LAYER.
- INTERIOR SLOPES ARE 3:1 AND EXTERIOR SLOPES ARE 2:1
- THE RETENTION BASIN IS TO REMAIN IN ITS NATURAL STATE EXCEPT FOR THOSE AREAS WHERE THE FOREBAY OUTLET AND BERM NEXT TO PROPERTY LINE ARE CONSTRUCTED. CONTRACTOR SHALL MINIMIZE DISTURBANCE NECESSARY TO CONSTRUCT THESE AREAS.
- THE SOILS UNDER THE BASIN SHALL NOT BE COMPACTED AND SO BASIN SHALL BE FENCED OFF WITH CONSTRUCTION FENCING PRIOR TO THE START OF CONSTRUCTION. ACCESS TO THE FOREBAY OUTLET AND BERM SHALL BE FROM THE OUTSIDE OF THE BASIN.
- IMMEDIATELY UPON CONSTRUCTION OF BASIN PLANT THE TOP AND EXTERIOR SIDE SLOPES OF THE BASIN WITH "MND MIXTURE FOR SLOPES AND SHOULDERS - MND SPECIFICATION M6.0.1."
- UNTREATED STORM WATER SHALL NOT BE ALLOWED INTO THE BASIN BECAUSE IT SHALL CLOG THE BOTTOM. THROUGHOUT CONSTRUCTION CONTRACTOR SHALL CLEAN SILT FROM DRAINAGE STRUCTURES AND BASIN FOREBAY.
- FOREBAY: REQUIRED VOLUME = 0.17 IMPERVIOUS ACRE = 0.17(0.58 ACRE) = 0.10 ac. REQUIRED ACTUAL VOLUME = 818 cf. BOTTOM OF FOREBAY ELEV. = 280.0'
- FOREBAY OUTLET (SEE DETAIL)
- TOP OF BERM = 284.5'
- 20" HIGH OVERFLOW WEIR ELEVATION = 282.75' (SEE DETAIL SHT 38)
- 12" RIP-RAP MATTE CONSISTING OF DURABLE STONE BETWEEN 6"-12". SMALLER STONES SHALL BE "DUNKED" INTO PLACE BETWEEN LARGER STONES. PLACE NON-WOVEN GEOTEXTILE FABRIC BETWEEN GRAVEL AND RIP-RAP MATTE.
- 6" GRAVEL FILTER BLANKET CONSISTING OF CLEAN, COARSE GRAVEL WITH NO STONES OVER 3" AND FEWER THAN 10% PASSING A #200 SIEVE.
- 12" RIP CLW S=0.045 I=279.5'(OUT)
- 8" TRIPCE (NORMALLY CLOSED) - TO BE USED TO DRAIN BASIN FOR MAINTENANCE. I=278.5'
- EXTERIOR BASIN BANKS FROM TOP OF BANK TO TOE OF BANK SHALL BE CONSTRUCTED OF IMPERVIOUS SOIL BORROW IN ACCORDANCE WITH MASSHIGHWAY SPECIFICATION 1.08.0.
- INTERIOR SLOPES ARE 3:1 AND EXTERIOR SLOPES ARE 2:1



Lot 56 Cross Country Drain
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'



Lot 53 Cross Country Drain
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'



Lot 51 Cross Country Drain
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 4'

PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY, LLC &
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	BASINS E & F MODIFIED/DMHS 33A & 34A ADDED/UG ELECTRIC & WATER ADDED TO PROFILES

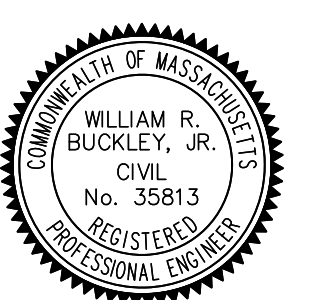
DATE APPROVED:	DATE ENDORSED:

FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE: FRANKLIN TOWN CLERK

STAMP



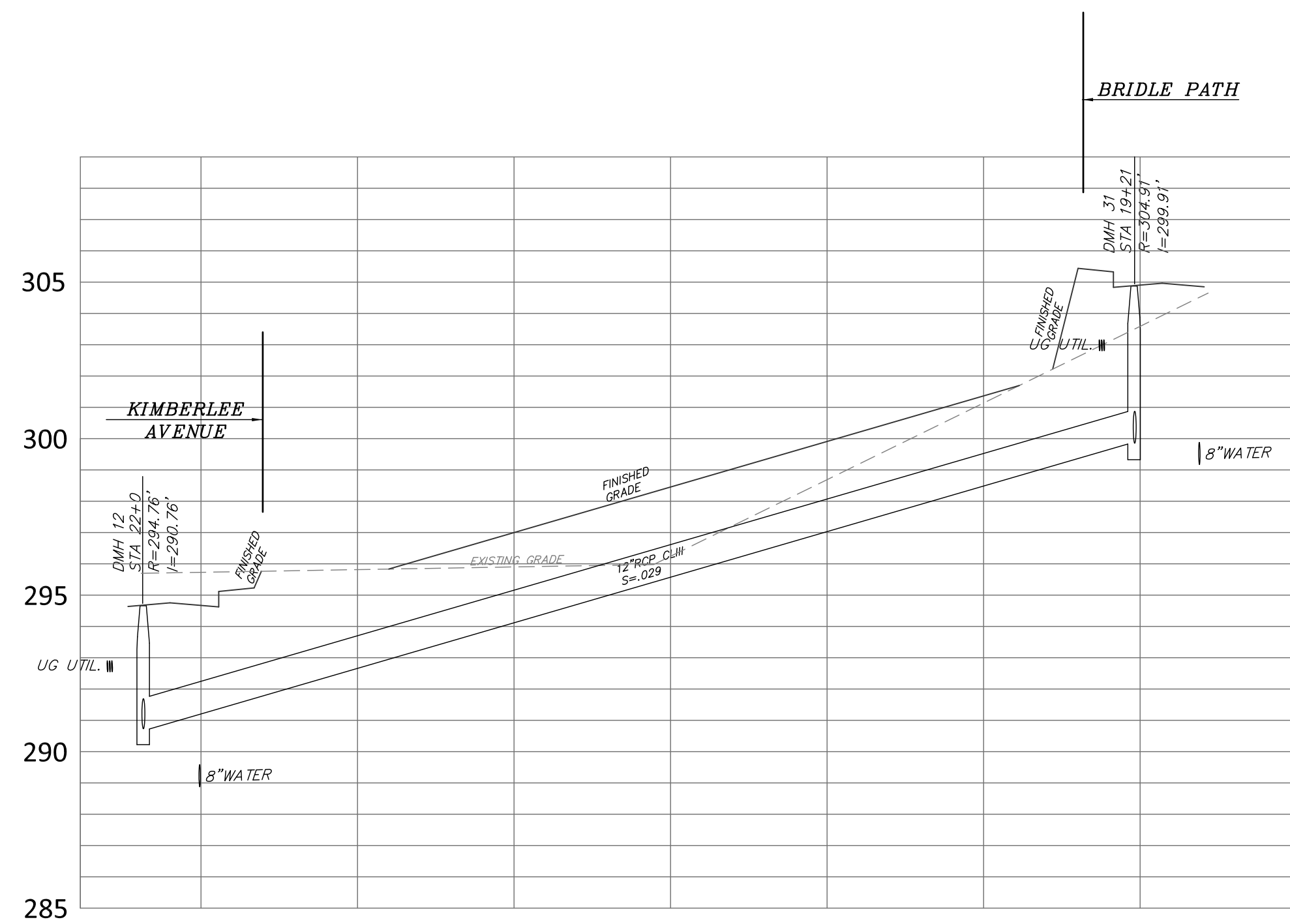
DRAWING TITLE

Drain Cross
Sections

SCALE: 1" = 40'/4'

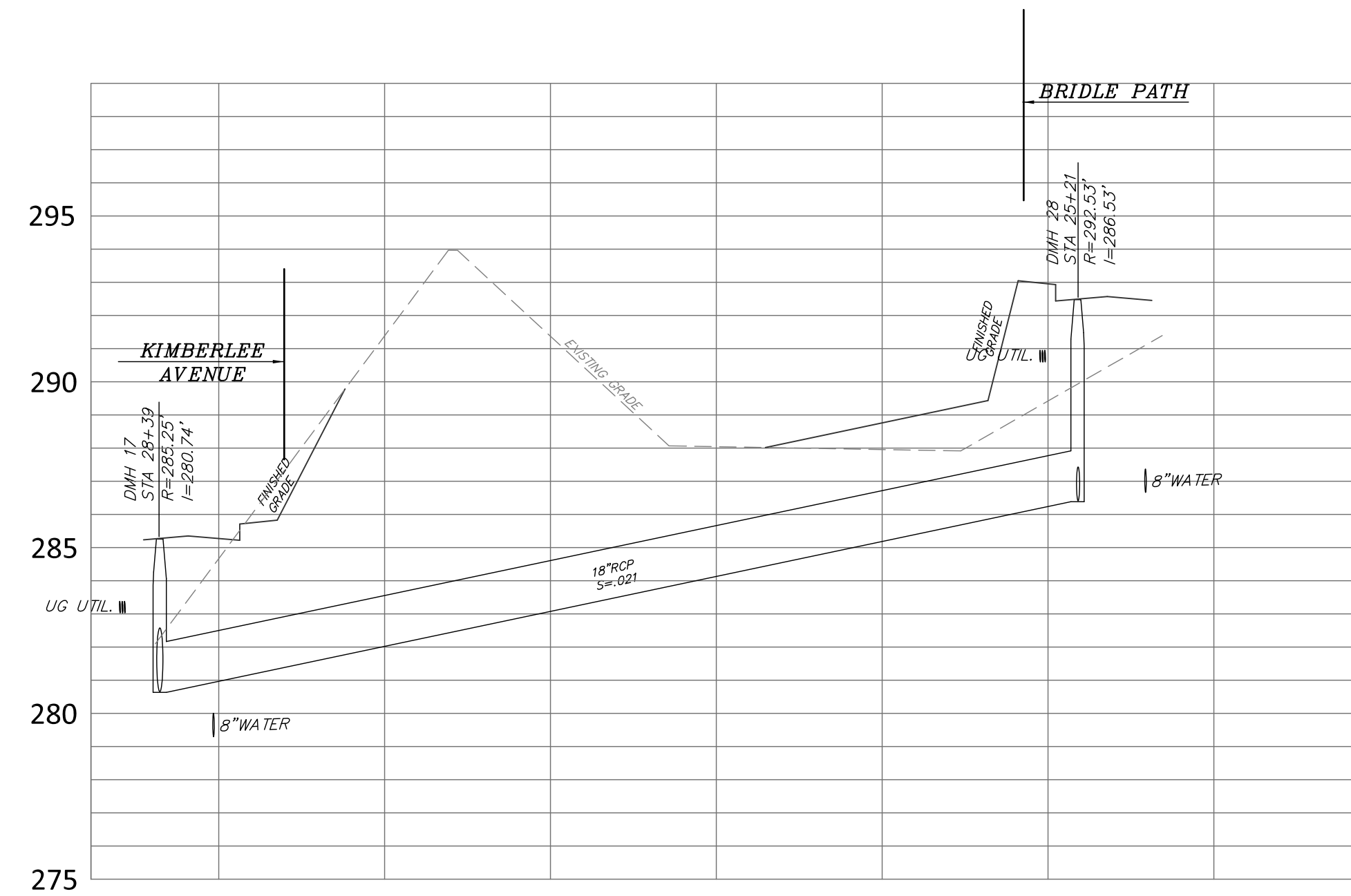
DEC. 15, 2019 SHEET NUMBER

16-0148H **34**



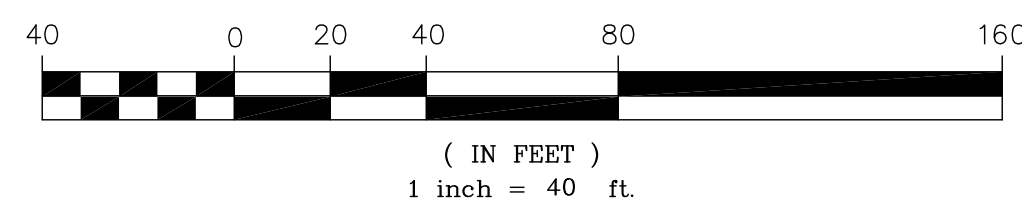
Lot 46 Cross Country Drain

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



Lot 42 Cross Country Drain

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



PROJECT:

Maple Hill
Franklin
Massachusetts

OWNERS:

STEVEN LABASTIE
THE FRANKLIN
LABASTIE FAMILY.LLC
&
THE KATHLEEN A.
LABASTIE TRUST
469 MAPLE STREET
FRANKLIN, MA 02038

FITZGERALD FAMILY
IRREVOCABLE TRUST
441 MAPLE STREET
FRANKLIN, MA 02038

APPLICANT:

CARROLL
CONSTRUCTION
CORP.
BOX 395
FOXBOROUGH, MA
02035



FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

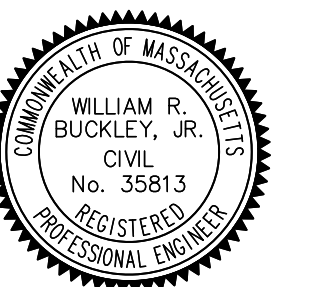
DATE	DESCRIPTION
6-8-2020	UG UTILITIES AND WATER ADDED
	REVISIONS

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

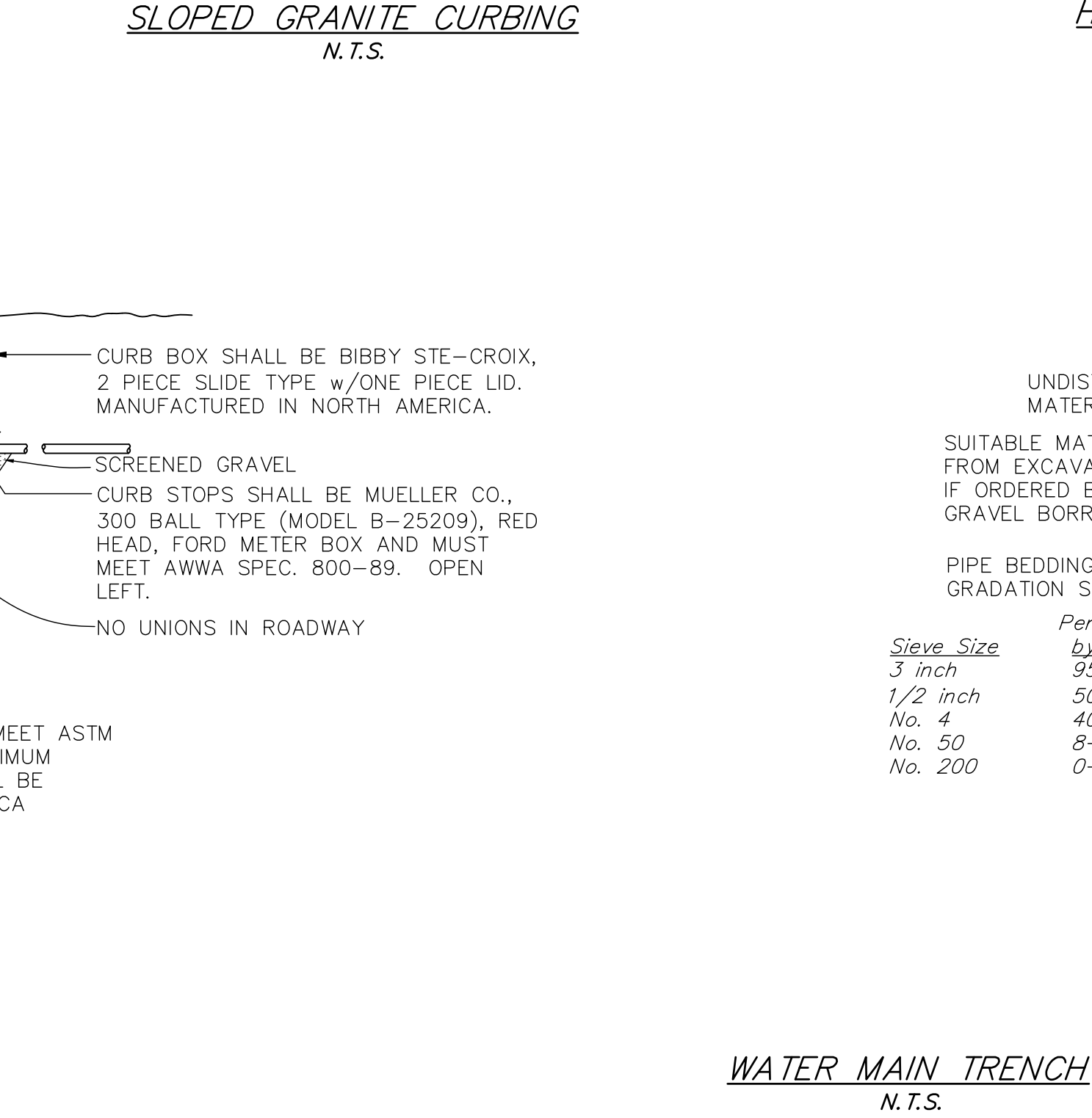
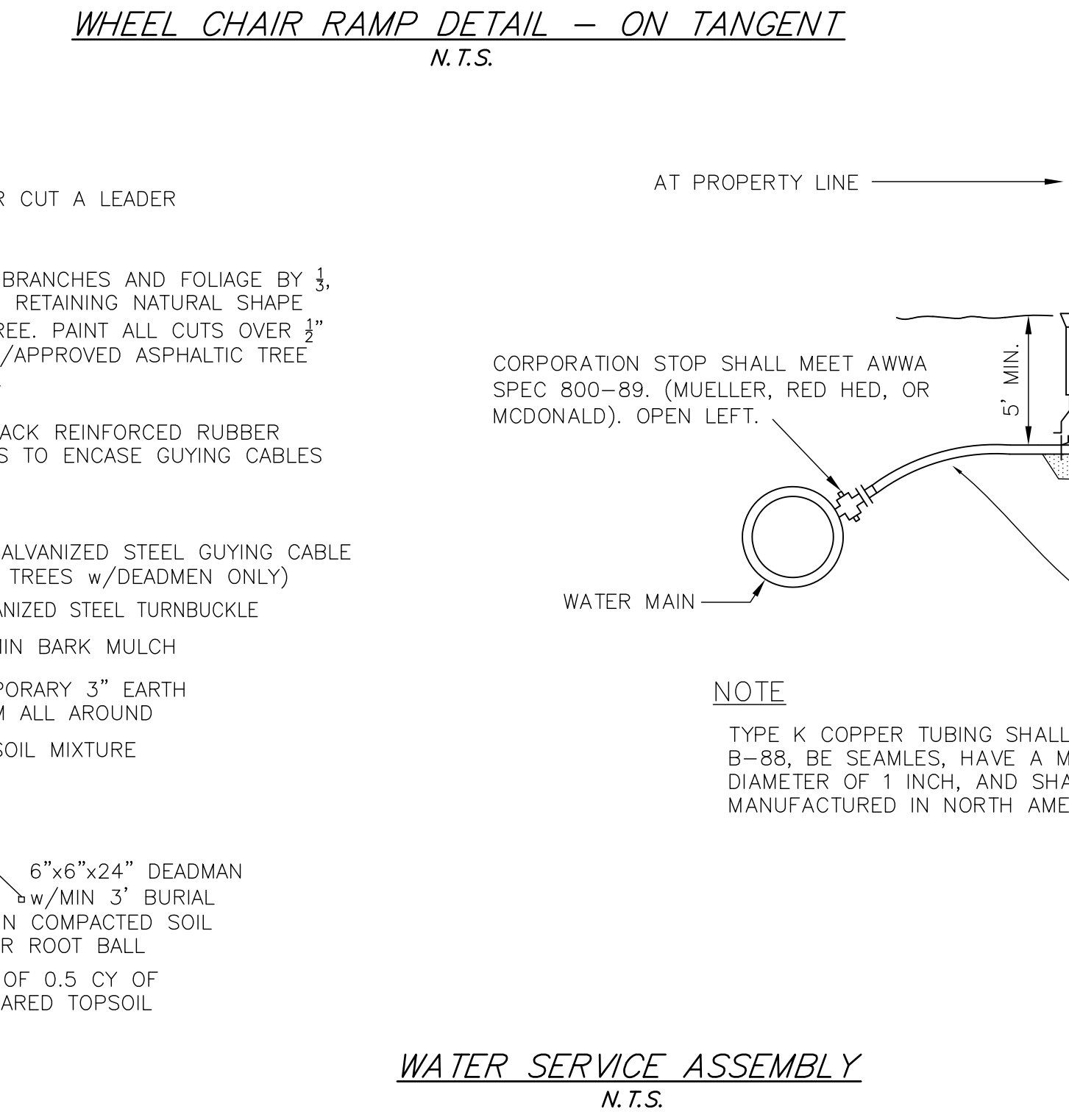
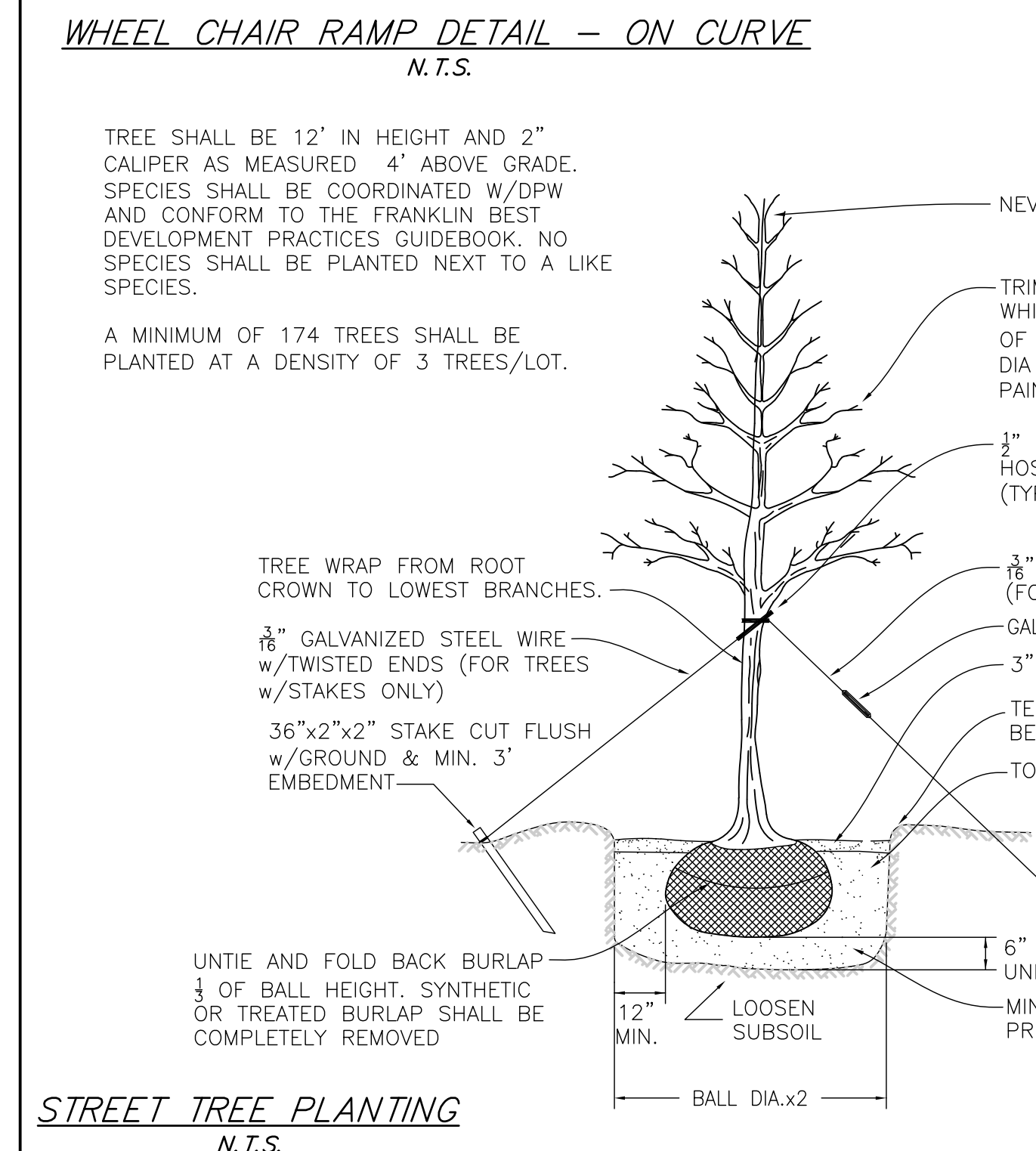
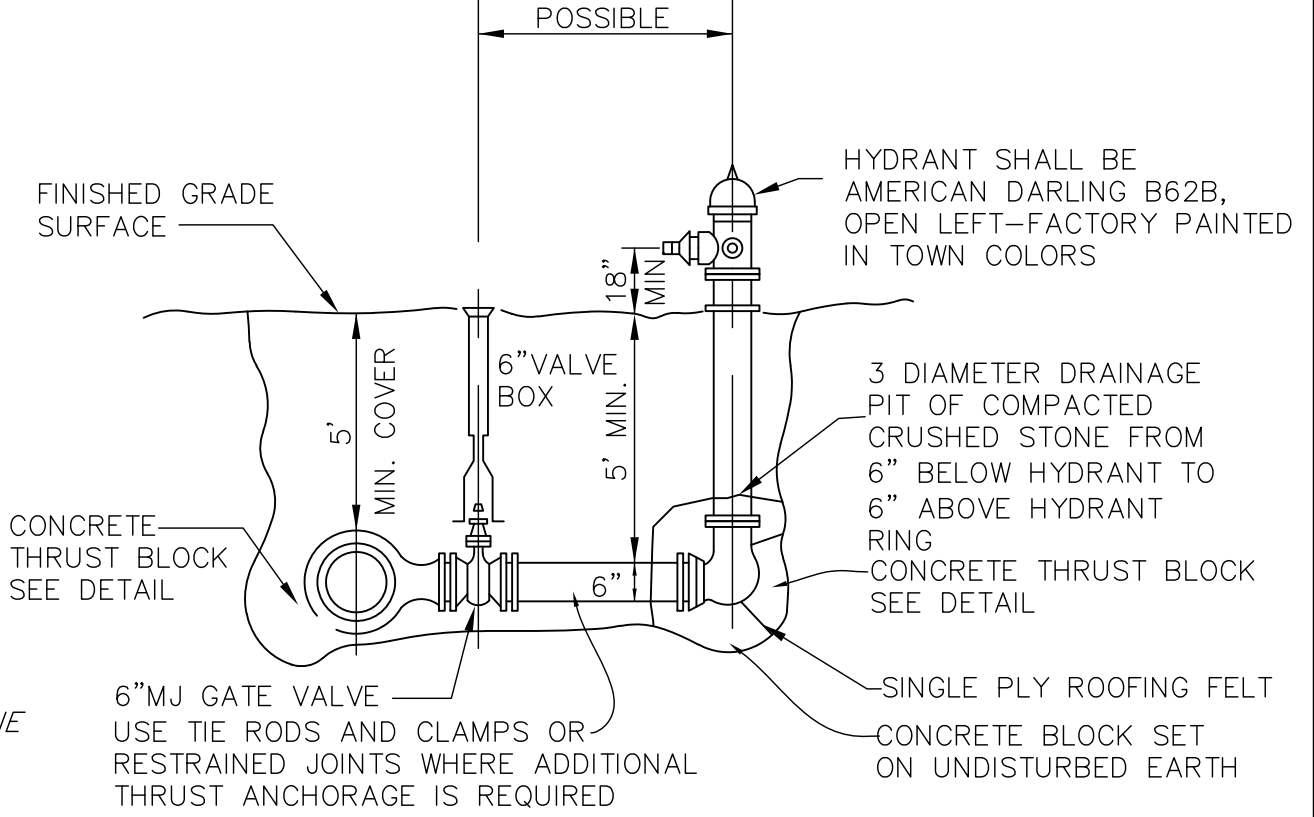
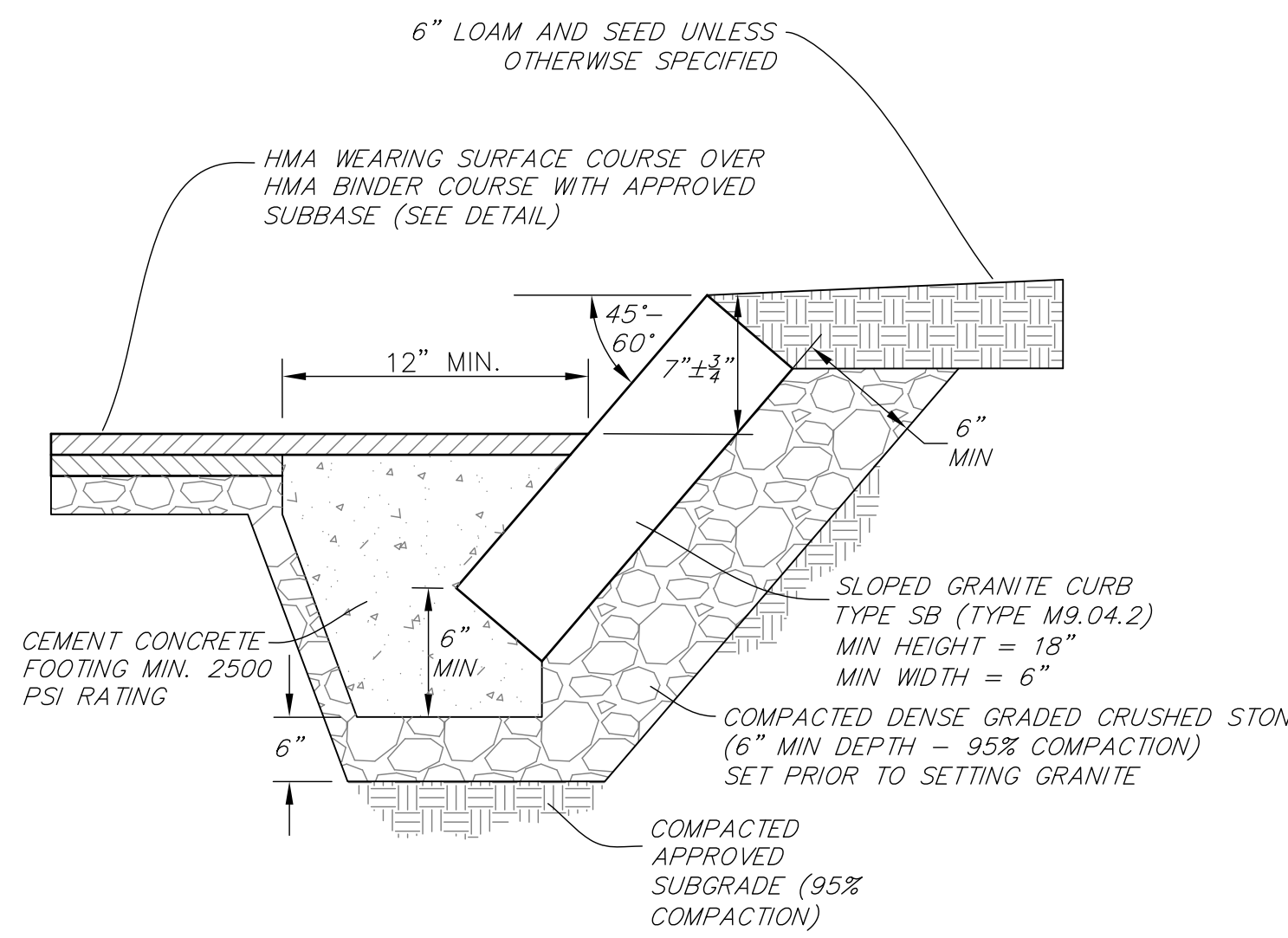
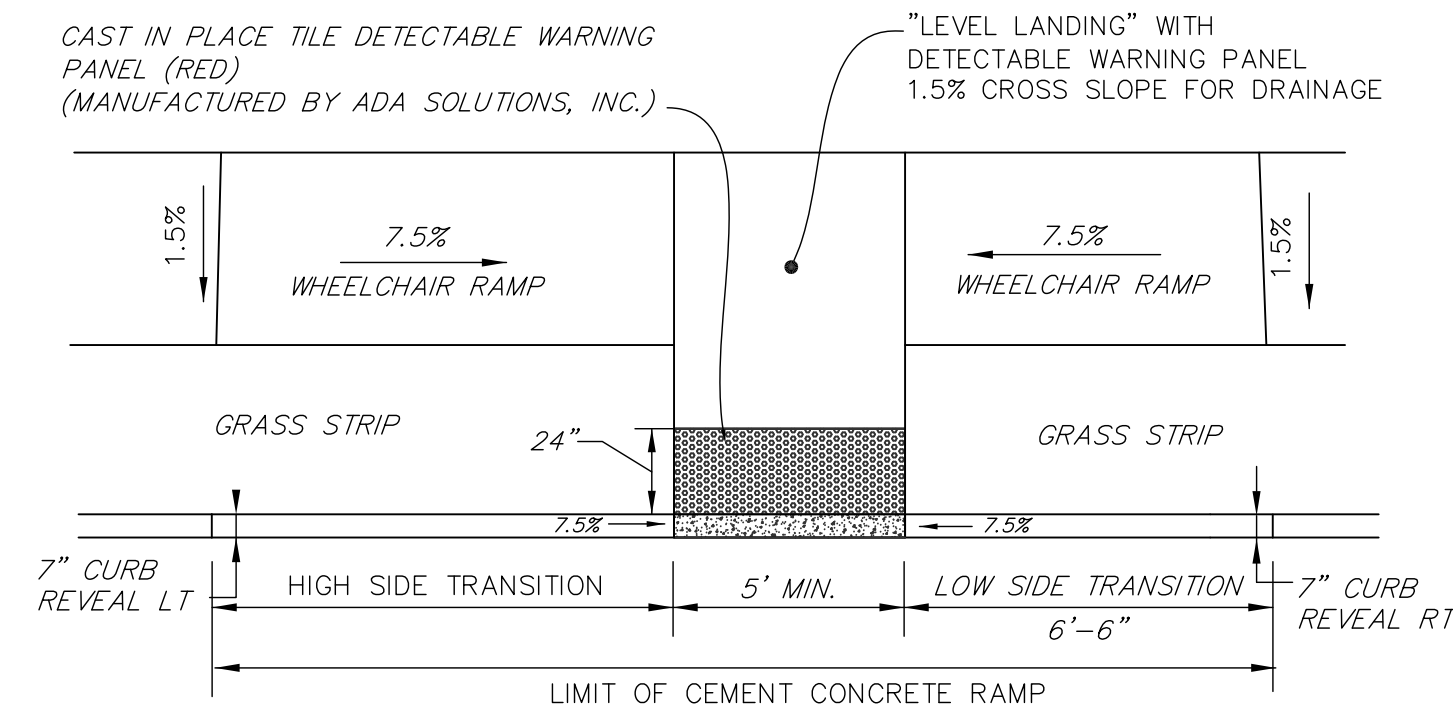
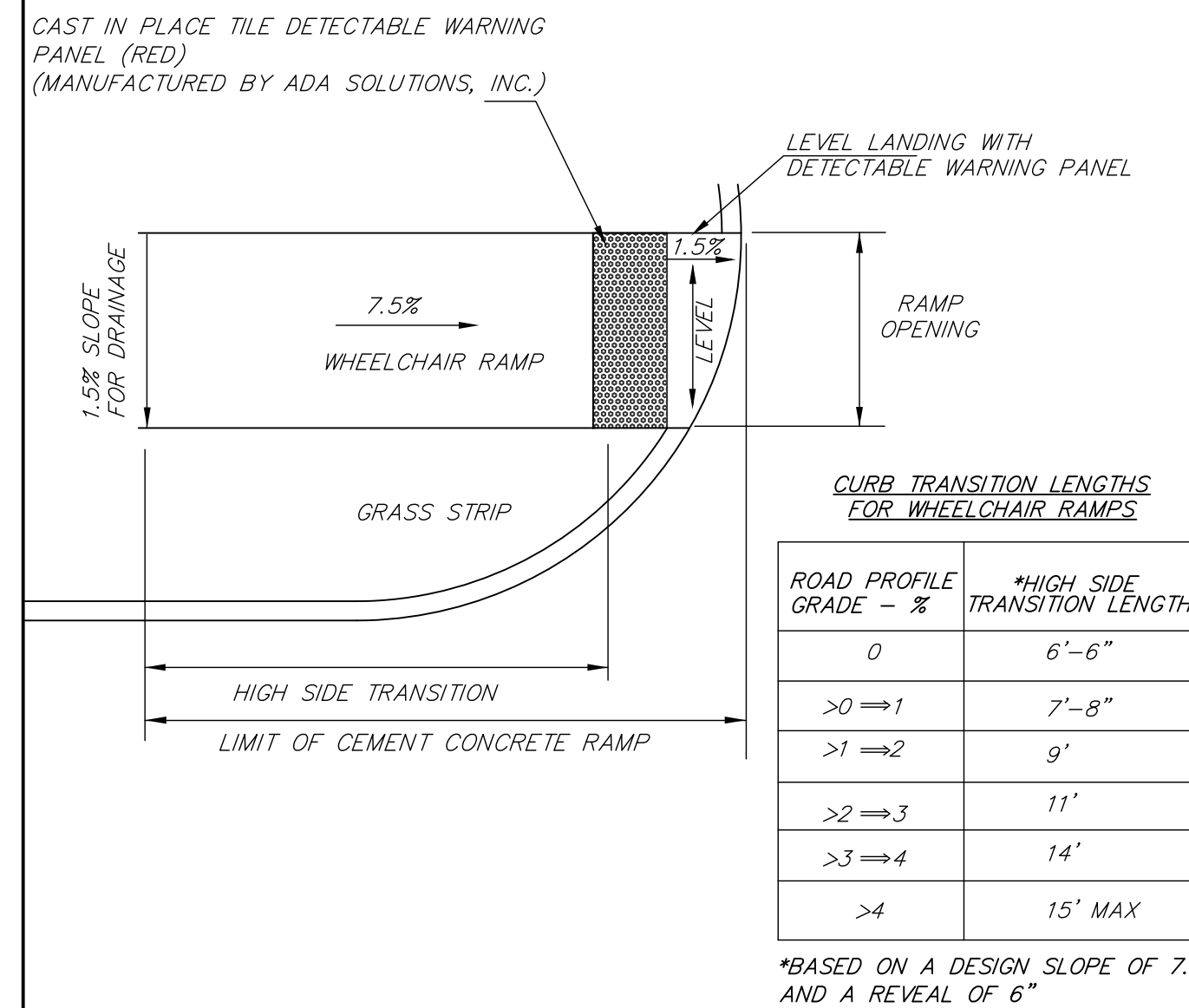
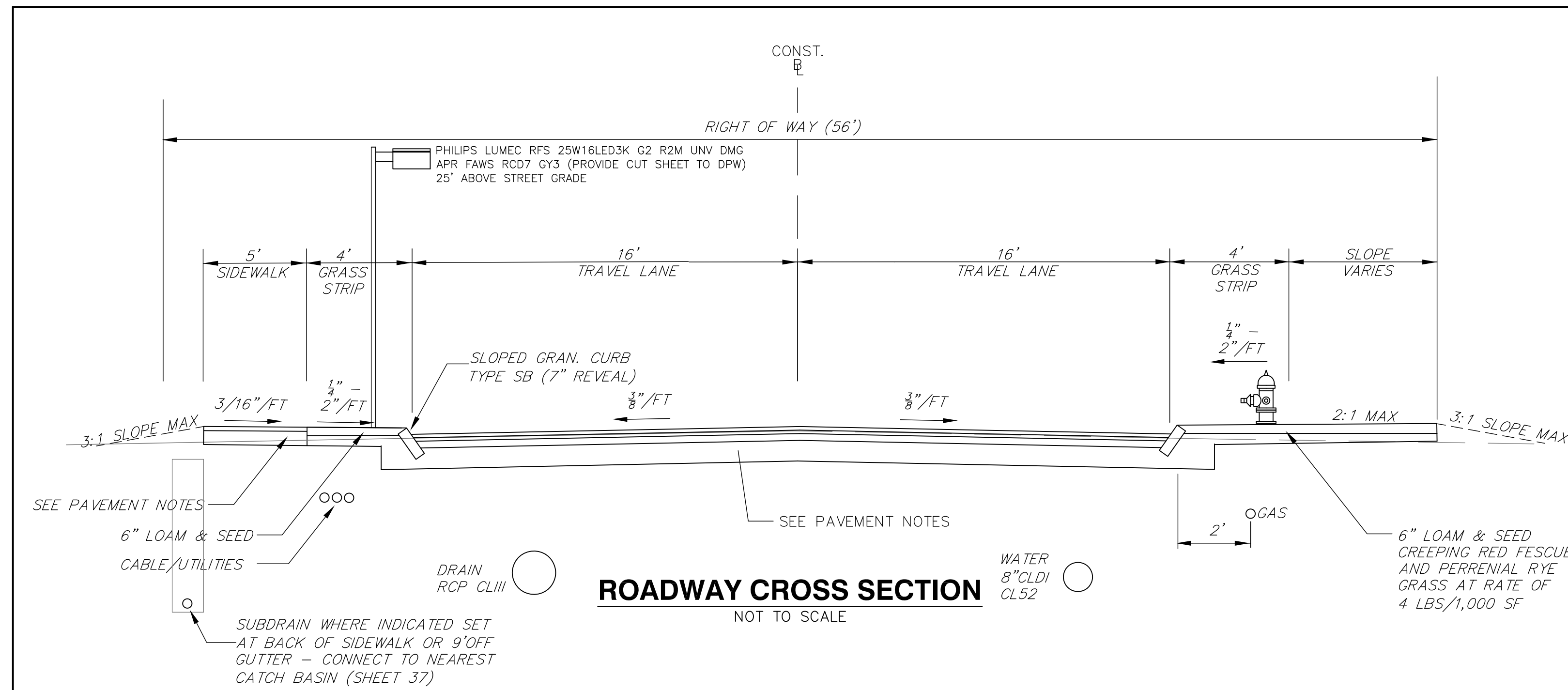
Drain Cross
Sections

SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

16-0148H

35



PAVEMENT NOTES

HOT MIX ASPHALT ROADWAY PAVEMENT
 SURFACE: 1-1/2" TYPE 1-1 HOT MIX ASPHALT TOP COURSE PLACED IN ONE COURSE
 BASE: 2-1/2" HOT MIX ASPHALT BINDER COURSE MATERIAL PLACED IN ONE COURSE - INSTALL 4" HMA BERM ON BASE TO CONTROL RUNOFF
 SUBBASE: 12" GRAVEL (MASSDOT SPEC M1.03.0 TYPE B) SPREAD IN 2 LAYERS OF EQUAL THICKNESS

CEMENT CONCRETE SIDEWALK PAVEMENT
 SURFACE: 5" CEMENT CONCRETE (4,000 PSI)
 SUBBASE: 8" GRAVEL (MASSDOT SPEC M1.03.0 TYPE B)
 BROOM FINISH. CURING AND SEALING COMPOUNDS SHALL BE APPLIED. FOUR BY FOUR INCH WELDED WIRE MESH SHALL BE INSTALLED AT ALL DRIVEWAY APRONS. SIDEWALK GRADE SHALL BE CONTINUOUS ACROSS DRIVEWAY OPENINGS. PREFORMED EXPANSION JOINTS SHALL BE INSTALLED 15' ON CENTER. TROWELED JOINTS SHALL BE INSTALLED 5' ON CENTER.

HOT MIX ASPHALT DRIVEWAYS (WITHIN ROADWAY LAYOUT)
 SURFACE: 1-1/2" TYPE 1-1 HOT MIX ASPHALT TOP COURSE PLACED IN ONE COURSE
 BASE: 2-1/2" HOT MIX ASPHALT BINDER COURSE MATERIAL PLACED IN ONE COURSE
 SUBBASE: 12" GRAVEL (MASSDOT SPEC M1.03.0 TYPE B) SPREAD IN 2 LAYERS OF EQUAL THICKNESS

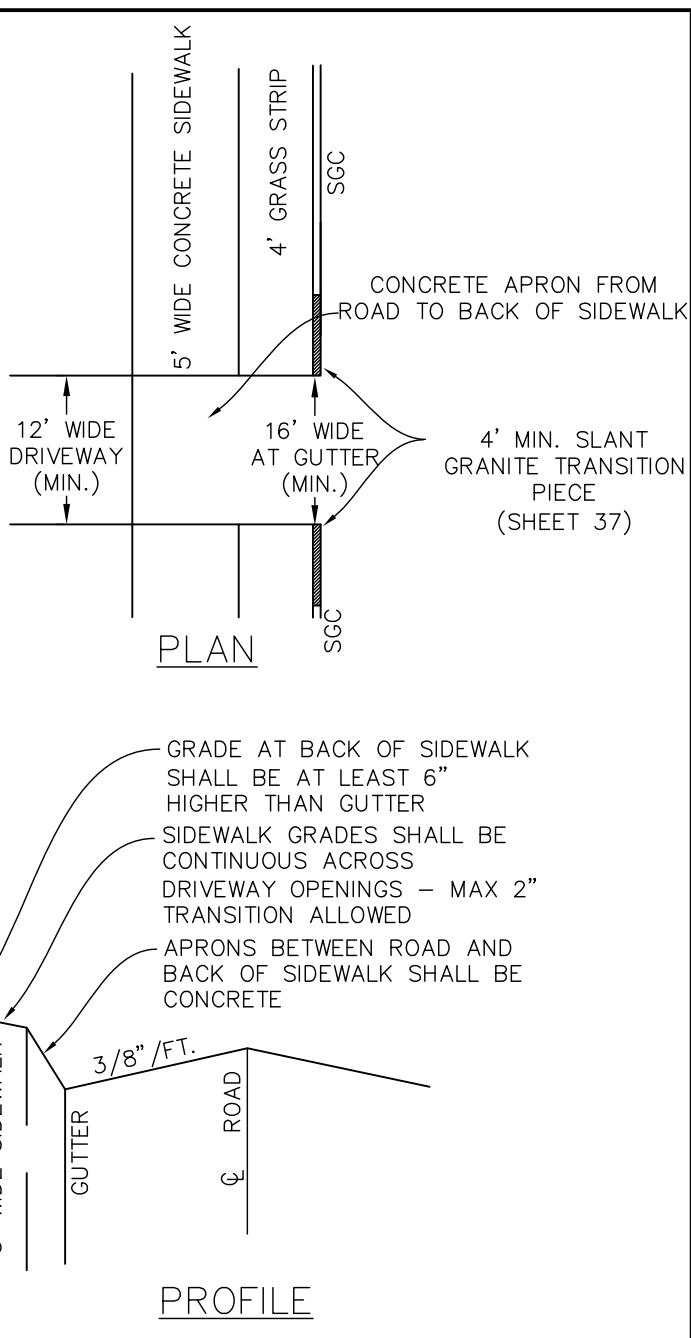
GRADE AT THE BACK OF THE SIDEWALK SHALL BE AT LEAST 6" HIGHER THAN THE GUTTER LINE. DRIVEWAYS SHALL BE AT LEAST 10' WIDE AT STREET LINE AND 16' WIDE AT GUTTER LINE.

WHEELCHAIR RAMP NOTES

PROPOSED WHEELCHAIR RAMPS
 (SEE CONSTRUCTION STANDARD DWGS. M/E 107.2.0, M/E 107.2.1, M/E 107.6.0, and M/E 107.6.5 DATED JUNE 2014)
 SURFACE: 5" CEMENT CONCRETE W/ EMBEDDED WIRE MESH
 SUBBASE: 8" GRAVEL BORROW

TEMPORARY DRIVEWAY

12" GRAVEL (MASSDOT SPEC M1.03.0 TYPE B) SPREAD IN 2 LAYERS OF EQUAL THICKNESS
 2-1/2" HOT MIX ASPHALT BINDER COURSE MATERIAL PLACED IN ONE COURSE



PROJECT:
Maple Hill Franklin Massachusetts

OWNERS:
STEVEN LABASTIE THE FRANKLIN LABASTIE FAMILY.LLC & THE KATHLEEN A. LABASTIE TRUST 469 MAPLE STREET FRANKLIN, MA 02038

FITZGERALD FAMILY IRREVOCABLE TRUST 441 MAPLE STREET FRANKLIN, MA 02038

APPLICANT:
CARROLL CONSTRUCTION CORP. BOX 395 FOXBOROUGH, MA 02035

Bay Colony Group, Inc.
 Professional Civil Engineers & Professional Land Surveyors

FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE	DESCRIPTION
6-8-2020	SUBDRAIN ADDED TO ROAD X-SECTION/SGC DETAIL MODIFIED/STREET LIGHT MODIFIED/HYDRANT DETAIL MODIFIED/STREET TREE NOTE MODIFIED/RESIDENTIAL DRIVEWAY DETAIL MODIFIED

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

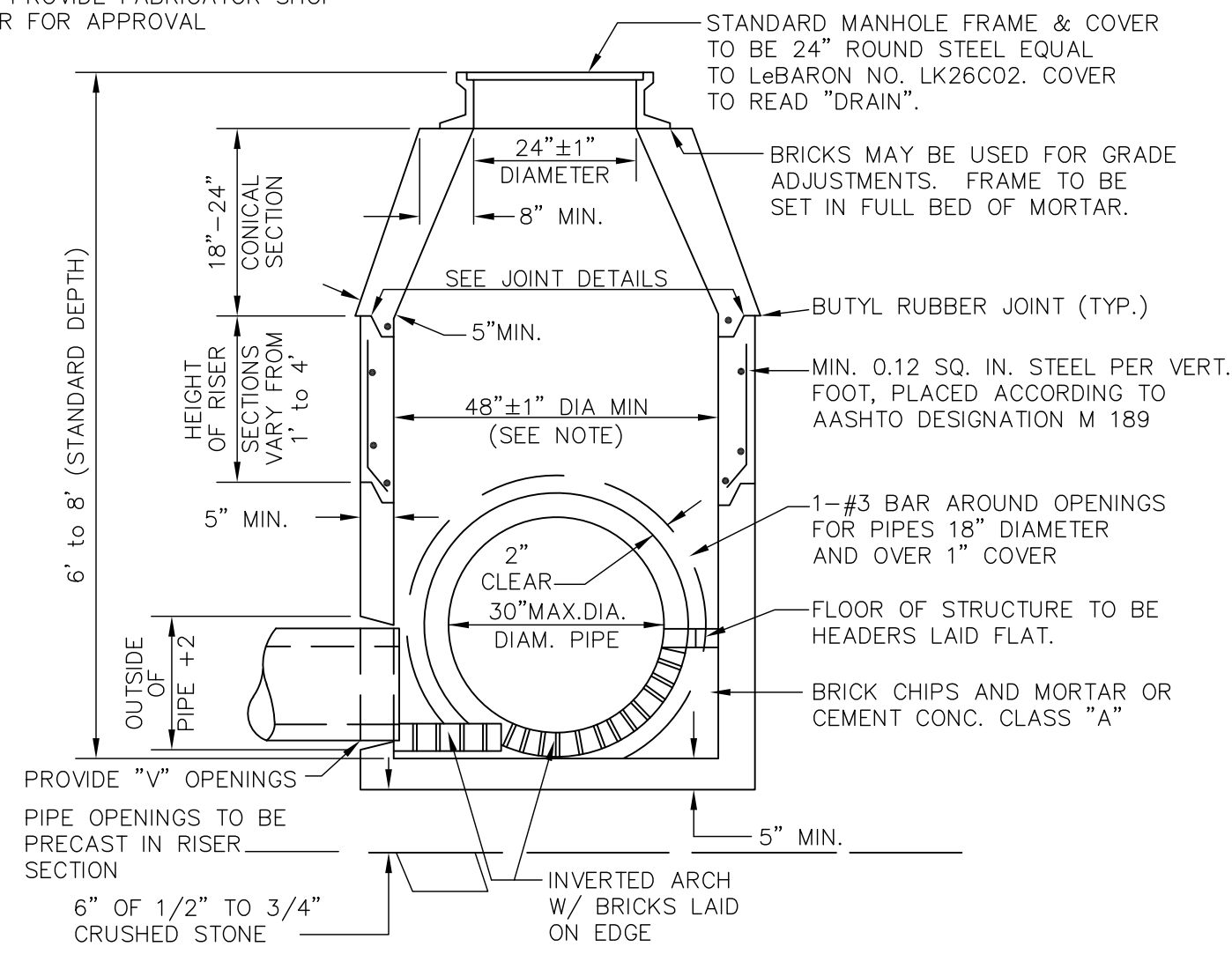
DATE: _____ FRANKLIN TOWN CLERK

STAMP

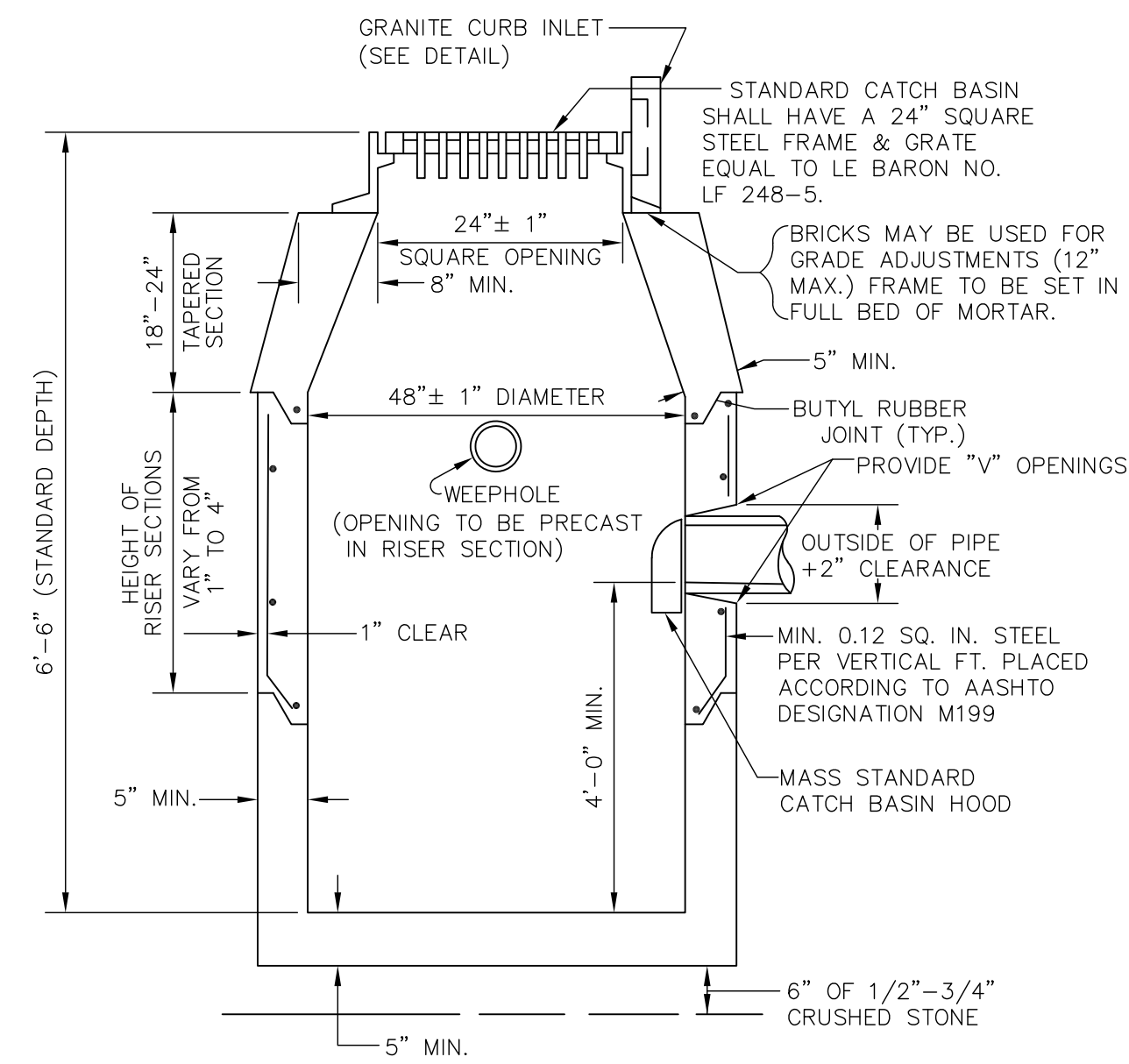
DRAWING TITLE
Details

SCALE: 1" = 40'/4"
 DEC. 15, 2019 SHEET NUMBER
16-0148H 36

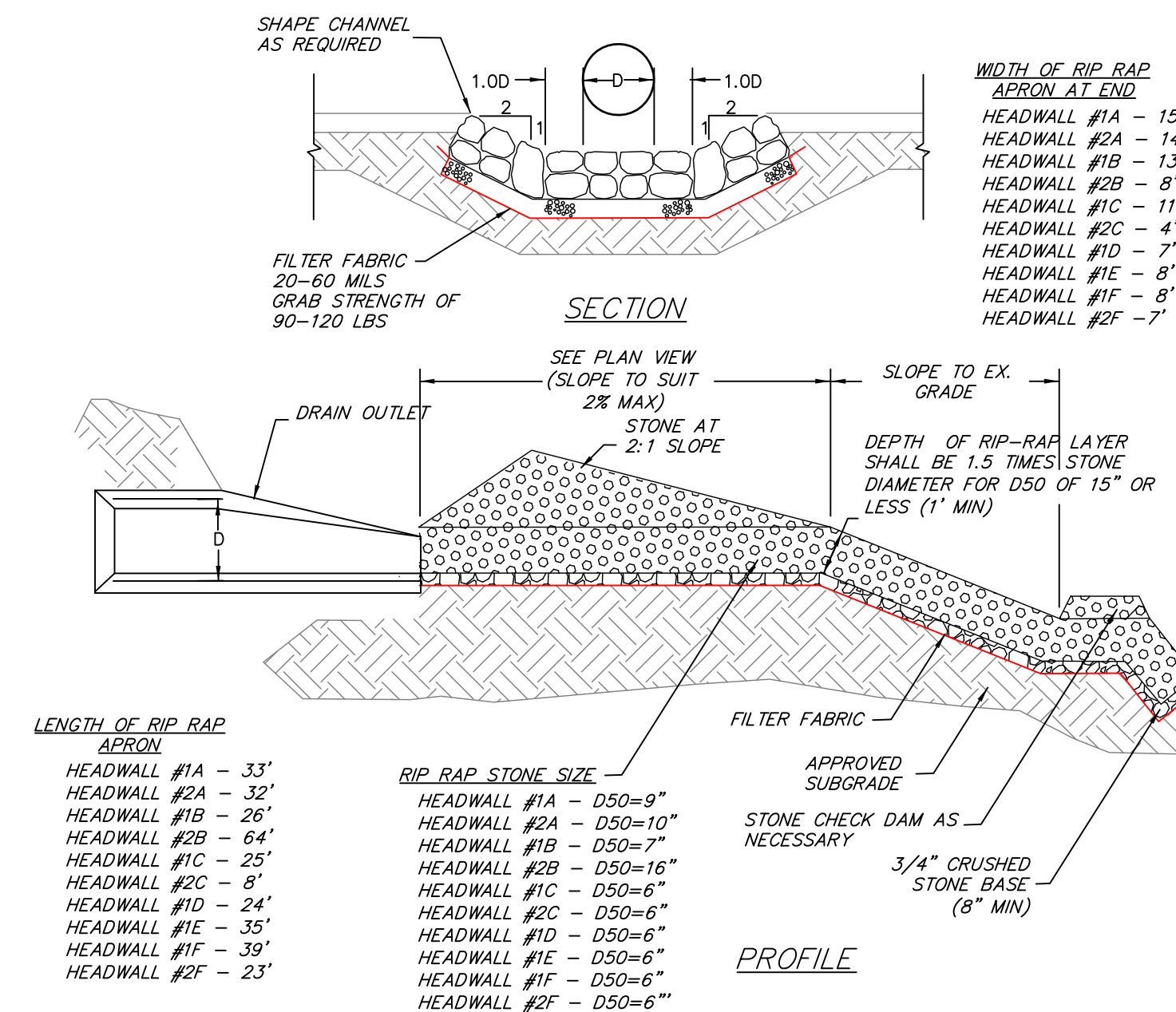
NOTE: DMH DIAMETER COULD BE LARGER DUE TO CERTAIN PIPE CONFIGURATIONS. PROVIDE FABRICATOR SHOP DRAWINGS TO ENGINEER FOR APPROVAL.



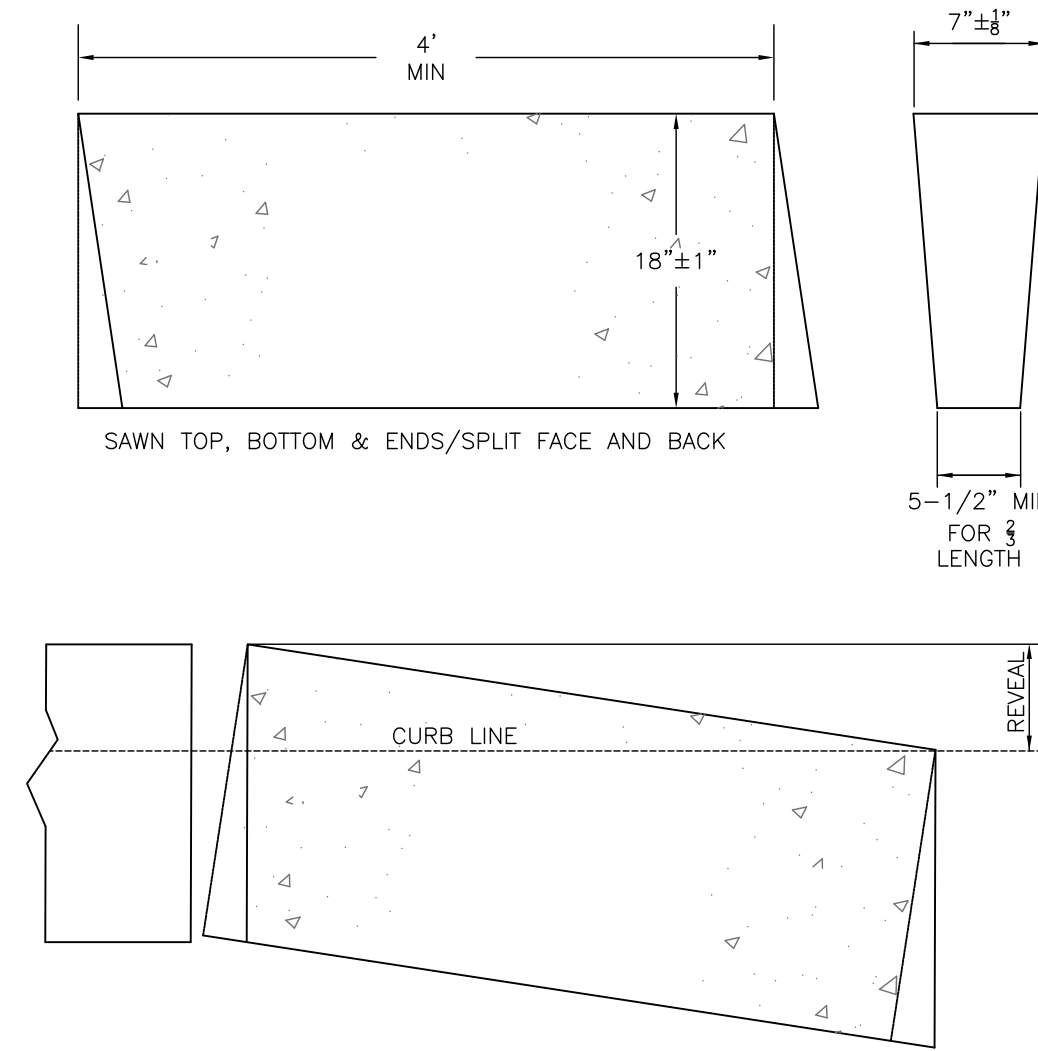
PRECAST CONCRETE DRAIN MANHOLE
N.T.S.



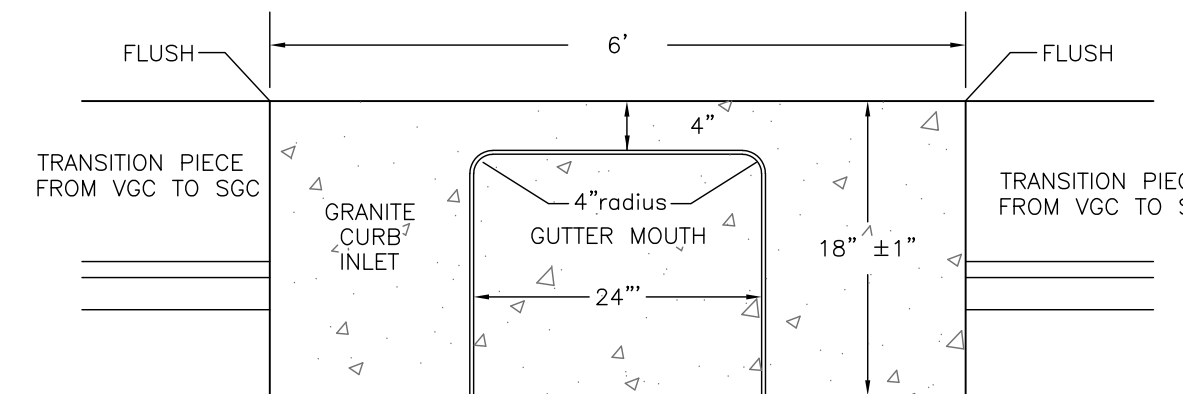
PRECAST CONCRETE CATCH BASIN
N.T.S.



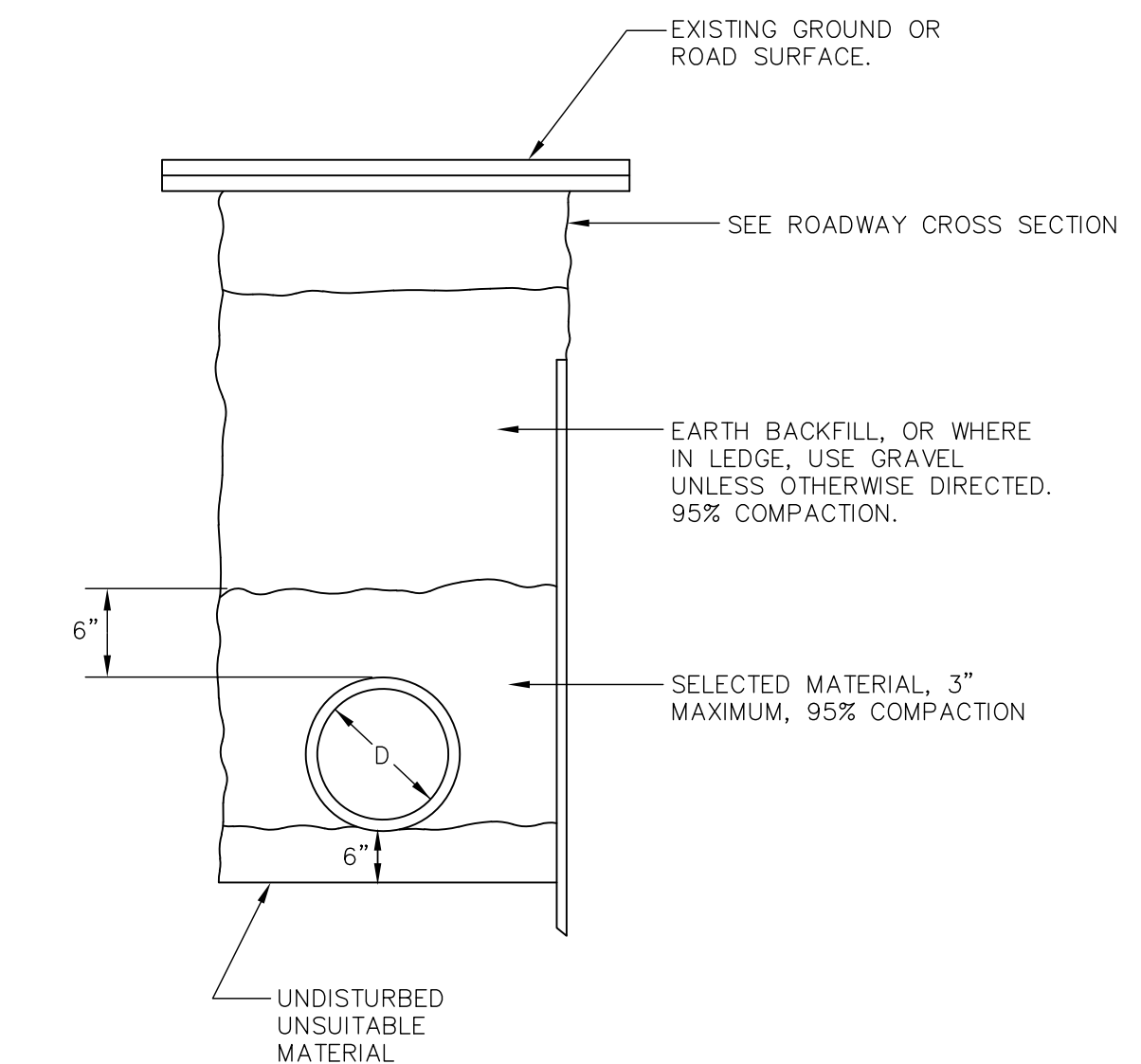
RIP RAP OUTFALL
N.T.S.



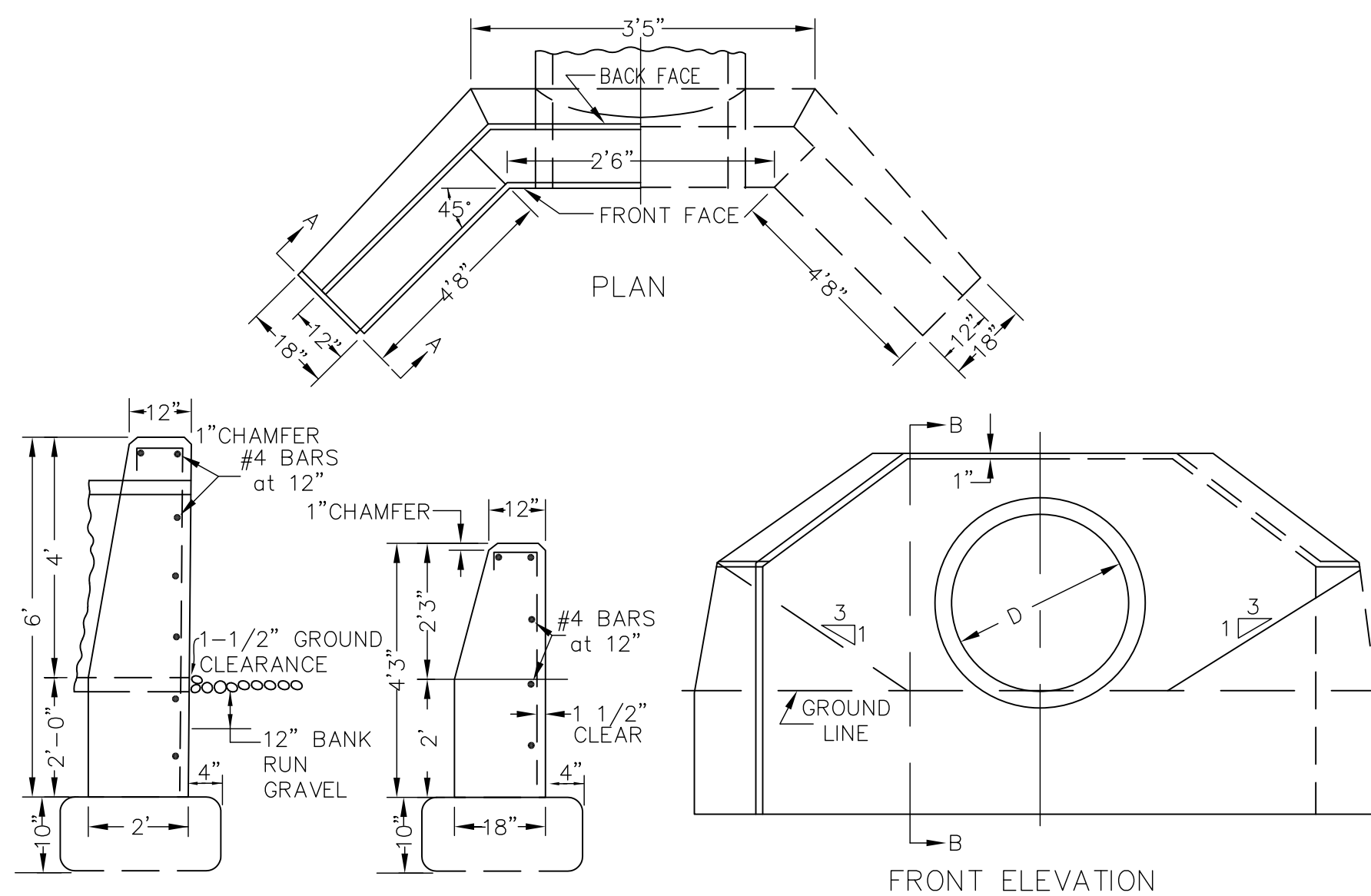
GRANITE TRANSITION CURB
N.T.S.



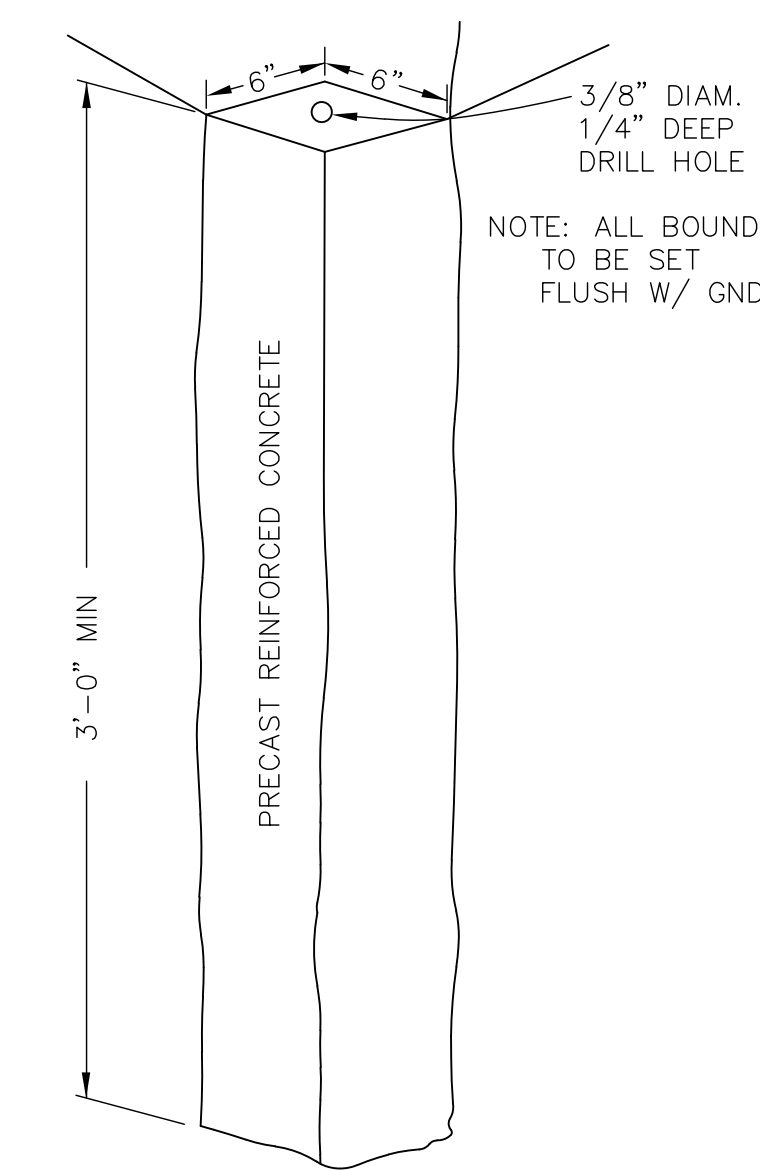
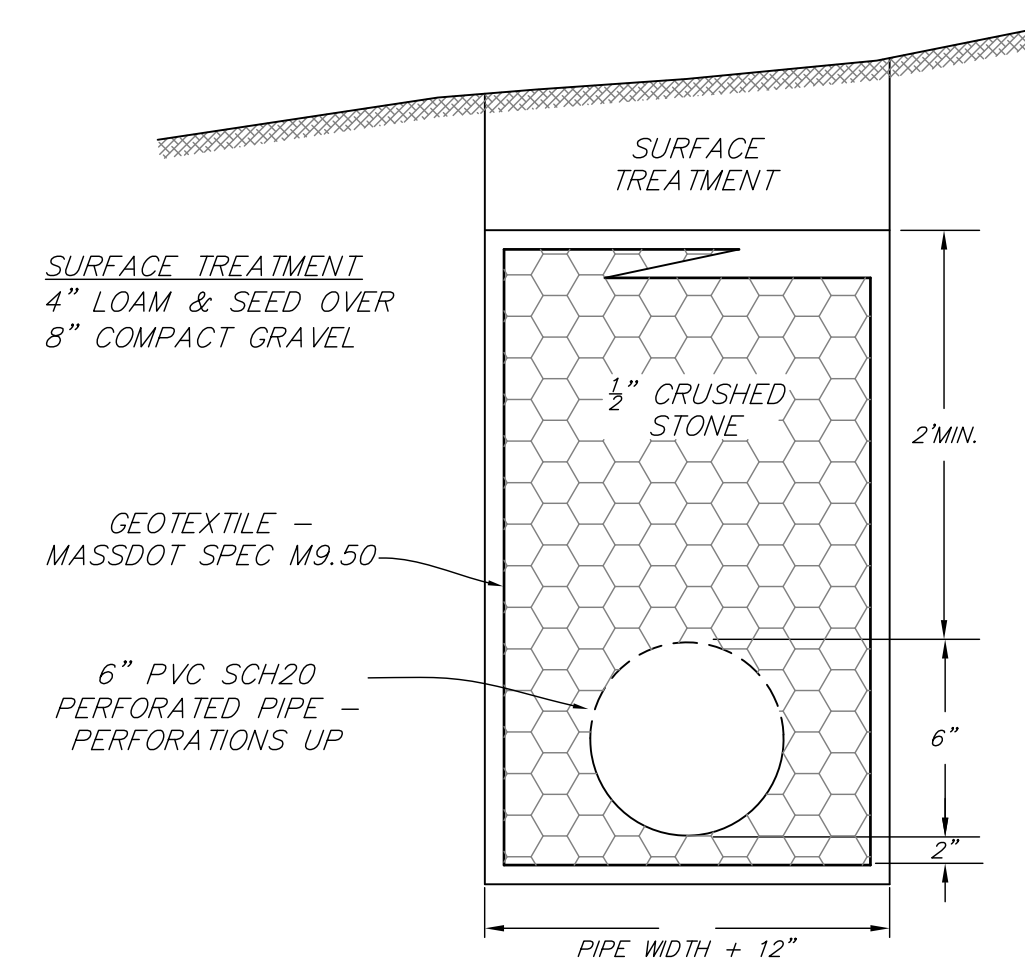
GRANITE CURB INLET
N.T.S.



DRAINAGE TRENCH
N.T.S.



- 1.) ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM
- 2.) CONCRETE SHALL BE 4000 P.S.I. MINIMUM
- 3.) ALL REINFORCING SHALL BE #4 MINIMUM



PROJECT:
Maple Hill Franklin Massachusetts

OWNERS:
STEVEN LABASTIE THE FRANKLIN LABASTIE FAMILY.LLC & THE KATHLEEN A. LABASTIE TRUST 469 MAPLE STREET FRANKLIN, MA 02038

FITZGERALD FAMILY IRREVOCABLE TRUST 441 MAPLE STREET FRANKLIN, MA 02038

APPLICANT:
CARROLL CONSTRUCTION CORP. BOX 395 FOXBOROUGH, MA 02035

Bay Colony Group, Inc.
Professional Civil Engineers & Professional Land Surveyors

FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE	DESCRIPTION
6-8-2020	GEOTRID DETAIL REMOVED/SUBDRAIN DETAIL ADDED/BOUND DETAIL ADDED/DMH DETAIL NOTE ADDED

DATE APPROVED: _____
DATE ENDORSED: _____
FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

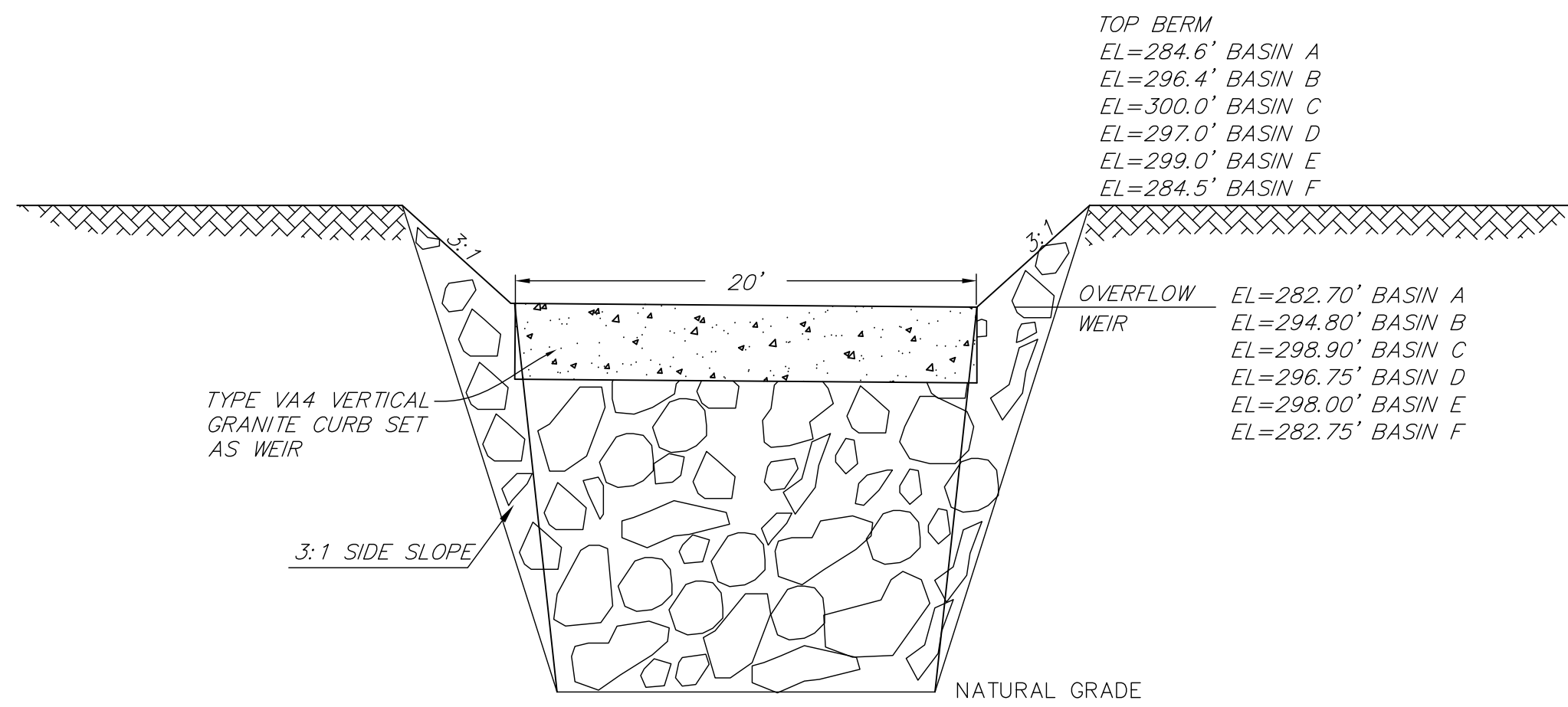
DATE: _____
FRANKLIN TOWN CLERK

STAMP

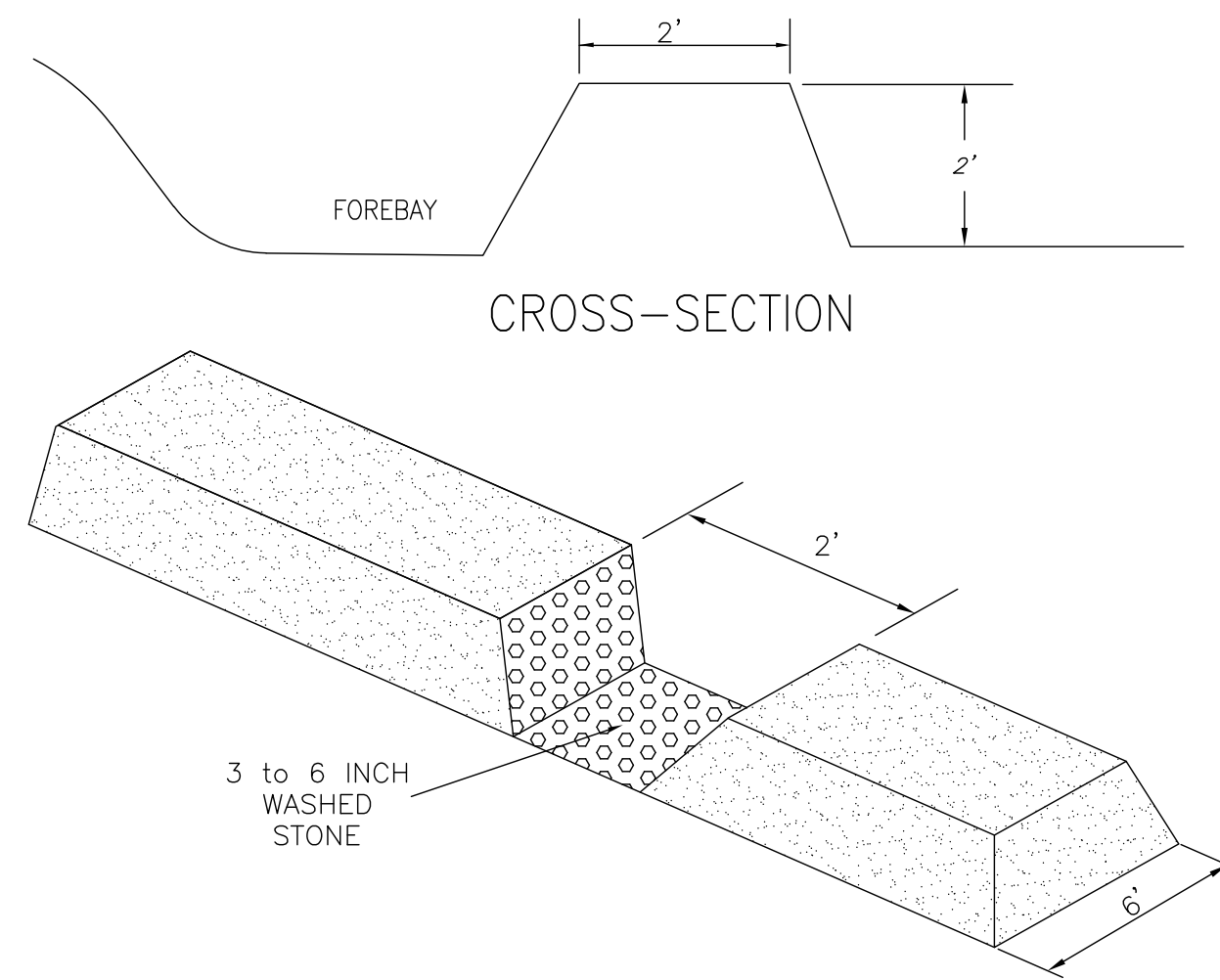
DRAWING TITLE

Details

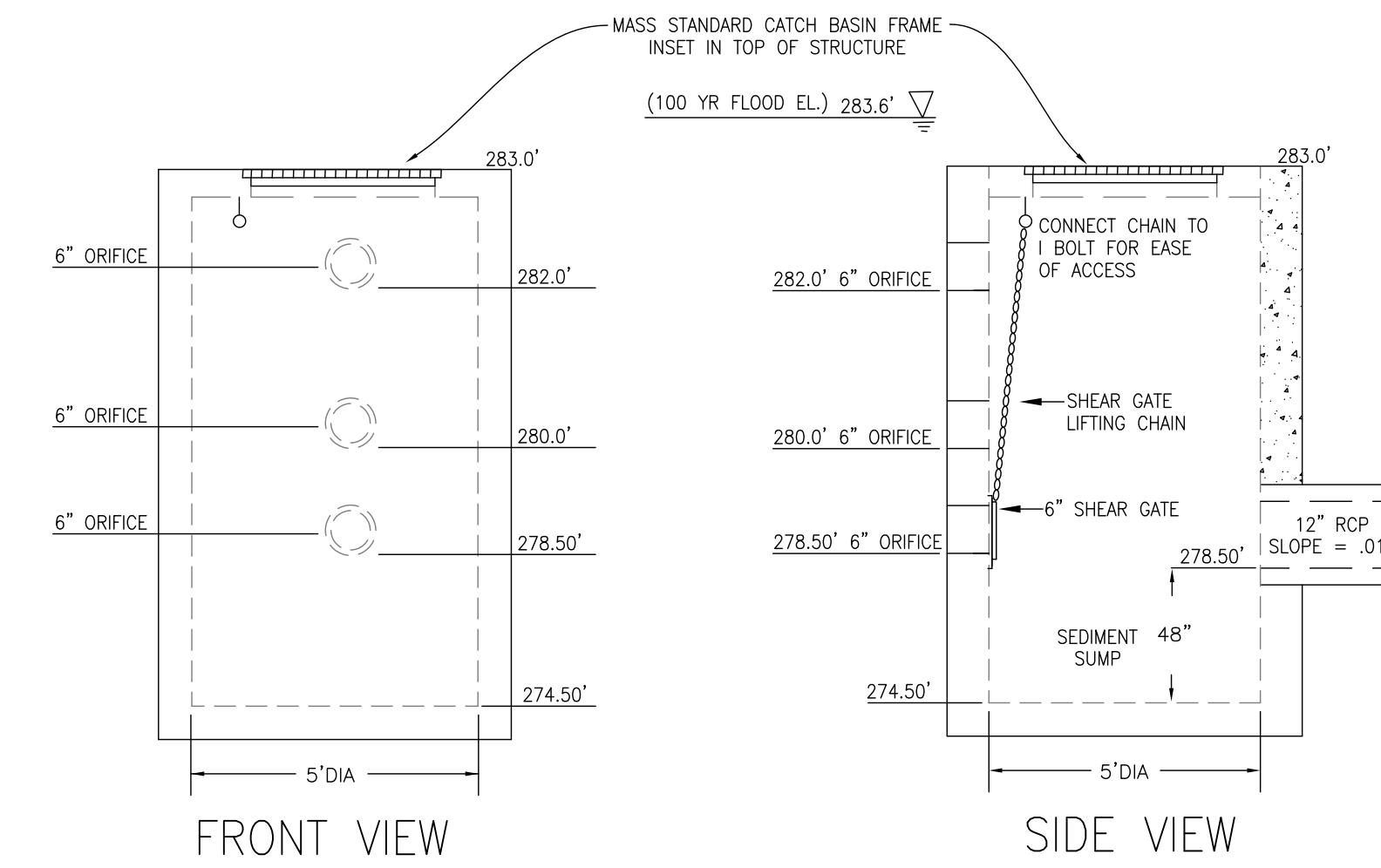
SCALE: 1" = 40'/4"
DEC. 15, 2019 SHEET NUMBER
37
16-0148H



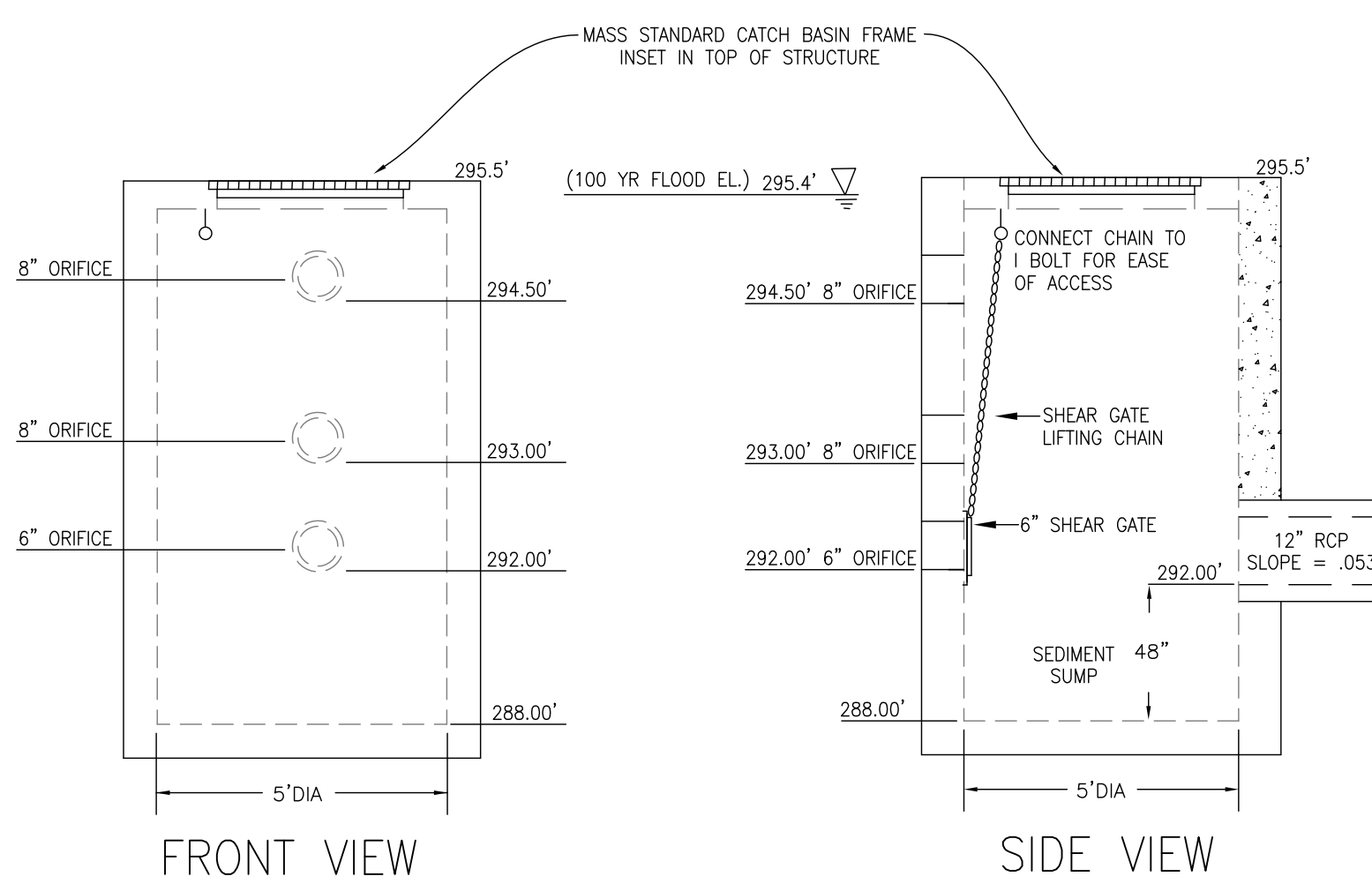
END VIEW OF OVERFLOW WEIR
 N.T.S.



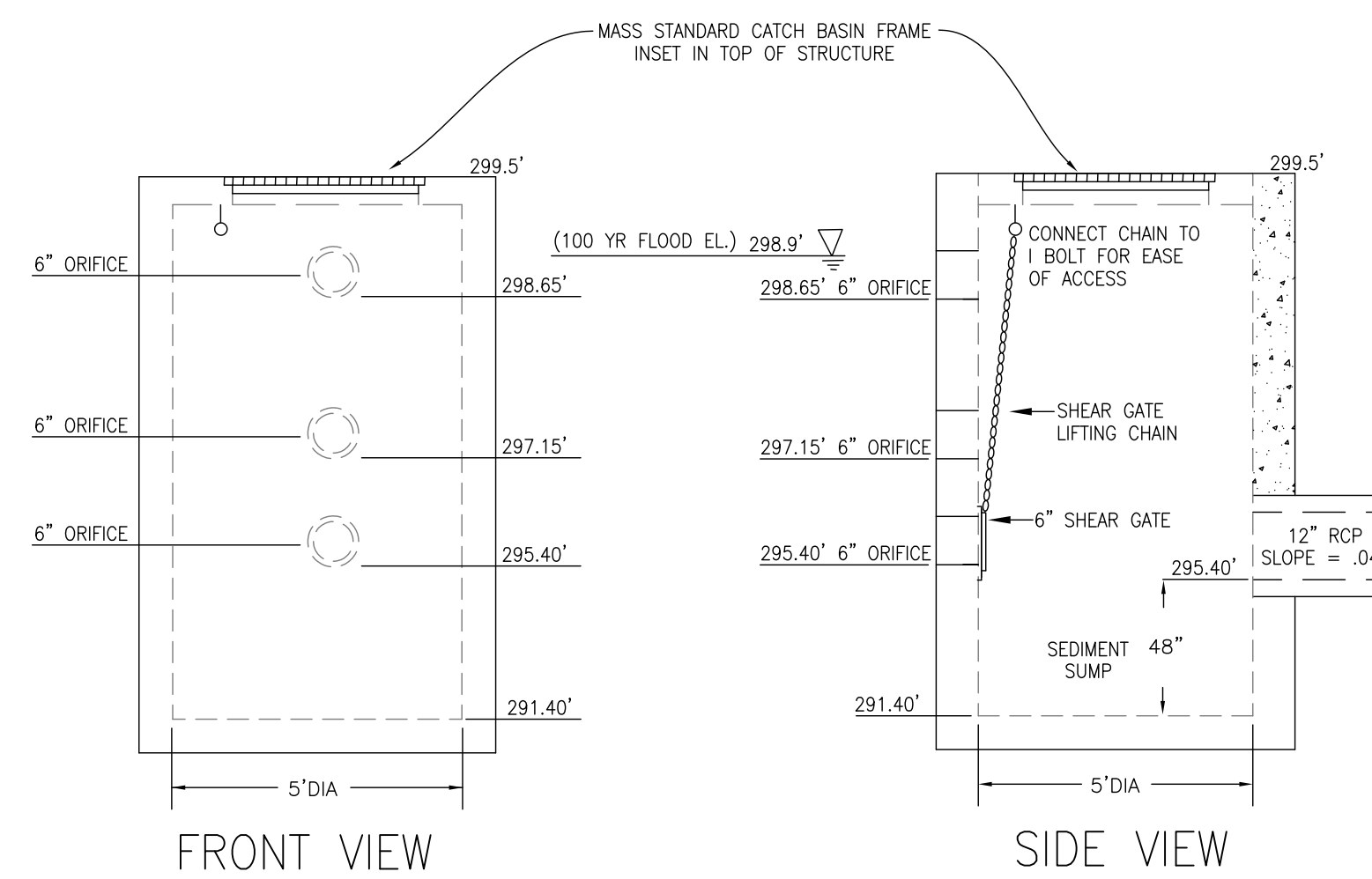
FOREBAY OUTLET
 N.T.S.



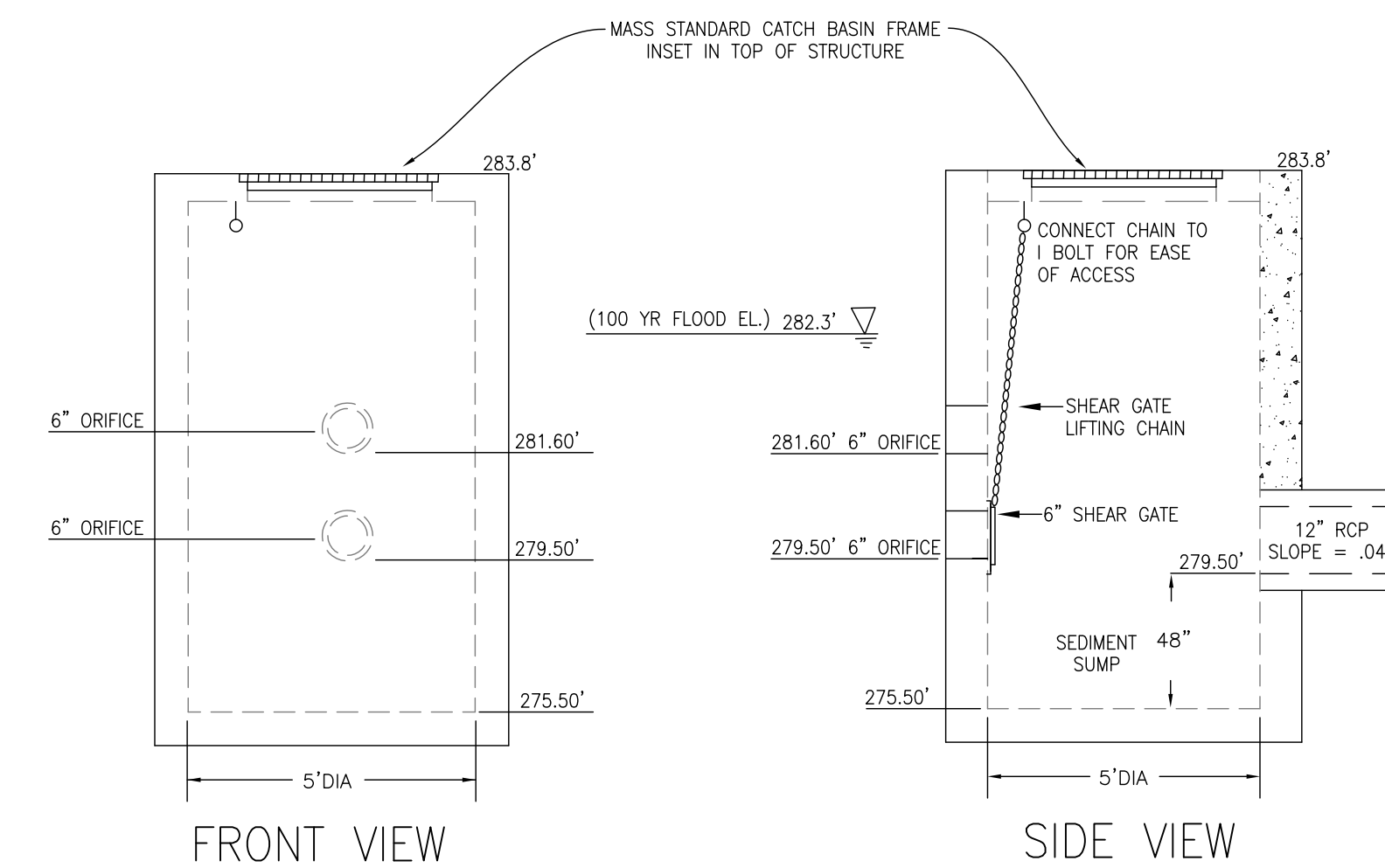
PRECAST CONCRETE OUTLET STRUCTURE - BASIN A
 N.T.S.



PRECAST CONCRETE OUTLET STRUCTURE - BASIN B
 N.T.S.



PRECAST CONCRETE OUTLET STRUCTURE - BASIN C
 N.T.S.



PRECAST CONCRETE OUTLET STRUCTURE - BASIN F
 N.T.S.

PROJECT:
**Maple Hill
 Franklin
 Massachusetts**

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**

Bay Colony Group, Inc.
 Professional Civil Engineers &
 Professional Land Surveyors

FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

DATE	DESCRIPTION	REVISIONS
6-8-2020	WEIR ELEVATIONS MODIFIED/BASIN F OCCS MODIFIED	

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE _____ FRANKLIN TOWN CLERK

STAMP



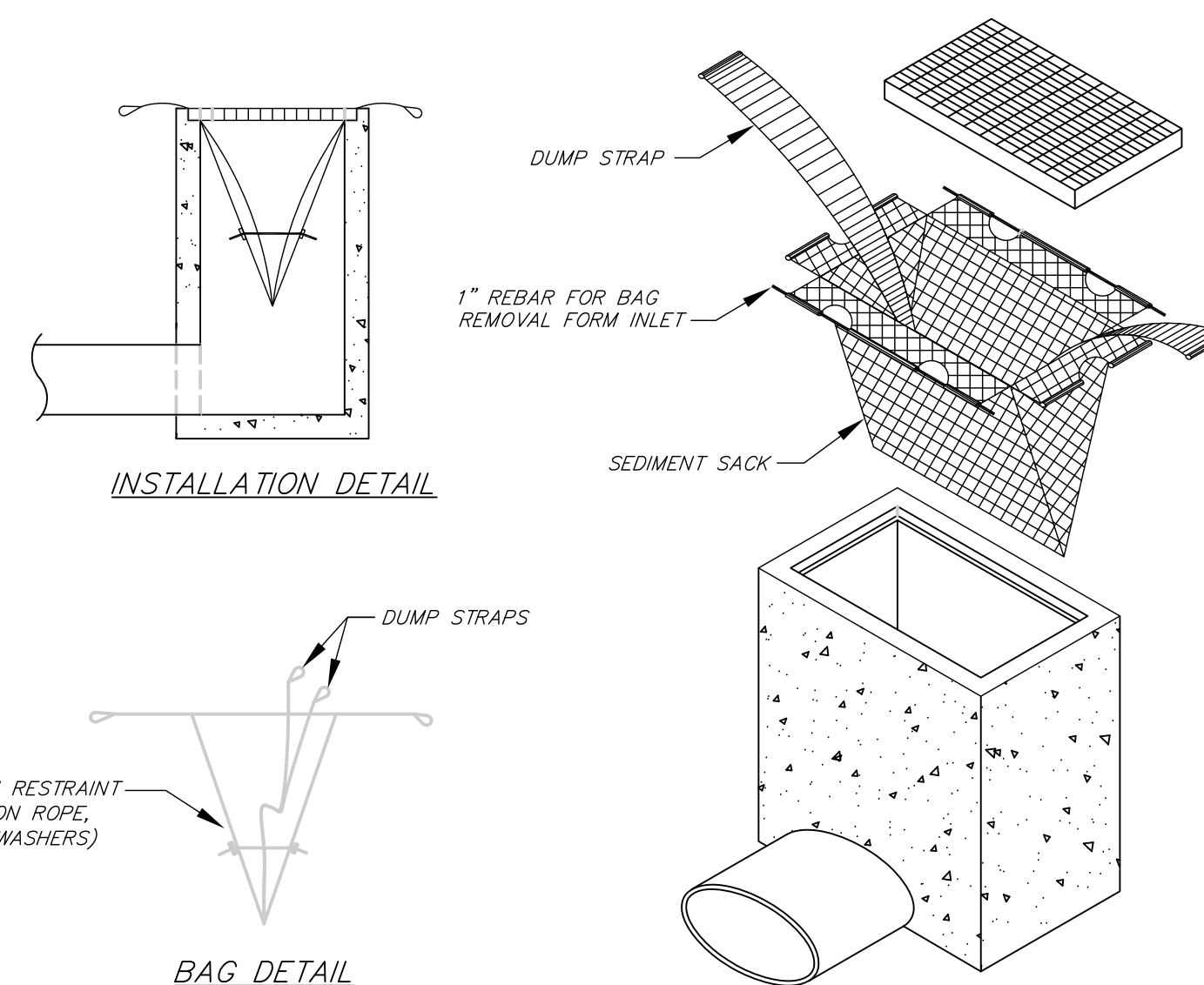
DRAWING TITLE

Details

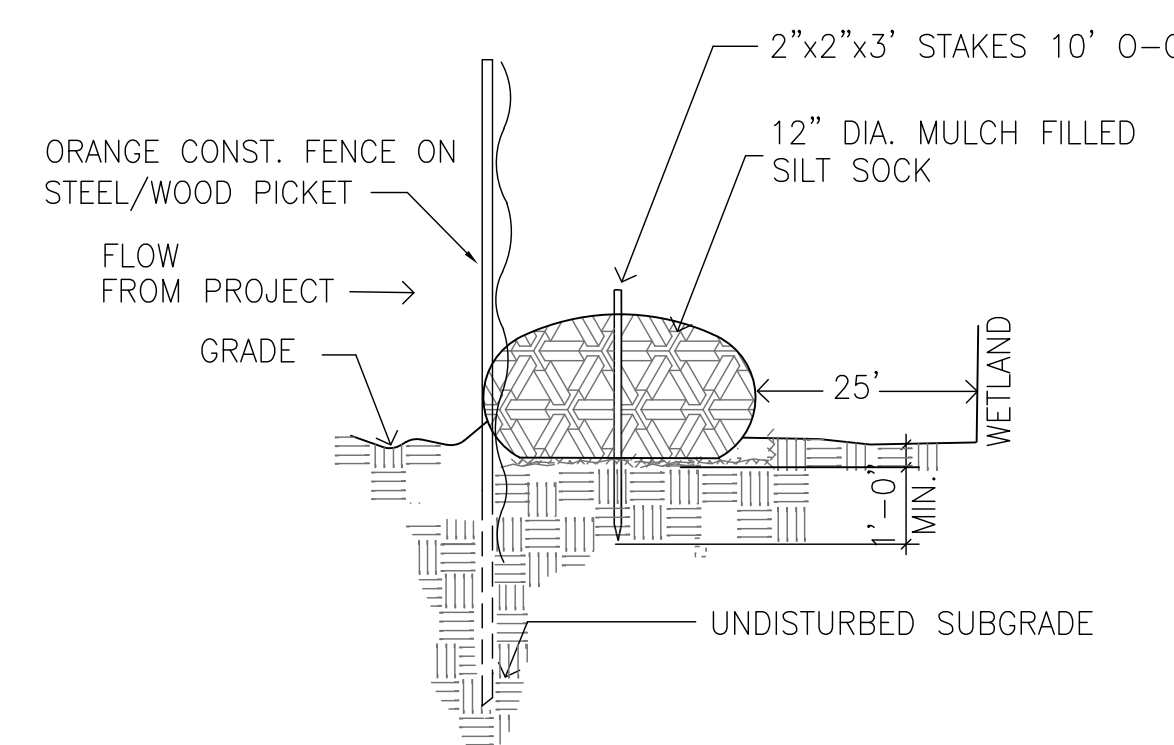
SCALE: 1" = 40'/4'

DEC. 15, 2019 SHEET NUMBER

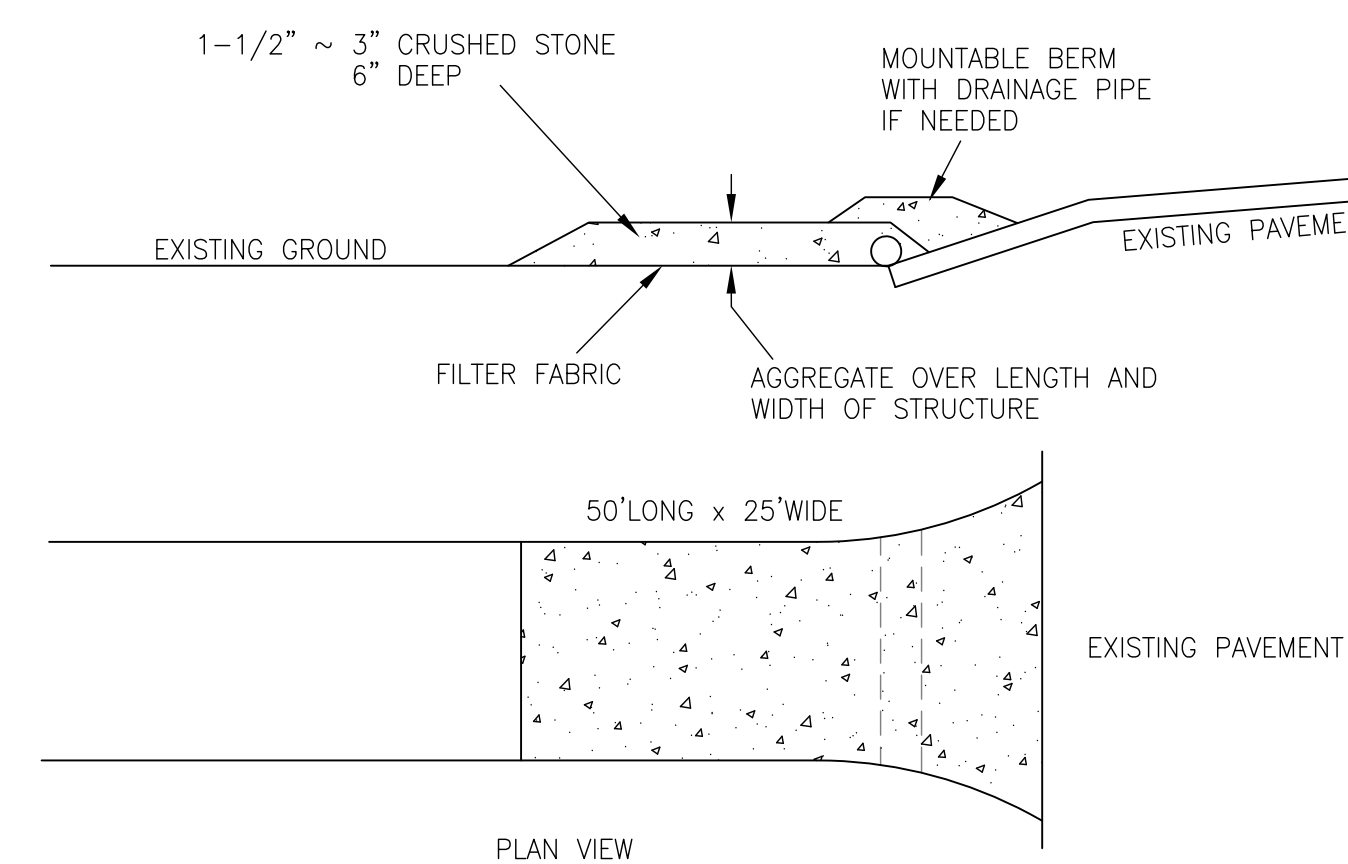
16-0148H **38**



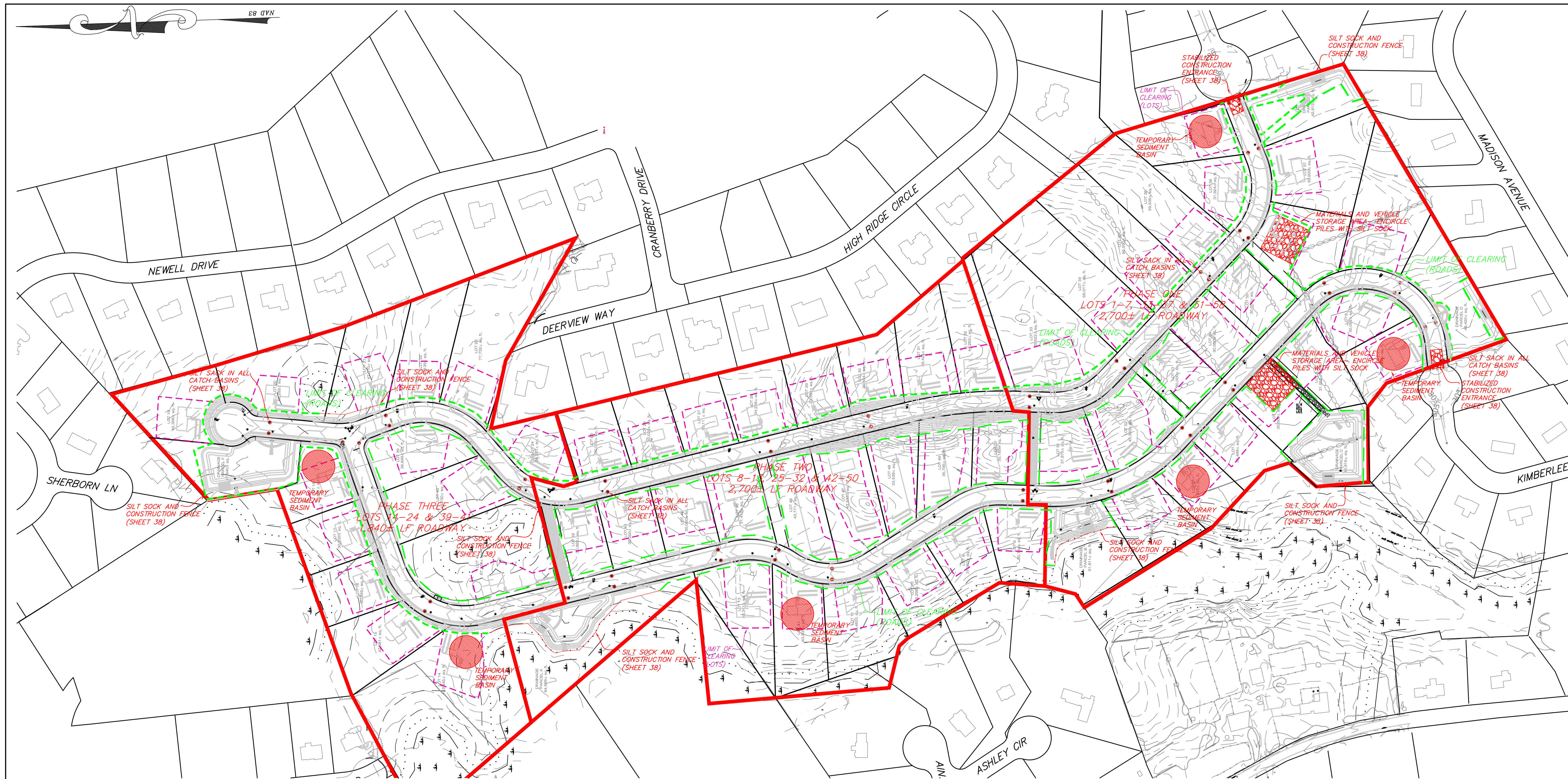
SILT SACK
 N.T.S.



SILT SOCK EROSION CONTROL
 N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
 N.T.S.



CONSTRUCTION SEQUENCE PER PHASE

PHASE 1:
 EST. START DATE:
 EST. FINISH DATE:
 CLEARING OF ROADWAY LAYOUT DRAIN LINE PATHS, AND STORM WATER BASIN
 INSTALLATION OF EROSION CONTROLS, GRUBBING OF ROADWAY, DRAIN LINE PATHS, AND STORM WATER BASIN.

PHASE 2:
 EST. START DATE:
 EST. FINISH DATE:
 IMPORT AND PLACEMENT OF MATERIAL TO BRING ROADWAY TO SUBGRADE.
 CONSTRUCTION OF STORM WATER BASINS.
 INSTALLATION OF DRAINAGE, UTILITIES, AND WATER MAINS WITHIN ROADWAY LAYOUT.

PHASE 3:
 EST. START DATE:
 EST. FINISH DATE:
 INSTALLATION OF BASE COURSE OF ROADWAY. ROADWAY EDGE TREATMENT MUST INCLUDE A 4" BITUMINOUS BERM TO DIRECT RUNOFF. CATCH BASINS SHALL BE SET AT BASE COURSE GRADE AND BE OPERATIONAL.
 START CONSTRUCTION OF INDIVIDUAL HOMES w/EROSION CONTROLS AS NECESSARY.

PHASE 4:
 EST. START DATE:
 EST. FINISH DATE:
 COMPLETE CONSTRUCTION OF HOMES.
 INSTALL SIDEWALKS AND FINISHED COURSE OF PAVEMENT.
 COMPLETE LANDSCAPING OF DISTURBED AREAS.
 REMOVE EROSION CONTROLS.

LEGEND

SILT SOCK ————

SILT SACK ○

LOCATION OF SILT SOCK IS FOR INITIAL CONDITIONS. CONFIGURATION WILL CHANGE BASED ON THE SITE AND WEATHER CONDITIONS AND THE CONSTRUCTION PHASING. THE TOWN ENGINEER/TOWN CONSULTANT MUST BE CONSULTED ON LOCATION MODIFICATIONS AND SHALL HAVE FINAL AUTHORITY IF A DISAGREEMENT ARISES.

SILT SOCKS ARE TO BE INSTALLED IN ALL CATCH BASINS.

LIMIT OF CLEARING FOR ROADWAYS AND UTILITIES

LIMIT OF CLEARING MAY BE ADJUSTED IN ACCORDANCE WITH THE PROJECT LOGISTICS PLAN AS LONG AS THE LIMIT OF CLEARING IS NOT MOVED CLOSER TO ANY WETLAND IF CLEARING IS WITHIN THE 100' BUFFER ZONE.

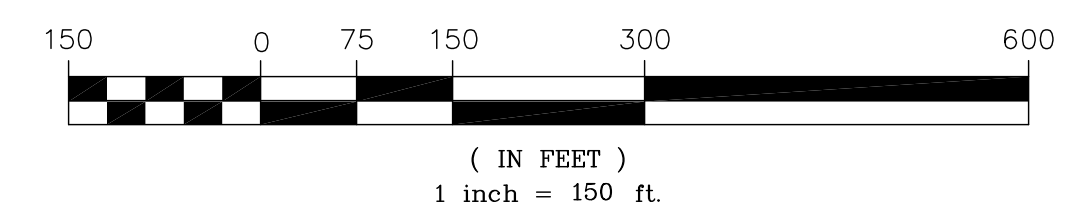
LIMIT OF CLEARING ON INDIVIDUAL LOTS IS ESTIMATED ONLY AND WILL BE ADJUSTED ACCORDING TO THE SEWAGE DISPOSAL SYSTEM/BUILDING PERMIT PLAN FOR THE LOT.

EACH LOT SHALL UTILIZE SILT SOCKS AND STABILIZED CONSTRUCTION ENTRANCES TO MINIMIZE THE AMOUNT OF SILTATION ENTERING THE ROADWAYS.

CONSTRUCTION PHASE STORM WATER BMP O&M REQUIREMENTS

Operation and Maintenance

- Item 1: During construction, weekly inspection of the crushed stone construction entrance pad and erosion control silt socks shall be conducted by a qualified staff member of the responsible party or an independent sediment and erosion control expert hired by the responsible party. Any displaced barriers shall be restored or repaired immediately. All barriers shall be installed, where possible, a minimum 5 ft from the property line and 25 ft from wetlands.
- Item 2: The catch basins in the roadway shall be inspected before and after rain storms, if they are filled with sediment to half of their depth they shall be cleaned out with an orange peel bucket or some other means. Silt sacks shall be installed inside the catch basins. The storm water basins and outlet control structures shall be inspected three times a year: once after leaf fall, once before the arrival of hurricane season, the third in the early or mid-spring after the snow melt and road sweeping. Any debris shall be cleaned out. The roadway shall be swept as necessary, but no less than twice a year: once before hurricane season, the once in the spring after snow melt.
- Item 3: During construction every effort will be made to ensure that silt does not enter the infiltration basins. Additional silt socks shall be used as necessary. If silt does enter the basin, then clean out the bottom of the basin. Do not install the bottom material in the basin until the entire site has been stabilized. Storm water basins shall not be used as sediment basins.
- Item 4: During construction, the stone pad at the entrance to the project shall be inspected weekly and replenished if siltation is impeding the cleaning of truck tires. Any materials tracked into the roadway shall be swept up within a day.
- Item 5: Sediment basins shall be used throughout the site to trap siltation from runoff from entering the roads. Proposed storm water basins shall not be used as sediment basins The locations are shown as approximate on the SWPPP and shall be adjusted throughout construction as the logistics plan evolves.



PROJECT:

**Maple Hill
 Franklin
 Massachusetts**

OWNERS:

**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:

**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

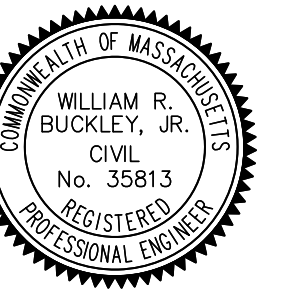
DATE	DESCRIPTION
6-8-2020	LOT LIMITS OF CLEARING ADDED/NOTE RE LOTS ADDED/NOTE RE BASE COURSE CURB ADDED/NOTE REGARDING SILT SACK LOCATION MODIFIED/SEDIMENT BASINS ADDED/PHASE LINES ADDED/O&M PLAN MODIFIED
DATE	DESCRIPTION
	REVISIONS

DATE APPROVED: _____
 DATE ENDORSED: _____
 FRANKLIN PLANNING BOARD

I HEREBY CERTIFY THAT 20 DAYS HAVE ELAPSED SINCE PLANNING BOARD APPROVAL AND THAT NO APPEAL HAS BEEN FILED IN THIS OFFICE.

DATE: _____ FRANKLIN TOWN CLERK

STAMP



DRAWING TITLE

SWPPP

SCALE: 1" = 150'

DEC. 15, 2019 SHEET NUMBER

16-0148H **39**



FRANKLIN PLANNING & COMMUNITY DEVELOPMENT

355 EAST CENTRAL STREET, ROOM 120
FRANKLIN, MA 02038-1352
TELEPHONE: 508-520-4907
FAX: 508-520-4906

MEMORANDUM

DATE: June 24, 2020
TO: Franklin Planning Board
FROM: Department of Planning and Community Development
RE: Maple Hill
Definitive Subdivision Plan

General:

1. The applicant has submitted a preliminary plan for a Conventional Subdivision on January 28, 2020.
2. The proposal is located within the rural Residential II zoning district.
 - 30,000 sf of lot area
 - 150' of frontage
 - 135' diameter circle must fit within the lot
3. The Definitive plans proposes to construct 59 single family house lots.
4. Applicant has submitted a Transportation Impact Assessment and Storm Water Management Report.

Waiver Request:

- **§300.13.A.(1) - Sidewalks. Location:** To allow a sidewalk on one side allowed where sidewalks are required on both sides of the road.

Hearing Information:

- For the June 29, 2020 Public Hearing, the discussion will be on traffic. The Applicant has submitted a traffic analysis report. DPCD has provided the report to BETA for review. BETA has submitted a response to the report. Both reports are included in the Agenda.
- Included are the subdivision plans from the original submittal, for reference.
- The meeting will last one-hour for discussion.



March 12, 2020

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

Re: Maple Hill Subdivision
Traffic Peer Review

Dear Mr. Padula:

BETA Group, Inc. (BETA) conducted a review of traffic related items provided by the applicant for the proposed project entitled "Maple Hill" located in Franklin, Massachusetts. This letter is provided to outline findings, comments, and recommendations.

BASIS OF REVIEW

BETA received the following items:

- Plans (40 Sheets) entitled Maple Hill, dated December 15, 2019, prepared by Bay Colony Group, Inc. of Foxborough, MA
- Traffic Impact Assessment (TIA), dated November 2019, prepared by Vanasse & Associates, Inc., Andover, MA

PROJECT DESCRIPTION

The project site is 73.3± acres and is generally located between Madison Avenue, Hancock Road, Maple Street, and High Ridge Road in Franklin, MA. The site is currently undeveloped with woodland and low-lying wetland areas. The site is located within the Rural Residential II zoning district.

The project proposes to construct a 58-home single-family residential community connected to the existing cul-de-sacs at the ends of Kimberlee Avenue and Bridle Path, extending 1.4± miles. Two emergency access easements are proposed within the site connecting from Kimberlee Avenue to Bridle Path Extension. One emergency access is proposed between Lot 50 and Lot 51 and the other is proposed between Lot 41 and Lot 42.

FINDINGS, COMMENTS AND RECOMMENDATIONS

The study area includes the following three unsignalized intersections in the vicinity of the site:

- Maple Street at Kimberlee Avenue (Site access/egress)
- Maple Street at Franklin Springs Road
- Lincoln Street at Bridle Path (Site access/egress)

The intersection of Maple Street and Main Street/Lincoln Street was not included as part of the study area. This intersection will accommodate more new vehicle trips (24 AM, 32 PM) than each of the proposed development access roadways.

T1. Consideration should be given to adding the intersection of Maple Street and Main Street/Lincoln Street to the study area.

Manual turning movement counts (TMCs) were collected on Wednesday, May 22nd, 2019 from 7:00 AM to 9:00 AM and 3:00 PM to 6:00 PM. These time periods were chosen because they are representative of the peak generator times of the proposed development and roadways. Data indicates the weekday AM peak hour occurs from 7:00 AM to 8:00 AM and the PM peak hour from 5:00 PM to 6:00 PM. BETA concurs with the traffic data collection time periods.

Traffic volume data were collected via automatic traffic recorder (ATR) on Lincoln Street, Kimberlee Avenue, and Bridle Path over a 48-hour period on Wednesday, May 22nd and Thursday, May 23rd, 2019. ATR data were collected on Maple Street on Tuesday, June 4th and Wednesday, June 5th, 2019.

Although Franklin public schools were in session during the time of the data collection, it should be noted that Franklin High School dismissed early on June 5th due to exams. BETA anticipates that this early release would have minimal impact on the data collection.

Permanent count station data from I-495 were reviewed to determine the need for seasonal adjustment. Traffic volumes in May and June were found to be above average-month conditions, therefore, the volumes were not adjusted.

Vehicle speeds were also collected via ATR along Maple Street, Lincoln Street, Kimberlee Avenue, and Bridle Path in the vicinity of the development roadways. The prima facie speed limit along Kimberlee Avenue and Bridle Path is 30 miles per hour (mph) in the absence of posted speed limit signs. The posted speed limit on Maple Street is 30 mph and on Lincoln Street is 35 mph. The mean speeds were less than the posted or prima facie on all roadways with the exception of Maple Street. The Maple Street mean speeds were 35 mph and 36 mph in the northbound and southbound directions, respectively, which is five to six miles over the regulatory/speed limit.

The 85th percentile speeds along Kimberlee Avenue were slightly below the 30 mph speed. The 85th percentile westbound directional speed was less than the prima facie along Bridle Path but the 85th percentile eastbound speed was slightly higher at 32 mph. The Lincoln Street 85th percentile directional speeds were 2 to 3 mph higher than the posted speed at 38 mph and 37 mph in the northbound and southbound direction, respectively. The Maple Street 85th percentile directional speeds were 9 to 10 mph higher than the prima facie speed at 39 mph and 40 mph in the northbound and southbound direction, respectively.

T2. Clarify the exact ATR locations on the roadways.

Crash data were collected, compiled and analyzed for the intersections of Maple Street at Kimberlee Avenue, Maple Street at Franklin Springs Road, and Lincoln Street at Bridle Path for a five year period from 2013 through 2017 based on the most recent data available from MassDOT, which is an industry standard practice. Crash rates quantified in number of crashes per million entering vehicles were found to be 0.20 or less. All are below the District 3 average crash rate of 0.61 for unsignalized intersections.

T3. Crash analysis should be provided for the additional intersection identified in comment T1.

The No-Build condition also includes the addition of the background development-related growth which may increase traffic within the study area. Trip generation data for The Maple Preserve at Franklin development on Maple Street just north of the Kimberlee Avenue was included in the study.

No-Build traffic volumes were determined by applying a one (1) percent per year growth rate over seven years. A 1% growth rate is consistent with other recent studies for the Town of Franklin; therefore, BETA agrees with the growth rate.

Project-generated traffic volumes were determined by utilizing trip-generation statistics published by the Institute of Transportation Engineers (ITE) for land use code 210 (Single-Family Detached Housing). The land uses and methodology chosen are accurate and consistent with industry standards. The project site will generate 630 new trips on an average weekday. New peak hour trips are 46 (12 entering, 34 exiting) in the weekday morning peak hour, and 60 (38 entering, 22 exiting) in the weekday afternoon peak hour.

New trips were distributed through the study area based on Journey-To-Work data and existing travel patterns which BETA finds acceptable for the site location.

Capacity analysis results show that all movements at the Maple Street and Kimberlee Avenue intersection and Maple Street and Franklin Springs Road currently operate and would continue to operate at LOS A during both peak periods. The Bridle Path eastbound movement at Lincoln Street currently operates at LOS C during the morning peak period and LOS B during the evening peak period. During Build conditions, the eastbound movement would continue to operate at LOS C during the morning peak and degrade from LOS B to LOS C during the evening peak period. All other movements at the intersection of Lincoln Street and Bridle Path would operate at LOS A. The 95th percentile queue would be equivalent to one vehicle or less during the peak periods. The methodology is consistent with industry standards

The available stopping sight distance (SSD) and intersection sight distance (ISD) were measured by the proponent and also field checked by BETA. The SSD approaching Kimberlee Avenue from the north on Maple Street is less than the AASHTO required minimum of 305' (approximately 260') based on the measured 85th percentile speed. The ISD looking to the north and south onto Maple Street from Kimberlee Avenue are both significantly less than the required minimum of 445' and 385' (approximately 270' and 290'), respectively, based on the measured 85th percentile speeds. As shown in Figure 1 there is a tree partially obstructing the line of sight which appears to be within the Town's right-of-way. As shown in Figure 2 the vertical curvature of Maple Street limits the ISD.



Figure 1: Looking to the south onto Maple Street from Kimberlee Avenue



Figure 2: Looking to the north onto Maple Street from Kimberlee Avenue

- T4. The designer should evaluate alternatives, including but not limited to, tree removal and reconstructing the vertical curve, to provide sight distances meeting current design standards.

The TIA suggested the following neighborhood traffic calming measures:

- Install a raised island on Bridle Path approaching Lincoln Street and on Kimberlee Avenue approaching Maple Street.
- Install a raised median in between 33 and 44 Bridle Path.
- Install a raised intersection/speed table at the Bridle Path and Steeplechase Lane intersection.
- Install a raised median along Kimberlee Avenue between Tyler Road and Madison Avenue.
- Reduce the corner radii of Tyler Road and Madison Avenue.
- Reduce traveled way to 22-feet on Kimberlee Avenue north of Madison Avenue and on Bridle Path between Steeplechase Lane and Phaeton Lane.

- T5. Provide concept plans which show the traffic calming devices and locations outlined in the TIA for the consideration of the Board and for ease in review.

- T6. Verify that the types of traffic calming devices suggested in the TIA were discussed with and found to be acceptable by the Franklin Department of Public Works.

The proposed off-site mitigation includes the following:

- Install radar speed feedback signs on Maple Street north of Franklin Springs Road and south of Kimberlee Avenue.
- Install STOP signs and provide stop lines on minor street approaches (Kimberlee Avenue, Franklin Springs Road, Bridle Path)
- Install crosswalks across Franklin Springs Road at Maple Street and Bridle Path at Lincoln Street.
- Reduce the width of Franklin Springs Road using bump-outs at the Maple Street intersection.

Except for the radar speed feedback signs, the proposed off-site mitigation does not provide features that would calm the travelling speeds along Maple Street or provide required sight distance at the intersection of Kimberlee Avenue. The measured 85th percentile speeds along Maple Street are significantly higher than the posted speed limits.

- T7. Additional mitigation along Maple Street should be considered to decrease speeds along Maple Street.

There are currently non-ADA compliant accessible ramps on either side of both Franklin Springs Road at Maple Street and Bridle Path at Lincoln Street.

- T8. If the Board and DPW agree to the applicant installing crosswalks on Franklin Springs Road and Bridle Path, BETA recommends the applicant also install ADA compliant ramps on either side of both Franklin Springs Road at Maple Street and Bridle Path at Lincoln Street.

Mr. Anthony Padula, Chairman

March 12, 2020

Page 5 of 5

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

Very truly yours,

BETA Group, Inc.



Jaklyn Centracchio, PE, PTOE
Senior Project Engineer

cc: Amy Love, Town Planner

Job No: 4830 - 60

Ref: 7787

April 13, 2020

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

Re: Response to Traffic Peer Review
Proposed Maple Hill Residential Subdivision
Franklin, Massachusetts

Dear Chairman Padula and Members of the Planning Board:

Vanasse & Associates, Inc. (VAI) is providing responses to the comments that were raised in the March 12, 2020 Traffic Peer Review letter prepared by BETA Group, Inc. (BETA) on behalf of the Planning Board in reference to their review of the November 2019 *Transportation Impact Assessment* (the “November 2019 TIA”) prepared by VAI in support of the Maple Hill residential subdivision that will be accessed from Kimberlee Avenue and Bridle Path in Franklin, Massachusetts (hereafter referred to as the “Project”). Listed below are the comments that were identified by BETA in the subject review letter followed by our response on behalf of the Applicant.

Comment T1.: *Consideration should be given to adding the intersection of Maple Street and Main Street/Lincoln Street to the study area.*

Response: The Main Street/Lincoln Street/Maple Street intersection is located approximately 1-mile south of the Maple Street/Kimberlee Avenue and Lincoln Street/Bridle Path intersections, and consists of a “Y”-type unsignalized intersection, with the intersecting roadways providing a single 11± foot wide travel lane per direction that are separated by a double-yellow centerline with 4± foot wide marked shoulders provided along Main Street and Lincoln Street, and the Maple Street approach under STOP-sign control. Sidewalks are provided along both sides of Main Street and Lincoln Street, with a marked crosswalk provided for crossing Maple Street.

For the purpose of this analysis, the peak-hour traffic volume data that was collected at the Maple Street/Kimberlee Avenue and Lincoln Street/Bridle Path intersections was used to develop the traffic volumes at the Main Street/Lincoln Street/Maple Street intersection. Project-related traffic was assigned to the intersection assuming that trips to and from Maple Street would be oriented to/from the south on Main Street (toward Pleasant Street). The annotated traffic volume networks are attached for 2019 Existing, 2026 No-Build and 2026 Build conditions, consistent with the analysis years that were assessed in the November 2019 TIA.

In order to evaluate Project-related impacts at the intersection, a detailed traffic operations analysis (level-of-service, motorist delay and vehicle queuing) was performed following the methodology described in the November 2019 TIA, the results of which are summarized in Table 8A, with the detailed analysis results attached.

As can be seen in Table 8A, critical movements at this unsignalized intersection (all movements from Maple Street) were shown to operate at level-of-service (LOS) C during both the weekday morning and evening peak hours under all analysis conditions, with no changes in LOS shown to occur with the addition of Project-related traffic. Project-related impacts were defined as an increase in average motorist delay of up to 1.1 seconds with no material increase in vehicle queuing. All movements along Main Street and Lincoln Street were shown to operate at LOS A during the peak hours with negligible vehicle queuing predicted.

Comment T2.: *Clarify the exact ATR locations on the roadways.*

Response: The ATR's were performed at the following locations:

- **Maple Street** - between Kimberly Avenue and Lilly Way
- **Lincoln Street** – between Bridle Path and Clara Loise Drive
- **Kimberlee Avenue** – between Maple Street and Tyler Road
- **Bridle Path** – between Lincoln Street and Steeplechase Lane

Comment T3.: *Crash analysis should be provided for the additional intersection identified in comment T1.*

Response: A review motor vehicle crash data obtained from MassDOT for the five-year review period 2013-2017 indicated that no (0) motor vehicle crashes were reported to have occurred at the Main Street/Lincoln Street/Maple Street intersection. The current (post 2017) crash data available from MassDOT indicates that one (1) crash was reported to have occurred at the intersection in 2019.¹ Based on a review of the MassDOT crash data, no inherent safety deficiencies are apparent at the Main Street/Lincoln Street/Maple Street intersection.

Comment T4.: *The designer should evaluate alternatives, including but not limited to, tree removal and reconstructing the vertical curve, to provide sight distances meeting current design standards.*

Response: Subject to receipt of all necessary rights, permits and approvals, the Project proponent will selectively trim and/or remove trees and vegetation located within the sight triangle areas of the Maple Street/Kimberlee Avenue intersection that are situated within the public right-of-way. We note that the identified sight distance limitations are existing conditions that are unrelated to the Project, and that the lines of sight that are available meet the

¹Post 2017 crash data has not been validated by MassDOT and is provided as raw data for informational purposes only.



requirements for the posted speed limit along Maple Street (30 mph) and for an approach speed of up to 35 mph.

Given the impacts to abutting properties and the Maple Street/Franklin Springs Road intersection that would result from lowering the profile of Maple Street, measures to achieve a reduction in travel speeds along Maple Street would prove to be less disruptive. As such, we continue to recommend that the following measures be implemented as described in the November 2019 TIA:

- Install radar speed feedback signs north of Franklin Springs Road and south of Kimberlee Avenue;
- Based on the data collected through the radar speed feedback signs (speed data by time of day), provide speed enforcement during the times of day when speeding is most prevalent; and
- Reduce the width of Franklin Springs Road approaching Maple Street through the use of curblin bump-outs, the elements of which can be combined with installation of a crosswalk and Americans with Disabilities Act (ADA) wheelchair ramps for crossing Franklin Street (discussion follows).

Comment T5.: *Provide concept plans which show the traffic calming devices and locations outlined in the TIA for the consideration of the Board and for ease in review.*

Response: A plan showing the location of the suggested traffic calming features along Kimberly Avenue and Bridle Path is attached. The formal design of the improvements will be advanced as a condition of any approvals that may be granted for the Project.

Comment T6.: *Verify that the types of traffic calming devices suggested in the TIA were discussed with and found to be acceptable by the Franklin Department of Public Works.*

Response: The Project proponent has been and will continue to consult with the Town and the Department of Public Works (DPW) regarding the elements of the transportation improvement program for the Project, including the components of the neighborhood traffic calming plan. The specific traffic calming measures that are identified in the November 2019 TIA are appropriate for low volume residential streets, the details and location of which will be subject to review and approval by the DPW.

Comment T7.: *Additional mitigation along Maple Street should be considered to decrease speeds along Maple Street.*

Response: The Project proponent has committed to the installation of radar speed feedback signs on Maple Street north of Franklin Springs Road and south of Kimberlee Avenue, and it has been recommended that the speed data collected by the signs be used for speed enforcement during those periods when vehicle travel speeds are found to exceed a 5-mph pace of the posted speed limit (30 mph). These measures have been proven to achieve speed



meaningful speed reductions and are commensurate with the limited impact of the Project along Maple Street.

To the extent so desired by the Town, the Project proponent will undertake the installation of an enhanced sign program along Maple Street that would include the installation of warning and speed advisory signs in accordance with the specifications of the *Manual on Uniform Traffic Control Devices (MUTCD)*² along Maple Street between Main Street/Lincoln Street and Franklin Springs Road. Vertical traffic calming features are not appropriate along Maple Street given its functional classification as a collector roadway. Further, roadway narrowing as a means of reducing travel speeds is not feasible as it would result in a roadway width that would not meet safe passage standards (the current width of Maple Street is 22± feet).

Comment T8.: *If the Board and DPW agree to the applicant installing crosswalks on Franklin Springs Road and Bridle Path, BETA recommends the applicant also install ADA compliant ramps on either side of both Franklin Springs Road at Maple Street and Bridle Path at Lincoln Street.*

Response: The Project proponent will design and construct ADA compliant wheelchair ramps for all pedestrian crossings that are constructed as a part of the Project where a sidewalk and accompanying crosswalk are provided.

We trust that this information is responsive to the comments that were raised in the March 12, 2020 Traffic Peer Review letter prepared by BETA in reference to the Project. If you should have any questions or would like to discuss our responses in more detail, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Partner

Professional Engineer in CT, MA, ME, NH, RI and VA

Attachments

cc: J. Centracchio, P.E., PTOE – BETA Group, Inc. (via email)
M. Carroll – Carroll Construction Corporation (via email)
W. Buckley, Jr., P.E. – Bay Colony Group, Inc. (via email)

²*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.



Table 8A**UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY**

Unsignalized Intersection/ Peak Hour/Movement	2019 Existing				2026 No-Build				2026 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
<i>Main Street at Lincoln Street and Maple Street</i>												
<i>Weekday Morning:</i>												
Main Street NB LT/TH	356	0.9	A	0	381	1.0	A	0	387	1.0	A	0
Lincoln Street SB TH/RT	350	0.0	A	0	374	0.0	A	0	383	0.0	A	0
Maple Street SEB LT/RT	114	15.9	C	1	126	17.5	C	2	135	18.0	C	2
<i>Weekday Evening:</i>												
Main Street NB LT/TH	377	1.1	A	0	404	1.1	A	0	424	1.3	A	0
Lincoln Street SB TH/RT	516	0.0	A	0	554	0.0	A	0	560	0.0	A	0
Maple Street SEB LT/RT	95	18.9	C	1	104	21.5	C	2	110	22.6	C	2

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel-of-Service.

^dQueue length in vehicles.

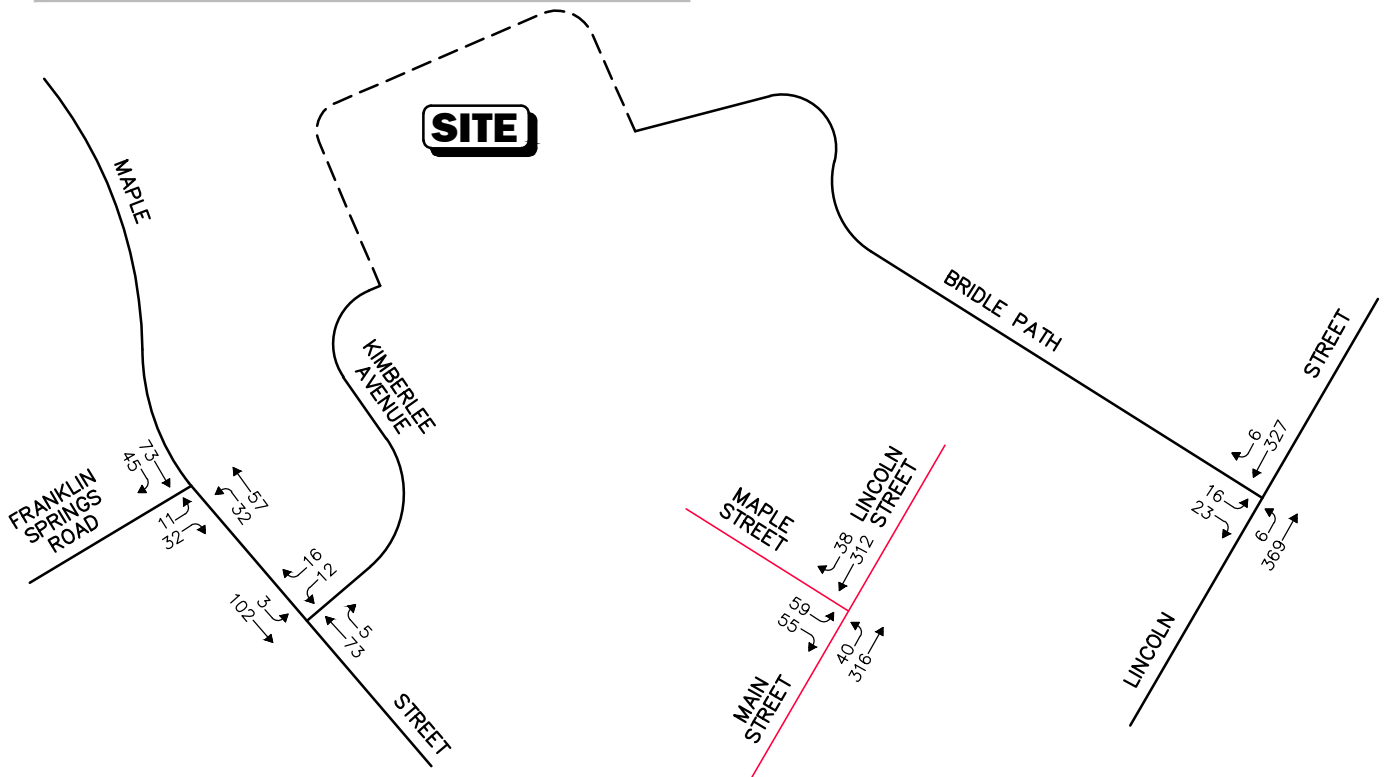
NB = northbound; SB = southbound; SEB = southeastbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

ATTACHMENTS

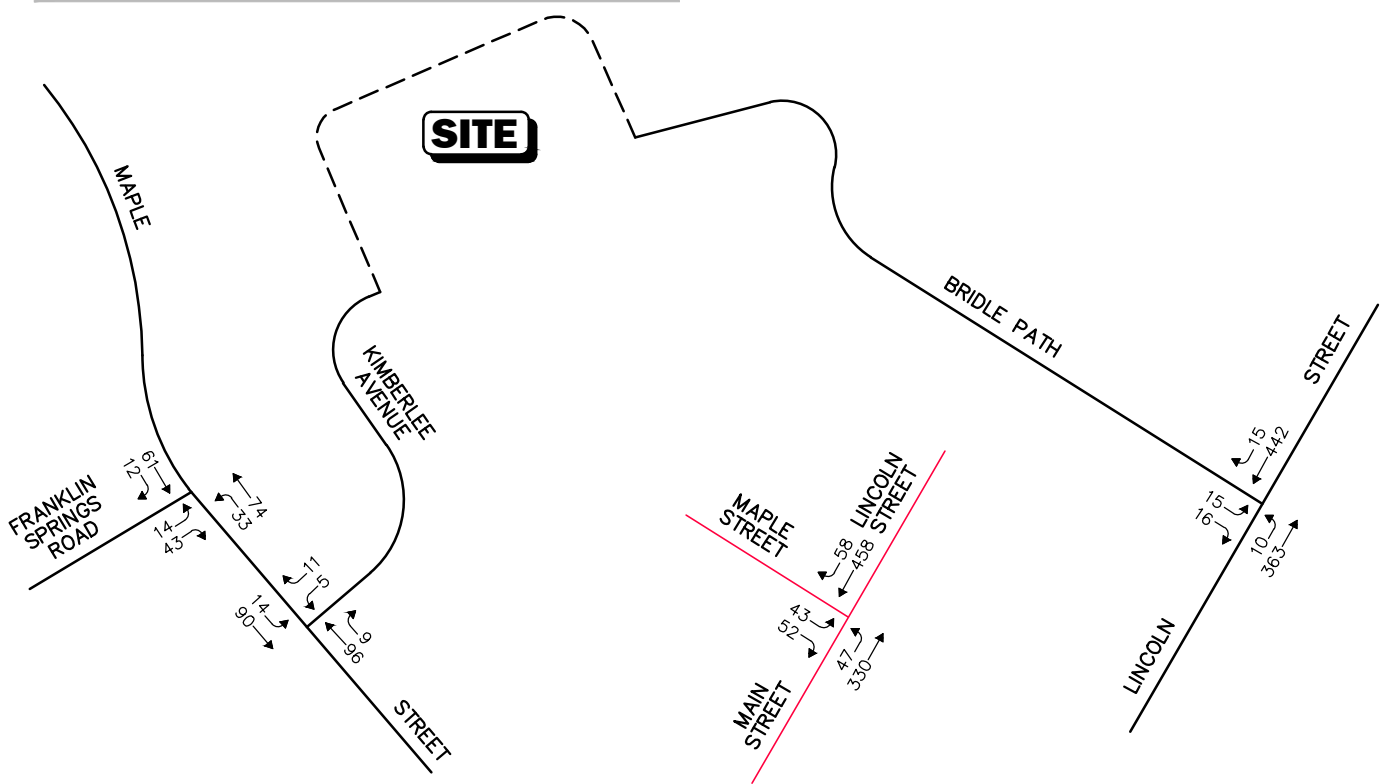
TRAFFIC VOLUME NETWORKS
CAPACITY ANALYSIS WORKSHEETS
TRAFFIC CALMING LOCUS FIGURES

TRAFFIC VOLUME NETWORKS

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



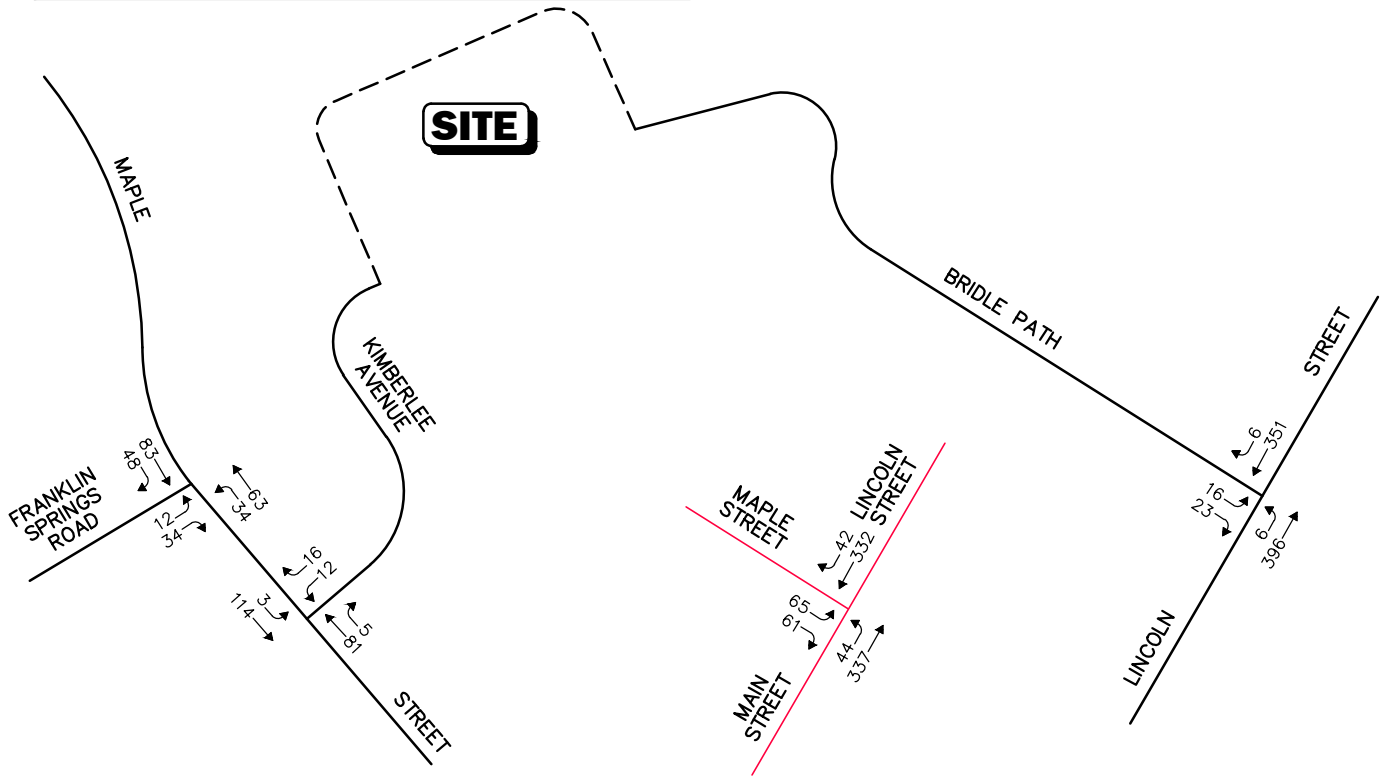
WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



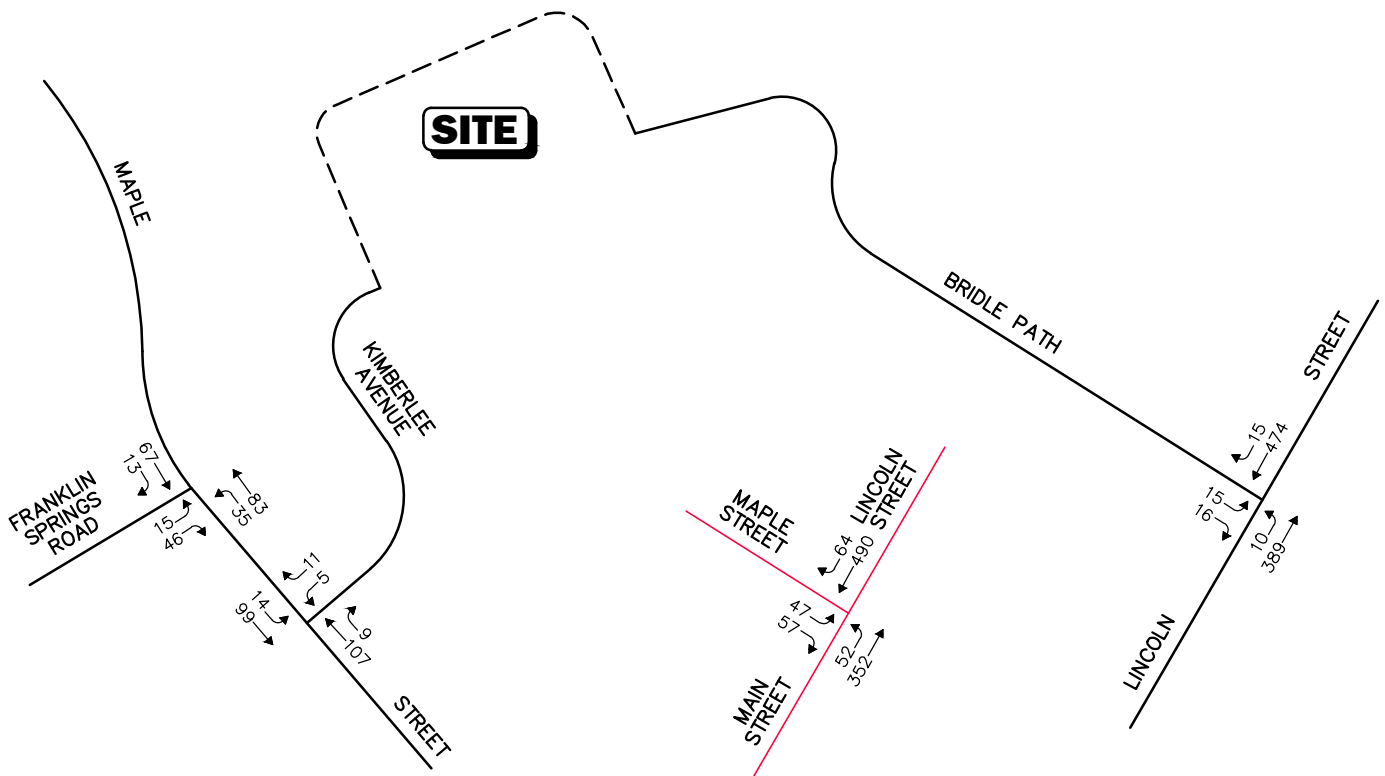
Not To Scale

Figure 3R

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



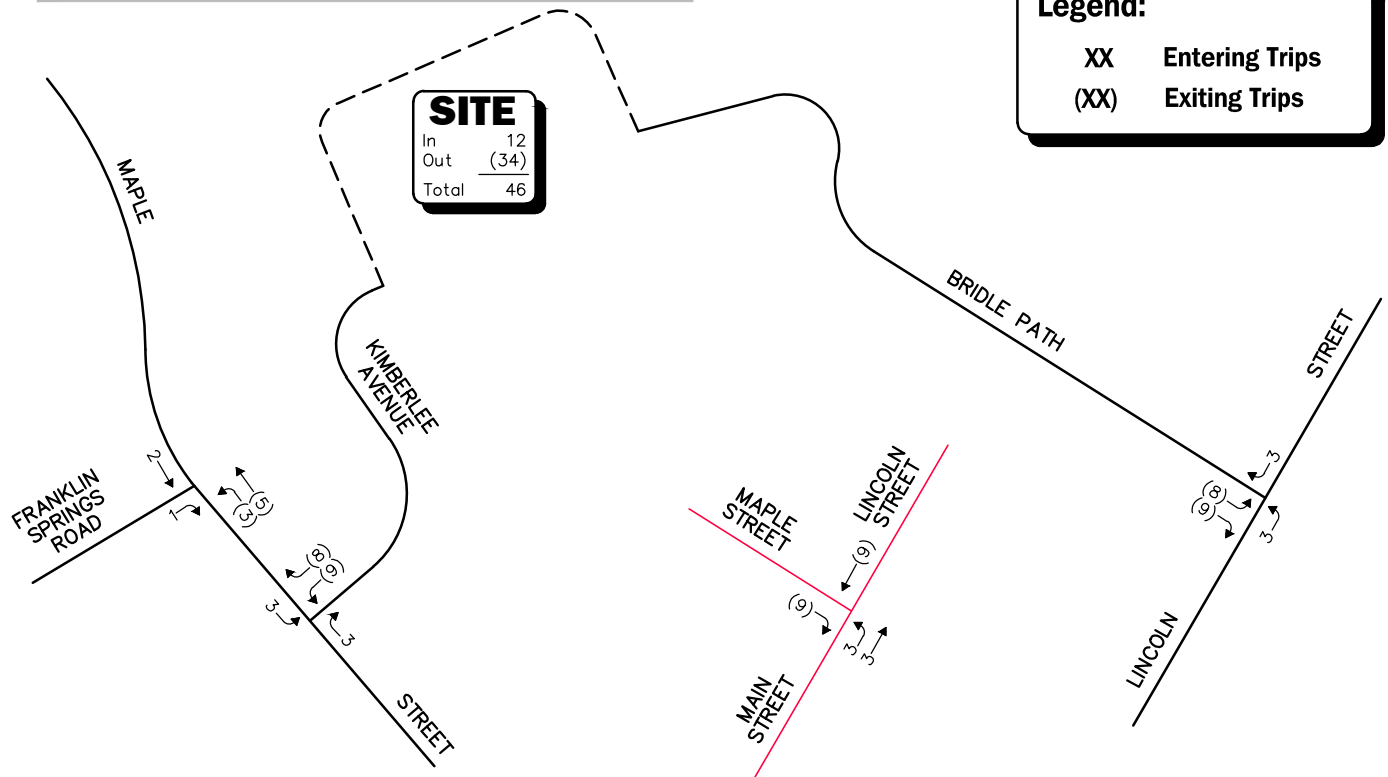
Not To Scale

Figure 4R

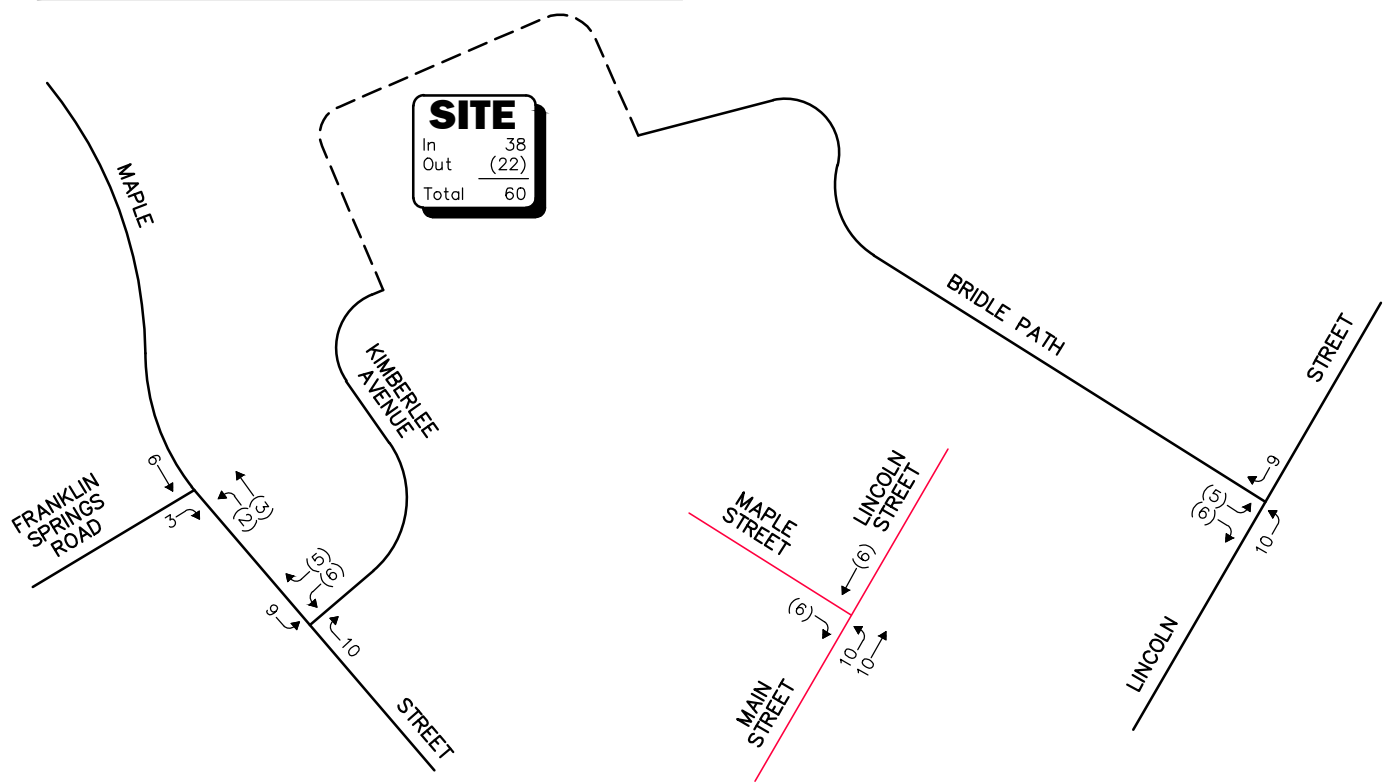
WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)

Legend:

- XX Entering Trips
- (XX) Exiting Trips



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



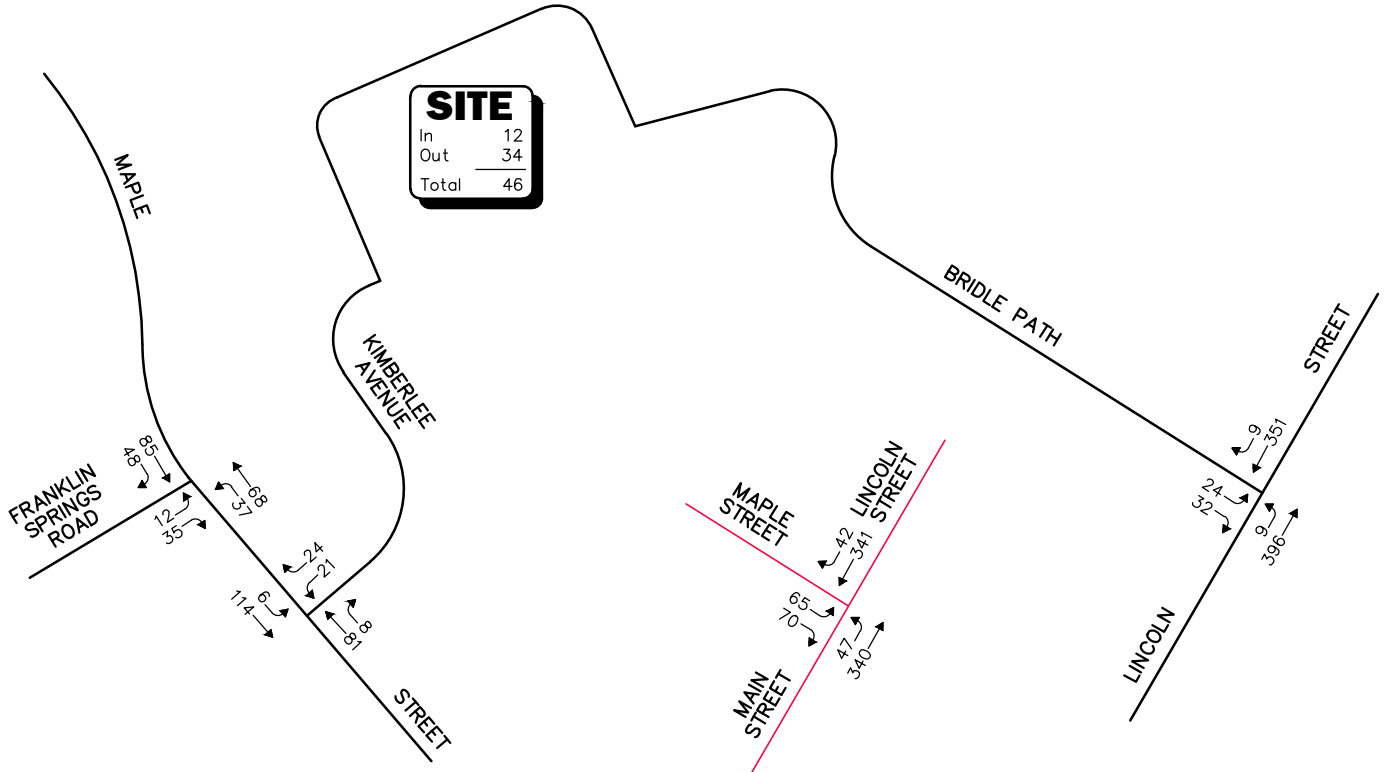
Not To Scale

Figure 6R

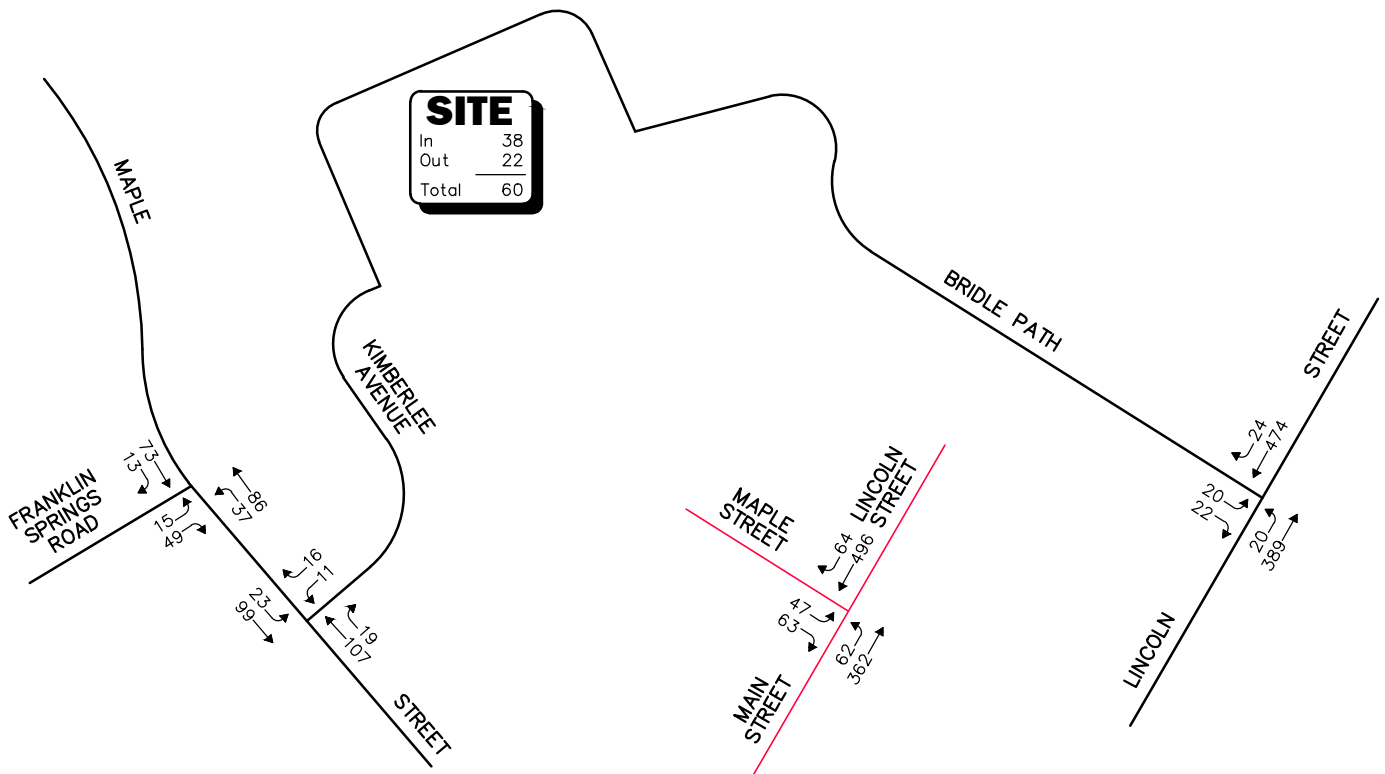


Project-Generated Peak Hour Traffic Volumes

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 7R



2026 Build
Peak Hour Traffic Volumes

CAPACITY ANALYSIS WORKSHEETS

Intersection						
Int Delay, s/veh	2.6					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	40	316	312	38	59	55
Future Vol, veh/h	40	316	312	38	59	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	43	343	339	41	64	60

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	380	0	-	0	789 360
Stage 1	-	-	-	-	360 -
Stage 2	-	-	-	-	429 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1178	-	-	-	359 684
Stage 1	-	-	-	-	706 -
Stage 2	-	-	-	-	657 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1178	-	-	-	343 684
Mov Cap-2 Maneuver	-	-	-	-	343 -
Stage 1	-	-	-	-	674 -
Stage 2	-	-	-	-	657 -

Approach	NB	SB	SE
HCM Control Delay, s	0.9	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1178	-	452	-	-
HCM Lane V/C Ratio	0.037	-	0.274	-	-
HCM Control Delay (s)	8.2	0	15.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

2019 Existing
Weekday Evening Peak Hour

1: Main Street/Lincoln Street & Maple Street

Intersection						
Int Delay, s/veh	2.2					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	47	330	458	58	43	52
Future Vol, veh/h	47	330	458	58	43	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	51	359	498	63	47	57

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	561	0	-	0	991
Stage 1	-	-	-	-	530
Stage 2	-	-	-	-	461
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1010	-	-	-	273
Stage 1	-	-	-	-	590
Stage 2	-	-	-	-	635
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1010	-	-	-	256
Mov Cap-2 Maneuver	-	-	-	-	256
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	635

Approach	NB	SB	SE
HCM Control Delay, s	1.1	0	18.9
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1010	-	362	-	-
HCM Lane V/C Ratio	0.051	-	0.285	-	-
HCM Control Delay (s)	8.8	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

2026 No Build
Weekday Morning Peak Hour

1: Main Street/Lincoln Street & Maple Street

Intersection						
Int Delay, s/veh	2.9					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	44	337	332	42	65	61
Future Vol, veh/h	44	337	332	42	65	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	48	366	361	46	71	66

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	407	0	-	0	846 384
Stage 1	-	-	-	-	384 -
Stage 2	-	-	-	-	462 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1152	-	-	-	333 664
Stage 1	-	-	-	-	688 -
Stage 2	-	-	-	-	634 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1152	-	-	-	316 664
Mov Cap-2 Maneuver	-	-	-	-	316 -
Stage 1	-	-	-	-	652 -
Stage 2	-	-	-	-	634 -

Approach	NB	SB	SE
HCM Control Delay, s	1	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1152	-	423	-	-
HCM Lane V/C Ratio	0.042	-	0.324	-	-
HCM Control Delay (s)	8.3	0	17.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.4	-	-

2026 No Build
Weekday Evening Peak Hour

1: Main Street/Lincoln Street & Maple Street

Intersection						
Int Delay, s/veh	2.5					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	52	352	490	64	47	57
Future Vol, veh/h	52	352	490	64	47	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	57	383	533	70	51	62

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	603	0	-	0	1065 568
Stage 1	-	-	-	-	568 -
Stage 2	-	-	-	-	497 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	975	-	-	-	246 522
Stage 1	-	-	-	-	567 -
Stage 2	-	-	-	-	611 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	975	-	-	-	228 522
Mov Cap-2 Maneuver	-	-	-	-	228 -
Stage 1	-	-	-	-	525 -
Stage 2	-	-	-	-	611 -

Approach	NB	SB	SE
HCM Control Delay, s	1.1	0	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	975	-	330	-	-
HCM Lane V/C Ratio	0.058	-	0.343	-	-
HCM Control Delay (s)	8.9	0	21.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.5	-	-

2026 Build
Weekday Morning Peak Hour

1: Main Street/Lincoln Street & Maple Street

Intersection						
Int Delay, s/veh	3.1					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	47	340	341	42	65	70
Future Vol, veh/h	47	340	341	42	65	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	51	370	371	46	71	76

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	417	0	0	866	394
Stage 1	-	-	-	394	-
Stage 2	-	-	-	472	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1142	-	-	324	655
Stage 1	-	-	-	681	-
Stage 2	-	-	-	628	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1142	-	-	306	655
Mov Cap-2 Maneuver	-	-	-	306	-
Stage 1	-	-	-	643	-
Stage 2	-	-	-	628	-

Approach	NB	SB	SE
HCM Control Delay, s	1	0	18
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	1142	-	423	-	-
HCM Lane V/C Ratio	0.045	-	0.347	-	-
HCM Control Delay (s)	8.3	0	18	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	-	-

2026 Build
Weekday Evening Peak Hour

1: Main Street/Lincoln Street & Maple Street

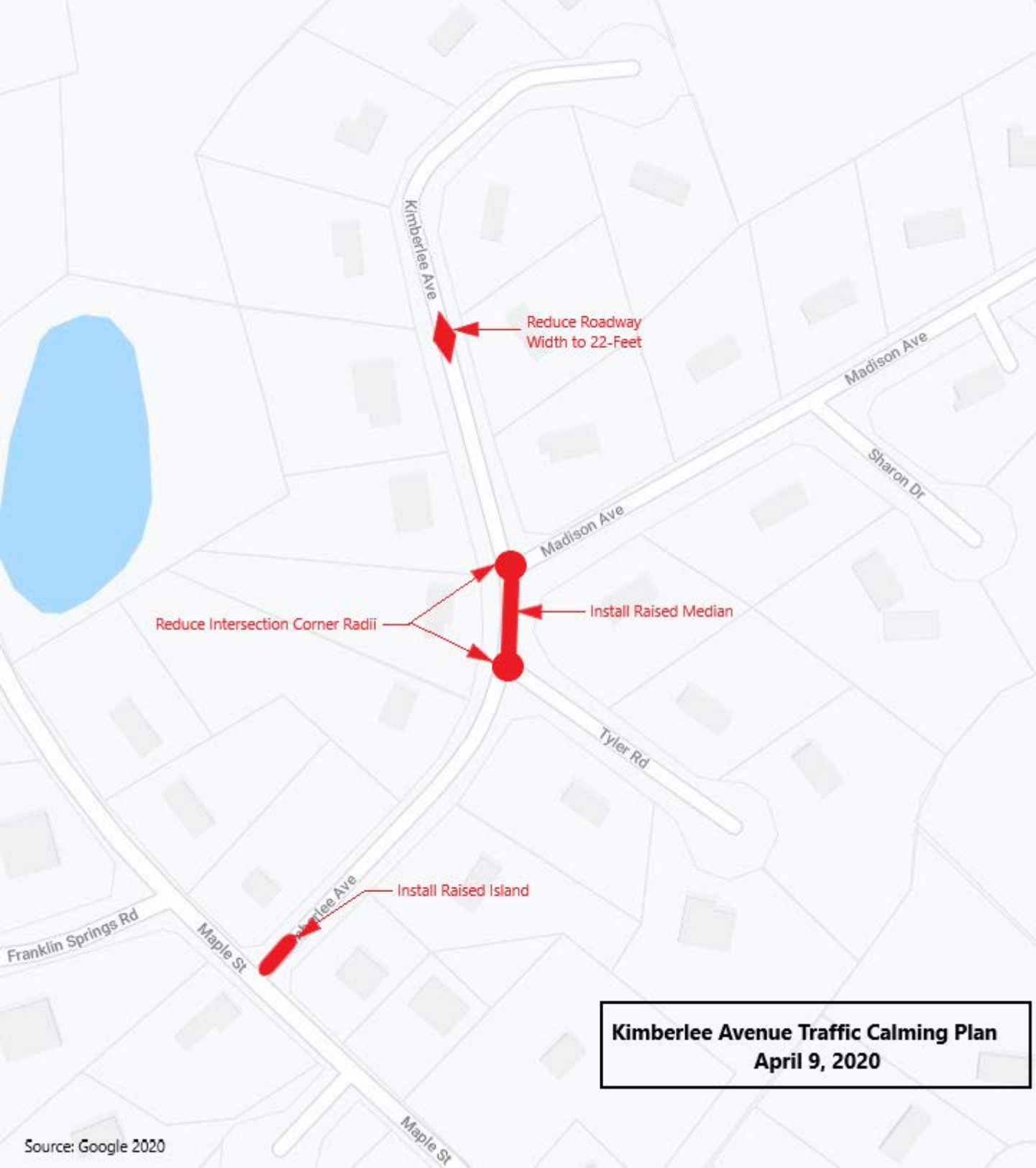
Intersection						
Int Delay, s/veh	2.8					
Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	62	362	496	64	47	63
Future Vol, veh/h	62	362	496	64	47	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage 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	67	393	539	70	51	68

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	609	0	-	0	1101 574
Stage 1	-	-	-	-	574 -
Stage 2	-	-	-	-	527 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	970	-	-	-	235 518
Stage 1	-	-	-	-	563 -
Stage 2	-	-	-	-	592 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	970	-	-	-	214 518
Mov Cap-2 Maneuver	-	-	-	-	214 -
Stage 1	-	-	-	-	513 -
Stage 2	-	-	-	-	592 -

Approach	NB	SB	SE
HCM Control Delay, s	1.3	0	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NBL	NBT	SELn1	SBT	SBR
Capacity (veh/h)	970	-	322	-	-
HCM Lane V/C Ratio	0.069	-	0.371	-	-
HCM Control Delay (s)	9	0	22.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-

TRAFFIC CALMING LOCUS FIGURES



Kimberlee Ave

Reduce Roadway Width to 22-Feet

Madison Ave

Sharon Dr

Madison Ave

Reduce Intersection Corner Radii

Install Raised Median

Tyler Rd

Install Raised Island

Maple St

Kimberlee Ave

Franklin Springs Rd

Maple St

**Kimberlee Avenue Traffic Calming Plan
April 9, 2020**



Bridle Path Traffic Calming Plan
April 9, 2020

Transportation Impact Assessment

Proposed Residential Community
Maple Hill
Franklin, Massachusetts

Prepared for:



Foxborough, Massachusetts

November 2019

Prepared by:



35 New England Business Center Drive
Suite 140
Andover, MA 01810

Dear Reviewer:

This letter shall certify that this *Transportation Impact Assessment* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 38871, Civil) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Partner

CONTENTS

EXECUTIVE SUMMARY	1
Recommendations	2
INTRODUCTION	5
Project Description	5
Study Methodology	6
EXISTING CONDITIONS	7
Existing Traffic Volumes	9
Spot Speed Measurements.....	10
Pedestrian and Bicycle Facilities.....	12
Public Transportation	12
Motor Vehicle Crash Data.....	12
FUTURE CONDITIONS	15
Future Traffic Growth	15
Project-Generated Traffic.....	16
Trip Distribution and Assignment.....	17
Future Traffic Volumes - Build Condition.....	18
TRAFFIC OPERATIONS ANALYSIS	19
Methodology	19
Analysis Results	21
SIGHT DISTANCE EVALUATION.....	23
NEIGHBORHOOD TRAFFIC CALMING ASSESSMENT	26

CONTENTS (Continued)

CONCLUSIONS AND RECOMMENDATIONS28

 Conclusions28

 Recommendations29

FIGURES

No.	Title
1	Site Location Map
2	Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities
3	2019 Existing Peak-Hour Traffic Volumes
4	2026 No-Build Peak-Hour Traffic Volumes
5	Trip-Distribution Map
6	Project-Generated Peak-Hour Traffic Volumes
7	2026 Build Peak-Hour Traffic Volumes

TABLES

No.	Title
1	Study Area Intersection Description
2	2019 Existing Traffic Volumes
3	Vehicle Travel Speed Measurements
4	Motor Vehicle Crash Data Summary
5	Trip-Generation Summary
6	Peak-Hour Traffic Volume Increases
7	Level-of-Service Criteria for Unsignalized Intersections
8	Unsignalized Intersection Level-of-Service and Vehicle Queue Summary
9	Sight Distance Measurements
10	Kimberlee Avenue and Bridal Path - Existing Conditions

EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a 58-home single-family residential community to be known as Maple Hill and situated on a parcel of land generally located between Madison Avenue, Hancock Road, Maple Street and High Ridge Circle in Franklin, Massachusetts (hereafter referred to as the “Project”).

This assessment was prepared in consultation with the Town of Franklin and the Massachusetts Department of Transportation (MassDOT); was performed in accordance with MassDOT’s *Transportation Impact Assessment (TIA) Guidelines*; and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹, the Project is expected to generate approximately 630 vehicle trips on an average weekday (two-way, 24-hour volume), with 46 vehicle trips expected during the weekday morning peak-hour and 60 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with Project-related impacts generally defined as an increase in motorist delay of up to 1.8 seconds (Bridle Path approach to Lincoln Street) and in vehicle queuing of up to one (1) vehicle;
3. With the addition of Project-related traffic, all movements at the study area intersections are expected to operate at acceptable levels (defined as a level-of-service of “D” or better) during both the weekday morning and evening peak hours, with vehicle queues of up to one (1) vehicle predicted;
4. The study area intersections were found to have motor vehicle crash rates that were below the MassDOT average crash rates; and

¹*Trip Generation*, 10th Edition; Institute of Transportation Engineers; Washington, DC; 2017.

5. Lines of sight to and from the Lincoln Street/Bridle Path and Kimberlee Avenue/Madison Avenue intersections were found to exceed the recommended minimum distance for the intersections to function in a safe manner based on the measured prevailing travel speeds approaching the intersections. Lines of sight at the Maple Street/Kimberlee Avenue intersection were found to exceed the recommended minimum sight distance for the posted speed limit along Maple Street (30 miles per hour (mph)), but were below the recommended minimum distance for the measured prevailing travel speed approaching the intersection (40 mph). As such, specific recommendations have been provided to address travel speeds along Maple Street and sight lines at Kimberlee Avenue.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project will be provided by way of a new looped roadway that will connect to the existing cul-de-sacs at the ends of Kimberlee Avenue and Bridle Path. The new roadway will be approximately 1.4 miles in length and includes two emergency access easements provided across interior parcels. The following recommendations are offered with respect to the design of the proposed roadway that will serve the Project and internal circulation:

- The Project site roadway will be 32-feet in width as required pursuant to Chapter 300, *Subdivision Regulations*, of the Code of the Town of Franklin, and will be designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle as defined by the Franklin Fire Department. That being said, we note that a 32-foot roadway width is excessive and is not necessary to support the proposed use given that adequate off-street parking will be afforded and a sidewalk will be provided along at least one side of the Project site roadway (discussion follows).² Wide roadways in residential settings with sufficient off-street parking promote higher travel speeds than are conducive to a neighborhood environment.
- The emergency vehicle access easements should afford the ability to construct a traveled-way that is a minimum of 20-feet in width unless otherwise approved by the Franklin Fire Department, with the ends of the traveled-way secured by means of a gate or other device acceptable to the Fire Department.

²A width of 22-feet is recommended for residential densities of up to 2.0 dwelling units per acre as defined in *Neighborhood Street Design Guidelines*, a Recommended Practice of the Institute of Transportation Engineers; Institute of Transportation Engineers; Washington, D.C.; 2010.

- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.³
- A sidewalk should be provided along at least one side of the Project site roadway and should extend to the exiting sidewalks along Kimberlee Avenue and Bridle Path.
- Signs and landscaping to be installed as a part of the Project within intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.

Off-Site

Maple Street

Independent of and unrelated to the Project, vehicle travel speeds along Maple Street were found to exceed the posted speed limit by up to 10 mph. Further, it was noted that lines of sight at the Maple Street/Kimberlee Avenue exceed the recommended minimum for the posted speed limit, but were below the distance required for the prevailing travel speed that was measured along Maple Street (40 mph). In an effort to reduce travel speeds along Maple Street, the following measures are suggested:

- Install radar speed feedback signs north of Franklin Springs Road and south of Kimberlee Avenue;
- Based on the data collected through the radar speed feedback signs (speed data by time of day), provide speed enforcement during the times of day when speeding is most prevalent; and
- Reduce the width of Franklin Springs Road approaching Maple Street through the use of curblines bump-outs, the elements of which can be combined with installation of a crosswalk and Americans with Disabilities Act (ADA) wheelchair ramps for crossing Franklin Street (discussion follows).

The above measures can be implemented alone or in combination in order to provide the desired outcome of speed reductions along the subject section of Maple Street.

Maple Street at Kimberlee Avenue, Maple Street at Franklin Springs Road and Lincoln Street at Bridle Path

Independent of and unrelated to the Project, consideration should be given to installing a STOP-sign and marked STOP-line on the minor street approaches (Kimberlee Avenue, Franklin Springs Road and Bridle Path) in order to formalize the assignment of the vehicular right-of way at these intersections. In addition, consideration should be given to installing a crosswalk across Franklin Springs Road at Maple Street and across Bridle Path at Lincoln Street in conjunction with the suggested STOP-sign installations.

³*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

Neighborhood Traffic Calming

In an effort to moderate travel speeds within the Kimberly Avenue and Bridal Path neighborhoods, and to the extent so desired by the Town, the Project proponent will advance the design of the selected traffic calming measures identified as a part of this assessment or as modified as a result of discussions with the Town and the neighborhood. Subject to receipt of all necessary rights, permits and approvals, the Project proponent will construct the traffic calming measures prior to the issuance of a Certificate of Occupancy for 50 percent of the proposed residential units (29 homes).

With implementation of the above recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing transportation system.

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a 58-home single-family residential community to be known as Maple Hill and situated on a parcel of land generally located between Madison Avenue, Hancock Road, Maple Street and High Ridge Circle in Franklin, Massachusetts (hereafter referred to as the “Project”). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Maple Street, Lincoln Street, Kimberlee Avenue and Bridal Path, as well as at the following specific intersections: Maple Street at Kimberlee Avenue; Maple Street at Franklin Springs Road; and Lincoln Street at Bridle Path.

PROJECT DESCRIPTION

The Project will entail the construction of a 58-home single-family residential community to be known as Maple Hill and situated on a parcel of land generally located between Madison Avenue, Hancock Road, Maple Street and High Ridge Circle in Franklin, Massachusetts. The Project site encompasses approximately 73.3± acres of undeveloped land that is bounded by residential properties, areas of open and wooded and low-lying wetland areas. Figure 1 depicts the Project site location in relation to the existing roadway network.

Access to the Project will be provided by way of a new looped roadway that will connect to the existing cul-de-sacs at the ends of Kimberlee Avenue and Bridle Path. The new roadway will be approximately 1.4 miles in length and includes two emergency access easements provided across interior parcels.

Off-street parking will be provided for the individual homes in accordance with Section 185-21, *Parking, loading and driveway requirements*, of Chapter 185 of the Zoning Regulations (Town Code) of the Town of Franklin.⁴

⁴A minimum of two (2) parking spaces per dwelling unit is required regardless of the number of bedrooms.

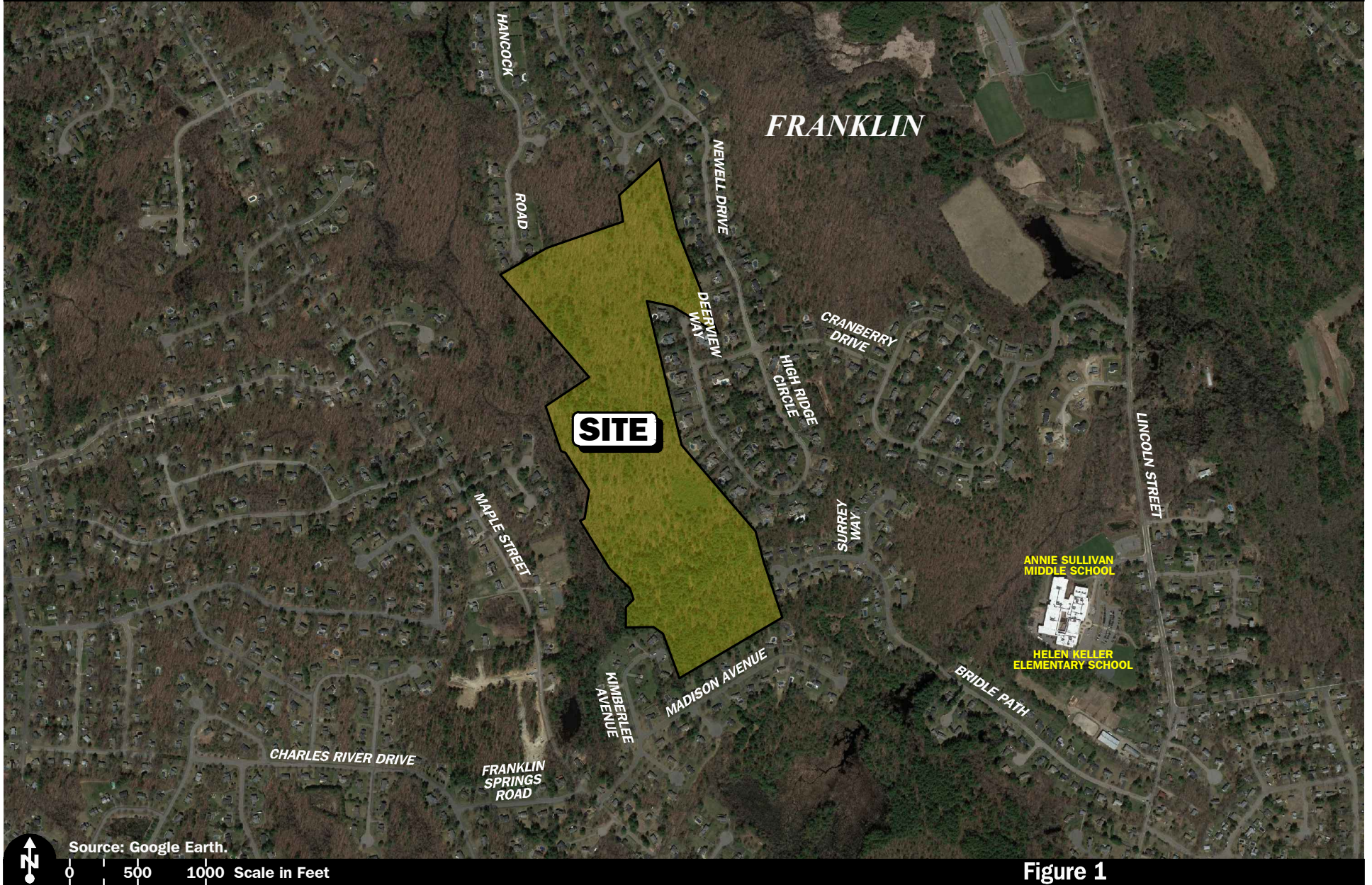


Figure 1
Site Location Map

STUDY METHODOLOGY

This study was prepared in consultation with the Town of Franklin and the Massachusetts Department of Transportation (MassDOT); was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; on-street parking; public transportation services; observations of traffic flow; and collection of pedestrian, bicycle and vehicle counts.

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon was selected for analyses consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. The analysis conducted in stage two identifies existing or projected future capacity, safety, and access issues, as these areas relate to the transportation infrastructure.

The third stage of the study presents and evaluates measures to address deficiencies in the transportation infrastructure, if any, identified in stage two of the study.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in May and June 2019. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; on-street parking; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area for the Project was selected to contain the roadways providing access to the Project site, Maple Street, Lincoln Street, Kimberlee Avenue and Bridle Path, as well as the following specific intersections: Maple Street at Kimberlee Avenue; Maple Street at Franklin Springs Road; and Lincoln Street at Bridle Path.

The following describes the study area roadways and intersections as observed in May 2019.

Roadway

Maple Street

- Two-lane local collector roadway under Town jurisdiction
- Traverses a general north-south direction between Partridge Street and Main Street
- Provides two 11-foot wide travel lanes separated by a double-yellow centerline with no marked shoulders
- Posted speed limit is 30 miles per hour (mph)
- Sidewalks are not provided
- Illumination is provided by way of street lights mounted on wood poles
- Land use within the study area consists of residential properties and areas of open and wooded space

Lincoln Street

- Two-lane urban minor arterial roadway under Town jurisdiction
- Traverses a general north-south direction between Main Street and the Charles River in Medway where Lincoln Street becomes Sanford Street
- Provides two 12 to 13-foot wide travel lanes separated by a double-yellow centerline with no marked shoulders
- Posted speed limit is 35 mph

- Sidewalks are provided along the west side of the roadway within the study area
- Illumination is provided by way of street lights mounted on wood poles
- Land use within the study area consists of the Helen Keller Elementary School, the Annie Sullivan Middle School, residential properties and areas of open and wooded space

Kimberlee Avenue

- Two-lane local access roadway under Town jurisdiction
- Traverses a general east-west direction beginning at Maple Street and terminating in a cul-de-sac approximately 1/4-mile northeast of Maple Street
- Provides an approximate 30-foot wide traveled-way with no marked centerline or shoulders
- A posted speed limit is not provided, therefore the regulated or “prima facie” speed limit is 30 miles per hour (mph)⁵
- A sidewalk is provided along the north side of the roadway
- Illumination is provided intermittently by way of street lights mounted on metal poles
- Land use within the study area consists of residential properties.

Bridle Path

- Two-lane local access roadway under Town jurisdiction
- Traverses a general east-west direction beginning at Lincoln Street and terminating in a cul-de-sac approximately 5/8-mile northwest of Lincoln Street
- Provides an approximate 32-foot wide traveled-way with no marked centerline or shoulders
- A posted speed limit is not provided, therefore the regulated or “prima facie” speed limit is 30 mph
- A sidewalk is provided along the south side of the roadway
- Illumination is provided intermittently by way of street lights mounted on metal poles
- Land use within the study area consists of residential properties and areas of open and wooded space

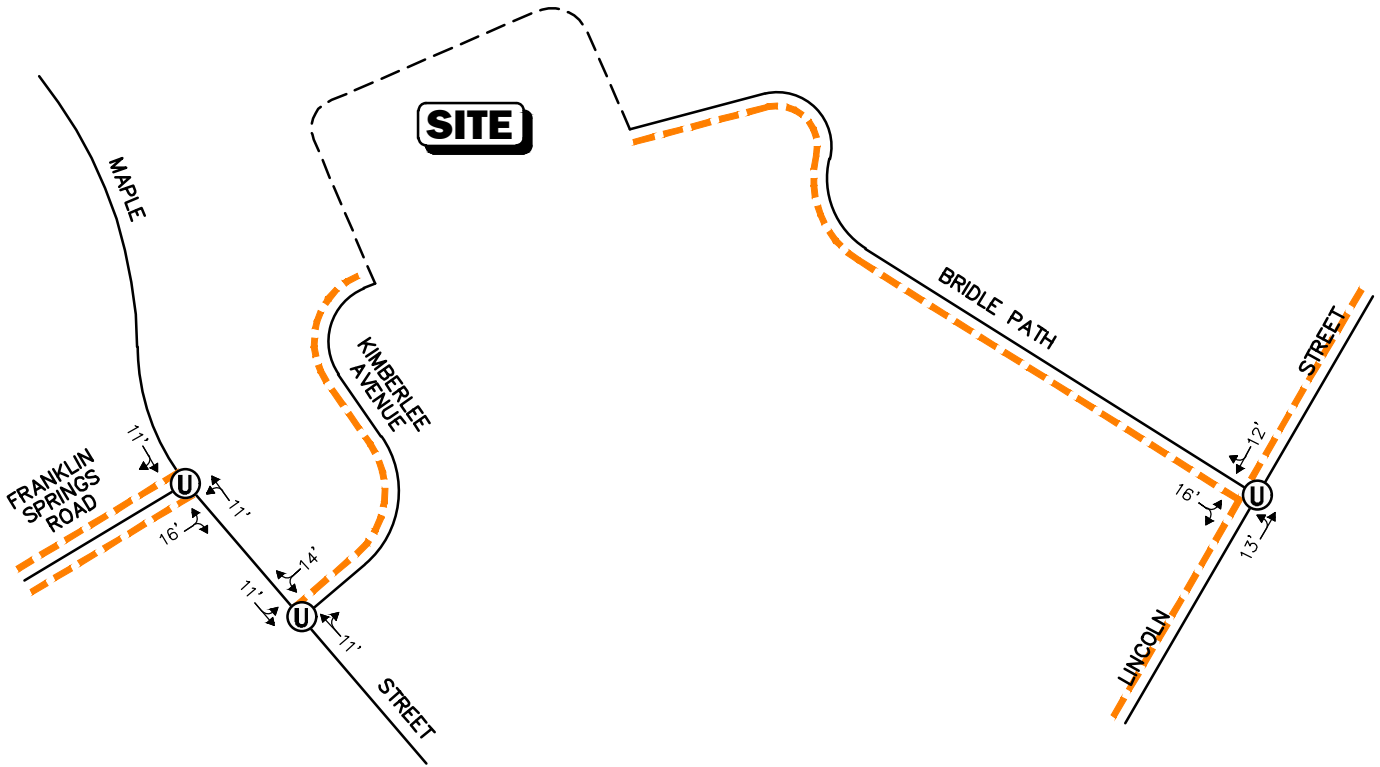
Intersections

Table 1 and Figure 2 summarize lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in May 2019.

⁵The regulated or “prima facie” speed is defined in M.G.L. Chapter 90, Section 17, as the speed which would be deemed reasonable and proper to operate a motor vehicle.

Legend:

- ⓪ Unsignalized Intersection
- - - Sidewalk
- xx' ↔ Lane Use and Travel Lane Width



North Arrow
Not To Scale



Figure 2

Existing Intersection Lane Use, Travel Lane Width and Pedestrian Facilities

R:\7787\7787NT1.dwg, 11/27/2019 9:48:34 AM

Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Maple St./ Kimberlee Ave.	S	1 general purpose lane on all approaches	No	Yes – Sidewalks along north side of Kimberlee Ave.	Yes –shared traveled-way ^b on Kimberlee Ave.
Maple St./ Franklin Springs Rd.	S	1 general purpose lane on all approaches	No	Yes – Sidewalks along both sides of Franklin Springs Rd.	Yes –shared traveled-way on Franklin Springs Rd.
Lincoln St./ Bridle Path	S	1 general purpose lane on all approaches	No	Yes – Sidewalks along west side of Lincoln St. and south side of Bridle Path	Yes –shared traveled-way on Bridle Path

^aS = STOP-sign control.

^bCombined shoulder and travel lane width equal to or exceed 14 feet.

EXISTING TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, manual turning movement counts (TMCs) and vehicle classification counts were completed in May and June 2019 while public schools were in session. The ATR counts were conducted over a continuous 48-hour period on Maple Street, Lincoln Street, Kimberlee Avenue and Bridle Path in the vicinity of the Project site in order to record weekday traffic conditions over an extended period, with weekday morning (7:00 to 9:00 AM) and evening (3:00 to 6:00 PM) peak period manual TMCs performed at the study intersections. These time periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

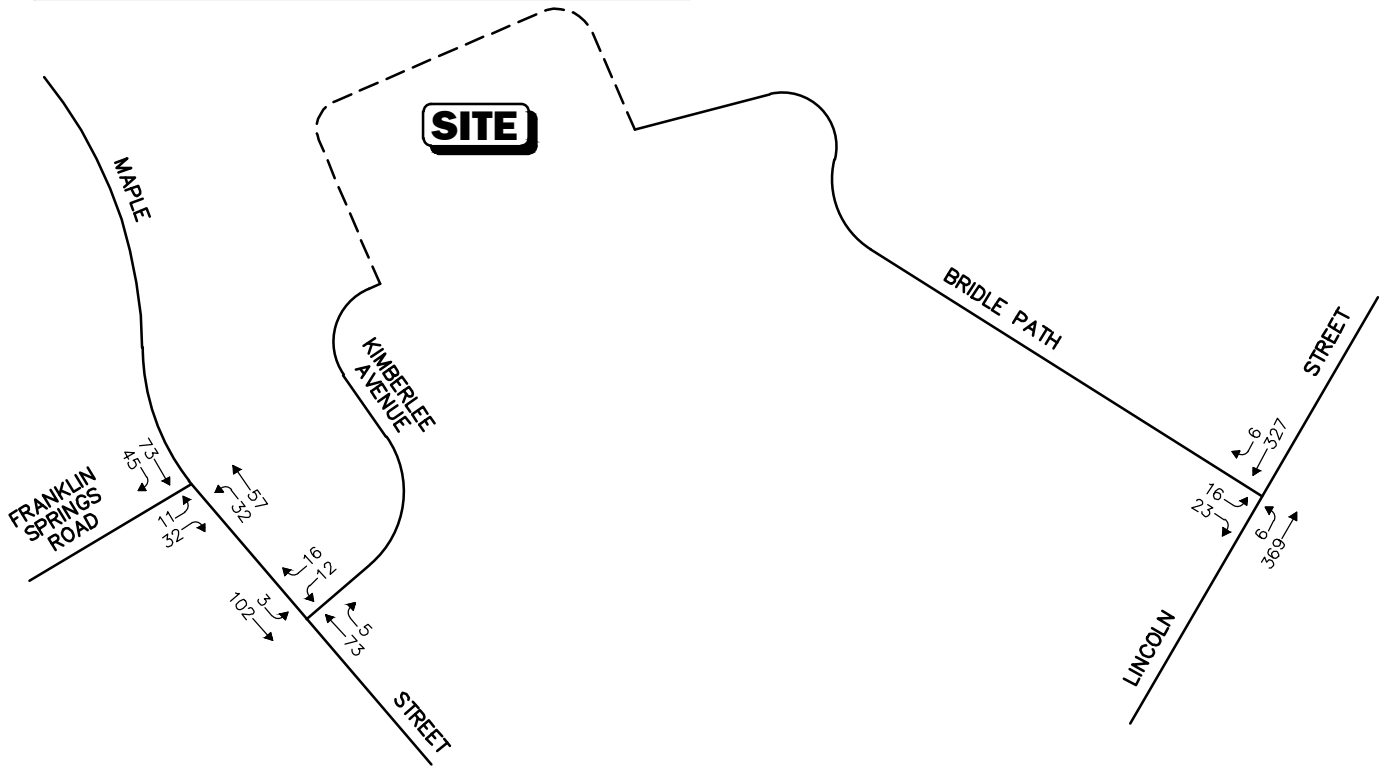
Traffic-Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, traffic volume data from MassDOT Continuous Count Station No. 3180 located on Interstate 495 (I-495) in Medway was reviewed.⁶ Based on a review of this data, it was determined that traffic volumes for the months of May and June are approximately 4.2 percent and 7.7 percent above average-month conditions, respectively. As such, no adjustment was made to raw traffic data as the data is representative of traffic volume conditions that are higher than those under average-month conditions.

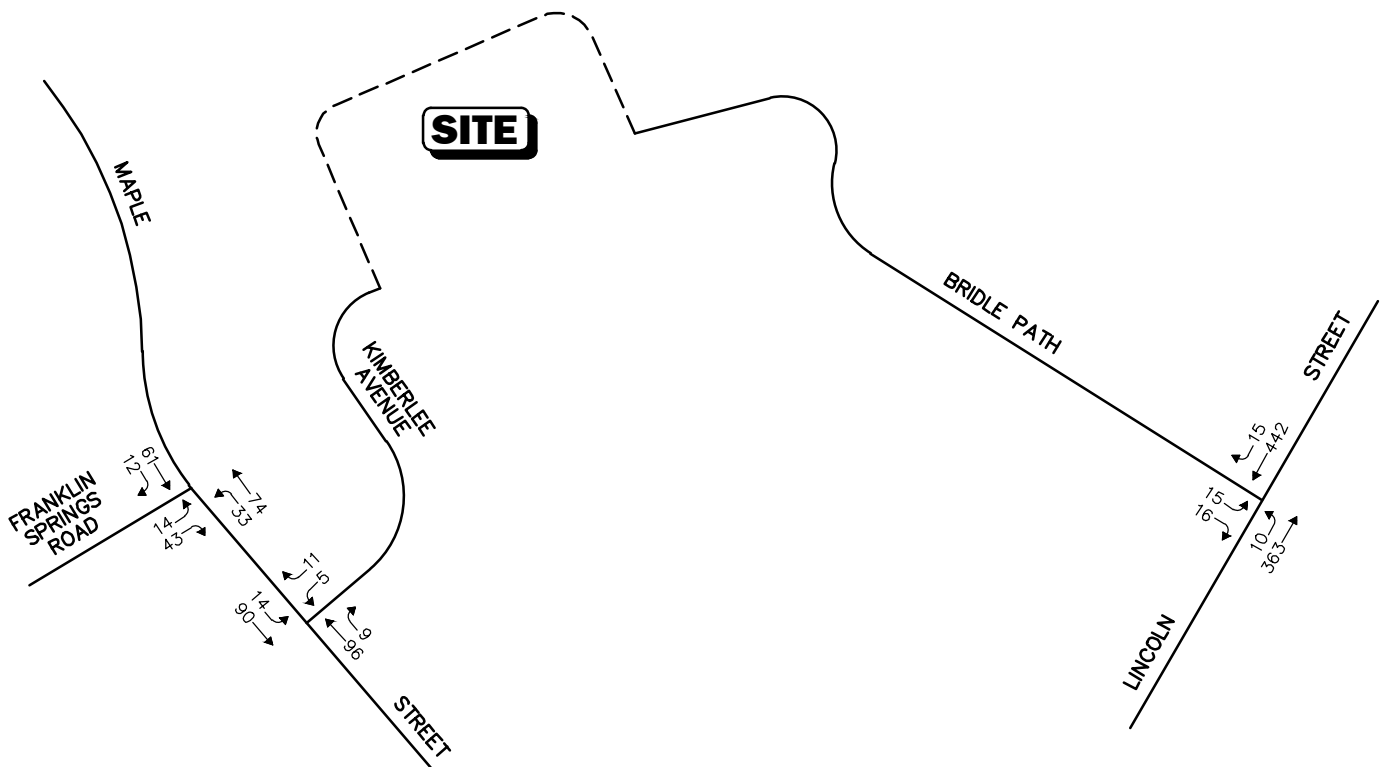
The 2019 Existing traffic volumes are summarized in Table 2, with the weekday morning and evening peak-hour traffic volumes graphically depicted on Figure 3. Note that the peak-hour traffic volumes presented in Table 2 were obtained from Figure 3.

⁶MassDOT Traffic Volumes for the Commonwealth of Massachusetts; 2018.

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Not To Scale



Figure 3

2019 Existing Peak Hour Traffic Volumes

Table 2
2019 EXISTING TRAFFIC VOLUMES

Location	AWT ^a	Weekday Morning Peak-Hour (7:00 – 8:00 AM)			Weekday Evening Peak-Hour (5:00 – 6:00 PM)		
		VPH ^b	K Factor ^c	Directional Distribution	VPH	K Factor	Directional Distribution
Maple Street, south of Kimberlee Avenue	2,140	192	9.0	59.4% SB	200	9.3	52.5% NB
Lincoln Street, south of Bridle Path	8,320	725	8.7	51.7% NB	831	10.0	55.1% SB
Kimberlee Avenue, east of Maple Street	450	36	8.0	77.8% WB	39	8.7	59.0% EB
Bridle Path, west of Lincoln Street	630	51	8.1	76.5% EB	56	8.9	55.4% EB

^aAverage weekday traffic in vehicles per day.

^bVehicles per hour.

^cPercent of daily traffic occurring during the peak-hour.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound.

As can be seen in Table 2, Maple Street in the vicinity of the Project site was found to accommodate approximately 2,140 vehicles on an average weekday (two-way, 24-hour volume), with approximately 192 vehicles per hour (vph) during the weekday morning peak-hour and 200 vph during the weekday evening peak-hour.

Lincoln Street in the vicinity of the Project site was found to accommodate approximately 8,320 vehicles on an average weekday, with approximately 725 vph during the weekday morning peak-hour and 831 vph during the weekday evening peak-hour.

Kimberlee Avenue in the vicinity of the Project site was found to accommodate approximately 450 vehicles on an average weekday, with approximately 36 vph during the weekday morning peak-hour and 39 vph during the weekday evening peak-hour.

Finally, Bridle Path in the vicinity of the Project site was found to accommodate approximately 630 vehicles on an average weekday, with approximately 51 vph during the weekday morning peak-hour and 56 vph during the weekday evening peak-hour.

SPOT SPEED MEASUREMENTS

Vehicle travel speed measurements were performed on Maple Street, Lincoln Street, Kimberlee Avenue and Bridle Path in the vicinity of the Project site in conjunction with the ATR counts. Table 3 summarizes the vehicle travel speed measurements.

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Maple St.		Lincoln St.		Kimberlee Ave.		Bridle Path	
	NB	SB	NB	SB	EB	WB	EB	WB
Mean Travel Speed (mph)	35	36	33	31	23	25	27	24
85 th Percentile Speed (mph)	39	40	38	37	26	29	32	29
Posted or Regulated Travel Speed (mph)	30	30	35	35	30	30	30	30

mph = miles per hour.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound.

As can be seen in Table 3, the mean vehicle travel speed along Maple Street in the vicinity of the Project site was found to be 35 mph in the northbound direction and 36 mph southbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 39 mph in the northbound direction and 40 mph southbound, which is 9 to 10 mph above the posted speed limit (30 mph). The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

The mean vehicle travel speed along Lincoln Street in the vicinity of the Project site was found to be 33 mph in the northbound direction and 31 mph southbound, with the measured 85th percentile vehicle travel speed found to be 38 mph in the northbound direction and 37 mph southbound, which is 2 to 3 mph above the posted speed limit (35 mph).

The mean vehicle travel speed along Kimberlee Avenue was found to be 23 mph in the eastbound direction and 25 mph westbound, with the measured 85th percentile vehicle travel speed found to be 26 mph in the eastbound direction and 29 mph westbound, which is slightly below the regulated travel speed⁷ along Kimberlee Avenue in the absence of a posted speed limit (30 mph).

Finally, the mean vehicle travel speed along Bridle Path in the vicinity of the Project site was found to be 27 mph in the eastbound direction and 24 mph westbound, with the measured 85th percentile vehicle travel speed was found to be 32 mph in the eastbound direction and 29 mph westbound, which is 2 mph above the regulated travel speed (30 mph) along Bridle Path in the eastbound direction, and slightly below the regulated travel speed westbound.

⁷Ibid 5.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in May 2019. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study intersections, as well as the location of existing and planned future bicycle facilities. As detailed on Figure 2, sidewalks are provided along both sides of Franklin Springs Road; along the west side of Lincoln Street; along the north side of Kimberlee Avenue; and along the south side of Bridle Path. Marked crosswalks are not provided at the study area intersections.

Formal bicycle facilities were not identified within the study area; however, Kimberlee Avenue, Franklin Springs Road and Bridle Path generally provide sufficient width (paved shoulder or combined travel lane and paved shoulder) to support bicycle travel in a shared traveled-way configuration.⁸

PUBLIC TRANSPORTATION

Public transportation services are provided within the study area by the Greater Attleboro Taunton Regional Transit Authority (GATRA) by way of the Franklin Area Bus (FAB) route, and by the Massachusetts Bay Transportation Authority (MBTA) by way of Franklin/Dean College Station on the Franklin Line of the commuter rail system. The GATRA FAB route provides bus service along Oak Street to the south of the Project site, with a scheduled stop at the Franklin Senior Center, which is approximately 1.7 miles from the Project site. In addition to regular stops, GATRA buses operate in a passenger demand mode (“flag stop”) and will stop anywhere along the regular service route where it is safe to pick-up or discharge a passenger when requested. Also, GATRA provides Dial-a-Ride paratransit services to eligible persons that cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability in compliance with the Americans with Disabilities Act (ADA).

Franklin/Dean College Station on the MBTA commuter rail system is located approximately 2.1 miles south of the Project site (an approximate 7 minute driving distance) at 75 Depot Street, and is served by the northbound GATRA FAB route.

The public transportation schedules and fare information are provided in the Appendix.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2013 through 2017, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and presented in Table 4.

⁸A minimum combined travel lane and paved shoulder width of 14-feet is required to support bicycle travel in a shared traveled-way condition.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Maple St./ Kimberlee Ave.	Maple St./ Franklin Springs Rd.	Lincoln St./ Bridle Path
Traffic Control Type: ^b	U	U	U
<i>Year:</i>			
2013	0	0	0
2014	0	0	0
2015	0	0	0
2016	0	0	1
<u>2017</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1
Average	0.00	0.00	0.20
Rate ^c	0.00	0.00	0.06
MassDOT Crash Rate: ^d	0.57/0.61	0.57/0.61	0.57/0.61
Significant? ^e	No	No	No
<i>Type:</i>			
Angle	0	0	0
Rear-End	0	0	1
Head-On	0	0	0
Sideswipe	0	0	0
Fixed Object	0	0	0
Pedestrian/Bicycle	0	0	0
<u>Unknown/Other</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1
<i>Conditions:</i>			
Clear	0	0	1
Cloudy	0	0	0
Rain	0	0	0
<u>Snow/Ice</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1
<i>Lighting:</i>			
Daylight	0	0	1
Dawn/Dusk	0	0	0
Dark (Road Lit)	0	0	0
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1
<i>Day of Week:</i>			
Monday through Friday	0	0	1
Saturday	0	0	0
<u>Sunday</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1
<i>Severity:</i>			
Property Damage Only	0	0	1
Personal Injury	0	0	0
<u>Fatality</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	0	0	1

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2013 through 2017.

^bTraffic Control Type: U = unsignalized.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rate.

^eThe intersection crash rate is significant if it is found to exceed the MassDOT crash rate for the MassDOT Highway Division District in which the Project is located (District 3).

As can be seen in Table 4, no (0) motor vehicle crashes were reported to have occurred at the Maple Street/Kimberlee Avenue or Maple Street/Franklin Springs Road intersections over the five-year review period based on the data provided by MassDOT. One (1) motor vehicle crash was identified at the Lincoln Street/Bridle Path intersection that was reported to have occurred on weekday; during daylight; under clear weather conditions; and was identified as a rear-end type collision that resulted in property damage only. All of the study intersections were found to have a motor vehicle crash rate that was below both the MassDOT statewide and District averages for an unsignalized intersection for the MassDOT Highway Division District in which the intersections are located (District 3).

A review of the MassDOT statewide High Crash Location List indicated that there were no locations within the study area that were included on MassDOT's Highway Safety Improvement Program (HSIP) listing as a high crash location.

The detailed MassDOT Crash Rate Worksheets and High Crash Location mapping are provided in the Appendix.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2026, which reflects a seven-year planning horizon consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. Independent of the Project, traffic volumes on the roadway network in the year 2026 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2026 No-Build traffic volumes reflect 2026 Build traffic volume conditions with the Project.

FUTURE TRAFFIC GROWTH

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

Specific Development by Others

The Town of Franklin Planning Board was contacted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on these discussions, the following project was identified for inclusion in this assessment:

- ***The Maple Preserve at Franklin, Maple Street, Franklin, Massachusetts.*** This project entails the construction of a 10-lot residential subdivision to be located off Maple Street, north of Franklin Springs Road. This project is currently under construction.

Traffic volumes associated with the aforementioned specific development project were estimated using trip-generation information available from the Institute of Transportation Engineers (ITE)⁹ for the appropriate land use and were assigned onto the study area roadway network based on existing traffic patterns. No other developments were identified at this time that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate.

General Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations located in Franklin were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated between decreases of 2.2 percent and increases of 0.1 percent. In order to provide a prudent planning condition for the Project, a 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

Roadway Improvement Projects

MassDOT and the Town of Franklin Department of Public Works were contacted in order to determine if there were any planned future roadway improvement projects expected to be complete by 2026 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 2026 No-Build condition peak-hour traffic-volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2019 Existing peak-hour traffic volumes and then adding the peak-hour traffic volumes associated with the identified specific development project by others. The resulting 2026 No-Build weekday morning and evening peak-hour traffic volumes shown on Figure 4.

PROJECT-GENERATED TRAFFIC

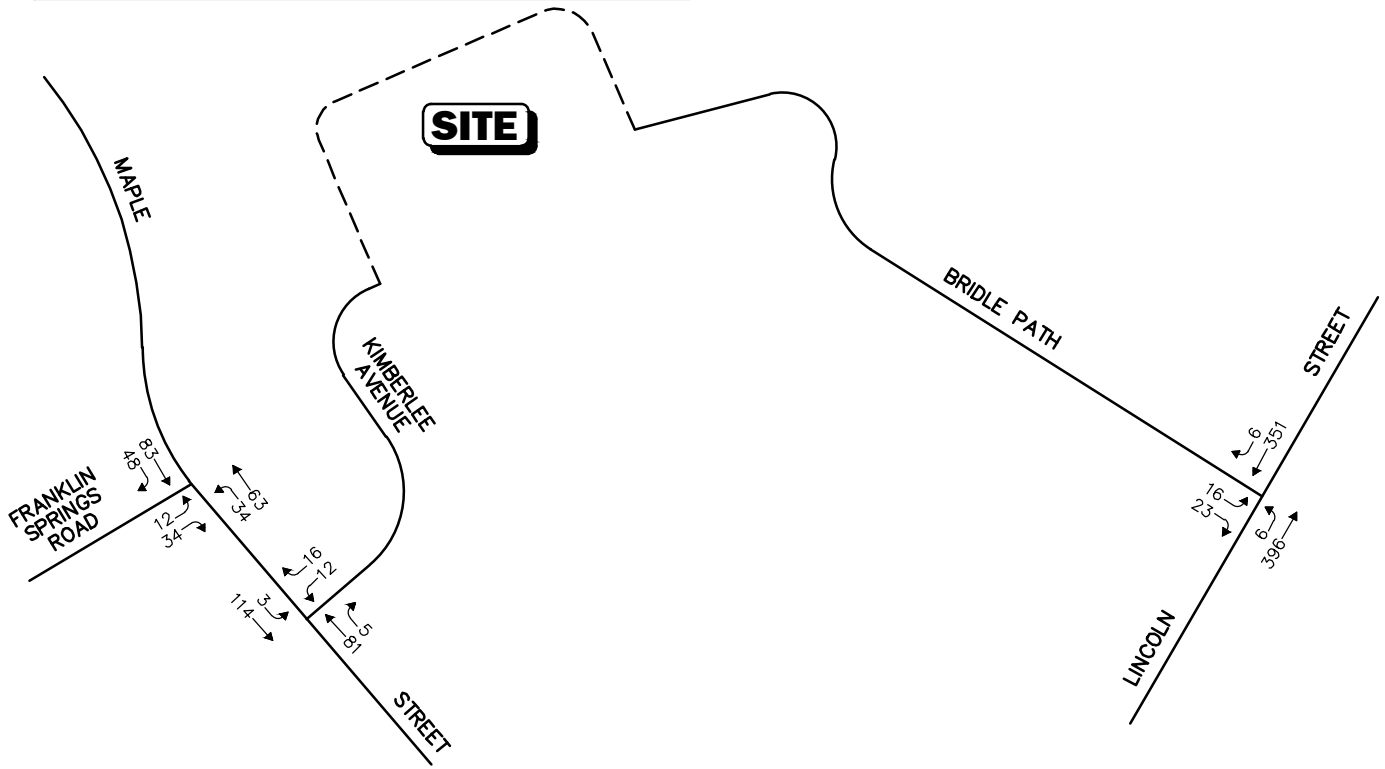
Design year (2026 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed, the Project will entail the construction of 58 single-family homes. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE¹⁰ for a similar land use as that proposed were used. ITE Land Use Code (LUC) 210, *Single-Family Detached Housing*, was used to develop the base traffic characteristics of the Project, the results of which are summarized in Table 5.

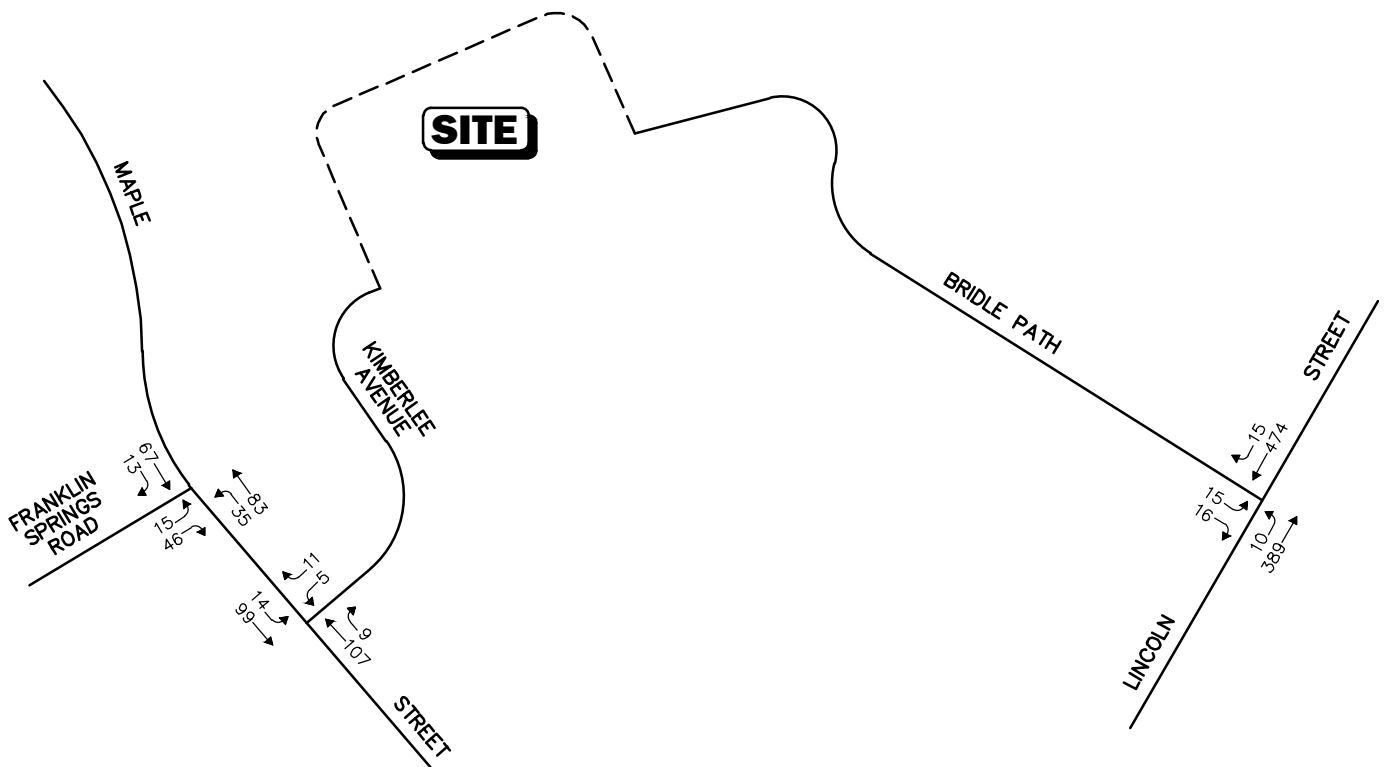
⁹Ibid 1.

¹⁰Ibid 1.

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Not To Scale



Figure 4

2026 No-Build
Peak Hour Traffic Volumes

Table 5
TRIP GENERATION SUMMARY

Time Period/Direction	Vehicle Trips
	Proposed Residential Community (58 Lots) ^a
<i>Average Weekday Daily:</i>	
Entering	315
<u>Exiting</u>	<u>315</u>
Total	630
<i>Weekday Morning Peak Hour:</i>	
Entering	12
<u>Exiting</u>	<u>34</u>
Total	46
<i>Weekday Evening Peak Hour:</i>	
Entering	38
<u>Exiting</u>	<u>22</u>
Total	60

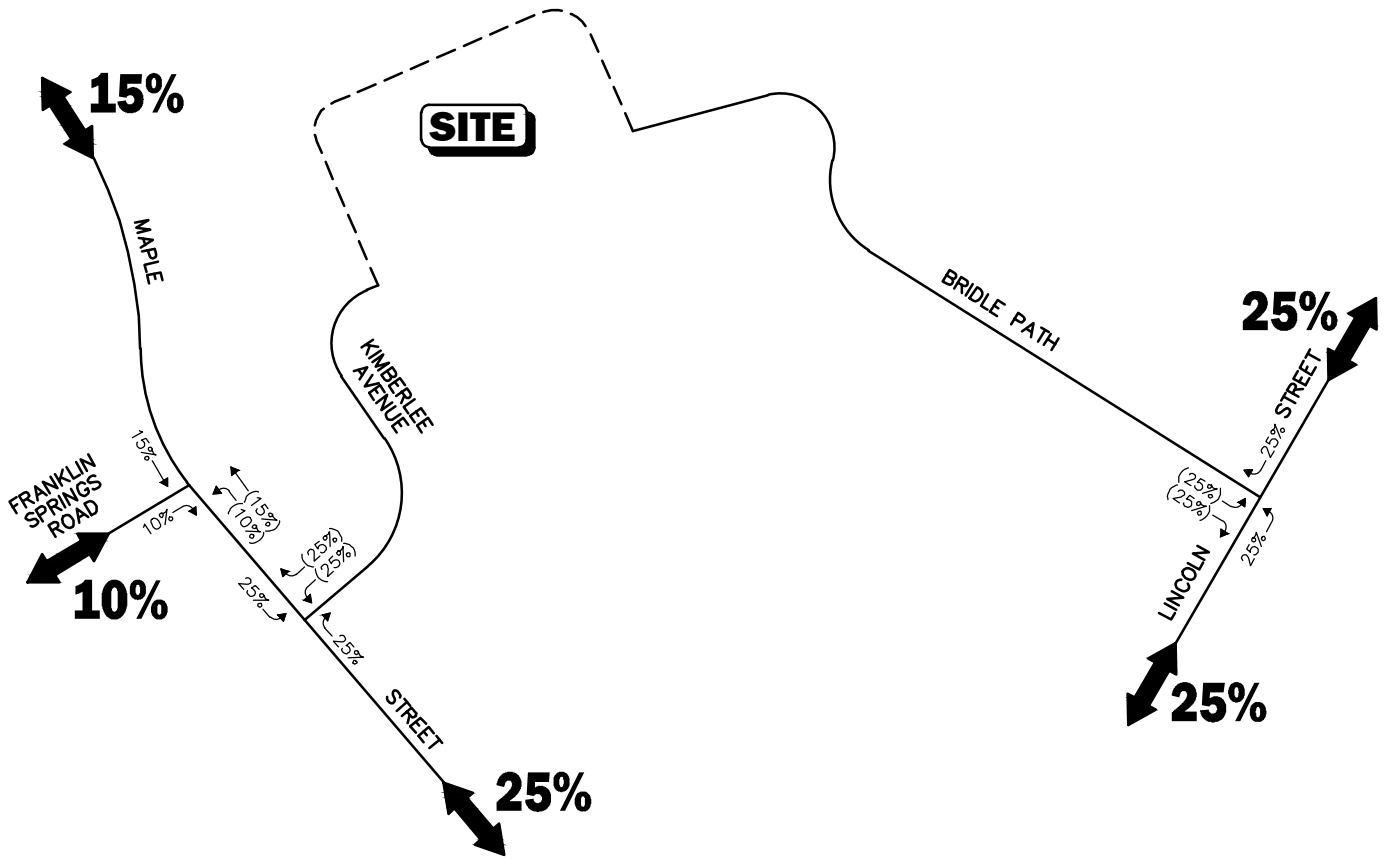
^aBased on ITE LUC 210, *Single-Family Detached Housing*.

Project-Generated Traffic Volume Summary

As can be seen in Table 5, the Project is expected to generate approximately 630 vehicle trips on an average weekday (two-way, 24-hour volume, or 315 vehicles entering and 315 exiting), with 46 vehicle trips (12 vehicles entering and 34 exiting) expected during the weekday morning peak-hour and 60 vehicle trips (38 vehicles entering and 22 exiting) expected during the weekday evening peak-hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of generated trips to and from the Project site was determined based on a review of Journey-to-Work data obtained from the U.S. Census for persons residing in the Town of Franklin and then refined based on existing traffic patterns within the study area during the commuter peak periods. This methodology is consistent with the residential nature of the Project and commuter traffic patterns during the peak hours. The general trip distribution for the Project is graphically depicted on Figure 5. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figure 6.



Not To Scale

Figure 5

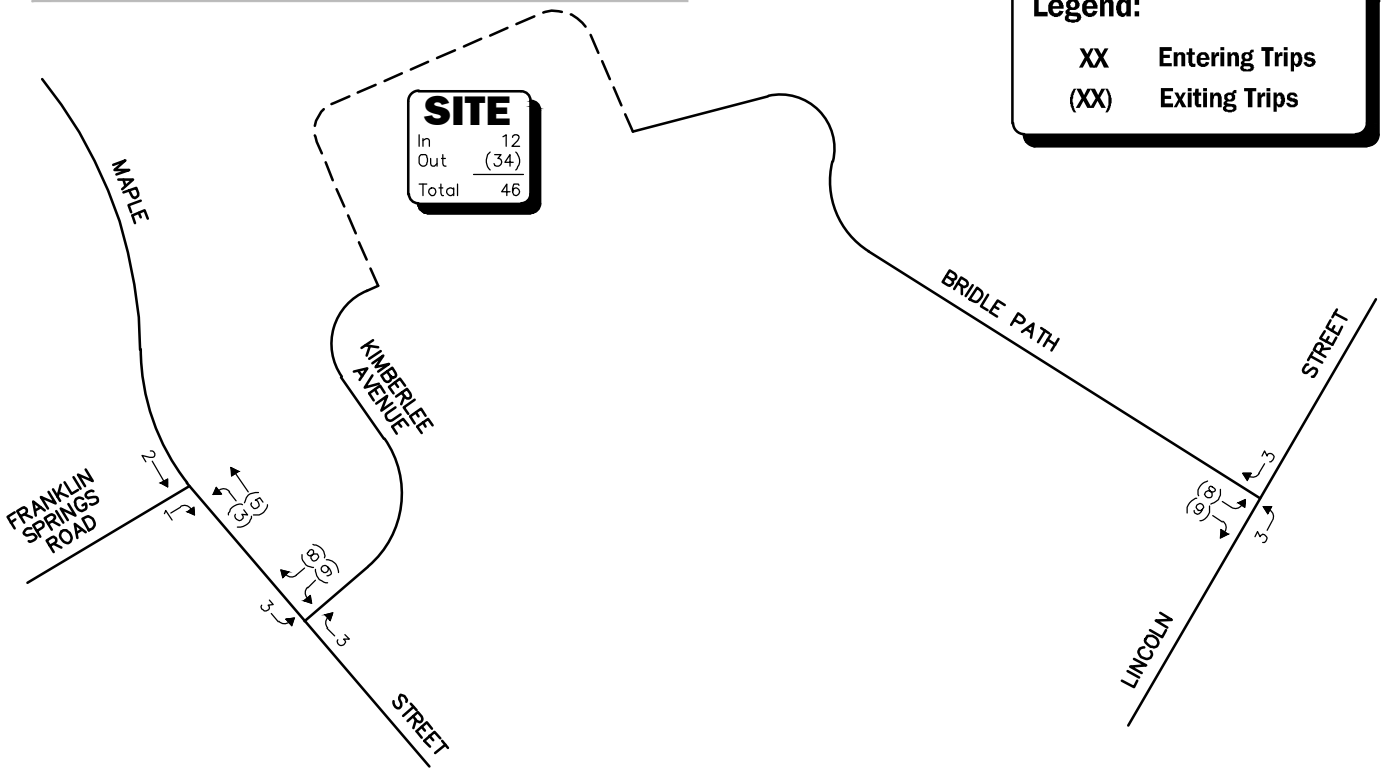
Trip Distribution Map



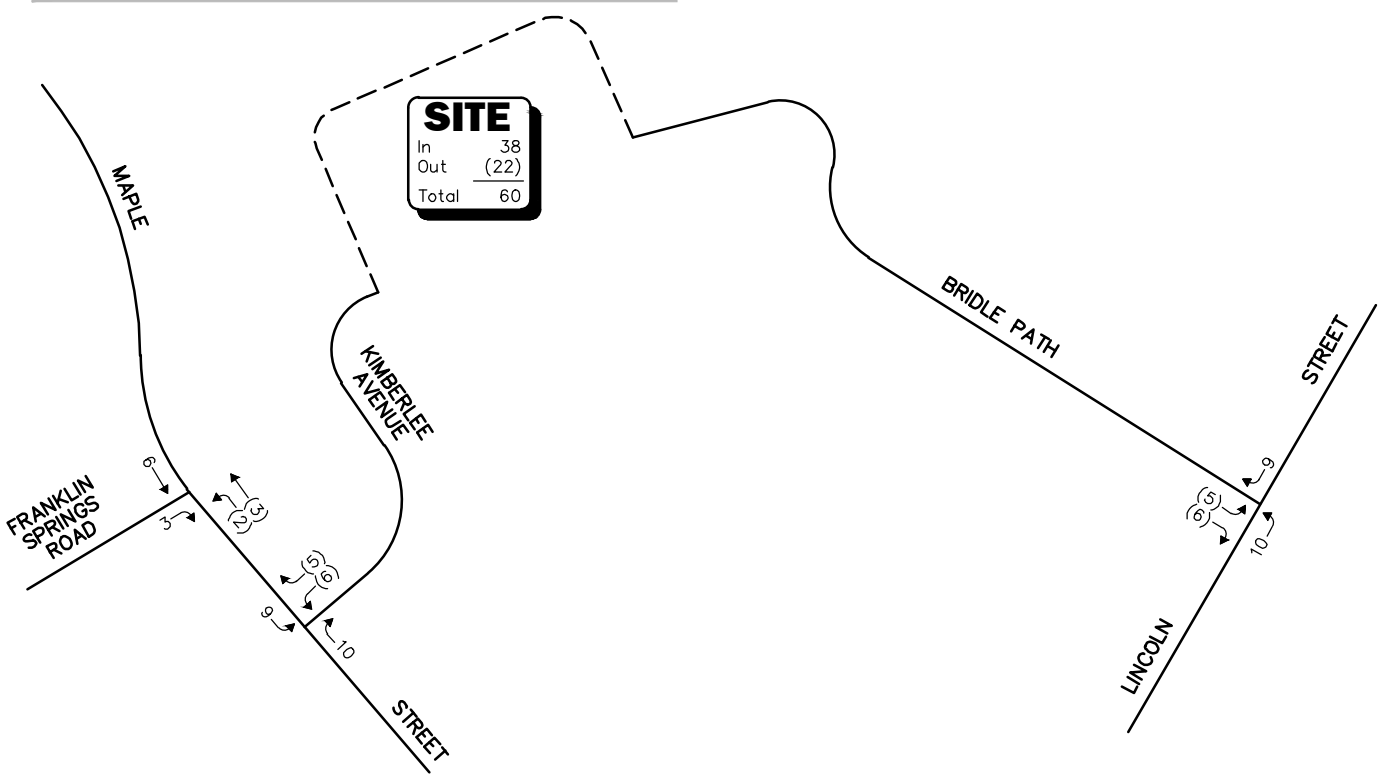
WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)

Legend:

- XX Entering Trips
- (XX) Exiting Trips



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Not To Scale

Figure 6



Project-Generated Peak Hour Traffic Volumes

FUTURE TRAFFIC VOLUMES - BUILD CONDITION

The 2026 Build condition traffic volumes were developed by adding the traffic expected to be generated by the Project to the 2026 No-Build condition traffic volumes. The 2026 Build weekday morning and evening peak-hour traffic-volumes are graphically depicted on Figure 7.

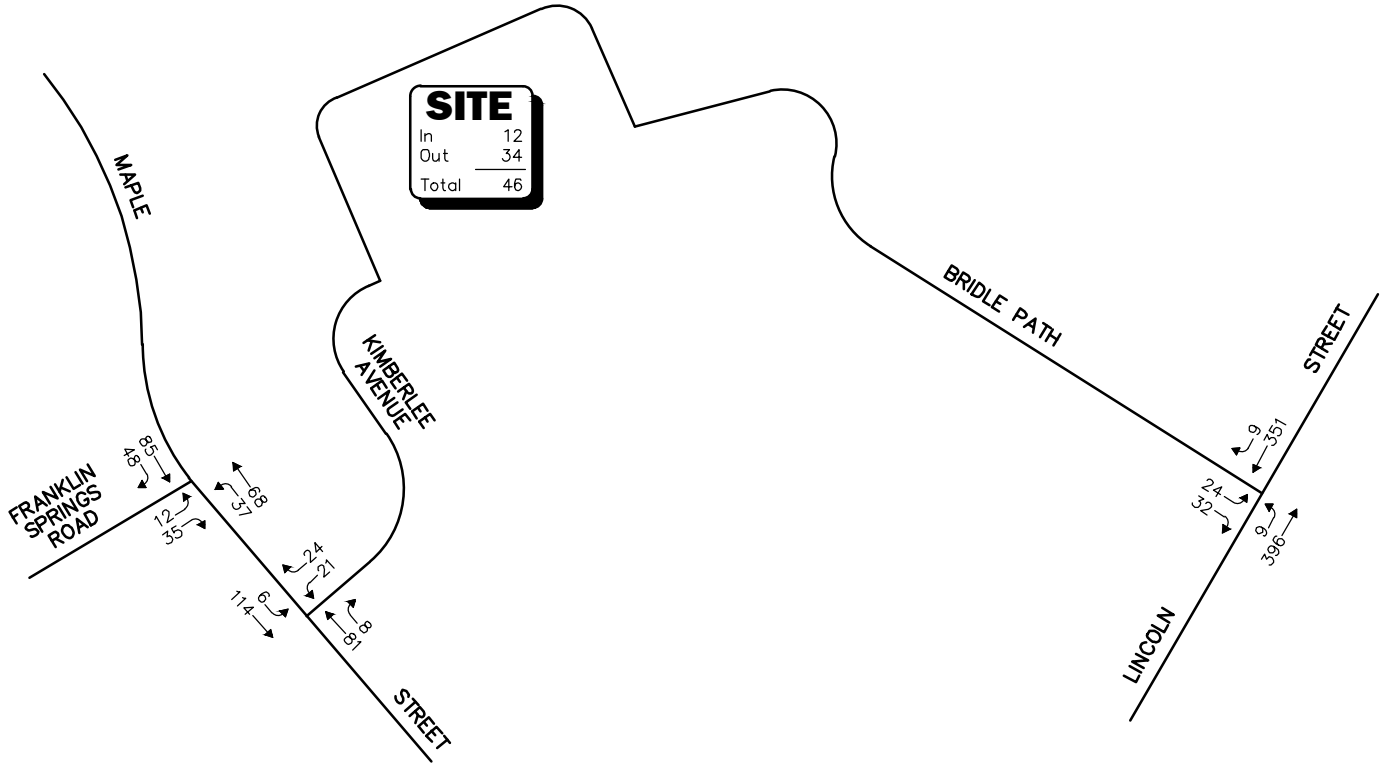
A summary of peak-hour projected traffic-volume increases outside of the study area that is the subject of this assessment is shown in Table 6. These volumes are based on the expected increases from the Project.

**Table 6
PEAK-HOUR TRAFFIC-VOLUME INCREASES**

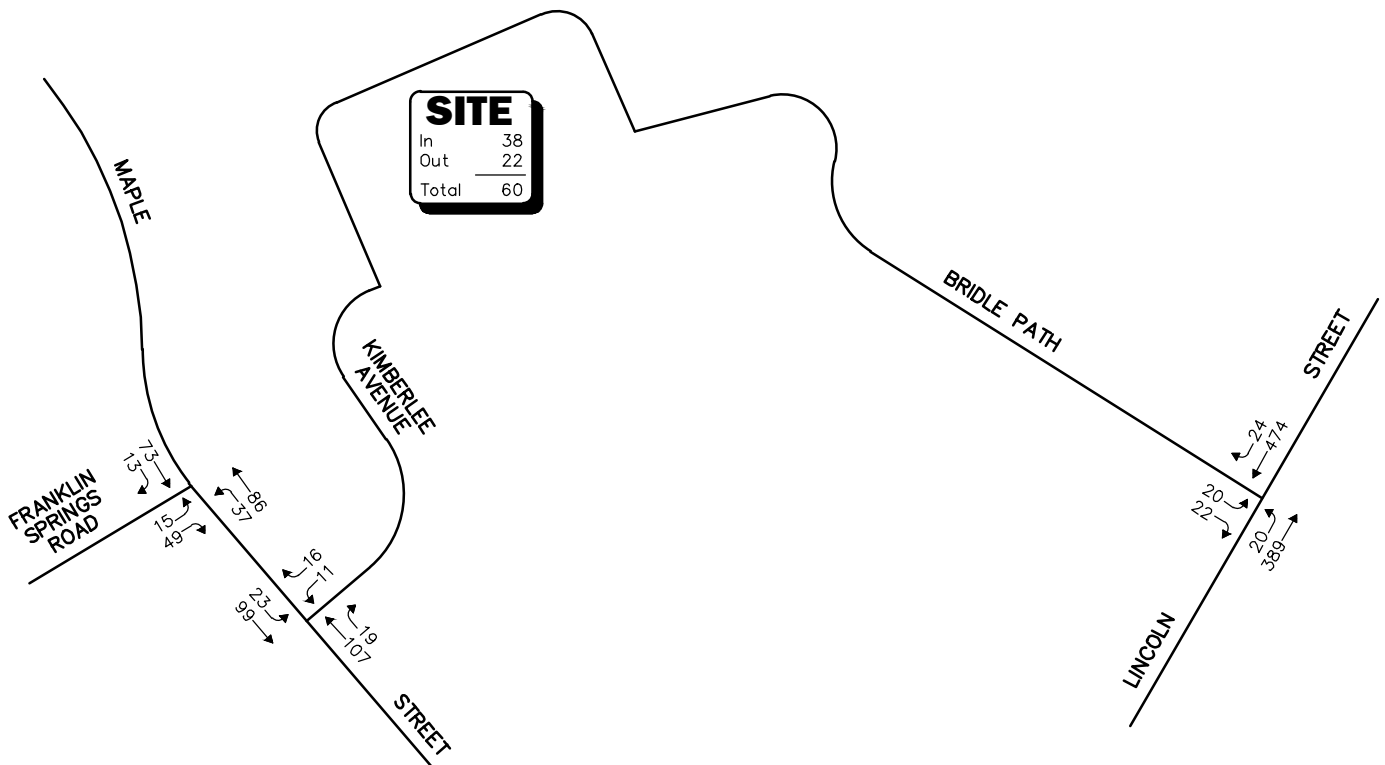
Location/Peak Hour	2019 Existing	2026 No-Build	2026 Build	Traffic Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Maple Street, north of Franklin Springs Road:</i>					
Weekday Morning	186	206	213	7	3.4
Weekday Evening	161	178	187	9	5.0
<i>Maple Street, south of Kimberlee Avenue:</i>					
Weekday Morning	192	212	224	12	5.7
Weekday Evening	200	220	236	16	7.3
<i>Franklin Springs Road, west of Maple Street:</i>					
Weekday Morning	120	128	132	4	3.1
Weekday Evening	102	109	114	5	4.6
<i>Lincoln Street, north of Bridle Path:</i>					
Weekday Morning	718	769	780	11	1.4
Weekday Evening	835	893	907	14	1.6
<i>Lincoln Street, south of Bridle Path:</i>					
Weekday Morning	725	776	788	12	1.5
Weekday Evening	831	889	905	16	1.8

As shown in Table 6, Project-related traffic-volume increases outside of the study area relative to 2026 No-Build conditions are anticipated to range from 1.4 to 7.3 percent during the peak periods, with vehicle increases shown to range from 4 to 16 vehicles. ***When dispersed over the peak-hour, the identified traffic volume increases would not result in a significant impact (increase) on motorist delays or vehicle queuing outside of the immediate study area that is the subject of this assessment.***

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 7



2026 Build
Peak Hour Traffic Volumes

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing, No-Build and Build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.¹¹ The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

¹¹The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual*.¹² Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2010 *Highway Capacity Manual*. Table 7 summarizes the relationship between level of service and average control delay for two-way stop controlled and all-way stop controlled intersections.

Table 7
LEVEL-OF-SERVICE CRITERIA FOR
UNSIGNALIZED INTERSECTIONS^a

Level-Of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
$v/c \leq 1.0$	$v/c > 1.0$	
A	F	≤ 10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	> 50.0

^aSource: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 19-2.

¹²*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Vehicle Queue Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the Synchro® intersection capacity analysis software which is based upon the methodology and procedures presented in the 2010 *Highway Capacity Manual*. The Synchro® vehicle queue analysis methodology is a simulation based model which reports the number of vehicles that experience a delay of six seconds or more at an intersection. For unsignalized intersections, Synchro® reports the 95th percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately three minutes out of 60 minutes during the peak one hour of the day (during the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length).

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2019 Existing, 2026 No-Build and 2026 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Table 8, with the detailed analysis results presented in the Appendix.

The following is a summary of the level-of-service and vehicle queue analyses for the intersections within the study area. For context, we note that an LOS of "D" or better is generally defined as "acceptable" operating conditions.

Maple Street at Kimberlee Avenue

The addition of Project-related traffic was shown to result in a change in LOS for the Kimberlee Avenue approach from LOS A to LOS B during the weekday morning peak-hour as a result of an increase in average motorist delay of 0.3 seconds, with vehicle queues predicted to increase by up to one (1) vehicle. No changes in LOS or vehicle queuing is predicted to occur during the weekday evening peak-hour. All movements along Maple Street were shown to operate at LOS A during both the weekday morning and evening peak hours with negligible vehicle queuing predicted.

Maple Street at Franklin Springs Road

All movements at the intersection were shown to operate at LOS A under all analysis conditions with Project-related impacts defined as an increase in vehicle queuing of up to one (1) vehicle.

Lincoln Street at Bridle Path

No change in LOS or vehicle queuing is predicted to occur over No-Build conditions as a result of the addition of Project-related traffic, with Project-related impacts defined as an increase in average motorist delay of up to 1.8 seconds with no increase in vehicle queuing predicted. All movements along Lincoln Street were shown to operate at LOS A during both the weekday morning and evening peak hours with negligible vehicle queuing predicted.

Table 8
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2019 Existing				2026 No-Build				2026 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Maple Street at Kimberlee Avenue												
<i>Weekday Morning:</i>												
Kimberlee Avenue WB LT/RT	28	9.5	A	0	28	9.7	A	0	45	10.0	B	1
Maple Street NB TH/RT	78	0.0	A	0	86	0.0	A	0	89	0.0	A	0
Maple Street SB LT/TH	105	0.2	A	0	117	0.2	A	0	120	0.4	A	0
<i>Weekday Evening:</i>												
Kimberlee Avenue WB LT/RT	16	9.3	A	0	16	9.4	A	0	27	9.8	A	0
Maple Street NB TH/RT	105	0.0	A	0	116	0.0	A	0	126	0.0	A	0
Maple Street SB LT/TH	104	1.0	A	0	113	0.9	A	0	122	1.4	A	0
Maple Street at Franklin Springs Road												
<i>Weekday Morning:</i>												
Franklin Springs Road EB LT/RT	43	9.7	A	1	46	9.9	A	1	47	9.9	A	1
Maple Street NB LT/TH	89	2.8	A	0	97	2.7	A	0	105	2.7	A	0
Maple Street SB TH/RT	118	0.0	A	0	131	0.0	A	0	133	0.0	A	0
<i>Weekday Evening:</i>												
Franklin Springs Road EB LT/RT	57	9.1	A	0	61	9.2	A	0	64	9.2	A	1
Maple Street NB LT/TH	107	2.3	A	0	118	2.2	A	0	123	2.2	A	0
Maple Street SB TH/RT	73	0.0	A	0	80	0.0	A	0	86	0.0	A	0
Lincoln Street at Bridle Path												
<i>Weekday Morning:</i>												
Bridle Path EB LT/RT	39	16.6	C	1	39	17.8	C	1	56	19.6	C	1
Lincoln Street NB LT/TH	375	0.1	A	0	402	0.1	A	0	405	0.2	A	0
Lincoln Street SB TH/RT	333	0.0	A	0	357	0.0	A	0	360	0.0	A	0
<i>Weekday Evening:</i>												
Bridle Path EB LT/RT	31	14.7	B	1	31	15.4	C	1	42	16.2	C	1
Lincoln Street NB LT/TH	373	0.2	A	0	399	0.2	A	0	409	0.4	A	0
Lincoln Street SB TH/RT	457	0.0	A	0	489	0.0	A	0	498	0.0	A	0

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel-of-Service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the intersections of Maple Street at Kimberlee Avenue, Lincoln Street at Bridle Path and Kimberlee Avenue at Madison Avenue in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)¹³ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 9 presents the measured SSD and ISD at the subject intersections.

¹³*A Policy on Geometric Design of Highway and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

Table 9
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Maple Street at Kimberlee Avenue</i>			
<i>Stopping Sight Distance:</i>			
Maple Street approaching from the north	305/200 ^c	--	256
Maple Street approaching from the south	305/200 ^c	--	496
Intersection Sight Distance:			
Looking to the north from Kimberlee Avenue	305/200 ^c	445/335 ^c	263
Looking to the south from Kimberlee Avenue	305/200 ^c	385/290 ^c	294
<i>Lincoln Street at Bridle Path</i>			
<i>Stopping Sight Distance:</i>			
Lincoln Street approaching from the north	305	--	582
Lincoln Street approaching from the south	305	--	650+
Intersection Sight Distance:			
Looking to the north from Bridle Path	305	385	415
Looking to the south from Bridle Path	305	445	650+
<i>Kimberlee Avenue at Madison Avenue</i>			
<i>Stopping Sight Distance:</i>			
Kimberlee Avenue approaching from the north	200	--	483
Kimberlee Avenue approaching from the south	200	--	252
Intersection Sight Distance:			
Looking to the north from Madison Avenue	200	335	475
Looking to the south from Madison Avenue	200	290	293

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on an approach speed of 40 mph along Maple Street and Lincoln Street and a 30 mph approach speed along Kimberlee Avenue.

^bValues shown are the intersection sight distance for a vehicle turning right/left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

^cValues based on the posted speed limit along Maple Street (30 mph).

As can be seen in Table 9, the available lines of sight to and from the Lincoln Street/Bridal Path and Kimberlee Avenue/Madison Avenue intersections were found to exceed the required minimum lines of sight for safe operation based on a 40 mph approach speed along Lincoln Street, which is slightly above the measured 85th percentile vehicle travel speed (37-38 mph) and the posted speed limit (35 mph), and a 30 mph approach speed along Kimberlee Avenue, which is consistent with the regulated travel speed (30 mph) and slightly above the measured 85th percentile vehicle travel speed (26-29 mph).

Lines of sight at the Maple Street/Kimberlee Avenue intersection were found to exceed the recommended minimum sight distance for the posted speed limit along Maple Street (30 mph), but were below the recommended minimum distance for the measured prevailing travel speed approaching the intersection (40 mph). As such, specific recommendations have been provided to address travel speeds along Maple Street and sight lines at Kimberlee Avenue.

Chapter 300, Section 300-10 (6) of the Code of the Town of Franklin specifies that for larger subdivisions (defined as a development that is predicted to generate in excess of 120 trips per day), in addition to SSD, decision sight distance (DSD) shall also be met at any existing or proposed intersection utilized for direct access/egress to and from the parcel. DSD is defined by AASHTO as *“the distance that is needed for a driver to detect an unexpected or otherwise difficult-to-perceive information source or condition in a roadway environment that may be visually cluttered, recognize the condition or potential threat, select an appropriate speed and path, and initiate and complete a complex maneuver.”* DSD is substantially longer than SSD and is typically applied to situations where there is a likelihood for error in either information reception, decision making or control actions, such as at interchanges and intersections where unusual or unexpected maneuvers are needed. Examples of such locations are toll plazas, lane drops (merges) and areas where the presence of competing sources of information are being presented to a motorist. None of the aforementioned conditions would apply to the existing roadways that will provide access to the Project site or the internal roadway network that will be constructed as a part of the Project.

While providing sight distances that exceed the recommended SSD for safe operation is desirable, it is often impractical to afford such distances in a suburban environment due to the required roadway modifications and tree/vegetation clearing that would be necessary. Further, providing wider roadways with extensive clear zones promotes higher travel speeds that may not be conducive to the abutting land use. AASHTO is clear that as long as a driver has sufficient SSD, then drivers have sufficient sight distance to anticipate and avoid collisions.

NEIGHBORHOOD TRAFFIC CALMING ASSESSMENT

An evaluation of existing conditions and safety along Kimberlee Avenue and Bridal Path was undertaken as the initial step in developing a neighborhood focused traffic calming plan for these residential streets. Table 10 summarizes the existing characteristics of Kimberlee Avenue and Bridal Path as documented as a part of this assessment.

Table 10
KIMBERLEE AVENUE AND BRIDAL PATH - EXISTING CONDITIONS

Attribute	Roadway	
	Kimberly Avenue	Bridal Path
<i>Traveled-Way Width:</i>	30 ft	32 ft
<i>Pavement Condition:</i>	Good	Fair
<i>Sidewalk:</i>	Yes – north side	Yes – south side
<i>Pavement Markings:</i>	No	No
<i>Prevailing Travel Speed:^a</i>	26-29 mph	29-32 mph
<i>Regulated Speed Limit:^b</i>	30 mph	30 mph
<i>Average Weekday Traffic Volume:</i>	450 vpd	630 vpd
<i>Weekday AM/PM Peak-Hour Traffic Volume:</i>	36/39 vph	51/56 vph
<i>Prevailing Land Use:</i>	Residential	Residential

^aThe prevailing travel speed is also known as the 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below during the observation period.

^bIn the absence of a posted speed limit, the regulated or “prima facie” speed is 30 mph inside a thickly settled or business district pursuant to M.G.L. Chapter 90, Section 17.

As can be seen in Table 10, both Kimberly Avenue and Bridal Path accommodate relatively low traffic volumes that are commensurate with the residential nature of the abutting land use (single-family residential) along both roadways. The prevailing travel speed measured along both roadways was found to approximate the regulated travel speed in the absence of a posted speed limit (30 mph in a “thickly settled” area); however, we note that travel speeds of 25 mph or lower are more conducive to a neighborhood setting. The width of both roadways exceeds the current recommended width for neighborhood streets (a width of 22-feet is recommended for residential

densities of up to 2.0 dwelling units per acre)¹⁴ which, when combined with: i) the absence of on-street parking; ii) fair to good pavement conditions; and iii) limited pronounced changes in horizontal and vertical alignment; promotes higher than desirable travel speeds.

In an effort to moderate the speed of traffic along both Kimberly Avenue and Bridal Path to levels that are more conducive to a residential street, the following neighborhood based traffic calming measures are suggested, the elements of which should also be considered for integration into the roadway network that will serve the Project site:

- a. Install a raised island on Bridal Path approaching Lincoln Street and on Kimberly Avenue approaching Maple Street in order to reduce the width of the traveled-way and promote slower travel speeds for vehicles transitioning from the higher speed collector roadways onto the neighborhood street. The islands should be setback from edge of Lincoln Street and Maple Street to facilitate the turning requirements of emergency vehicles;
- b. Install a raised medial along the segment of Bridal Path between No. 33 and No. 44;
- c. Install a raised intersection/speed table at the Bridal Path/Steeplechase Lane intersection;
- d. Install a raised median along Kimberlee Avenue between Tyler Road and Madison Avenue;
- e. Reduce the corner radii of both Tyler Road and Madison Avenue approaching Kimberly Avenue in order to moderate travel speeds, reduce conflict areas and shorten pedestrian crossing distances; and
- f. Install chicanes or curblines bump-outs to reduce the traveled-way to 22-feet on Kimberley Avenue north of Madison Avenue and on Bridal Path between Steeplechase Lane and Phaeton Lane;

The suggested traffic calming measures can be implemented alone or in combination to produce the desired speed reduction along Kimberly Avenue and Bridal Path. The design and location of the specific traffic calming device should consider impacts to abutting properties, drainage and maintenance.

It is clear that providing roadway widths for residential streets that exceed 22-feet promotes higher than desirable travel speeds. Accordingly, the design of the roadway network that will serve the Project should provide a 22 to 24-foot wide traveled-way with a sidewalk along at least one side and horizontal and vertical curves that support a safe travel speed of 25-mph. This design is consistent with the intent of the traffic calming measures that have been suggested along Kimberly Avenue and Bridal Path, and will promote consistent travel speeds through the existing and proposed neighborhoods.

¹⁴Ibid 2.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed construction of a 58-home single-family residential community to be known as Maple Hill and situated on a parcel of land generally located between Madison Avenue, Hancock Road, Maple Street and High Ridge Circle in Franklin, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE,¹⁵ the Project is expected to generate approximately 630 vehicle trips on an average weekday (two-way, 24-hour volume), with 46 vehicle trips expected during the weekday morning peak-hour and 60 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not have a significant impact (increase) on motorist delays or vehicle queuing over Existing or anticipated future conditions without the Project (No-Build conditions), with Project-related impacts generally defined as an increase in motorist delay of up to 1.8 seconds (Bridle Path approach to Lincoln Street) and in vehicle queuing of up to one (1) vehicle;
3. With the addition of Project-related traffic, all movements at the study area intersections are expected to operate at acceptable levels (defined as a LOS of “D” or better) during both the weekday morning and evening peak hours, with vehicle queues of up to one (1) vehicle predicted;
4. The study area intersections were found to have motor vehicle crash rates that were below the MassDOT average crash rates; and

¹⁵Ibid 1.

5. Lines of sight to and from the Lincoln Street/Bridle Path and Kimberlee Avenue/Madison Avenue intersections were found to exceed the recommended minimum distance for the intersections to function in a safe manner based on the measured prevailing travel speeds approaching the intersections. Lines of sight at the Maple Street/Kimberlee Avenue intersection were found to exceed the recommended minimum sight distance for the posted speed limit along Maple Street (30 mph), but were below the recommended minimum distance for the measured prevailing travel speed approaching the intersection (40 mph). As such, specific recommendations have been provided to address travel speeds along Maple Street and sight lines at Kimberlee Avenue.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project will be provided by way of a new looped roadway that will connect to the existing cul-de-sacs at the ends of Kimberlee Avenue and Bridle Path. The new roadway will be approximately 1.4 miles in length and includes two emergency access easements provided across interior parcels. The following recommendations are offered with respect to the design of the proposed roadway that will serve the Project and internal circulation:

- The Project site roadway will be 32-feet in width as required pursuant to Chapter 300, *Subdivision Regulations*, of the Code of the Town of Franklin, and will be designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle as defined by the Franklin Fire Department. That being said, we note that a 32-foot roadway width is excessive and is not necessary to support the proposed use given that adequate off-street parking will be afforded and a sidewalk will be provided along at least one side of the Project site roadway (discussion follows).¹⁶ Wide roadways in residential settings with sufficient off-street parking promote higher travel speeds than are conducive to a neighborhood environment.
- The emergency vehicle access easements should afford the ability to construct a traveled-way that is a minimum of 20-feet in width unless otherwise approved by the Franklin Fire Department, with the ends of the traveled-way secured by means of a gate or other device acceptable to the Fire Department.

¹⁶Ibid 2.

- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.¹⁷
- A sidewalk should be provided along at least one side of the Project site roadway and should extend to the exiting sidewalks along Kimberlee Avenue and Bridle Path.
- Signs and landscaping to be installed as a part of the Project within intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.

Off-Site

Maple Street

Independent of and unrelated to the Project, vehicle travel speeds along Maple Street were found to exceed the posted speed limit by up to 10 mph. Further, it was noted that lines of sight at the Maple Street/Kimberlee Avenue exceed the recommended minimum for the posted speed limit, but were below the distance required for the prevailing travel speed that was measured along Maple Street (40 mph). In an effort to reduce travel speeds along Maple Street, the following measures are suggested:

- Install radar speed feedback signs north of Franklin Springs Road and south of Kimberlee Avenue;
- Based on the data collected through the radar speed feedback signs (speed data by time of day), provide speed enforcement during the times of day when speeding is most prevalent; and
- Reduce the width of Franklin Springs Road approaching Maple Street through the use of curblines bump-outs, the elements of which can be combined with installation of a crosswalk and Americans with Disabilities Act (ADA) wheelchair ramps for crossing Franklin Street (discussion follows).

The above measures can be implemented alone or in combination in order to provide the desired outcome of speed reductions along the subject section of Maple Street.

Maple Street at Kimberlee Avenue, Maple Street at Franklin Springs Road and Lincoln Street at Bridle Path

Independent of and unrelated to the Project, consideration should be given to installing a STOP-sign and marked STOP-line on the minor street approaches (Kimberlee Avenue, Franklin Springs Road and Bridle Path) in order to formalize the assignment of the vehicular right-of way at these intersections. In addition, consideration should be given to installing a crosswalk across Franklin Springs Road at Maple Street and across Bridle Path at Lincoln Street in conjunction with the suggested STOP-sign installations.

¹⁷*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

Neighborhood Traffic Calming

In an effort to moderate travel speeds within the Kimberly Avenue and Bridal Path neighborhoods, and to the extent so desired by the Town, the Project proponent will advance the design of the selected traffic calming measures identified as a part of this assessment or as modified as a result of discussions with the Town and the neighborhood. Subject to receipt of all necessary rights, permits and approvals, the Project proponent will construct the traffic calming measures prior to the issuance of a Certificate of Occupancy for 50 percent of the proposed residential units (29 homes).

With implementation of the above recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing transportation system.

APPENDIX

**PROJECT SITE PLAN
AUTOMATIC TRAFFIC RECORDER COUNT DATA
MANUAL TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
VEHICLE TRAVEL SPEED DATA
MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH MAPPING
BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS
GENERAL BACKGROUND TRAFFIC GROWTH
PUBLIC TRANSPORTATION INFORMATION
TRIP GENERATION CALCULATIONS
JOURNEY TO WORK TRIP DISTRIBUTION
CAPACITY ANALYSIS WORKSHEETS**

PROJECT SITE PLAN

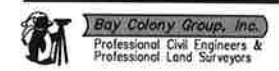


PROJECT:
**Maple Hill
 Franklin
 Massachusetts**

OWNERS:
**STEVEN LABASTIE
 THE FRANKLIN
 LABASTIE FAMILY.LLC
 &
 THE KATHLEEN A.
 LABASTIE TRUST
 469 MAPLE STREET
 FRANKLIN, MA 02038**

**FITZGERALD FAMILY
 IRREVOCABLE TRUST
 441 MAPLE STREET
 FRANKLIN, MA 02038**

APPLICANT:
**CARROLL
 CONSTRUCTION
 CORP.
 BOX 395
 FOXBOROUGH, MA
 02035**



FOUR SCHOOL STREET
 P.O. BOX 9136
 FOXBOROUGH, MA 02035
 508-543-3939

STAMP

DRAWING TITLE
**Master Plan -
 Conventional**

SCALE: 1" = 150'
 JANUARY 15, 2019 SHEET NUMBER
16-0148E 2

AUTOMATIC TRAFFIC RECORDER COUNT DATA

Accurate Counts
978-664-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787VOLI

Start Time	6/4/2019 Tue	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	10			0	14				
12:15		2	17			0	13				
12:30		0	13			1	16				
12:45		1	13	5	53	0	13	1	56	6	109
01:00		0	11			1	19				
01:15		1	9			0	11				
01:30		0	16			1	11				
01:45		0	10	1	46	0	9	2	50	3	96
02:00		0	21			0	9				
02:15		0	24			0	24				
02:30		1	20			0	17				
02:45		0	12	1	77	0	17	0	67	1	144
03:00		0	19			0	31				
03:15		1	22			0	24				
03:30		0	29			0	9				
03:45		0	22	1	92	0	15	0	79	1	171
04:00		0	20			0	16				
04:15		0	27			0	16				
04:30		1	24			0	11				
04:45		0	37	1	108	2	14	2	57	3	165
05:00		2	19			4	24				
05:15		5	29			4	19				
05:30		2	31			2	30				
05:45		2	25	11	104	1	21	11	94	22	198
06:00		3	31			10	22				
06:15		5	20			10	20				
06:30		6	26			12	17				
06:45		11	22	25	99	22	32	54	91	79	190
07:00		15	24			37	14				
07:15		19	20			27	11				
07:30		14	15			21	7				
07:45		10	21	58	80	24	9	109	41	167	121
08:00		17	14			21	6				
08:15		23	18			21	14				
08:30		7	17			17	7				
08:45		5	13	52	62	23	11	82	38	134	100
09:00		20	12			19	3				
09:15		8	6			12	8				
09:30		8	11			11	6				
09:45		10	9	46	38	10	5	52	22	98	60
10:00		14	2			9	3				
10:15		12	5			8	1				
10:30		9	3			10	3				
10:45		11	7	46	17	12	5	39	12	85	29
11:00		10	2			8	3				
11:15		8	1			8	0				
11:30		11	2			11	2				
11:45		11	4	40	9	13	2	40	7	80	16
Total		287	785			392	614			679	1399
Percent		26.8%	73.2%			39.0%	61.0%			32.7%	67.3%

Accurate Counts
978-664-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787VOL1

Start Time	6/5/2019 Wed	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	17			2	8				
12:15		1	16			3	10				
12:30		0	6			0	13				
12:45		1	15	5	54	1	14	6	45	11	99
01:00		0	16			1	16				
01:15		0	13			0	14				
01:30		0	19			1	6				
01:45		1	16	1	64	0	20	2	56	3	120
02:00		0	24			0	12				
02:15		1	21			0	29				
02:30		0	24			0	26				
02:45		0	13	1	82	0	16	0	83	1	165
03:00		0	22			0	23				
03:15		0	21			0	23				
03:30		0	15			1	25				
03:45		0	22	0	80	0	19	1	90	1	170
04:00		0	19			0	17				
04:15		0	23			0	12				
04:30		0	24			0	28				
04:45		1	24	1	90	1	20	1	77	2	167
05:00		2	28			1	23				
05:15		3	33			3	24				
05:30		2	20			9	16				
05:45		8	17	15	98	2	24	15	87	30	185
06:00		1	27			10	13				
06:15		7	31			12	30				
06:30		5	30			12	27				
06:45		10	27	23	115	22	16	56	86	79	201
07:00		11	22			38	13				
07:15		28	18			26	12				
07:30		14	13			28	15				
07:45		12	14	65	67	33	13	125	53	190	120
08:00		19	33			27	11				
08:15		17	17			23	12				
08:30		10	11			19	12				
08:45		8	10	54	71	20	7	89	42	143	113
09:00		12	16			14	3				
09:15		10	6			19	7				
09:30		5	12			12	8				
09:45		13	4	40	38	15	4	60	22	100	60
10:00		8	7			14	2				
10:15		9	2			13	4				
10:30		12	0			15	1				
10:45		9	3	38	12	10	3	52	10	90	22
11:00		11	1			7	4				
11:15		14	2			11	2				
11:30		15	5			20	0				
11:45		11	6	51	14	13	1	51	7	102	21
Total		294	785			458	658			752	1443
Percent		27.2%	72.8%			41.0%	59.0%			34.3%	65.7%
Grand Total		581	1570			850	1272			1431	2842
Percent		27.0%	73.0%			40.1%	59.9%			33.5%	66.5%

ADT ADT 2,136 AADT 2,136

Accurate Counts
978-664-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

Start Time	6/3/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*														
01:00	*	*	5	1	5	6	*	*	*	*	*	*	*	*	5	4
02:00	*	*	1	2	1	2	*	*	*	*	*	*	*	*	1	2
03:00	*	*	1	0	1	0	*	*	*	*	*	*	*	*	1	0
04:00	*	*	1	0	0	1	*	*	*	*	*	*	*	*	0	0
05:00	*	*	1	2	1	1	*	*	*	*	*	*	*	*	1	2
06:00	*	*	11	11	15	15	*	*	*	*	*	*	*	*	13	13
07:00	*	*	25	54	23	56	*	*	*	*	*	*	*	*	24	55
08:00	*	*	58	109	65	125	*	*	*	*	*	*	*	*	62	117
09:00	*	*	52	82	54	89	*	*	*	*	*	*	*	*	53	86
10:00	*	*	46	52	40	60	*	*	*	*	*	*	*	*	43	56
11:00	*	*	46	39	38	52	*	*	*	*	*	*	*	*	42	46
12:00 PM	*	*	40	40	51	51	*	*	*	*	*	*	*	*	46	46
01:00	*	*	53	56	54	45	*	*	*	*	*	*	*	*	54	50
02:00	*	*	46	50	64	56	*	*	*	*	*	*	*	*	55	53
03:00	*	*	77	67	82	83	*	*	*	*	*	*	*	*	80	75
04:00	*	*	92	79	80	90	*	*	*	*	*	*	*	*	86	84
05:00	*	*	108	57	90	77	*	*	*	*	*	*	*	*	99	67
06:00	*	*	104	94	98	87	*	*	*	*	*	*	*	*	101	90
07:00	*	*	99	91	115	86	*	*	*	*	*	*	*	*	107	88
08:00	*	*	80	41	67	53	*	*	*	*	*	*	*	*	74	47
09:00	*	*	62	38	71	42	*	*	*	*	*	*	*	*	66	40
10:00	*	*	38	22	38	22	*	*	*	*	*	*	*	*	38	22
11:00	*	*	17	12	12	10	*	*	*	*	*	*	*	*	14	11
Lane	0	0	1072	1006	1079	1116	0	0	0	0	0	0	0	0	1077	1061
Day	0	0	2078		2195		0	0	0	0	0	0	0	0	2138	
AM Peak	-	-	07:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	-	-	58	109	65	125	-	-	-	-	-	-	-	-	62	117
PM Peak	-	-	16:00	17:00	18:00	15:00	-	-	-	-	-	-	-	-	18:00	17:00
Vol.	-	-	108	94	115	90	-	-	-	-	-	-	-	-	107	90

Comb. Total 0 2078 2195 0 0 0 2138

ADT ADT 2,136 AADT 2,136

Accurate Counts
978-664-2565

Location : Lincoln Street
Location : South of Bridle Path
City/State: Franklin, MA

7787VOL3

Start Time	5/22/2019 Wed	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	45			1	37				
12:15		4	41			6	50				
12:30		1	61			3	46				
12:45		0	52	11	199	3	40	13	173	24	372
01:00		0	38			4	53				
01:15		0	49			3	68				
01:30		0	52			1	40				
01:45		1	79	1	218	2	61	10	222	11	440
02:00		0	64			1	69				
02:15		0	62			1	114				
02:30		0	75			0	84				
02:45		1	68	1	269	1	52	3	319	4	588
03:00		0	63			1	66				
03:15		4	81			1	65				
03:30		0	105			0	85				
03:45		1	108	5	357	1	71	3	287	8	644
04:00		2	90			1	67				
04:15		0	97			4	58				
04:30		4	99			6	75				
04:45		11	100	17	386	4	98	15	298	32	684
05:00		11	111			7	76				
05:15		19	115			16	103				
05:30		13	104			16	94				
05:45		12	120	55	450	32	95	71	368	126	818
06:00		18	109			43	101				
06:15		35	93			38	72				
06:30		40	97			62	72				
06:45		54	84	147	383	72	69	215	314	362	697
07:00		118	70			123	62				
07:15		125	84			79	70				
07:30		54	69			94	68				
07:45		46	68	343	291	64	77	360	277	703	568
08:00		76	48			72	68				
08:15		88	45			76	41				
08:30		61	32			62	53				
08:45		44	28	269	153	45	36	255	198	524	351
09:00		55	32			48	40				
09:15		48	25			54	45				
09:30		58	17			38	29				
09:45		33	17	194	91	50	21	190	135	384	226
10:00		33	11			32	21				
10:15		49	10			47	10				
10:30		53	9			52	17				
10:45		45	12	180	42	43	6	174	54	354	96
11:00		45	9			41	10				
11:15		42	2			49	4				
11:30		41	2			43	9				
11:45		61	5	189	18	55	4	188	27	377	45
Total		1412	2857			1497	2672			2909	5529
Percent		33.1%	66.9%			35.9%	64.1%			34.5%	65.5%

Accurate Counts
978-664-2565

Location : Lincoln Street
Location : South of Bridle Path
City/State: Franklin, MA

7787VOL3

Start Time	5/23/2019 Thu	SB		Hour Totals		NB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		4	51			5	39				
12:15		3	61			4	46				
12:30		2	52			1	74				
12:45		0	49	9	213	2	50	12	209	21	422
01:00		3	54			2	38				
01:15		0	52			0	56				
01:30		0	68			0	57				
01:45		0	61	3	235	1	57	3	208	6	443
02:00		1	62			1	68				
02:15		0	65			0	86				
02:30		0	62			0	85				
02:45		0	84	1	273	2	77	3	316	4	589
03:00		0	118			0	68				
03:15		4	101			0	74				
03:30		0	79			1	77				
03:45		3	95	7	393	1	65	2	284	9	677
04:00		3	83			3	80				
04:15		2	95			3	67				
04:30		6	114			5	71				
04:45		8	111	19	403	3	78	14	296	33	699
05:00		9	111			7	84				
05:15		12	127			18	93				
05:30		12	118			15	86				
05:45		16	90	49	446	29	59	69	322	118	768
06:00		14	81			28	72				
06:15		26	73			50	84				
06:30		48	77			62	59				
06:45		56	88	144	319	96	54	236	269	380	588
07:00		108	54			105	50				
07:15		115	61			87	51				
07:30		58	66			86	56				
07:45		48	49	329	230	56	58	334	215	663	445
08:00		53	36			63	68				
08:15		92	39			62	52				
08:30		54	31			68	44				
08:45		62	25	261	131	45	35	238	199	499	330
09:00		48	30			39	37				
09:15		47	19			46	38				
09:30		46	20			49	32				
09:45		67	12	208	81	38	29	172	136	380	217
10:00		48	10			40	19				
10:15		44	12			55	15				
10:30		47	5			50	16				
10:45		47	9	186	36	51	10	196	60	382	96
11:00		37	6			40	7				
11:15		58	9			59	6				
11:30		46	5			47	10				
11:45		44	5	185	25	50	4	196	27	381	52
Total		1401	2785			1475	2541			2876	5326
Percent		33.5%	66.5%			36.7%	63.3%			35.1%	64.9%
Grand Total		2813	5642			2972	5213			5785	10855
Percent		33.3%	66.7%			36.3%	63.7%			34.8%	65.2%

ADT ADT 8,320 AADT 8,320

Accurate Counts
978-664-2565

Location : Lincoln Street
Location : South of Bridle Path
City/State: Franklin, MA

Start Time	5/20/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	11	13	9	12	*	*	*	*	*	*	10	12
02:00	*	*	*	*	1	10	3	3	*	*	*	*	*	*	2	6
03:00	*	*	*	*	1	3	1	3	*	*	*	*	*	*	1	3
04:00	*	*	*	*	5	3	7	2	*	*	*	*	*	*	6	2
05:00	*	*	*	*	17	15	19	14	*	*	*	*	*	*	18	14
06:00	*	*	*	*	55	71	49	69	*	*	*	*	*	*	52	70
07:00	*	*	*	*	147	215	144	236	*	*	*	*	*	*	146	226
08:00	*	*	*	*	343	360	329	334	*	*	*	*	*	*	336	347
09:00	*	*	*	*	269	255	261	238	*	*	*	*	*	*	265	246
10:00	*	*	*	*	194	190	208	172	*	*	*	*	*	*	201	181
11:00	*	*	*	*	180	174	186	196	*	*	*	*	*	*	183	185
12:00 PM	*	*	*	*	189	188	185	196	*	*	*	*	*	*	187	192
01:00	*	*	*	*	199	173	213	209	*	*	*	*	*	*	206	191
02:00	*	*	*	*	218	222	235	208	*	*	*	*	*	*	226	215
03:00	*	*	*	*	269	319	273	316	*	*	*	*	*	*	271	318
04:00	*	*	*	*	357	287	393	284	*	*	*	*	*	*	375	286
05:00	*	*	*	*	386	298	403	296	*	*	*	*	*	*	394	297
06:00	*	*	*	*	450	368	446	322	*	*	*	*	*	*	448	345
07:00	*	*	*	*	383	314	319	269	*	*	*	*	*	*	351	292
08:00	*	*	*	*	291	277	230	215	*	*	*	*	*	*	260	246
09:00	*	*	*	*	153	198	131	199	*	*	*	*	*	*	142	198
10:00	*	*	*	*	91	135	81	136	*	*	*	*	*	*	86	136
11:00	*	*	*	*	42	54	36	60	*	*	*	*	*	*	39	57
Lane	0	0	0	0	4269	4169	4186	4016	0	0	0	0	0	0	4227	4092
Day	0	0	8438	8202	8438	8202	8202	8319	0	0	0	0	0	0	8319	8319
AM Peak	-	-	07:00	07:00	07:00	07:00	07:00	07:00	-	-	-	-	-	-	07:00	07:00
Vol.	-	-	343	360	329	334	334	336	-	-	-	-	-	-	336	347
PM Peak	-	-	17:00	17:00	17:00	17:00	17:00	17:00	-	-	-	-	-	-	17:00	17:00
Vol.	-	-	450	368	446	322	322	448	-	-	-	-	-	-	448	345
Comb. Total	0	0	8438	8202	8438	8202	8319	8319	0	0	0	0	0	0	8319	8319
ADT			ADT 8,320	ADT 8,320	ADT 8,320	ADT 8,320	ADT 8,320	ADT 8,320							ADT 8,320	ADT 8,320

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

7787VOL2

Start Time	5/22/2019 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	0			0	3				
12:15		0	4			0	4				
12:30		0	5			0	5				
12:45		0	3	1	12	0	2	0	14	1	26
01:00		0	6			0	2				
01:15		0	2			0	2				
01:30		0	2			0	3				
01:45		0	2	0	12	0	3	0	10	0	22
02:00		0	4			0	2				
02:15		0	7			0	4				
02:30		0	4			0	2				
02:45		0	1	0	16	0	2	0	10	0	26
03:00		0	3			0	3				
03:15		0	8			0	9				
03:30		0	1			0	4				
03:45		0	3	0	15	0	1	0	17	0	32
04:00		0	7			0	1				
04:15		0	8			0	4				
04:30		0	4			0	2				
04:45		0	4	0	23	0	5	0	12	0	35
05:00		0	7			0	2				
05:15		1	5			4	3				
05:30		0	7			0	5				
05:45		1	5	2	24	4	6	8	16	10	40
06:00		1	7			2	1				
06:15		0	7			2	4				
06:30		0	4			5	5				
06:45		1	9	2	27	6	3	15	13	17	40
07:00		3	5			15	4				
07:15		4	4			6	1				
07:30		1	2			4	2				
07:45		2	7	10	18	6	2	31	9	41	27
08:00		4	3			9	1				
08:15		2	3			6	0				
08:30		1	0			5	1				
08:45		3	3	10	9	2	2	22	4	32	13
09:00		1	0			1	1				
09:15		1	2			4	0				
09:30		4	5			3	1				
09:45		1	1	7	8	3	2	11	4	18	12
10:00		0	0			2	2				
10:15		1	3			2	1				
10:30		0	0			1	0				
10:45		3	0	4	3	4	0	9	3	13	6
11:00		4	1			2	0				
11:15		3	2			3	1				
11:30		2	1			5	1				
11:45		1	1	10	5	3	0	13	2	23	7
Total		46	172			109	114			155	286
Percent		21.1%	78.9%			48.9%	51.1%			35.1%	64.9%

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

7787VOL2

Start Time	5/23/2019 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	2			0	5				
12:15		3	6			1	3				
12:30		1	4			0	6				
12:45		0	2	4	14	0	2	1	16	5	30
01:00		0	4			0	4				
01:15		0	0			0	0				
01:30		0	5			0	3				
01:45		0	2	0	11	0	4	0	11	0	22
02:00		0	1			0	1				
02:15		0	5			0	6				
02:30		0	4			0	2				
02:45		0	7	0	17	0	4	0	13	0	30
03:00		0	0			0	4				
03:15		0	6			0	7				
03:30		0	5			0	1				
03:45		0	6	0	17	1	3	1	15	1	32
04:00		0	2			0	4				
04:15		0	4			0	2				
04:30		0	4			0	6				
04:45		0	3	0	13	0	1	0	13	0	26
05:00		0	5			0	3				
05:15		0	10			2	5				
05:30		1	7			2	2				
05:45		0	2	1	24	0	4	4	14	5	38
06:00		0	9			3	2				
06:15		0	6			2	5				
06:30		0	3			3	2				
06:45		3	5	3	23	5	5	13	14	16	37
07:00		5	3			9	3				
07:15		2	8			9	0				
07:30		1	6			5	2				
07:45		2	0	10	17	12	0	35	5	45	22
08:00		4	6			4	1				
08:15		2	4			5	3				
08:30		1	1			5	0				
08:45		4	4	11	15	8	1	22	5	33	20
09:00		0	2			5	1				
09:15		2	3			1	2				
09:30		0	5			4	2				
09:45		0	1	2	11	0	1	10	6	12	17
10:00		3	3			2	0				
10:15		4	3			3	1				
10:30		2	0			2	1				
10:45		3	0	12	6	3	0	10	2	22	8
11:00		2	0			3	2				
11:15		3	1			1	1				
11:30		5	0			3	0				
11:45		1	2	11	3	3	0	10	3	21	6
Total		54	171			106	117			160	288
Percent		24.0%	76.0%			47.5%	52.5%			35.7%	64.3%
Grand Total		100	343			215	231			315	574
Percent		22.6%	77.4%			48.2%	51.8%			35.4%	64.6%

ADT

ADT 444

AADT 444

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

Start Time	5/20/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12:00 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM Peak	-	-	07:00	10:00	07:00	-	-	-	-	-	-	-	-	-	-	07:00
Vol.	-	-	10	12	35	-	-	-	-	-	-	-	-	-	-	10
PM Peak	-	-	18:00	17:00	12:00	-	-	-	-	-	-	-	-	-	-	18:00
Vol.	-	-	27	24	16	-	-	-	-	-	-	-	-	-	25	16
Comb. Total	0	0	441	448	441	0	0	0	0	0	0	0	0	0	441	441
ADT			ADT 444	ADT 444	ADT 444										ADT 444	ADT 444

Accurate Counts
978-664-2565

Location : Bridle Path
Location : West of Lincoln Street
City/State: Franklin, MA

7787VOL4

Start Time	5/22/2019 Wed	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	5			0	2				
12:15		1	3			1	4				
12:30		0	7			0	6				
12:45		0	5	1	20	0	4	1	16	2	36
01:00		0	5			0	4				
01:15		0	3			0	2				
01:30		0	6			0	2				
01:45		0	4	0	18	0	5	0	13	0	31
02:00		0	1			0	16				
02:15		0	6			0	6				
02:30		0	4			0	2				
02:45		0	6	0	17	0	7	0	31	0	48
03:00		0	0			0	5				
03:15		0	7			0	8				
03:30		0	3			0	5				
03:45		0	2	0	12	1	11	1	29	1	41
04:00		2	5			0	7				
04:15		0	11			0	6				
04:30		1	2			0	6				
04:45		0	0	3	18	0	13	0	32	3	50
05:00		4	7			0	5				
05:15		2	9			0	9				
05:30		1	5			1	5				
05:45		1	8	8	29	2	3	3	22	11	51
06:00		3	1			0	7				
06:15		6	1			1	11				
06:30		3	3			1	7				
06:45		7	6	19	11	1	11	3	36	22	47
07:00		15	1			5	3				
07:15		6	2			2	4				
07:30		7	6			1	8				
07:45		9	5	37	14	4	7	12	22	49	36
08:00		7	2			2	4				
08:15		11	1			6	4				
08:30		11	1			3	6				
08:45		6	1	35	5	2	5	13	19	48	24
09:00		5	1			5	4				
09:15		2	2			3	6				
09:30		4	0			3	4				
09:45		4	0	15	3	6	1	17	15	32	18
10:00		9	0			3	1				
10:15		6	0			2	1				
10:30		8	2			3	1				
10:45		4	1	27	3	4	1	12	4	39	7
11:00		0	0			4	2				
11:15		3	0			6	0				
11:30		4	0			2	0				
11:45		3	0	10	0	3	0	15	2	25	2
Total		155	150			77	241			232	391
Percent		50.8%	49.2%			24.2%	75.8%			37.2%	62.8%

Accurate Counts
978-664-2565

Location : Bridle Path
Location : West of Lincoln Street
City/State: Franklin, MA

7787VOL4

Start Time	5/23/2019 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	2			0	3				
12:15		0	9			1	2				
12:30		0	5			0	3				
12:45		0	1	0	17	1	2	2	10	2	27
01:00		0	7			0	3				
01:15		0	3			0	4				
01:30		0	3			0	7				
01:45		0	3	0	16	0	5	0	19	0	35
02:00		0	8			0	7				
02:15		0	10			0	6				
02:30		0	7			0	8				
02:45		0	3	0	28	0	14	0	35	0	63
03:00		0	2			0	9				
03:15		0	7			0	2				
03:30		0	6			0	6				
03:45		0	8	0	23	0	7	0	24	0	47
04:00		1	3			0	11				
04:15		1	4			1	3				
04:30		2	9			1	7				
04:45		1	3	5	19	0	4	2	25	7	44
05:00		5	3			0	7				
05:15		5	2			1	8				
05:30		1	4			1	13				
05:45		2	8	13	17	0	5	2	33	15	50
06:00		3	4			1	7				
06:15		6	2			1	16				
06:30		3	5			2	7				
06:45		11	4	23	15	4	6	8	36	31	51
07:00		12	6			4	6				
07:15		6	6			3	10				
07:30		4	1			1	7				
07:45		10	5	32	18	2	4	10	27	42	45
08:00		8	2			0	4				
08:15		10	1			3	2				
08:30		10	1			4	4				
08:45		7	0	35	4	2	1	9	11	44	15
09:00		4	1			0	3				
09:15		5	0			4	2				
09:30		2	0			6	5				
09:45		4	1	15	2	7	2	17	12	32	14
10:00		3	1			4	0				
10:15		2	1			1	0				
10:30		2	0			1	1				
10:45		4	0	11	2	3	3	9	4	20	6
11:00		3	0			8	0				
11:15		10	0			3	2				
11:30		1	1			5	1				
11:45		3	0	17	1	3	0	19	3	36	4
Total		151	162			78	239			229	401
Percent		48.2%	51.8%			24.6%	75.4%			36.3%	63.7%
Grand Total		306	312			155	480			461	792
Percent		49.5%	50.5%			24.4%	75.6%			36.8%	63.2%
ADT		ADT 626				AADT 626					

7787VOL4

Accurate Counts
978-664-2565

Location : Bridle Path
Location : West of Lincoln Street
City/State: Franklin, MA

Start Time	5/20/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	*	*	1	1	0	2	*	*	*	*	*	*	*	*	0	0
01:00	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
02:00	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
03:00	*	*	0	0	0	0	*	*	*	*	*	*	*	*	0	0
04:00	*	*	3	1	5	2	*	*	*	*	*	*	*	*	4	1
05:00	*	*	8	3	13	2	*	*	*	*	*	*	*	*	10	2
06:00	*	*	19	3	23	8	*	*	*	*	*	*	*	*	21	6
07:00	*	*	37	12	32	10	*	*	*	*	*	*	*	*	34	11
08:00	*	*	35	13	35	9	*	*	*	*	*	*	*	*	35	11
09:00	*	*	15	17	15	17	*	*	*	*	*	*	*	*	15	17
10:00	*	*	27	12	11	9	*	*	*	*	*	*	*	*	19	10
11:00	*	*	10	15	17	19	*	*	*	*	*	*	*	*	14	17
12:00 PM	*	*	20	16	17	10	*	*	*	*	*	*	*	*	18	13
01:00	*	*	18	13	16	19	*	*	*	*	*	*	*	*	17	16
02:00	*	*	17	31	28	35	*	*	*	*	*	*	*	*	22	33
03:00	*	*	12	29	23	24	*	*	*	*	*	*	*	*	18	26
04:00	*	*	18	32	19	25	*	*	*	*	*	*	*	*	18	28
05:00	*	*	29	22	17	33	*	*	*	*	*	*	*	*	23	28
06:00	*	*	11	36	15	36	*	*	*	*	*	*	*	*	13	36
07:00	*	*	14	22	18	27	*	*	*	*	*	*	*	*	16	24
08:00	*	*	5	19	4	11	*	*	*	*	*	*	*	*	4	15
09:00	*	*	3	15	2	12	*	*	*	*	*	*	*	*	2	14
10:00	*	*	3	4	2	4	*	*	*	*	*	*	*	*	2	4
11:00	*	*	0	2	1	3	*	*	*	*	*	*	*	*	0	2
Lane	0	0	305	318	313	317	0	0	0	0	0	0	0	0	305	316
Day	0	0	623	630	630	621	0	0	0	0	0	0	0	0	621	621
AM Peak	-	-	07:00	09:00	08:00	11:00	-	-	-	-	-	-	-	-	08:00	09:00
Vol.	-	-	37	17	35	19	-	-	-	-	-	-	-	-	35	17
PM Peak	-	-	17:00	18:00	14:00	18:00	-	-	-	-	-	-	-	-	17:00	18:00
Vol.	-	-	29	36	28	36	-	-	-	-	-	-	-	-	23	36

Comb. Total 0 0 623 630 630 0 0 621

ADT ADT 626 ADT 626 AADT 626

MANUAL TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Maple Street
 EW Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 1

Groups Printed - Cars - Trucks

Start Time	Maple St From North		Thru	Kimberlee Ave From East		Maple St From South		Int. Total
	Left	Right		Left	Right	Thru	Right	
07:00 AM	0	10	33	3	10	16	1	63
07:15 AM	1	4	17	2	4	26	3	53
07:30 AM	0	1	26	3	1	21	1	52
07:45 AM	2	1	24	4	1	10	0	41
Total	3	16	100	12	16	73	5	209
08:00 AM	3	5	21	5	5	12	1	47
08:15 AM	1	4	20	1	4	12	1	39
08:30 AM	1	2	13	3	2	10	0	29
08:45 AM	2	1	15	1	1	13	1	33
Total	7	12	69	10	12	47	3	148
Grand Total	10	28	169	22	28	120	8	357
Approch %	5.6	56	94.4	44	56	93.8	6.2	
Total %	2.8	7.8	47.3	6.2	7.8	33.6	2.2	
Cars	10	27	167	22	27	118	7	351
% Cars	100	96.4	98.8	100	96.4	98.3	87.5	98.3
Trucks	0	1	2	0	1	2	1	6
% Trucks	0	3.6	1.2	0	3.6	1.7	12.5	1.7

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 2

Start Time	Maple St From North			Kimberlee Ave From East			Maple St From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	0	33	33	3	10	13	16	1	17	63
07:15 AM	1	17	18	2	4	6	26	3	29	53
07:30 AM	0	26	26	3	1	4	21	1	22	52
07:45 AM	2	24	26	4	1	5	10	0	10	41
Total Volume	3	100	103	12	16	28	73	5	78	209
% App. Total	2.9	97.1		42.9	57.1		93.6	6.4		
PHF	.375	.758	.780	.750	.400	.538	.702	.417	.672	.829
Cars	3	99	102	12	16	28	72	5	77	207
% Cars	100	99.0	99.0	100	100	100	98.6	100	98.7	99.0
Trucks	0	1	1	0	0	0	1	0	1	2
% Trucks	0	1.0	1.0	0	0	0	1.4	0	1.3	1.0

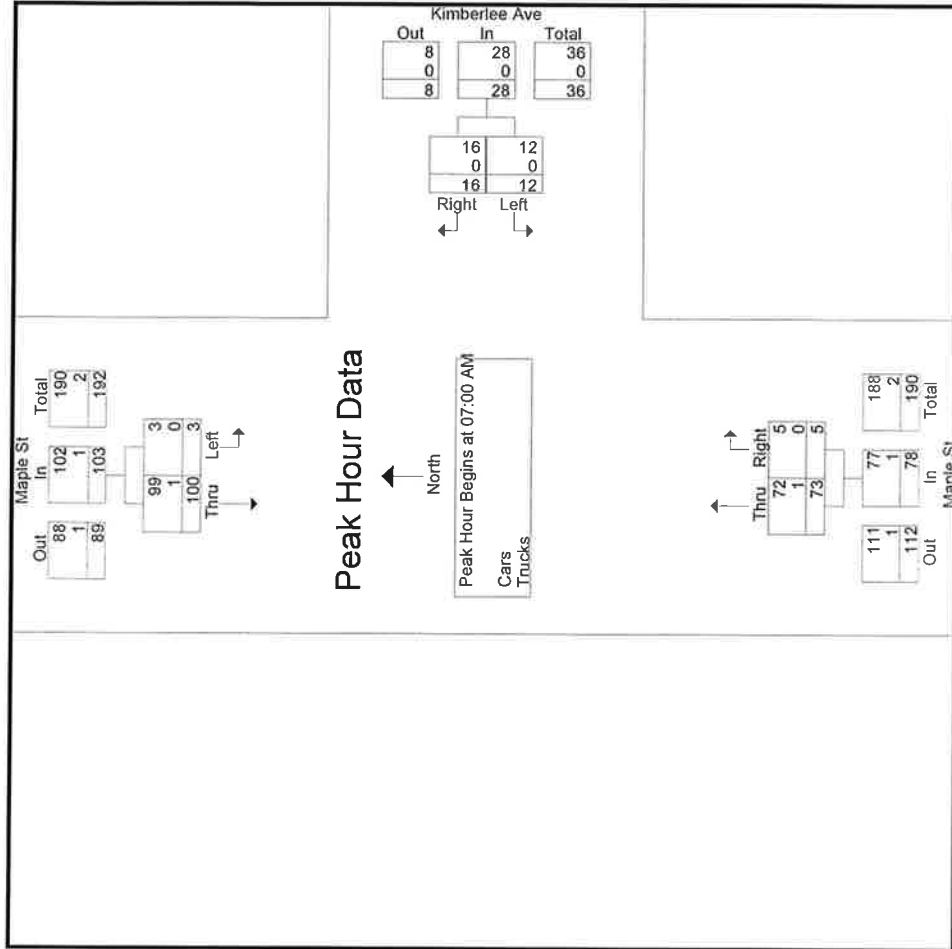
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts

978-664-2565

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 3

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	33	3	16
+15 mins.	1	17	2	13
+30 mins.	0	26	3	6
+45 mins.	2	24	4	4
Total Volume	3	100	12	28
% App. Total	2.9	97.1	42.9	57.1
				73
				93.6
				5
				6.4
				17
				29
				22
				10
				78

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 5

Start Time	Maple St From North		Kimberlee Ave From East		Maple St From South		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	32	3	10	15	1	61
07:15 AM	1	17	2	4	26	3	53
07:30 AM	0	26	3	1	21	1	52
07:45 AM	2	24	4	1	10	0	41
Total	3	99	12	16	72	5	207
08:00 AM	3	20	5	4	12	0	44
08:15 AM	1	20	1	4	11	1	38
08:30 AM	1	13	3	2	10	0	29
08:45 AM	2	15	1	1	13	1	33
Total	7	68	10	11	46	2	144
Grand Total	10	167	22	27	118	7	351
Approch %	5.6	94.4	44.9	55.1	94.4	5.6	
Total %	2.8	47.6	6.3	7.7	33.6	2	

Accurate Counts
978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 9

Start Time	Maple St From North			Kimberlee Ave From East			Maple St From South			Int. Total
	Left	Thru	Right	Left	Thru	Right	Thru	Right		
07:00 AM	0	1	0	0	0	0	1	0	2	
07:15 AM	0	0	0	0	0	0	0	0	0	
07:30 AM	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	0	0	0	0	
Total	0	1	0	0	0	0	1	0	2	
08:00 AM	0	1	1	0	0	1	0	1	3	
08:15 AM	0	0	0	0	0	0	1	0	1	
08:30 AM	0	0	0	0	0	0	0	0	0	
08:45 AM	0	0	0	0	0	0	0	0	0	
Total	0	1	1	0	0	1	1	1	4	
Grand Total	0	2	1	0	0	1	2	1	6	
Approch %	0	100	100	0	0	100	66.7	33.3		
Total %	0	33.3	16.7	0	0	16.7	33.3	16.7		

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 13

Start Time	Groups Printed- Bikes Peds										Exclu. Total	Inclu. Total	Int. Total	
	Maple St From North			Kimberlee Ave From East			Maple St From South							
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds	Peds				
07:00 AM	0	0	3	0	0	1	0	0	0	0	0	4	0	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	0	0	1	0	0	0	0	0	4	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	3	0	0	1	0	0	0	0	0	4	0	4
Approch %	0	0		0	0		0	0	0	0	0		0	
Total %												100		0

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 14

Start Time	Maple St From North		Kimberlee Ave From East		Maple St From South		Int. Total
	Left	Thru	Left	Right	Thru	Right	
07:00 AM	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000

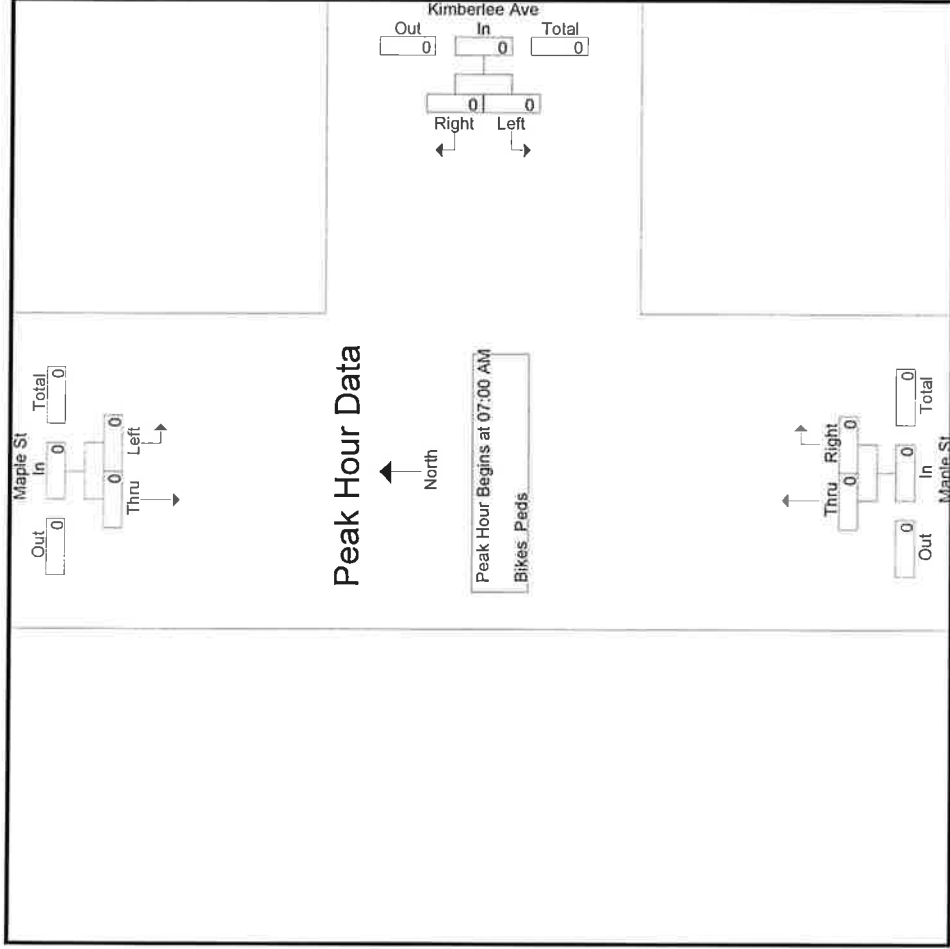
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts

978-664-2565

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 15

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0

Accurate Counts

978-664-2665

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 1

Start Time	Maple St From North		Thru	Kimberlee Ave From East		Maple St From South		Int. Total
	Left	Right		Left	Right	Thru	Right	
03:00 PM	3	2	24	1	2	22	0	52
03:15 PM	5	7	18	2	7	25	3	60
03:30 PM	1	2	13	2	2	17	0	35
03:45 PM	3	0	17	1	0	26	0	47
Total	12	11	72	6	11	90	3	194
04:00 PM	4	0	17	1	0	15	3	40
04:15 PM	6	3	22	3	3	23	4	61
04:30 PM	2	1	15	0	1	22	2	42
04:45 PM	2	3	21	3	3	23	1	53
Total	14	7	75	7	7	83	10	196
05:00 PM	5	1	27	1	1	23	3	60
05:15 PM	2	3	23	0	3	27	3	58
05:30 PM	5	4	19	1	4	18	2	49
05:45 PM	4	3	13	2	3	29	1	52
Total	16	11	82	4	11	97	9	219
Grand Total	42	29	229	17	29	270	22	609
Approch %	15.5	63	84.5	37	63	92.5	7.5	
Total %	6.9	4.8	37.6	2.8	4.8	44.3	3.6	
Cars	42	28	228	17	28	268	21	604
% Cars	100	96.6	99.6	100	96.6	99.3	95.5	99.2
Trucks	0	1	1	0	1	2	1	5
% Trucks	0	3.4	0.4	0	3.4	0.7	4.5	0.8

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 2

Start Time	Maple St From North			Kimberlee Ave From East			Maple St From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	2	21	23	3	3	6	23	1	24	53
05:00 PM	5	27	32	1	1	2	23	3	26	60
05:15 PM	2	23	25	0	3	3	27	3	30	58
05:30 PM	5	19	24	1	4	5	18	2	20	49
Total Volume	14	90	104	5	11	16	91	9	100	220
% App. Total	13.5	86.5		31.2	68.8		91	9		
PHF	.700	.833	.813	.417	.688	.667	.843	.750	.833	.917
Cars	14	90	104	5	11	16	91	9	100	220
% Cars	100	100	100	100	100	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

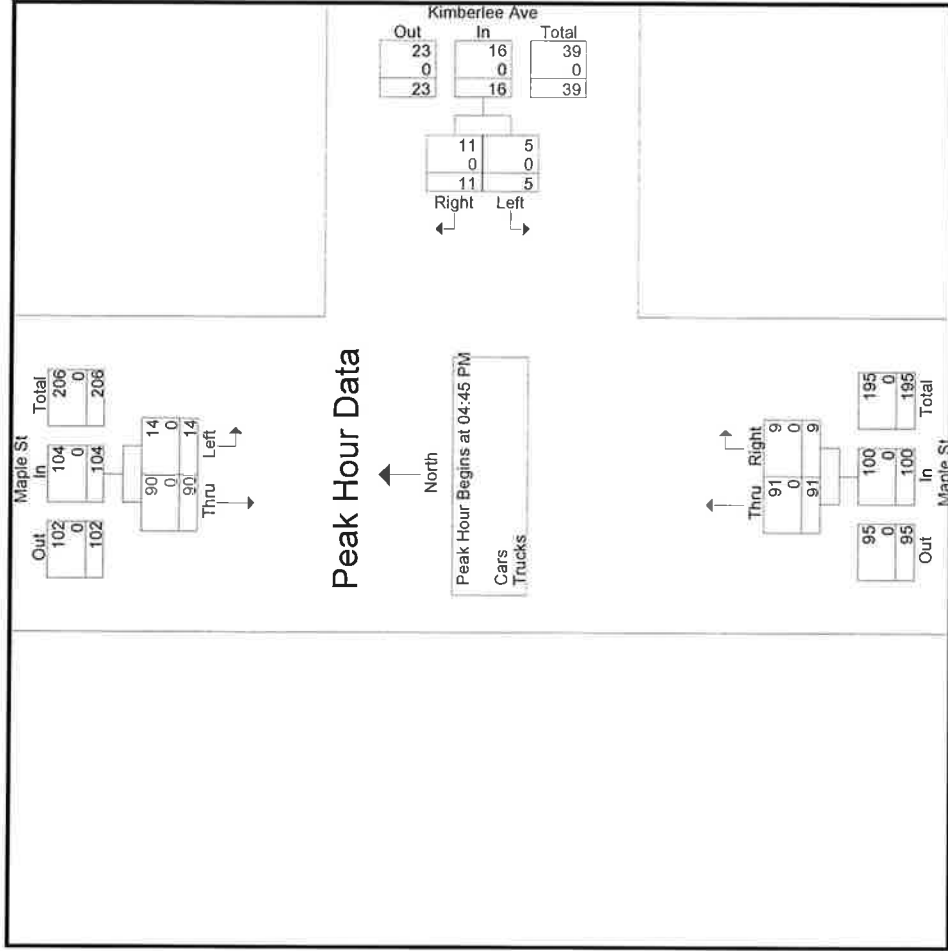
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:45 PM

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 3



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM	03:00 PM	05:00 PM	
+0 mins.	21	23	3	26
+15 mins.	5	32	9	30
+30 mins.	2	25	4	20
+45 mins.	5	24	1	30
Total Volume	14	104	17	106
% App. Total	13.5	86.5	91.5	8.5
PHF	.700	.813	.472	.750
				.836
				.883

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 5

Start Time	Maple St From North			Kimberlee Ave From East			Maple St From South			Int. Total
	Left	Thru	Right	Left	Thru	Right	Thru	Right		
03:00 PM	3	24	2	1	21	0			51	
03:15 PM	5	18	6	2	24	2			57	
03:30 PM	1	13	2	2	17	0			35	
03:45 PM	3	16	0	1	26	0			46	
Total	12	71	10	6	88	2			189	
04:00 PM	4	17	0	1	15	3			40	
04:15 PM	6	22	3	3	23	4			61	
04:30 PM	2	15	1	0	22	2			42	
04:45 PM	2	21	3	3	23	1			53	
Total	14	75	7	7	83	10			196	
05:00 PM	5	27	1	1	23	3			60	
05:15 PM	2	23	3	0	27	3			58	
05:30 PM	5	19	4	1	18	2			49	
05:45 PM	4	13	3	2	29	1			52	
Total	16	82	11	4	97	9			219	
Grand Total	42	228	28	17	268	21			604	
Approch %	15.6	84.4	62.2	37.8	92.7	7.3				
Total %	7	37.7	4.6	2.8	44.4	3.5				

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 9

Start Time	Maple St From North		Kimberlee Ave From East		Maple St From South		Int. Total
	Left	Thru	Left	Right	Thru	Right	
03:00 PM	0	0	0	0	1	0	1
03:15 PM	0	0	0	1	1	1	3
03:30 PM	0	0	0	0	0	0	0
03:45 PM	0	1	0	0	0	0	1
Total	0	1	0	1	2	1	5
04:00 PM	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0
Grand Total	0	1	0	1	2	1	5
Approch %	0	100	0	100	66.7	33.3	
Total %	0	20	0	20	40	20	

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 13

Start Time	Groups Printed- Bikes Peds											
	Maple St From North			Kimberlee Ave From East			Maple St From South			Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Peds	Left	Right	Peds	Thru	Right	Peds			
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	2	0	0	0	0	1	0	0	0	3	3
03:45 PM	0	0	0	0	0	0	1	0	0	0	1	1
Total	0	2	0	0	0	0	2	0	0	0	4	4
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	1	0	0	1	1	2
05:45 PM	0	0	0	1	0	2	1	0	0	2	2	4
Total	0	0	0	1	0	3	2	0	0	3	3	6
Grand Total	0	2	0	1	0	3	4	0	0	3	7	10
Apprch %	0	100		100	0		100	0				
Total %	0	28.6		14.3	0		57.1	0		30	70	

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Kimberlee Avenue
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870001
 Site Code : 77870001
 Start Date : 5/22/2019
 Page No : 14

Start Time	Maple St From North			Kimberlee Ave From East			Maple St From South			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
03:00 PM	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	2	2	0	0	0	1	0	1	3
03:45 PM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	2	2	0	0	0	2	0	2	4
% App. Total	0	100	0	0	0	0	100	0	0	0
PHIF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.333

Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 03:00 PM

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 1

Start Time	Maple St From North			Maple St From South			Franklin Springs Rd From West			Int. Total
	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	
07:00 AM	26	17	13	13	7	1	13	7	1	77
07:15 AM	12	22	10	19	6	3	19	6	3	72
07:30 AM	15	4	7	16	11	7	16	11	7	60
07:45 AM	20	2	2	9	8	0	9	8	0	41
Total	73	45	32	57	32	11	57	32	11	250
08:00 AM	22	1	5	12	4	0	12	4	0	44
08:15 AM	16	4	4	12	5	0	12	5	0	41
08:30 AM	11	1	4	9	4	6	9	4	6	35
08:45 AM	12	2	3	11	5	2	11	5	2	35
Total	61	8	16	44	18	8	44	18	8	155
Grand Total	134	53	48	101	50	19	101	50	19	405
Approch %	71.7	28.3	32.2	67.8	72.5	27.5	67.8	72.5	27.5	
Total %	33.1	13.1	11.9	24.9	12.3	4.7	24.9	12.3	4.7	
Cars	132	52	45	101	50	19	101	50	19	399
% Cars	98.5	98.1	93.8	100	100	100	100	100	100	98.5
Trucks	2	1	3	0	0	0	0	0	0	6
% Trucks	1.5	1.9	6.2	0	0	0	0	0	0	1.5

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 2

Start Time	Maple St From North			Maple St From South			Franklin Springs Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	26	17	43	13	13	26	1	7	8	77
07:15 AM	12	22	34	10	19	29	3	6	9	72
07:30 AM	15	4	19	7	16	23	7	11	18	60
07:45 AM	20	2	22	2	9	11	0	8	8	41
Total Volume	73	45	118	32	57	89	11	32	43	250
% App. Total	61.9	38.1		36	64		25.6	74.4		
PHF	.702	.511	.686	.615	.750	.767	.393	.727	.597	.812
Cars	72	44	116	31	57	88	11	32	43	247
% Cars	98.6	97.8	98.3	96.9	100	98.9	100	100	100	98.8
Trucks	1	1	2	1	0	1	0	0	0	3
% Trucks	1.4	2.2	1.7	3.1	0	1.1	0	0	0	1.2

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

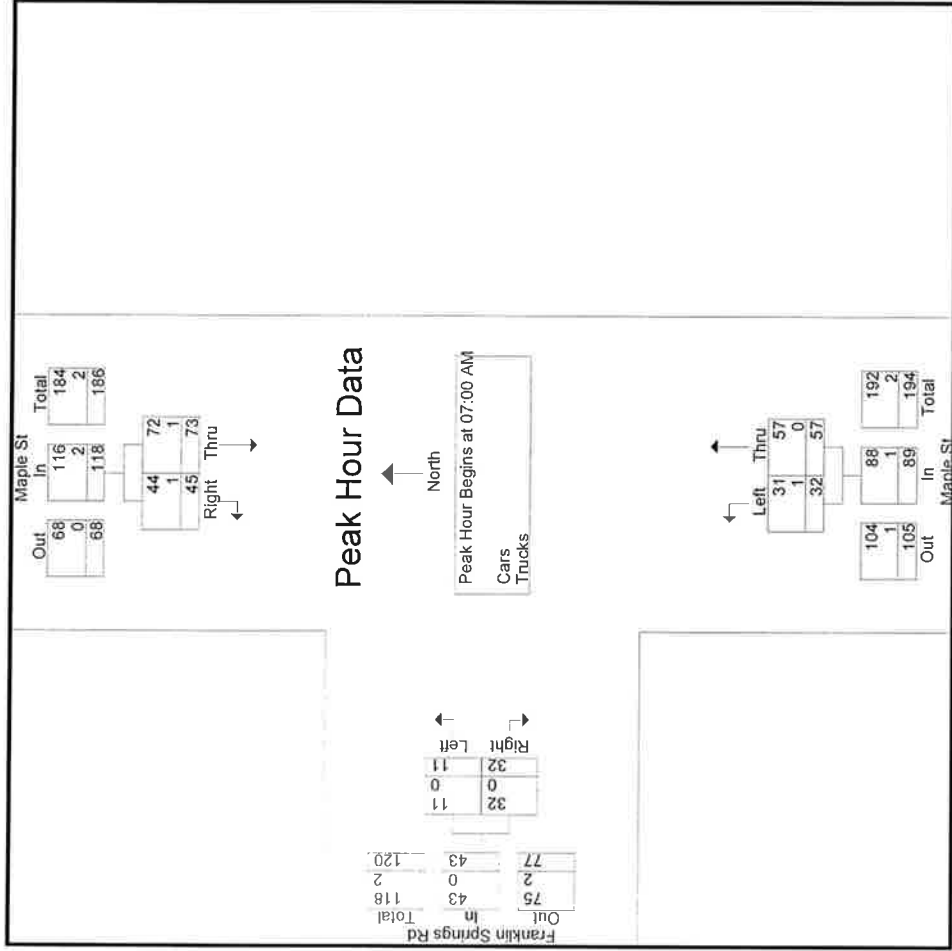
Peak Hour for Entire Intersection Begins at 07:00 AM

Accurate Counts

978-664-2565

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 3

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	17	43	13	26
+15 mins.	22	34	10	29
+30 mins.	4	19	7	23
+45 mins.	2	22	2	11
Total Volume	45	118	32	89
% App. Total	38.1	96.6	26.6	74.4

Accurate Counts
978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 5

Start Time	Maple St From North				Maple St From South				Franklin Springs Rd From West				Int. Total	
	Thru	Right	Left	Thru	Thru	Right	Left	Thru	Thru	Right	Left	Thru		Right
07:00 AM	25	16	12	13	13	7	1	13	13	7	1	13	7	74
07:15 AM	12	22	10	19	19	4	3	19	19	6	3	19	6	72
07:30 AM	15	4	7	16	16	2	7	16	16	11	7	16	11	60
07:45 AM	20	2	2	9	9	2	0	9	9	8	0	9	8	41
Total	72	44	31	57	57	44	11	57	57	32	11	57	32	247
08:00 AM	21	1	4	12	12	1	0	12	12	4	0	12	4	42
08:15 AM	16	4	3	12	12	4	0	12	12	5	0	12	5	40
08:30 AM	11	1	4	9	9	1	6	9	9	4	6	9	4	35
08:45 AM	12	2	3	11	11	2	2	11	11	5	2	11	5	35
Total	60	8	14	44	44	8	8	44	44	18	8	44	18	152
Grand Total	132	52	45	101	101	52	19	101	101	50	19	101	50	399
Approach %	71.7	28.3	30.8	69.2	69.2	28.3	27.5	69.2	69.2	72.5	27.5	69.2	72.5	
Total %	33.1	13	11.3	25.3	25.3	13	4.8	25.3	25.3	12.5	4.8	25.3	12.5	

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 9

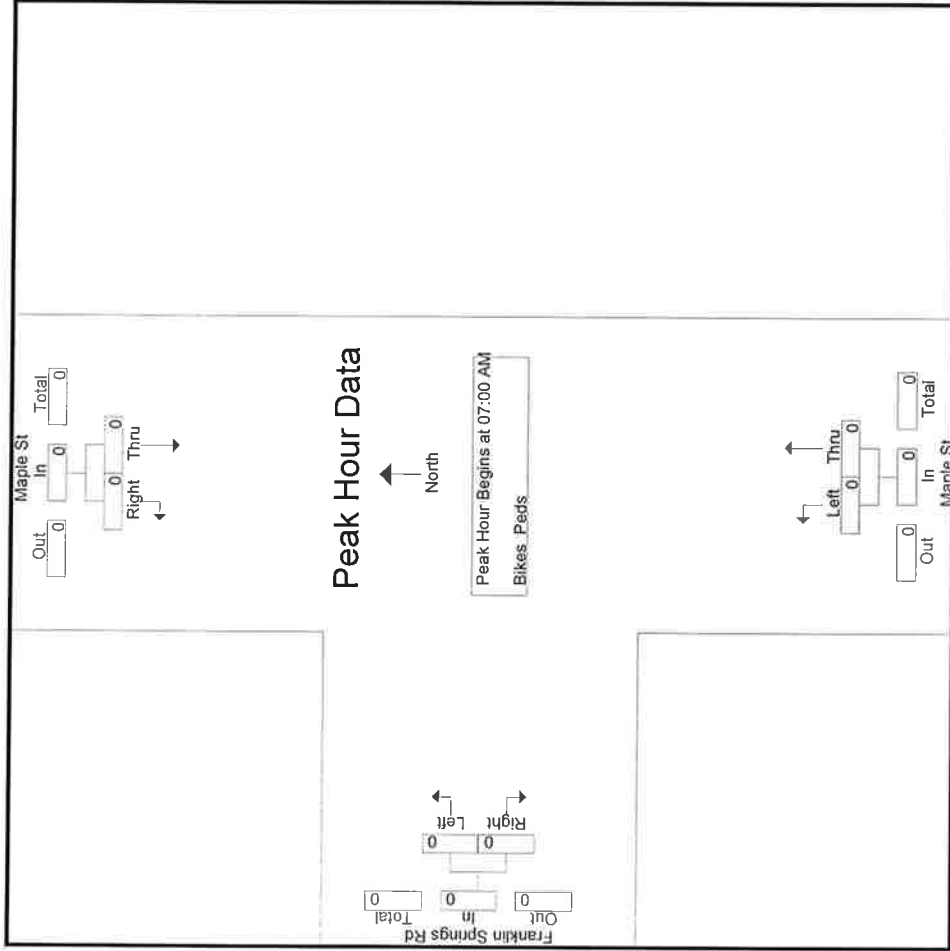
Groups Printed- Trucks

Start Time	Maple St From North		Maple St From South		Franklin Springs Rd From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
07:00 AM	1	1	1	0	0	0	3
07:15 AM	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0
Total	1	1	1	0	0	0	3
08:00 AM	1	0	1	0	0	0	2
08:15 AM	0	0	1	0	0	0	1
08:30 AM	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0
Total	1	0	2	0	0	0	3
Grand Total	2	1	3	0	0	0	6
Approch %	66.7	33.3	100	0	0	0	0
Total %	33.3	16.7	50	0	0	0	0

Accurate Counts
978-664-2565

File Name : 77870002
Site Code : 77870002
Start Date : 5/22/2019
Page No : 15

N/S Street : Maple Street
E/W Street : Franklin Springs Road
City/State : Franklin, MA
Weather : Clear



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0
+15 mins.	0	0	0
+30 mins.	0	0	0
+45 mins.	0	0	0
Total Volume	0	0	0

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 1

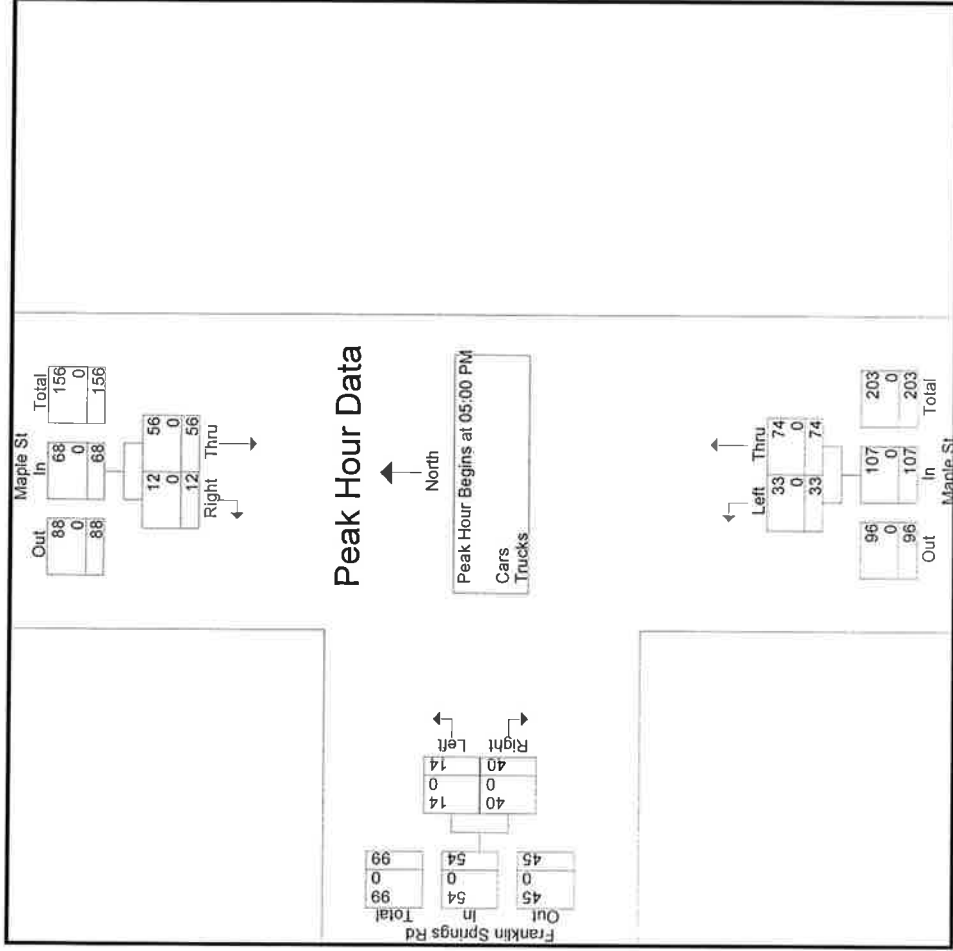
Start Time	Groups Printed- Cars - Trucks										Int. Total
	Maple St From North		Right	Maple St From South		Thru	Franklin Springs Rd From West		Right	Int. Total	
	Thru	Left		Left	Right		Left	Right			
03:00 PM	22	4	2	4	19	4	6	6	57		
03:15 PM	18	10	1	10	22	6	5	62			
03:30 PM	10	4	6	4	16	3	4	43			
03:45 PM	12	7	1	7	19	3	8	50			
Total	62	25	10	25	76	16	23	212			
04:00 PM	17	4	2	4	12	2	5	42			
04:15 PM	20	5	1	5	17	2	7	52			
04:30 PM	12	8	0	8	14	1	5	40			
04:45 PM	16	8	2	8	17	2	7	52			
Total	65	25	5	25	60	7	24	186			
05:00 PM	19	5	0	5	20	6	12	62			
05:15 PM	16	9	2	9	19	5	7	58			
05:30 PM	11	6	7	6	17	1	13	55			
05:45 PM	10	13	3	13	18	2	8	54			
Total	56	33	12	33	74	14	40	229			
Grand Total	183	83	27	83	210	37	87	627			
Approch %	87.1	28.3	12.9	28.3	71.7	29.8	70.2				
Total %	29.2	13.2	4.3	13.2	33.5	5.9	13.9				
Cars	182	81	27	81	210	37	87	624			
% Cars	99.5	97.6	100	97.6	100	100	100	99.5			
Trucks	1	2	0	2	0	0	0	3			
% Trucks	0.5	2.4	0	2.4	0	0	0	0.5			

Accurate Counts

978-664-2565

N/S Street : Maple Street
 EW Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 3



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM		05:00 PM		05:00 PM		05:00 PM		
+0 mins.	16	2	18	5	20	25	6	12	18
+15 mins.	19	0	19	9	19	28	5	7	12
+30 mins.	16	2	18	6	17	23	1	13	14
+45 mins.	11	7	18	13	18	31	2	8	10
Total Volume	62	11	73	33	74	107	14	40	54
% App. Total	84.9	15.1		30.8	69.2		25.9	74.1	
PHF	.816	.393	.961	.635	.925	.863	.583	.769	.750

Accurate Counts
978-664-2565

N/S Street : Maple Street
E/W Street : Franklin Springs Road
City/State : Franklin, MA
Weather : Clear

File Name : 77870002
Site Code : 77870002
Start Date : 5/22/2019
Page No : 5

Start Time	Maple St From North			Maple St From South			Franklin Springs Rd From West			Int. Total
	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	
03:00 PM	22	2	4	19	6	4				57
03:15 PM	18	1	8	22	5	6				60
03:30 PM	10	6	4	16	4	3				43
03:45 PM	11	1	7	19	8	3				49
Total	61	10	23	76	23	16				209
04:00 PM	17	2	4	12	5	2				42
04:15 PM	20	1	5	17	7	2				52
04:30 PM	12	0	8	14	5	1				40
04:45 PM	16	2	8	17	7	2				52
Total	65	5	25	60	24	7				186
05:00 PM	19	0	5	20	12	6				62
05:15 PM	16	2	9	19	7	5				58
05:30 PM	11	7	6	17	13	1				55
05:45 PM	10	3	13	18	8	2				54
Total	56	12	33	74	40	14				229
Grand Total	182	27	81	210	87	37				624
Apprch %	87.1	12.9	27.8	72.2	70.2	29.8				
Total %	29.2	4.3	13	33.7	13.9	5.9				

Accurate Counts

978-664-2565

N/S Street : Maple Street
 EW Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 13

Start Time	Maple St											Franklin Springs Rd				Int. Total
	From North						From South					From West		Exclu. Total	Inclu. Total	
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds	Left	Right	Peds				
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
03:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2
03:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Total	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	4
04:00 PM	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	1	1	1	2	2	2	3	3
05:00 PM	1	0	0	0	0	2	0	0	0	0	1	3	3	3	4	4
05:15 PM	1	0	0	0	0	2	0	0	0	0	0	2	2	2	3	3
05:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	0	2	0	0	0	0	0	2	2	2	2	2
Total	2	0	0	0	1	6	0	0	0	0	1	7	7	10	10	10
Grand Total	4	0	0	0	3	7	0	0	1	2	9	8	17	17	17	17
Approch %	100	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0
Total %	50	0	0	0	37.5	0	0	0	12.5	0	0	52.9	47.1	0	0	0

Accurate Counts

978-664-2565

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 14

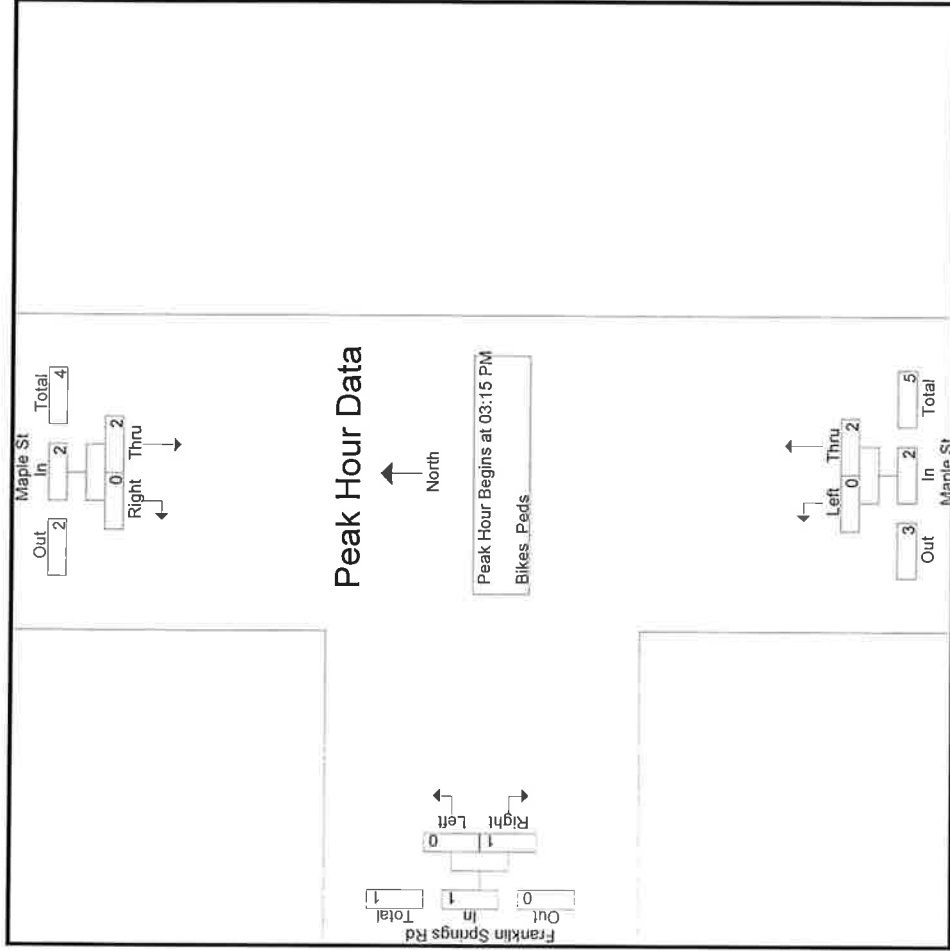
Start Time	Maple St From North			Maple St From South			Franklin Springs Rd From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 03:15 PM										
03:15 PM	1	0	1	0	0	0	0	0	0	0
03:30 PM	1	0	1	0	1	1	0	0	0	0
03:45 PM	0	0	0	0	1	1	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	2	2	0	0	1	1
% App. Total	100	0	100	0	100	100	0	0	100	100
PHF	.500	.000	.500	.000	.500	.500	.000	.250	.250	.625

Accurate Counts

978-664-2565

File Name : 77870002
 Site Code : 77870002
 Start Date : 5/22/2019
 Page No : 15

N/S Street : Maple Street
 E/W Street : Franklin Springs Road
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:00 PM	03:00 PM	03:15 PM	03:15 PM
+0 mins.	0	0	0	0
+15 mins.	1	0	0	0
+30 mins.	1	0	1	0
+45 mins.	0	0	0	0
Total Volume	2	0	2	1
% App. Total	100	0	100	100
PHF	.500	.000	.500	.250

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 1

Start Time	Groups Printed- Cars - Trucks										Int. Total
	Lincoln St From North			Lincoln St From South			Bridle Path From West			Right	
	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left		
07:00 AM	109	3	1	126	8	7					254
07:15 AM	128	2	1	87	5	3					226
07:30 AM	52	1	0	97	6	1					157
07:45 AM	38	0	4	59	4	5					110
Total	327	6	6	369	23	16					747
08:00 AM	74	1	1	73	3	2					154
08:15 AM	83	4	2	74	3	9					175
08:30 AM	59	1	2	61	3	8					134
08:45 AM	50	1	1	47	2	4					105
Total	266	7	6	255	11	23					568
Grand Total	593	13	12	624	34	39					1315
Apprch %	97.9	2.1	1.9	98.1	46.6	53.4					
Total %	45.1	1	0.9	47.5	2.6	3					
Cars	580	12	11	611	33	38					1285
% Cars	97.8	92.3	91.7	97.9	97.1	97.4					97.7
Trucks	13	1	1	13	1	1					30
% Trucks	2.2	7.7	8.3	2.1	2.9	2.6					2.3

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 2

Start Time	Lincoln St From North			Lincoln St From South			Bridle Path From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	109	3	112	1	126	127	7	8	15	254
07:15 AM	128	2	130	1	87	88	3	5	8	226
07:30 AM	52	1	53	0	97	97	1	6	7	157
07:45 AM	38	0	38	4	59	63	5	4	9	110
Total Volume	327	6	333	6	369	375	16	23	39	747
% App. Total	98.2	1.8		1.6	98.4		41	59		
PHF	.639	.500	.640	.375	.732	.738	.571	.719	.650	.735
Cars	320	5	325	5	364	369	15	22	37	731
% Cars	97.9	83.3	97.6	83.3	98.6	98.4	93.8	95.7	94.9	97.9
Trucks	7	1	8	1	5	6	1	1	2	16
% Trucks	2.1	16.7	2.4	16.7	1.4	1.6	6.3	4.3	5.1	2.1

Accurate Counts

978-664-2565

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 5

N/S Street : Lincoln Street
 EW Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

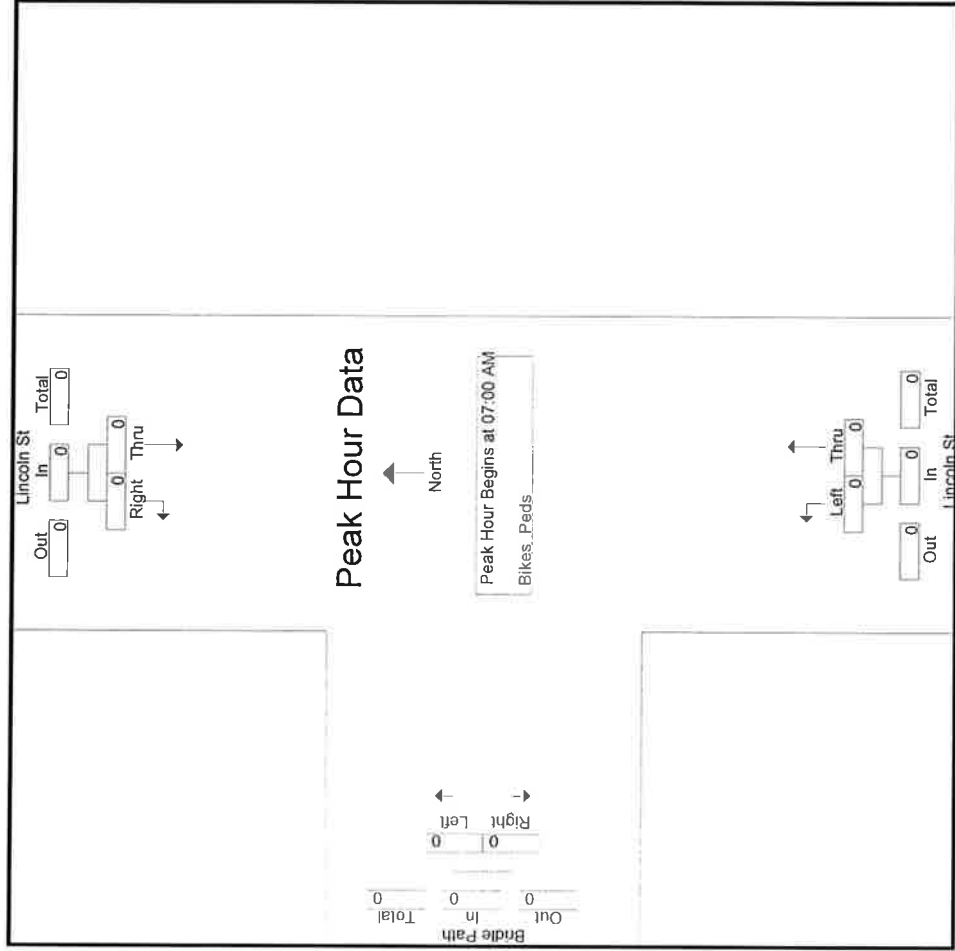
Groups Printed- Cars

Start Time	Lincoln St From North		Thru	Lincoln St From South		Bridle Path From West		Int. Total
	Thru	Right		Left	Right	Left	Right	
07:00 AM	105	2	124	1	7		7	246
07:15 AM	126	2	85	1	3		5	222
07:30 AM	51	1	96	0	1		6	155
07:45 AM	38	0	59	3	4		4	108
Total	320	5	364	5	15		22	731
08:00 AM	72	1	69	1	2		3	148
08:15 AM	81	4	72	2	9		3	171
08:30 AM	58	1	59	2	8		3	131
08:45 AM	49	1	47	1	4		2	104
Total	260	7	247	6	23		11	554
Grand Total	580	12	611	11	38		33	1285
Apprch %	98	2	98.2	1.8	53.5		46.5	
Total %	45.1	0.9	47.5	0.9	3		2.6	

Accurate Counts
978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 15



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM	07:00 AM	07:00 AM	07:00 AM
+0 mins.	0	0	0	0
+15 mins.	0	0	0	0
+30 mins.	0	0	0	0
+45 mins.	0	0	0	0
Total Volume	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 1

Start Time	Groups Printed- Cars - Trucks										Int. Total
	Lincoln St From North		Lincoln St From South		Bridle Path From West						
	Thru	Right	Left	Thru	Left	Right	Left	Right			
03:00 PM	67	5	2	63			0				137
03:15 PM	79	4	3	63			3				156
03:30 PM	104	1	4	76			3				189
03:45 PM	107	3	9	63			0				185
Total	357	13	18	265			6				667
04:00 PM	88	0	8	58			2				159
04:15 PM	89	4	2	57			2				163
04:30 PM	102	4	2	72			0				182
04:45 PM	102	7	6	92			0				207
Total	381	15	18	279			4				711
05:00 PM	116	2	3	78			4				206
05:15 PM	112	8	2	100			7				231
05:30 PM	100	3	3	91			2				203
05:45 PM	114	2	2	94			2				221
Total	442	15	10	363			15				861
Grand Total	1180	43	46	907			25				2239
Approch %	96.5	3.5	4.8	95.2			39.7				60.3
Total %	52.7	1.9	2.1	40.5			1.1				1.7
Cars	1173	43	46	901			25				2226
% Cars	99.4	100	100	99.3			100				99.4
Trucks	7	0	0	6			0				13
% Trucks	0.6	0	0	0.7			0				0.6

Accurate Counts
978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

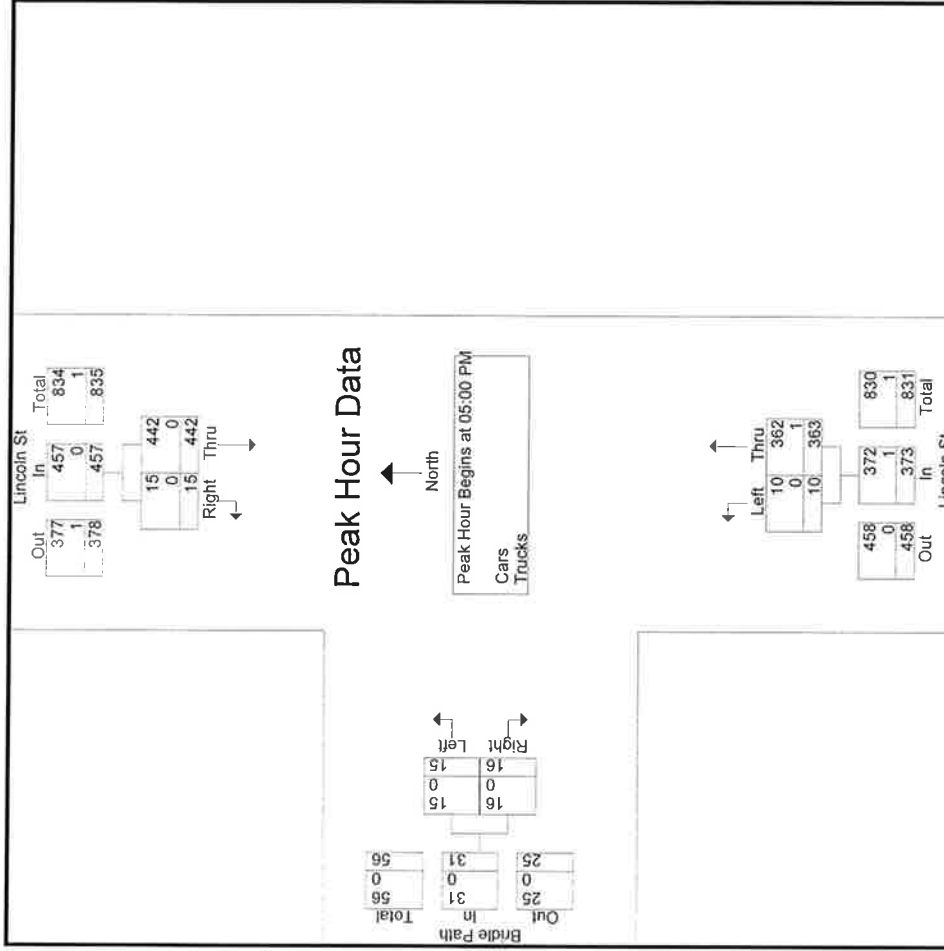
File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 2

Start Time	Lincoln St From North			Lincoln St From South			Bridle Path From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	116	2	118	3	78	81	4	3	7	206
05:15 PM	112	8	120	2	100	102	7	2	9	231
05:30 PM	100	3	103	3	91	94	2	4	6	203
05:45 PM	114	2	116	2	94	96	2	7	9	221
Total Volume	442	15	457	10	363	373	15	16	31	861
% App. Total	96.7	3.3	952	2.7	97.3	914	48.4	51.6	31	932
PHF	.953	.469	.952	.833	.908	.914	.536	.571	.861	.932
Cars	442	15	457	10	362	372	15	16	31	860
% Cars	100	100	100	100	99.7	99.7	100	100	100	99.9
Trucks	0	0	0	0	1	1	0	0	0	1
% Trucks	0	0	0	0	0.3	0.3	0	0	0	0.1

Accurate Counts
978-664-2565

File Name : 77870003
Site Code : 77870003
Start Date : 5/22/2019
Page No : 3

N/S Street : Lincoln Street
E/W Street : Bridle Path
City/State : Franklin, MA
Weather : Clear



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM		04:45 PM		05:00 PM	
+0 mins.	116	2	118	6	98	7
+15 mins.	112	8	120	3	81	9
+30 mins.	100	3	103	2	102	6
+45 mins.	114	2	116	3	94	9
Total Volume	442	15	457	14	375	31
% App. Total	96.7	3.3	96.3	3.7	48.4	51.6
PHF	.953	.469	.952	.583	.919	.571
				.536		.861

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 5

Start Time	Lincoln St From North		Lincoln St From South		Bridle Path From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
03:00 PM	63	5	2	63	0	0	133
03:15 PM	78	4	3	59	3	4	151
03:30 PM	104	1	4	76	3	1	189
03:45 PM	106	3	9	63	0	3	184
Total	351	13	18	261	6	8	657
04:00 PM	88	0	8	58	2	3	159
04:15 PM	88	4	2	57	2	9	162
04:30 PM	102	4	2	71	0	2	181
04:45 PM	102	7	6	92	0	0	207
Total	380	15	18	278	4	14	709
05:00 PM	116	2	3	78	4	3	206
05:15 PM	112	8	2	100	7	2	231
05:30 PM	100	3	3	91	2	4	203
05:45 PM	114	2	2	93	2	7	220
Total	442	15	10	362	15	16	860
Grand Total	1173	43	46	901	25	38	2226
Apprch %	96.5	3.5	4.9	95.1	39.7	60.3	
Total %	52.7	1.9	2.1	40.5	1.1	1.7	

Accurate Counts
978-664-2565

File Name : 77870003
Site Code : 77870003
Start Date : 5/22/2019
Page No : 9

N/S Street : Lincoln Street
EW Street : Bridle Path
City/State : Franklin, MA
Weather : Clear

Groups Printed- Trucks

Start Time	Lincoln St From North		Lincoln St From South		Bridle Path From West		Int. Total
	Thru	Right	Left	Thru	Left	Right	
03:00 PM	4	0	0	0	0	0	4
03:15 PM	1	0	0	4	0	0	5
03:30 PM	0	0	0	0	0	0	0
03:45 PM	1	0	0	0	0	0	1
Total	6	0	0	4	0	0	10
04:00 PM	0	0	0	0	0	0	0
04:15 PM	1	0	0	0	0	0	1
04:30 PM	0	0	0	1	0	0	1
04:45 PM	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	2
05:00 PM	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0
05:45 PM	0	0	0	1	0	0	1
Total	0	0	0	1	0	0	1
Grand Total	7	0	0	6	0	0	13
Approch %	100	0	0	100	0	0	
Total %	53.8	0	0	46.2	0	0	

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 13

Groups Printed- Bikes Peds

Start Time	Lincoln St From North			Lincoln St From South			Bridle Path From West			Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	Peds	Left	Thru	Peds	Left	Right	Peds			
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	2	0	0	2
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2
04:00 PM	1	0	0	0	0	0	0	0	1	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	1	0	1
Total	1	0	0	0	0	0	0	0	2	2	1	3
05:00 PM	1	0	0	0	0	0	0	0	2	2	1	3
05:15 PM	1	0	0	0	0	0	0	0	1	1	1	2
05:30 PM	0	0	0	0	4	0	0	0	2	2	4	6
05:45 PM	0	0	0	0	0	0	0	0	3	3	0	3
Total	2	0	0	0	4	0	0	0	8	8	6	14
Grand Total	3	0	0	0	4	0	0	0	12	12	7	19
Approch %	100	0	0	0	100	0	0	0				
Total %	42.9	0	0	0	57.1	0	0	0	63.2	63.2	36.8	36.8

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 EW Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 14

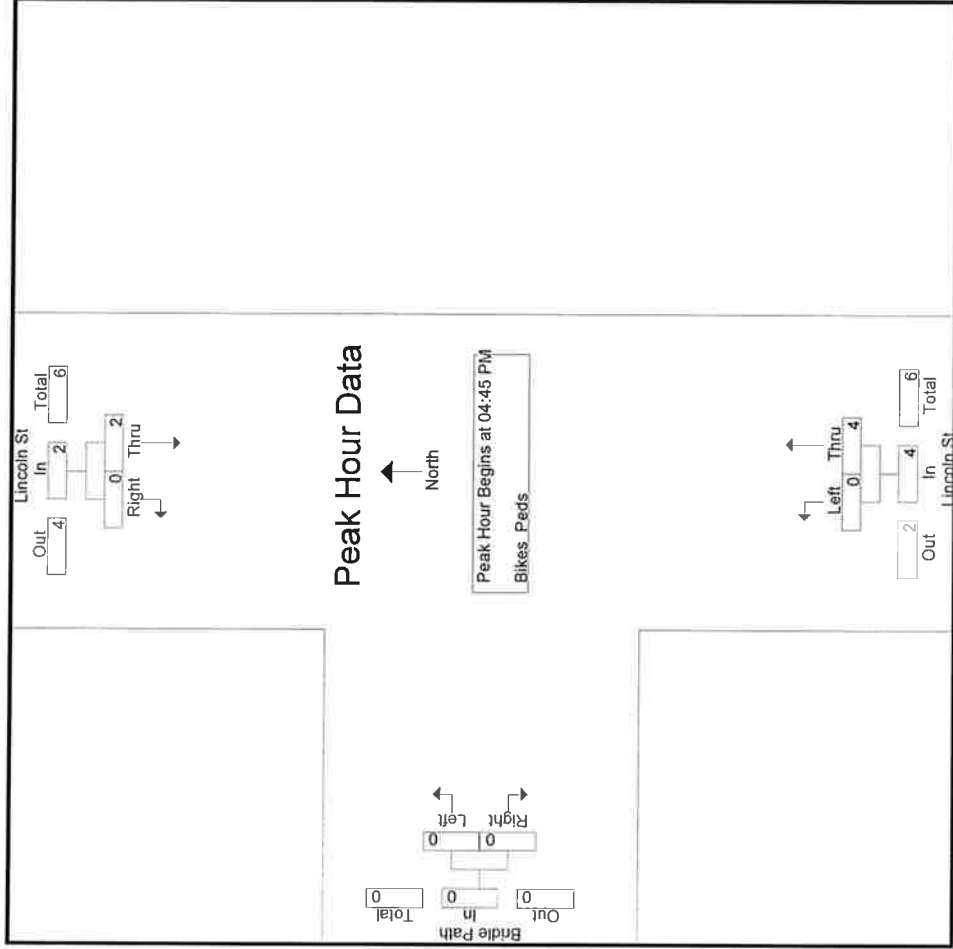
Start Time	Lincoln St From North			Lincoln St From South			Bridle Path From West			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	1	0	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	4	4	0	0	0	4
Total Volume	2	0	2	0	4	4	0	0	0	6
% App. Total	100	0	500	0	100	250	0	0	0	375
PHF	.500	.000	.500	.000	.250	.250	.000	.000	.000	.375

Accurate Counts

978-664-2565

N/S Street : Lincoln Street
 E/W Street : Bridle Path
 City/State : Franklin, MA
 Weather : Clear

File Name : 77870003
 Site Code : 77870003
 Start Date : 5/22/2019
 Page No : 15



Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:30 PM	04:45 PM	03:00 PM	
+0 mins.	0	0	0	0
+15 mins.	0	0	0	0
+30 mins.	1	0	0	0
+45 mins.	1	0	0	0
Total Volume	2	2	4	0
% App. Total	100	0	100	0
PHF	.500	.000	.250	.000
		.500	.250	.000
		.000	.250	.000

SEASONAL ADJUSTMENT DATA

Massachusetts Highway Department

3180: Monthly Hourly Volume for May 2018

Location ID:	3180																															
	County:	NORFOLK																														
		Functional Class	1																													
			Location:	INTERSTATE 495																												
			Seasonal Factor Group: U1-Boston														Daily Factor Group: U1-Boston															
			Axle Factor Group: U1-Boston														Growth Factor Group:															
	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	TOTAL							
1	394	308	265	367	795	2861	6348	8530	7637	5261	4245	4087	4331	4487	5704	7423	7984	8504	5815	3363	2406	1660	1091	746	94412	819	102818	2018 AADT	89053			
2	437	282	258	352	788	2944	6469	8664	7243	5557	4373	4274	4486	4716	6002	7787	8241	8188	5695	3457	2485	1831	1173	793	96495	819	102818	Seasonal Adjustment	0.958			
3	441	298	288	362	796	2855	6204	8309	7424	5617	4609	4582	4747	4870	6174	7859	8269	8752	6154	3740	2563	1846	1127	836	98722	819	102818					
4	445	311	295	382	808	2741	5690	7757	6982	5307	4992	5179	5578	5971	7528	8672	8620	8682	6148	3889	2889	2235	1622	1207	103930	819	102818					
5	636	396	303	317	417	1097	2311	3389	4309	5173	5485	5560	6004	6310	7020	6498	6461	5348	4439	3216	2859	2380	1841	1265	83034	819	102818					
6	670	398	228	202	222	467	1163	1946	2717	3557	4536	5462	5644	5956	6046	6046	5667	4994	4062	3097	2251	1431	913	625	68300	819	102818					
7	304	240	238	304	779	2966	6274	7917	7577	5308	4400	4284	4296	4422	5483	7179	8040	8357	5383	3270	2230	1525	984	636	92346	819	102818					
8	369	308	271	373	813	3030	6242	8468	7581	5710	4681	4349	4421	4931	6049	7917	8401	8396	5982	3538	2454	1698	1083	726	97791	819	102818					
9	422	345	274	371	834	2950	6331	8523	7695	5812	4612	4525	5022	5180	6650	8847	8741	8388	6087	4057	2947	2152	1234	819	102818	819	102818					
10	463	364	317	399	812	2869	5835	7902	7016	5584	5188	5357	5793	6296	7783	8859	8195	8903	6594	4169	3006	2358	1780	1251	107093	819	102818					
11	739	428	321	283	397	1057	2080	2857	3574	4371	5278	6030	6586	6923	7062	6933	7166	6359	5188	3718	2742	2518	2092	1224	85926	819	102818					
12	671	403	246	185	211	396	1062	1626	2428	3751	5050	6078	6302	6146	5780	6166	5740	5278	4875	3948	3011	1910	1064	653	72980	819	102818					
13	327	228	222	346	779	3008	6301	8626	7278	5439	4504	4426	4455	4687	5675	7378	7947	8338	5714	3335	2409	1618	977	674	94691	819	102818					
14	403	295	272	329	741	3081	6429	8550	7507	5488	4575	4254	4624	4764	6040	7464	8210	7861	5368	2865	2004	1409	928	689	94150	819	102818					
15	401	303	248	375	777	3071	6339	8705	7330	5657	4639	4652	4743	4892	6289	8321	8764	8674	5915	3632	2602	1910	1227	819	100285	819	102818					
16	424	327	286	389	804	3031	6339	8673	7595	5804	4856	4997	4970	5314	6636	8190	8791	8787	6375	3848	2778	2086	1381	943	103624	819	102818					
17	477	348	311	392	795	2925	5868	7828	6760	5387	5039	5369	5437	6003	7664	8761	8873	8612	6508	4082	2947	2291	1729	1159	105565	819	102818					
18	687	424	337	286	429	1064	2155	2971	3714	4210	5196	5738	6201	6325	6680	6728	6545	5834	4634	3483	2726	2394	2083	1278	82122	819	102818					
19	729	376	251	184	232	459	1137	2040	2739	3737	4859	5467	6040	6137	5922	5927	5854	5268	4283	3426	2509	1732	1043	646	70997	819	102818					
20	360	236	213	324	817	3055	6349	8566	7328	5494	4835	4619	4719	4691	5832	7616	8297	8309	5965	3431	2446	1615	1030	705	96852	819	102818					
21	451	300	250	368	824	2992	6516	8814	7438	5374	4605	4324	4593	5031	6133	7600	8582	8602	6157	3733	2398	1769	1104	720	98678	819	102818					
22	419	293	276	386	819	3016	6493	8469	7448	5848	4741	4626	4623	5011	6372	8140	8716	8678	6348	3693	2721	1970	1251	926	101283	819	102818					
23	473	313	292	398	814	3071	6536	8400	7252	5884	4936	5124	5235	5605	7255	8613	8780	7917	7323	4643	3200	2308	1495	1385	107252	819	102818					
24	1086	772	340	407	884	2929	5867	7407	6600	5335	5819	6096	6757	7160	7553	8407	8127	7211	5262	4393	3345	2706	1733	1304	107500	819	102818					
25	739	435	344	318	445	1011	2404	3418	4147	5222	5769	5917	5815	5568	5489	5489	5402	5447	4760	3722	2947	2452	1900	1640	80800	819	102818					
26	1276	442	269	201	245	391	1008	1655	2172	3191	4609	5401	5768	5805	5497	5517	5153	4742	4244	3381	2634	1698	1132	924	67355	819	102818					
27	536	258	229	222	245	490	1136	1669	2339	3547	4687	5317	5453	5446	5430	5474	6229	5258	4119	3474	2603	1760	1113	694	67728	819	102818					
28	363	234	230	366	780	3184	6544	8753	7438	5630	4798	4767	4828	4912	5863	7608	8224	8231	5936	3453	2369	1851	1180	816	98358	819	102818					
29	413	301	287	363	851	3089	6444	8532	7358	5814	4955	4798	4773	4959	6511	8285	8428	8438	6893	3711	2643	2106	1710	1293	102955	819	102818					
30	1038	584	310	386	866	3076	6525	8728	7437	5803	5396	4848	4924	5116	6552	8272	8723	8733	6299	4179	2835	2060	1332	898	104920	819	102818					
31																											May Average	92565				
																											2018 AADT	89053				
																											Seasonal Adjustment	0.958				

VEHICLE TRAVEL SPEED DATA

Accurate Counts
978-664-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787SPD1

NB

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
06/04/19	0	0	0	0	2	2	1	0	0	0	0	0	0	0	5
01:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	1	0	0	0	4	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	5	4	0	0	0	0	0	0	0	0	11
07:00	1	0	0	1	12	10	2	0	0	0	0	0	0	0	25
08:00	0	0	1	6	28	20	2	0	0	0	0	0	0	0	58
09:00	0	0	3	8	17	18	6	0	0	0	0	0	0	0	52
10:00	2	1	6	6	12	16	2	1	0	0	0	0	0	0	46
11:00	0	0	1	4	14	23	4	0	0	0	0	0	0	0	40
12:00	0	0	0	2	15	17	4	1	0	0	0	0	0	0	53
13:00	0	0	0	1	24	17	10	1	0	0	0	0	0	0	46
14:00	0	0	0	3	24	13	6	0	0	0	0	0	0	0	77
15:00	0	0	0	7	32	30	5	2	1	0	0	0	0	0	92
16:00	0	0	0	0	42	39	8	2	0	0	0	0	0	0	108
17:00	0	0	1	8	43	47	9	0	0	0	0	0	0	0	104
18:00	0	0	0	6	39	46	11	0	0	0	0	0	0	0	99
19:00	0	0	0	8	37	46	7	0	0	0	0	0	0	0	80
20:00	0	0	0	7	31	32	6	4	0	0	0	0	0	0	62
21:00	0	0	0	2	27	25	5	2	0	0	0	0	0	0	38
22:00	0	0	1	4	11	18	3	1	0	0	0	0	0	0	17
23:00	0	0	1	2	4	4	1	0	0	0	0	0	0	0	9
Total	4	6	17	76	428	431	94	15	1	0	0	0	0	0	1072

Daily

15th Percentile : 30 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 42 MPH

Mean Speed(Average) : 35 MPH
10 MPH Pace Speed : 31-40 MPH

Number in Pace : 859
Percent in Pace : 80.1%
Number of Vehicles > 35 MPH : 541
Percent of Vehicles > 35 MPH : 50.5%

Accurate Counts
978-664-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787SPD1

NB

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
06/05/19	0	0	0	1	2	2	0	0	0	0	0	0	0	0	5
01:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	1	1	1	0	4	6	2	0	0	0	0	0	0	0	15
06:00	0	1	0	1	7	9	5	0	0	0	0	0	0	0	23
07:00	0	0	0	6	30	24	5	0	0	0	0	0	0	0	65
08:00	1	0	2	7	26	15	3	0	0	0	0	0	0	0	54
09:00	0	2	1	6	14	13	4	0	0	0	0	0	0	0	40
10:00	0	0	2	1	16	16	1	2	0	0	0	0	0	0	38
11:00	0	1	1	6	19	17	5	2	0	0	0	0	0	0	51
12 PM	3	1	0	2	18	24	6	0	0	0	0	0	0	0	54
13:00	0	0	3	7	19	30	4	1	0	0	0	0	0	0	64
14:00	0	0	1	7	39	21	13	0	0	1	0	0	0	0	82
15:00	0	0	0	11	23	33	13	0	0	0	0	0	0	0	80
16:00	0	0	2	7	35	39	5	2	0	0	0	0	0	0	90
17:00	0	0	1	5	34	46	12	0	0	0	0	0	0	0	98
18:00	0	2	0	1	45	48	19	2	0	0	0	0	0	0	115
19:00	0	0	0	2	23	30	10	2	0	0	0	0	0	0	67
20:00	0	1	0	10	32	21	7	0	0	0	0	0	0	0	71
21:00	0	0	2	4	16	13	3	0	0	0	0	0	0	0	38
22:00	0	0	0	2	5	4	0	1	0	0	0	0	0	0	12
23:00	0	0	0	3	7	3	1	0	0	0	0	0	0	0	14
Total	5	9	16	89	415	414	118	12	1	1	0	0	0	0	1079

Daily
15th Percentile : 30 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 43 MPH

Mean Speed(Average) : 35 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 829
Percent in Pace : 76.8%
Number of Vehicles > 35 MPH : 545
Percent of Vehicles > 35 MPH : 50.5%

Grand Total : 9 15 33 165 843 845 212 27 1 1 0 0 0 0 2151

Overall
15th Percentile : 30 MPH
50th Percentile : 35 MPH
85th Percentile : 39 MPH
95th Percentile : 43 MPH

Mean Speed(Average) : 35 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 1688
Percent in Pace : 78.5%
Number of Vehicles > 35 MPH : 1086
Percent of Vehicles > 35 MPH : 50.5%

Accurate Counts
978-864-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787SPD1

SB

Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
06/04/19	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
05:00	0	0	0	1	1	5	3	1	0	0	0	0	0	0	11
06:00	1	0	0	1	15	24	13	0	0	0	0	0	0	0	54
07:00	0	1	1	5	33	51	17	1	0	0	0	0	0	0	109
08:00	0	1	1	6	18	49	7	0	0	0	0	0	0	0	82
09:00	0	0	0	7	17	20	5	2	1	0	0	0	0	0	52
10:00	0	0	4	3	12	15	3	2	0	0	0	0	0	0	39
11:00	0	0	0	0	14	20	6	0	0	0	0	0	0	0	40
12 PM	0	3	1	4	18	19	11	0	0	0	0	0	0	0	56
13:00	0	0	2	6	19	18	4	1	0	0	0	0	0	0	50
14:00	0	0	5	2	27	21	11	0	1	0	0	0	0	0	67
15:00	0	0	0	0	24	37	8	2	1	0	0	0	0	0	79
16:00	0	0	2	3	20	22	9	1	0	0	0	0	0	0	57
17:00	2	0	1	5	31	38	15	1	1	0	0	0	0	0	94
18:00	0	1	3	5	29	32	19	2	0	0	0	0	0	0	91
19:00	0	0	0	1	11	26	3	0	0	0	0	0	0	0	41
20:00	0	1	2	3	13	18	1	0	0	0	0	0	0	0	38
21:00	0	1	1	8	8	8	3	0	0	0	0	0	0	0	22
22:00	0	0	0	0	0	8	3	0	0	0	0	0	0	0	12
23:00	0	0	0	0	4	1	3	0	0	0	0	0	0	0	7
Total	3	8	23	61	315	432	146	13	5	0	0	0	0	0	1006

Daily
 15th Percentile : 30 MPH
 50th Percentile : 36 MPH
 85th Percentile : 40 MPH
 95th Percentile : 43 MPH
 Mean Speed(Average) : 36 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 747
 Percent in Pace : 74.3%
 Number of Vehicles > 35 MPH : 596
 Percent of Vehicles > 35 MPH : 59.2%

Accurate Counts
978-864-2565

Location : Maple Street
Location : South of Kimberlee Avenue
City/State: Franklin, MA

7787SPDI

SB

Start Time	15	16	21	25	26	31	36	41	46	51	56	61	66	71	76	Total
06/05/19	0	0	0	0	0	3	1	0	1	1	0	0	0	0	0	6
01:00	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00	0	0	0	0	1	2	7	5	0	0	0	0	0	0	0	15
06:00	1	0	0	0	3	12	25	13	2	0	0	0	0	0	0	56
07:00	0	0	1	1	6	38	63	16	1	0	0	0	0	0	0	125
08:00	0	1	0	0	4	31	39	13	1	0	0	0	0	0	0	89
09:00	0	0	2	2	4	15	29	8	1	1	0	0	0	0	0	60
10:00	0	0	1	1	7	21	16	7	0	0	0	0	0	0	0	51
11:00	0	1	3	1	1	11	22	11	2	0	0	0	0	0	0	45
12 PM	0	0	4	4	5	18	13	5	0	0	0	0	0	0	0	56
13:00	0	1	0	0	3	18	26	8	0	0	0	0	0	0	0	83
14:00	0	3	2	2	9	26	31	12	0	0	0	0	0	0	0	90
15:00	0	0	2	2	10	35	31	12	0	0	0	0	0	0	0	77
16:00	0	0	1	1	6	28	31	8	2	1	0	0	0	0	0	87
17:00	0	0	0	0	6	23	43	12	2	1	0	0	0	0	0	86
18:00	0	0	1	1	2	20	48	14	1	0	0	0	0	0	0	53
19:00	0	1	2	2	3	20	21	5	0	1	0	0	0	0	0	42
20:00	0	1	0	0	4	18	9	9	0	1	0	0	0	0	0	22
21:00	0	0	1	1	1	13	6	1	0	0	0	0	0	0	0	10
22:00	0	0	0	0	3	4	2	1	0	0	0	0	0	0	0	7
23:00	0	0	0	0	0	5	1	1	0	0	0	0	0	0	0	7
Total	1	8	20	20	78	361	465	164	14	5	0	0	0	0	0	1116

Daily

15th Percentile : 30 MPH
 50th Percentile : 35 MPH
 85th Percentile : 40 MPH
 95th Percentile : 43 MPH

Mean Speed(Average) : 36 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 826
 Percent in Pace : 74.0%
 Number of Vehicles > 35 MPH : 648
 Percent of Vehicles > 35 MPH : 58.1%

Grand Total 4 16 43 139 897 310 27 10 0 0 0 0 0 0 0 0 2122

Overall

15th Percentile : 30 MPH
 50th Percentile : 36 MPH
 85th Percentile : 40 MPH
 95th Percentile : 43 MPH

Mean Speed(Average) : 36 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 1573
 Percent in Pace : 74.1%
 Number of Vehicles > 35 MPH : 1244
 Percent of Vehicles > 35 MPH : 58.6%

7787SPD3

Accurate Counts
978-664-2565

Location : Lincoln Street
 Location : South of Bridle Path
 City/State: Franklin, MA

SB

Start Time	1	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
05:22/19	0	0	0	0	2	7	1	0	0	0	0	0	0	0	0	11
01:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	5
04:00	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	17
05:00	3	3	3	1	2	6	9	0	0	0	0	0	0	0	0	55
06:00	3	9	9	6	12	21	14	7	4	0	0	0	0	0	0	147
07:00	34	22	28	28	86	131	55	9	2	0	0	0	0	0	0	343
08:00	15	8	13	13	91	108	31	3	0	0	0	0	0	0	0	269
09:00	10	7	4	4	27	96	45	5	0	0	0	0	0	0	0	194
10:00	6	10	7	7	18	82	52	5	0	0	0	0	0	0	0	180
11:00	10	7	5	5	29	84	54	0	0	0	0	0	0	0	0	189
12:PM	15	8	12	12	31	80	48	4	1	0	0	0	0	0	0	199
13:00	17	10	7	7	32	99	48	5	0	0	0	0	0	0	0	218
14:00	19	5	7	7	100	107	29	2	0	0	0	0	0	0	0	269
15:00	16	8	12	12	53	186	80	2	0	0	0	0	0	0	0	357
16:00	15	10	14	14	60	175	100	12	0	0	0	0	0	0	0	386
17:00	26	12	14	14	71	219	98	9	1	0	0	0	0	0	0	450
18:00	20	8	8	8	58	198	84	7	0	0	0	0	0	0	0	383
19:00	7	10	14	14	35	132	89	4	0	0	0	0	0	0	0	291
20:00	7	4	4	5	30	76	27	2	0	0	0	0	0	0	0	153
21:00	3	5	4	4	13	43	20	3	0	0	0	0	0	0	0	91
22:00	2	2	1	1	6	16	11	3	0	0	0	0	0	0	0	42
23:00	1	0	0	0	3	6	6	1	1	0	0	0	0	0	0	18
Total	230	150	162	162	759	1925	944	88	11	0	0	0	0	0	0	4269

Daily

15th Percentile : 25 MPH
 50th Percentile : 32 MPH
 85th Percentile : 37 MPH
 95th Percentile : 39 MPH

Mean Speed(Average) : 31 MPH
 10 MPH Pace Speed : 31-40 MPH

Number in Pace : 2869

Percent in Pace : 67.2%
 Number of Vehicles > 35 MPH : 1043
 Percent of Vehicles > 35 MPH : 24.4%

Accurate Counts
978-664-2565

Location : Lincoln Street
Location : South of Bridle Path
City/State: Franklin, MA
SB

7787SPD3

Start Time	1	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
05/23/19	0	0	0	0	1	4	3	1	0	0	0	0	0	0	0	9
01:00	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	7
04:00	3	1	1	1	1	6	3	3	1	0	0	0	0	0	0	19
05:00	2	0	3	0	3	15	18	7	1	0	0	0	0	0	0	49
06:00	7	13	4	4	12	52	46	10	1	0	0	0	0	0	0	144
07:00	26	21	16	21	50	143	50	1	1	0	0	0	0	0	0	329
08:00	18	12	10	10	54	120	43	4	0	0	0	0	0	0	0	261
09:00	8	10	4	4	23	99	57	7	0	0	0	0	0	0	0	208
10:00	7	6	6	6	24	95	43	5	0	0	0	0	0	0	0	186
11:00	11	5	8	5	30	78	44	6	0	0	0	0	0	0	0	185
12:00 PM	14	4	4	8	31	100	49	6	1	0	0	0	0	0	0	213
13:00	21	8	8	9	31	108	52	5	1	0	0	0	0	0	0	235
14:00	38	18	23	23	61	104	28	1	0	0	0	0	0	0	0	273
15:00	33	20	14	20	78	179	62	7	0	0	0	0	0	0	0	393
16:00	25	15	16	16	58	173	110	6	0	0	0	0	0	0	0	403
17:00	22	6	17	17	98	202	90	11	0	0	0	0	0	0	0	446
18:00	21	12	10	10	32	137	105	2	0	0	0	0	0	0	0	319
19:00	9	11	9	9	28	105	54	13	1	0	0	0	0	0	0	230
20:00	5	6	4	4	25	59	30	1	1	0	0	0	0	0	0	131
21:00	4	2	4	4	16	31	22	2	0	0	0	0	0	0	0	81
22:00	2	0	2	2	10	10	18	2	1	0	0	0	0	0	0	36
23:00	1	1	1	2	2	11	5	3	0	0	0	0	0	0	0	25
Total	278	169	175	1834	680	1834	996	103	11	0	0	0	0	0	0	4186

Daily
15th Percentile : 25 MPH
50th Percentile : 32 MPH
85th Percentile : 37 MPH
95th Percentile : 39 MPH
Mean Speed(Average) : 31 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 2770
Percent in Pace : 66.2%
Number of Vehicles > 35 MPH : 1050
Percent of Vehicles > 35 MPH : 25.1%

Grand Total	508	319	337	3759	1439	3759	1880	191	22	0	0	0	0	0	0	8455
-------------	-----	-----	-----	------	------	------	------	-----	----	---	---	---	---	---	---	------

Overall
15th Percentile : 25 MPH
50th Percentile : 32 MPH
85th Percentile : 37 MPH
95th Percentile : 39 MPH
Mean Speed(Average) : 31 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 5639
Percent in Pace : 66.7%
Number of Vehicles > 35 MPH : 2093
Percent of Vehicles > 35 MPH : 24.8%

7787SPD3

Accurate Counts
978-664-2565

Location : Lincoln Street
Location : South of Bridle Path
City/State: Franklin, MA

NB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
05/22/19	0	0	1	2	6	4	0	0	0	0	0	0	0	0	13
01:00	0	0	0	1	2	5	1	1	0	0	0	0	0	0	10
02:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	2	0	1	0	0	0	0	0	0	0	3
04:00	0	0	1	0	4	6	4	0	0	0	0	0	0	0	15
05:00	2	0	5	0	14	35	13	1	0	1	0	0	0	0	71
06:00	1	3	5	19	83	83	20	1	0	0	0	0	0	0	215
07:00	33	15	20	63	139	77	13	0	0	0	0	0	0	0	360
08:00	12	4	14	36	107	73	8	1	0	0	0	0	0	0	255
09:00	11	6	15	7	66	70	15	0	0	0	0	0	0	0	190
10:00	4	2	9	22	68	59	10	0	0	0	0	0	0	0	174
11:00	4	7	5	12	86	63	10	1	0	0	0	0	0	0	188
12:PM	6	5	4	10	76	58	14	0	0	0	0	0	0	0	173
13:00	4	5	12	15	85	90	11	0	0	0	0	0	0	0	222
14:00	28	8	18	47	141	70	6	1	0	0	0	0	0	0	319
15:00	23	8	8	27	119	90	11	1	0	0	0	0	0	0	287
16:00	16	11	11	12	92	128	27	1	0	0	0	0	0	0	298
17:00	31	7	18	19	148	123	21	0	1	0	0	0	0	0	368
18:00	18	13	13	17	103	138	12	0	0	0	0	0	0	0	314
19:00	4	8	19	21	126	87	10	2	0	0	0	0	0	0	277
20:00	5	6	11	17	86	68	4	1	0	0	0	0	0	0	198
21:00	2	2	5	8	73	43	2	0	0	0	0	0	0	0	135
22:00	3	2	1	4	25	15	4	0	0	0	0	0	0	0	54
23:00	0	0	0	2	13	8	4	0	0	0	0	0	0	0	27
Total	207	112	195	361	1667	1393	221	11	1	1	0	0	0	0	4169

Daily
15th Percentile : 26 MPH
50th Percentile : 33 MPH
85th Percentile : 38 MPH
95th Percentile : 40 MPH
Mean Speed(Average) : 33 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 3060
Percent in Pace : 73.4%
Number of Vehicles > 35 MPH : 1627
Percent of Vehicles > 35 MPH : 39.0%

Accurate Counts
978-664-2565

Location : Lincoln Street
 Location : South of Bridle Path
 City/State: Franklin, MA

SB, NB

Start Time	1	15	16	20	21	25	26	30	31	35	36	40	41	45	46	50	51	55	56	60	61	65	66	70	71	75	76	Total	
05/22/19	1	15	16	20	21	25	26	30	31	35	36	40	41	45	50	51	55	56	60	61	65	66	70	71	75	76	999		
01:00	0	0	0	0	1	0	4	1	13	2	5	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24
02:00	0	0	0	0	0	0	1	0	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
03:00	0	0	0	0	0	0	0	0	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	0	2	2	1	0	0	0	2	1	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
05:00	5	0	3	2	6	1	2	0	10	0	15	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
06:00	4	11	12	31	11	35	2	35	35	49	49	20	20	20	5	1	1	1	1	1	0	0	0	0	0	0	0	0	126
07:00	67	37	37	149	48	134	31	134	134	138	138	138	29	29	3	3	0	0	0	0	0	0	0	0	0	0	0	0	362
08:00	27	12	12	27	27	215	127	215	215	117	104	117	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	703
09:00	21	13	13	34	19	34	34	162	162	115	115	115	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	524
10:00	10	12	12	40	16	40	41	150	150	111	111	111	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	384
11:00	14	10	10	41	10	41	41	170	170	117	117	117	10	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	354
12:PM	21	13	13	41	16	41	41	170	170	117	117	117	10	10	1	1	0	0	0	0	0	0	0	0	0	0	0	0	377
13:00	21	15	15	47	19	47	47	156	156	106	106	106	18	18	1	1	0	0	0	0	0	0	0	0	0	0	0	0	372
14:00	47	13	13	147	25	147	147	184	184	138	138	138	16	16	1	1	0	0	0	0	0	0	0	0	0	0	0	0	440
15:00	39	16	16	20	20	20	80	147	248	99	170	170	8	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	588
16:00	31	21	21	21	25	25	72	80	305	170	170	170	13	13	1	1	0	0	0	0	0	0	0	0	0	0	0	0	644
17:00	57	19	19	32	32	32	72	80	267	228	228	228	39	39	1	1	0	0	0	0	0	0	0	0	0	0	0	0	684
18:00	38	21	21	32	32	32	90	90	367	221	221	221	30	30	1	1	0	0	0	0	0	0	0	0	0	0	0	0	818
19:00	11	18	18	21	33	33	75	75	301	222	222	222	19	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	697
20:00	12	10	10	16	16	16	47	47	258	176	176	176	14	14	2	2	0	0	0	0	0	0	0	0	0	0	0	0	566
21:00	5	7	7	47	9	9	47	47	164	95	95	95	6	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	351
22:00	5	4	4	2	2	2	21	21	116	63	63	63	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226
23:00	1	0	0	4	0	0	5	5	41	26	26	26	7	7	1	1	0	0	0	0	0	0	0	0	0	0	0	0	96
Total	437	262	262	1120	357	1120	1120	1120	3592	2337	2337	2337	309	309	22	22	1	1	1	1	0	0	0	0	0	0	0	0	8438

Daily
 15th Percentile : 25 MPH
 50th Percentile : 32 MPH
 85th Percentile : 38 MPH
 95th Percentile : 39 MPH
 Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 5929
 Percent in Pace : 70.3%
 Number of Vehicles > 35 MPH : 2670
 Percent of Vehicles > 35 MPH : 31.6%

Accurate Counts
978-864-2565

Location : Lincoln Street
 Location : South of Bridle Path
 City/State: Franklin, MA
SB, NB

7787SPD3

Start Time	16	21	26	31	36	41	46	51	56	61	66	71	76	Total
05/23/19	15	20	25	30	35	40	45	50	55	60	65	70	75	21
01:00	0	0	0	2	6	9	2	0	0	0	0	0	0	6
02:00	0	0	0	1	2	2	0	0	0	0	0	0	0	4
03:00	0	0	0	0	0	4	0	0	0	0	0	0	0	4
04:00	3	1	3	2	8	10	1	3	0	0	0	0	0	9
05:00	2	5	2	4	33	51	3	1	0	0	0	0	0	33
06:00	10	17	15	36	138	132	31	1	0	0	0	0	0	118
07:00	48	32	47	131	265	127	12	1	0	0	0	0	0	360
08:00	31	20	17	75	211	126	18	0	0	0	0	0	0	663
09:00	13	15	14	33	167	119	17	0	0	0	0	0	0	499
10:00	15	8	22	38	165	115	18	0	0	0	0	0	0	360
11:00	25	20	20	60	163	86	2	0	0	0	0	0	0	382
12 PM	23	10	17	48	182	119	0	0	0	0	0	0	0	351
13:00	25	21	19	46	194	116	22	0	0	0	0	0	0	422
14:00	63	30	48	97	252	87	20	0	0	0	0	0	0	443
15:00	48	19	30	107	311	136	12	0	0	0	0	0	0	589
16:00	41	29	30	84	277	218	24	0	0	0	0	0	0	677
17:00	47	14	37	125	277	218	1	0	0	0	0	0	0	699
18:00	32	24	29	44	325	191	2	1	1	0	0	0	0	768
19:00	18	16	25	40	239	199	2	0	0	0	0	0	0	568
20:00	8	10	11	33	197	124	2	0	0	0	0	0	0	445
21:00	7	4	9	38	162	96	1	0	0	0	0	0	0	330
22:00	2	0	4	3	89	62	0	0	0	0	0	0	0	217
23:00	1	1	5	4	23	53	2	0	0	0	0	0	0	96
Total	456	301	404	1051	3431	2200	329	27	2	0	0	0	0	8202

Daily
 15th Percentile : 25 MPH
 50th Percentile : 32 MPH
 85th Percentile : 38 MPH
 95th Percentile : 39 MPH

Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 5631
 Percent in Pace : 68.7%
 Number of Vehicles > 35 MPH : 2559
 Percent of Vehicles > 35 MPH : 31.2%

Grand Total	893	563	761	2171	7023	4537	638	49	3	2	0	0	0	16540
-------------	-----	-----	-----	------	------	------	-----	----	---	---	---	---	---	-------

Overall
 15th Percentile : 25 MPH
 50th Percentile : 32 MPH
 85th Percentile : 38 MPH
 95th Percentile : 39 MPH

Mean Speed(Average) : 32 MPH
 10 MPH Pace Speed : 31-40 MPH
 Number in Pace : 11560
 Percent in Pace : 69.5%
 Number of Vehicles > 35 MPH : 5229
 Percent of Vehicles > 35 MPH : 31.4%

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
 Location : East of Maple Street
 City/State: Franklin, MA

EB

Start Time	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	36	37	39	40	Total
05/22/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	1	1	5	1	1	2	2	0	1	1	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2	5	1	1	1	1	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 PM	0	0	0	0	0	0	0	0	1	1	3	4	4	4	4	4	3	3	3	2	2	1	1	1	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	1	0	0	0	0	0	0	0	2	2	0	0	4	5	5	3	5	4	2	2	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	3	4	4	7	7	10	7	2	2	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	4	4	4	10	10	5	5	4	4	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	2	2	1	1	7	7	2	2	6	6	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	5	5	1	1	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	3	5	5	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1	1	5	5	16	16	37	37	65	65	65	26	26	1	1	1	1	1	0	0	218	

Daily
 15th Percentile : 18 MPH
 50th Percentile : 23 MPH
 85th Percentile : 26 MPH
 95th Percentile : 28 MPH
 Mean Speed(Average) : 23 MPH
 10 MPH Pace Speed : 19-28 MPH
 Number in Pace : 176
 Percent in Pace : 80.7%
 Number of Vehicles > 25 MPH : 71
 Percent of Vehicles > 25 MPH : 32.7%

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

7787SPD2

Start Time	1	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/23/19	1	0	0	0	0	1	0	1	1	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	1	0	0	0	0	0	1	1	1	0	0	0	0	0	3
07:00	0	0	0	0	0	1	6	2	1	0	0	0	0	0	10
08:00	1	0	0	0	0	2	0	5	3	0	0	0	0	0	11
09:00	0	0	0	0	0	0	2	1	0	1	0	0	0	0	2
10:00	0	0	0	0	0	2	2	6	1	1	0	0	0	0	12
11:00	0	0	0	0	1	2	1	6	1	0	0	0	0	0	11
12 PM	0	0	0	1	0	0	3	5	3	2	0	0	0	0	14
13:00	0	0	0	0	0	0	1	3	2	4	1	0	0	0	11
14:00	2	0	0	0	0	0	1	3	2	4	1	0	0	0	14
15:00	0	0	0	0	0	2	2	8	3	2	0	0	0	0	17
16:00	0	0	0	0	0	0	2	6	4	3	0	0	0	0	17
17:00	0	0	0	0	0	0	2	4	0	6	1	0	0	0	13
18:00	0	0	0	0	0	1	2	11	9	1	0	0	0	0	24
19:00	0	0	0	0	0	1	7	7	4	3	1	0	0	0	23
20:00	1	0	0	0	0	1	1	6	5	3	1	0	0	0	17
21:00	2	2	1	0	2	1	3	1	6	1	0	0	0	0	15
22:00	1	0	1	0	1	0	1	2	3	0	0	0	0	0	11
23:00	0	0	0	0	1	0	2	1	0	0	0	0	0	0	6
Total	9	2	2	1	4	15	36	78	47	27	4	1	0	0	225

Daily
 15th Percentile : 18 MPH
 50th Percentile : 22 MPH
 85th Percentile : 26 MPH
 95th Percentile : 29 MPH
 Mean Speed(Average) : 22 MPH
 10 MPH Pace Speed : 19-28 MPH
 Number in Pace : 170
 Percent in Pace : 75.6%
 Number of Vehicles > 25 MPH : 62
 Percent of Vehicles > 25 MPH : 27.7%

Grand Total	10	2	2	2	9	31	73	143	112	53	5	1	0	0	443
-------------	----	---	---	---	---	----	----	-----	-----	----	---	---	---	---	-----

Overall
 15th Percentile : 18 MPH
 50th Percentile : 22 MPH
 85th Percentile : 26 MPH
 95th Percentile : 29 MPH
 Mean Speed(Average) : 23 MPH
 10 MPH Pace Speed : 19-28 MPH
 Number in Pace : 346
 Percent in Pace : 78.1%
 Number of Vehicles > 25 MPH : 134
 Percent of Vehicles > 25 MPH : 30.2%

Accurate Counts
978-664-2555

Location : Kimberlee Avenue
 Location : East of Maple Street
 City/State: Franklin, MA

WB

Start Time	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	36	37	39	40	Total
05/22/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	0	1	1	12	12	13	13	15	15	47	47	67	67	43	43	19	19	2	2	1	1	0	223

Daily
 15th Percentile : 18 MPH
 50th Percentile : 24 MPH
 85th Percentile : 29 MPH
 95th Percentile : 31 MPH
 Mean Speed(Average) : 25 MPH
 10 MPH Pace Speed : 22-31 MPH
 Number in Pace : 163
 Percent in Pace : 73.1%
 Number of Vehicles > 25 MPH : 110
 Percent of Vehicles > 25 MPH : 49.2%

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

WB

7787SPD2

Start Time	1	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/23/19	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	1	0	2	1	0	0	0	4
06:00	0	0	0	0	0	0	0	4	5	2	2	0	0	0	13
07:00	0	0	0	1	1	3	4	6	12	6	2	0	0	0	35
08:00	0	0	0	0	1	1	0	10	8	1	1	0	0	0	22
09:00	0	0	0	0	2	0	4	3	3	4	0	0	0	0	10
10:00	0	0	0	0	0	0	0	4	0	4	0	0	0	0	10
11:00	0	0	0	1	0	0	0	2	5	1	1	0	0	0	10
12 PM	0	0	0	0	1	0	2	5	5	3	0	0	0	0	16
13:00	0	0	0	0	1	1	1	5	1	1	0	0	0	0	11
14:00	2	0	0	0	0	1	3	1	1	3	1	0	1	0	13
15:00	0	0	0	0	0	0	4	2	5	3	1	0	0	0	15
16:00	0	0	0	0	0	0	2	3	2	4	1	1	0	0	13
17:00	0	0	0	0	1	0	0	2	4	5	2	0	0	0	14
18:00	0	0	0	0	0	0	0	4	6	1	2	1	0	0	14
19:00	0	0	0	0	1	0	1	2	1	0	0	0	0	0	5
20:00	0	0	0	0	0	0	0	3	1	1	0	0	0	0	5
21:00	0	2	0	0	0	0	0	1	2	1	0	0	0	0	6
22:00	0	0	0	0	0	0	0	1	2	1	0	0	0	0	6
23:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total	2	2	0	2	8	6	21	60	63	40	14	4	1	0	223

Daily
15th Percentile : 19 MPH
50th Percentile : 24 MPH
85th Percentile : 28 MPH
95th Percentile : 31 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 170
Percent in Pace : 76.2%
Number of Vehicles > 25 MPH : 101
Percent of Vehicles > 25 MPH : 45.3%

Grand Total	5	2	0	3	20	19	36	107	130	83	33	6	2	0	446
-------------	---	---	---	---	----	----	----	-----	-----	----	----	---	---	---	-----

Overall
15th Percentile : 19 MPH
50th Percentile : 24 MPH
85th Percentile : 29 MPH
95th Percentile : 31 MPH
Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 332
Percent in Pace : 74.4%
Number of Vehicles > 25 MPH : 211
Percent of Vehicles > 25 MPH : 47.2%

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
City/State: Franklin, MA

EB₁WB

7787SPD2

Start Time	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	36	37	39	40	Total
05/22/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	1	1	1	1	1	1	3	2	2	4	2	2	3	0	0	0	0	0	0	10
06:00	0	0	0	0	0	0	0	0	1	1	3	3	7	7	6	6	16	4	4	4	3	0	0	0	0	0	0	17
07:00	0	0	0	0	0	0	0	0	1	1	0	0	1	1	5	5	12	11	11	3	2	1	1	1	1	0	0	41
08:00	0	0	0	0	0	0	0	0	2	2	0	0	2	2	5	4	4	4	3	2	2	0	0	0	0	0	0	32
09:00	1	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4	3	3	2	3	1	0	0	0	0	0	0	18
10:00	0	0	0	0	0	0	0	0	0	0	4	4	3	3	4	4	7	7	2	2	2	0	0	0	0	0	0	13
11:00	1	0	0	0	0	0	0	0	1	1	5	5	3	3	5	5	7	7	1	1	2	1	1	1	0	0	0	23
12 PM	0	0	0	0	0	0	0	0	1	1	1	1	1	1	4	4	8	8	4	4	3	0	0	0	0	0	0	22
13:00	0	0	0	0	0	0	0	0	1	1	0	0	1	1	6	6	10	10	7	7	0	0	1	1	0	0	0	26
14:00	0	0	0	0	0	0	0	0	1	1	1	1	4	4	4	4	8	8	4	4	1	1	0	0	0	0	0	22
15:00	0	0	0	0	0	0	0	0	1	1	0	0	1	1	6	6	10	10	7	7	0	0	1	1	0	0	0	26
16:00	1	0	0	0	0	0	0	0	2	2	0	0	4	4	9	9	15	15	11	11	3	1	0	0	0	0	0	32
17:00	0	0	0	0	0	0	0	0	3	3	0	0	4	4	10	10	12	12	9	9	1	1	0	0	0	0	0	35
18:00	0	0	0	0	0	0	1	1	0	0	5	5	5	5	16	16	16	16	12	12	4	4	0	0	0	0	0	40
19:00	0	0	0	0	0	0	0	0	0	0	2	2	1	1	10	10	6	6	6	6	1	1	0	0	0	0	0	40
20:00	0	0	0	0	0	0	0	0	2	2	1	1	0	0	2	2	6	6	8	8	0	0	0	0	0	0	0	27
21:00	1	0	0	0	0	0	0	0	2	2	1	1	0	0	4	4	6	6	2	2	0	0	0	0	0	0	0	13
22:00	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1	5	5	1	1	0	0	0	0	0	0	0	12
23:00	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	2	2	1	1	0	0	0	0	0	0	0	6
Total	4	0	0	0	0	0	2	2	17	17	29	29	52	52	112	112	132	69	69	20	20	3	3	1	1	0	0	441

15th Percentile : 18 MPH
50th Percentile : 24 MPH
85th Percentile : 28 MPH
95th Percentile : 30 MPH

Mean Speed(Average) : 24 MPH
10 MPH Pace Speed : 21-30 MPH
Number in Pace : 330

Percent in Pace : 74.8%
Number of Vehicles > 25 MPH : 181
Percent of Vehicles > 25 MPH : 41.0%

Accurate Counts
978-664-2565

Location : Kimberlee Avenue
Location : East of Maple Street
City/State: Franklin, MA

7787SPD2

Start Time	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/23/19	0	0	0	0	1	0	1	1	1	0	0	0	0	5
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	1	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	1	0	1	0	0	0	5
06:00	0	0	0	0	0	1	5	5	2	2	0	0	0	16
07:00	0	0	1	1	4	10	8	13	6	2	0	0	0	45
08:00	0	0	0	1	3	0	15	11	1	1	0	0	0	33
09:00	0	0	0	0	0	4	4	3	1	0	0	0	0	12
10:00	0	0	0	2	2	2	10	1	5	0	0	0	0	22
11:00	0	0	1	1	2	1	8	6	1	1	0	0	0	21
12:00	0	0	1	1	0	5	10	8	5	0	0	0	0	30
13:00	0	0	0	1	1	2	8	1	1	0	0	0	0	21
14:00	4	0	0	1	1	2	8	3	5	1	1	0	0	30
15:00	0	0	0	0	2	4	9	4	5	1	0	1	0	32
16:00	0	0	0	0	2	6	8	9	6	1	0	0	0	30
17:00	0	0	0	0	0	4	7	2	10	2	1	0	0	26
18:00	0	0	0	1	1	2	13	13	6	2	0	0	0	38
19:00	0	0	0	0	1	7	11	10	4	3	1	0	0	37
20:00	1	0	0	2	1	2	8	6	3	1	0	0	0	22
21:00	4	1	0	0	1	3	4	7	2	0	0	0	0	20
22:00	0	1	0	0	0	1	3	5	1	0	0	0	0	17
23:00	0	0	0	1	0	2	1	2	0	0	0	0	0	8
Total	4	2	3	12	21	57	138	110	67	18	4	1	0	448

Daily
 15th Percentile : 18 MPH
 50th Percentile : 23 MPH
 85th Percentile : 28 MPH
 95th Percentile : 30 MPH
 Mean Speed(Average) : 23 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 334
 Percent in Pace : 74.6%
 Number of Vehicles > 25 MPH : 163
 Percent of Vehicles > 25 MPH : 36.5%

Grand Total	15	4	2	5	29	50	109	250	242	136	38	7	2	0	889
-------------	----	---	---	---	----	----	-----	-----	-----	-----	----	---	---	---	-----

Overall
 15th Percentile : 18 MPH
 50th Percentile : 23 MPH
 85th Percentile : 28 MPH
 95th Percentile : 30 MPH
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 664
 Percent in Pace : 74.7%
 Number of Vehicles > 25 MPH : 344
 Percent of Vehicles > 25 MPH : 38.7%

Accurate Counts
978-664-2565

Location : Bridle Path
City/State: Franklin, MA

7787SPD4

EB

Start Time	1	3	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/22/19	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3
05:00	0	0	0	0	0	0	0	1	0	0	4	2	1	0	0	8
06:00	0	0	0	0	0	0	1	1	0	0	7	2	2	0	1	19
07:00	0	0	0	0	0	0	2	0	4	2	14	6	8	1	0	37
08:00	1	0	0	0	0	0	0	0	6	6	9	10	2	0	1	35
09:00	0	0	0	0	0	0	0	4	1	1	1	4	3	0	1	15
10:00	0	0	0	0	0	0	2	1	1	12	5	4	2	0	0	27
11:00	0	0	0	0	0	0	1	0	2	1	1	5	1	0	0	10
12PM	1	0	0	0	0	1	0	0	4	4	9	5	1	0	0	20
13:00	0	0	0	1	0	0	1	1	3	3	3	3	0	0	0	18
14:00	2	0	0	0	1	0	1	2	1	3	3	4	0	0	0	17
15:00	0	0	0	0	0	0	0	0	0	2	0	4	0	0	0	12
16:00	0	0	0	0	0	0	0	0	0	2	0	5	4	1	0	18
17:00	1	0	0	0	0	0	1	1	0	5	3	4	3	1	0	29
18:00	0	0	0	0	0	0	0	0	1	7	3	9	1	0	0	11
19:00	0	0	0	0	1	0	1	0	2	1	3	4	0	0	0	14
20:00	0	0	0	0	0	0	0	0	2	4	7	0	0	0	0	5
21:00	0	0	0	0	0	0	0	2	1	0	1	0	0	0	0	3
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3
Total	5	0	0	1	2	1	9	18	30	57	80	68	27	4	3	305

Daily
 15th Percentile : 21 MPH
 50th Percentile : 28 MPH
 85th Percentile : 32 MPH
 95th Percentile : 34 MPH
 Mean Speed(Average) : 28 MPH
 10 MPH Pace Speed : 24-33 MPH
 Number in Pace : 215
 Percent in Pace : 70.5%
 Number of Vehicles > 30 MPH : 102
 Percent of Vehicles > 30 MPH : 33.4%

Accurate Counts
978-664-2565

Location : Bridle Path
Location : West of Lincoln Street
City/State: Franklin, MA
EB

7787SPD4

Start Time	1	3	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/23/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	1	0	1	2	1	0	0	0	5
05:00	0	0	0	0	0	0	0	2	0	2	4	2	2	1	0	13
06:00	0	0	0	0	0	0	0	1	2	5	6	6	0	0	0	23
07:00	0	0	0	0	0	1	1	2	4	8	7	6	5	0	0	32
08:00	2	0	0	0	0	0	0	2	4	1	3	6	4	1	0	35
09:00	0	0	0	0	0	0	0	1	1	1	3	5	1	0	0	15
10:00	0	0	0	0	0	0	0	2	2	2	1	5	0	0	0	11
11:00	0	0	0	0	0	0	0	1	1	5	3	2	1	2	0	17
12 PM	1	0	0	0	0	0	0	2	3	2	1	5	1	0	0	17
13:00	3	0	0	0	0	0	0	4	3	5	1	2	1	0	0	16
14:00	1	0	0	0	0	0	0	1	0	4	2	6	3	0	0	28
15:00	0	0	0	0	0	0	0	1	4	8	6	5	0	1	0	23
16:00	0	0	0	0	0	0	0	0	3	4	8	5	0	0	0	19
17:00	0	0	0	0	0	0	0	0	3	4	6	4	0	0	0	17
18:00	0	0	0	0	0	0	0	0	0	2	4	4	6	0	0	17
19:00	0	0	0	0	0	0	0	1	2	2	6	3	0	0	0	15
20:00	0	0	0	0	0	0	0	1	1	3	7	0	4	0	0	18
21:00	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4
22:00	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	2
23:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	7	0	0	1	1	4	14	19	29	56	82	63	30	6	1	313

Daily
15th Percentile : 21 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 35 MPH

Mean Speed(Average) : 27 MPH
10 MPH Pace Speed : 25-34 MPH
Number in Pace : 211
Percent in Pace : 67.4%
Number of Vehicles > 30 MPH : 100
Percent of Vehicles > 30 MPH : 31.9%

Grand Total	12	0	2	3	5	23	37	59	113	162	131	57	10	4	618
-------------	----	---	---	---	---	----	----	----	-----	-----	-----	----	----	---	-----

Overall
15th Percentile : 21 MPH
50th Percentile : 27 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 27 MPH
10 MPH Pace Speed : 24-33 MPH
Number in Pace : 426
Percent in Pace : 68.9%
Number of Vehicles > 30 MPH : 202
Percent of Vehicles > 30 MPH : 32.7%

Accurate Counts
978-664-2565

Location : Bridle Path
Location : West of Lincoln Street
City/State: Franklin, MA

7787SPD4

WB	Start Time	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	36	37	39	40	Total
	05/23/19	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	08:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	09:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	13:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	14:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	15:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	18:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	19:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	13	0	0	0	3	4	4	4	10	10	15	15	15	31	46	46	76	76	72	31	31	15	15	1	1	1	3	317

Daily
 15th Percentile : 18 MPH
 50th Percentile : 25 MPH
 85th Percentile : 29 MPH
 95th Percentile : 33 MPH
 Mean Speed(Average) : 25 MPH
 10 MPH Pace Speed : 22-31 MPH
 Number in Pace : 204
 Percent in Pace : 64.4%
 Number of Vehicles > 30 MPH : 47
 Percent of Vehicles > 30 MPH : 14.8%

Grand Total	29	0	4	4	6	14	23	74	104	150	144	62	23	2	0	635
-------------	----	---	---	---	---	----	----	----	-----	-----	-----	----	----	---	---	-----

Overall
 15th Percentile : 18 MPH
 50th Percentile : 25 MPH
 85th Percentile : 29 MPH
 95th Percentile : 32 MPH
 Mean Speed(Average) : 24 MPH
 10 MPH Pace Speed : 21-30 MPH
 Number in Pace : 423
 Percent in Pace : 66.6%
 Number of Vehicles > 30 MPH : 87
 Percent of Vehicles > 30 MPH : 13.7%

Accurate Counts
978-664-2565

Location : Bridle Path
City/State: Franklin, MA

EB, WB

7787SPD4

Start Time	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24	25	27	28	30	31	33	34	36	37	39	40	Total
05:22/19	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	3
05:00	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4	4	3	3	1	1	0	0	0	11
06:00	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	1	1	8	8	8	2	2	2	0	0	0	22
07:00	0	0	0	0	0	0	0	0	1	1	2	2	1	1	6	8	7	7	15	15	8	10	8	8	1	1	0	49
08:00	1	0	0	0	0	0	0	0	0	0	1	1	2	2	8	11	13	13	11	11	10	2	2	2	0	0	1	48
09:00	0	0	0	0	0	0	0	0	0	0	1	1	6	6	5	5	4	4	4	4	6	6	5	5	0	0	1	32
10:00	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	17	17	9	9	5	5	2	2	0	0	0	39
11:00	1	0	0	0	0	0	0	0	0	0	1	1	3	3	5	5	2	2	5	5	6	6	1	1	0	0	0	25
12 PM	1	0	0	0	0	0	0	0	0	0	2	2	6	6	7	7	5	5	12	12	6	6	1	1	0	0	0	36
13:00	0	0	0	0	0	0	0	0	0	0	1	1	1	1	4	5	8	8	6	6	5	5	0	0	0	0	0	31
14:00	12	0	0	0	0	0	0	0	0	0	2	2	3	3	7	7	8	8	8	8	6	6	1	1	0	0	0	48
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	9	9	5	5	8	8	5	5	1	1	0	41
16:00	0	0	0	0	0	0	0	0	0	0	1	1	5	5	9	9	9	9	5	5	8	8	5	5	1	1	0	41
17:00	2	0	0	0	0	0	0	0	0	0	1	1	2	2	5	5	17	17	12	12	7	7	5	5	1	1	0	50
18:00	1	0	0	0	0	0	0	0	0	0	1	1	1	1	3	3	13	13	15	15	14	14	1	1	1	1	0	51
19:00	1	0	0	0	0	0	0	0	0	0	2	2	6	6	7	7	4	4	18	18	7	7	1	1	0	0	0	47
20:00	0	0	0	0	0	0	0	0	0	0	0	0	5	5	8	8	10	10	10	10	0	0	0	0	0	0	0	36
21:00	0	0	0	0	0	0	0	0	0	0	1	1	5	5	6	6	5	5	5	5	2	2	0	0	0	0	0	24
22:00	0	0	0	0	0	0	0	0	0	0	0	0	4	4	5	5	2	2	3	3	3	3	1	1	0	0	0	18
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	7
Total	21	0	0	0	2	2	4	4	5	5	17	17	61	61	88	88	131	131	152	152	99	99	35	35	5	5	3	623

Daily
 15th Percentile : 20 MPH
 50th Percentile : 26 MPH
 85th Percentile : 31 MPH
 95th Percentile : 33 MPH
 Mean Speed(Average) : 26 MPH
 10 MPH Pace Speed : 24-33 MPH
 Number in Pace : 411
 Percent in Pace : 66.0%
 Number of Vehicles > 30 MPH : 142
 Percent of Vehicles > 30 MPH : 22.8%

Accurate Counts
978-664-2565

Location : Bridle Path
 Location : West of Lincoln Street
 City/State: Franklin, MA

EB, WB

7787SPD4

Start Time	4	7	10	13	16	19	22	25	28	31	34	37	40	Total
05/23/19	0	0	1	0	0	1	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	1	0	3	2	1	0	0	0	7
05:00	0	0	0	0	0	2	0	3	5	2	2	1	0	15
06:00	0	1	0	0	2	1	4	6	9	8	0	0	0	31
07:00	0	1	0	2	1	3	3	6	14	7	5	0	0	42
08:00	3	0	0	1	1	4	4	10	11	6	4	1	0	44
09:00	1	0	1	1	2	2	3	4	7	6	2	0	0	32
10:00	0	0	0	2	0	2	3	3	3	6	0	1	0	20
11:00	3	0	0	3	1	4	4	7	4	6	2	2	0	36
12 PM	1	0	1	0	3	4	5	6	4	4	1	0	0	27
13:00	0	0	0	0	0	6	3	8	5	3	3	0	1	35
14:00	3	0	2	2	3	5	10	13	13	7	5	0	0	63
15:00	0	0	0	0	1	2	7	9	14	8	2	0	0	47
16:00	0	0	0	1	3	2	6	10	12	9	1	0	0	44
17:00	0	0	0	0	0	3	5	11	14	7	8	0	0	50
18:00	1	0	0	1	2	3	5	11	19	6	3	0	0	51
19:00	1	0	0	2	2	4	7	11	10	2	6	0	0	45
20:00	0	0	0	0	2	0	2	4	3	0	0	1	0	15
21:00	0	0	0	0	2	1	0	5	6	0	0	0	0	14
22:00	0	0	0	0	0	1	2	1	1	1	0	0	0	6
23:00	0	0	0	0	0	0	1	1	1	0	1	0	0	4
Total	20	4	5	14	29	50	75	132	154	94	45	7	1	630

Daily
 15th Percentile : 19 MPH
 50th Percentile : 26 MPH
 85th Percentile : 31 MPH
 95th Percentile : 34 MPH
 Mean Speed(Average) : 26 MPH
 10 MPH Pace Speed : 24-33 MPH
 Number in Pace : 405
 Percent in Pace : 64.3%
 Number of Vehicles > 30 MPH : 147
 Percent of Vehicles > 30 MPH : 23.3%

Grand Total	41	6	9	19	46	111	163	263	306	193	80	12	4	1253
-------------	----	---	---	----	----	-----	-----	-----	-----	-----	----	----	---	------

Overall
 15th Percentile : 19 MPH
 50th Percentile : 26 MPH
 85th Percentile : 31 MPH
 95th Percentile : 34 MPH
 Mean Speed(Average) : 26 MPH
 10 MPH Pace Speed : 24-33 MPH
 Number in Pace : 816
 Percent in Pace : 65.1%
 Number of Vehicles > 30 MPH : 289
 Percent of Vehicles > 30 MPH : 23.1%

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH MAPPING

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Franklin COUNT DATE : May-19

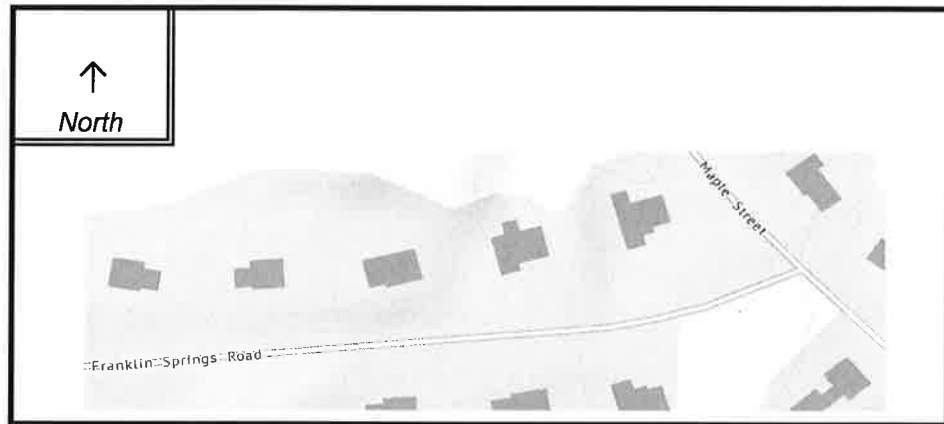
DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Maple Street

MINOR STREET(S) : Franklin Springs Road

**INTERSECTION
 DIAGRAM
 (Label Approaches)**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB			
PEAK HOURLY VOLUMES (PM) :	107	73	57			237

"K" FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : Below Statewide and District Crash Rates

Project Title & Date : Proposed Residential Development

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Franklin COUNT DATE : May-19

DISTRICT : 3 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Lincoln Street

MINOR STREET(S) : Bridle Path

**INTERSECTION
 DIAGRAM**
 (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	NB	SB	EB			
PEAK HOURLY VOLUMES (PM) :	373	457	31			861

"K" FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

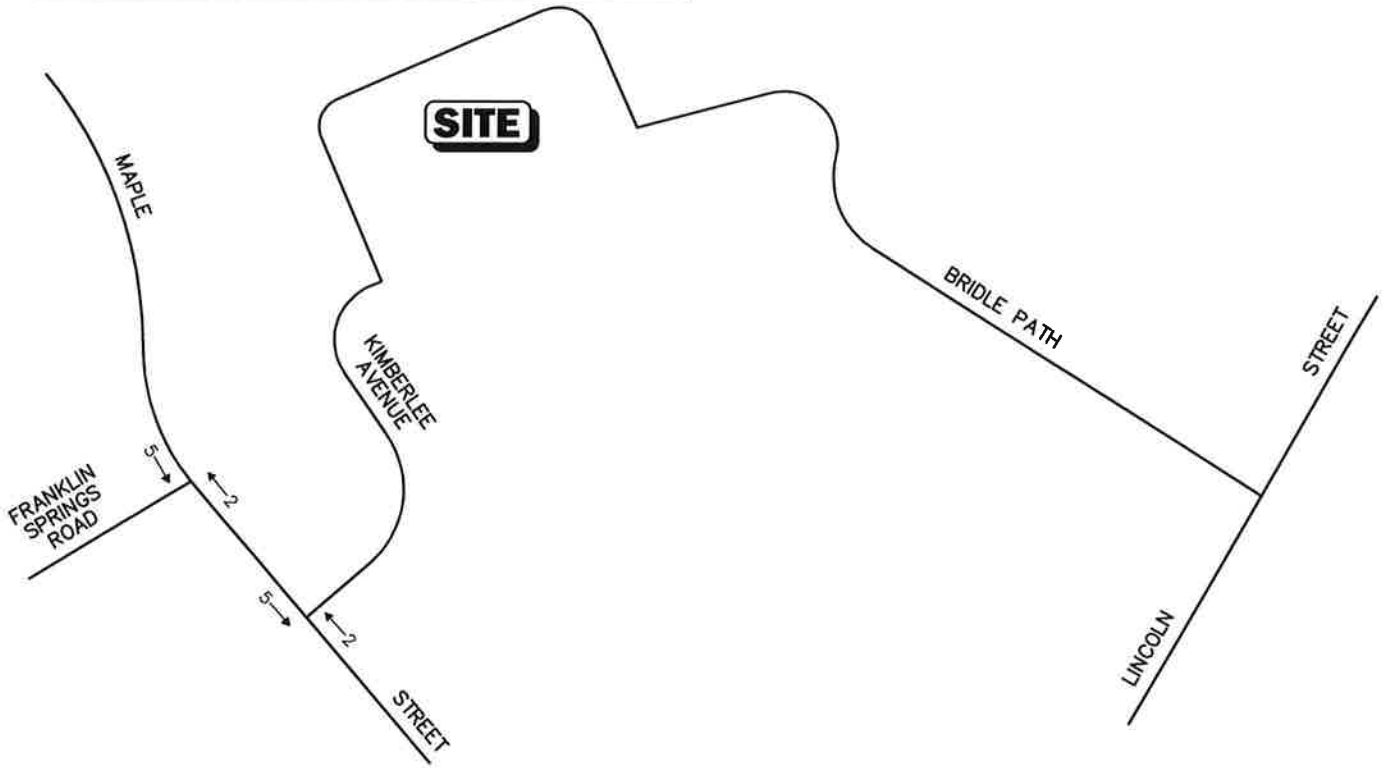
TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION : RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

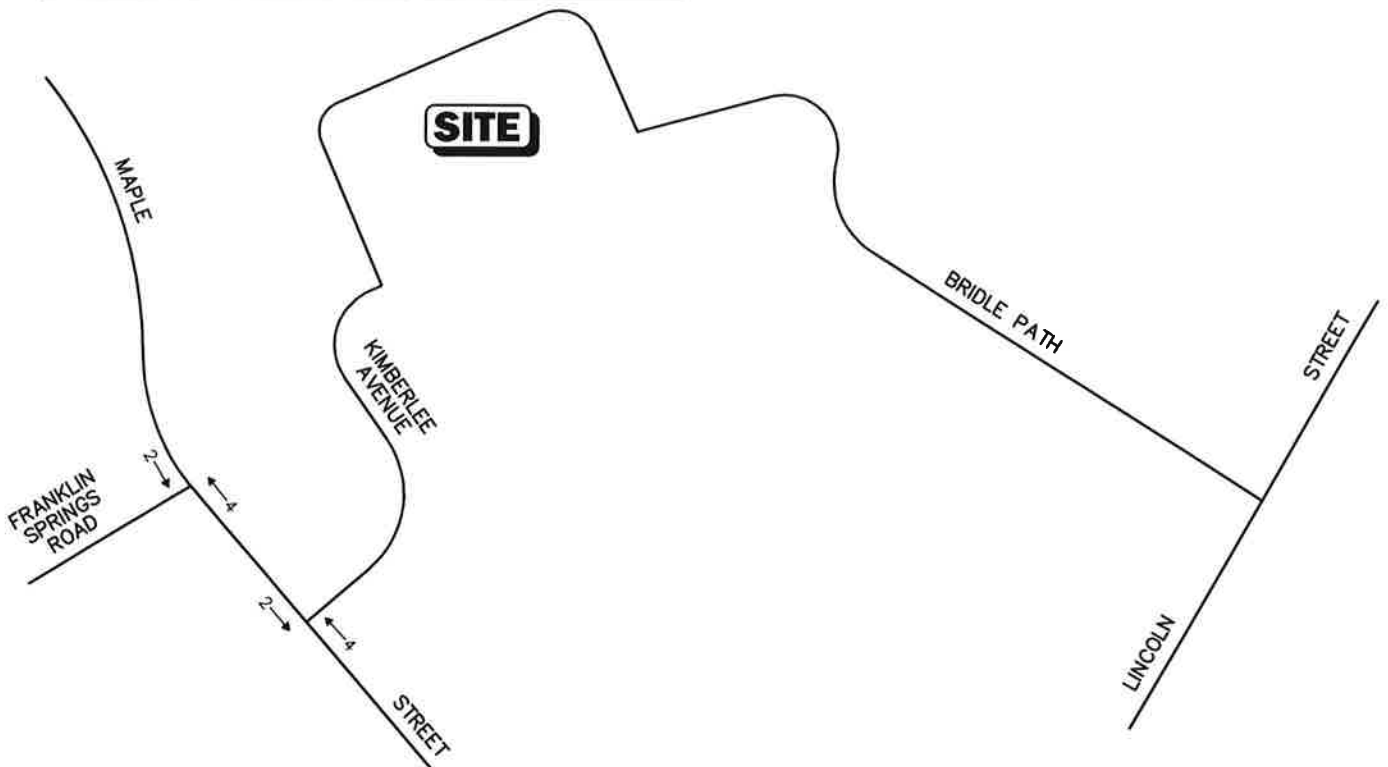
Comments : Below Statewide and District Crash Rates
 Project Title & Date: Proposed Residential Development

BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS

WEEKDAY MORNING PEAK HOUR (7:00 - 8:00 AM)



WEEKDAY EVENING PEAK HOUR (5:00 - 6:00 PM)



Not To Scale



Figure A1

The Maple Preserve at Franklin Peak Hour Traffic Volumes

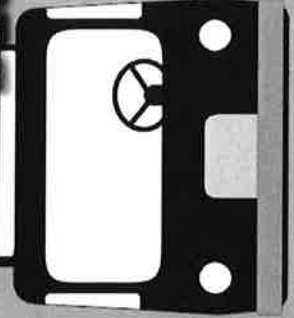
GENERAL BACKGROUND TRAFFIC GROWTH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Annual Growth Rate
Franklin	Pleasant Street	at Norfolk Town Line	9,595	11,900	11,828	11,816	10,232	10,302	10,621	9,519	10,109	10,281	11,724	0.11%
Franklin	Union Street	Between Hutchinson Street and Arlington Street	9,300	11,900	11,942	8,301	8,468	8,507	7,867	8,048	8,547	8,395	8,420	-2.20%
Franklin	Raymond Street	West of Beaver Street	20,700	20,620	20,846	20,217	20,697	20,719	20,109	20,330		21,200	21,264	0.10%
														-0.67%

PUBLIC TRANSPORTATION INFORMATION

Franklin Area Bus



BUS SCHEDULE

EFFECTIVE FEBRUARY 4, 2019

- > Franklin Municipal Building
- > Shaw's Plaza
- > Central Park Terrace
- > Union Square
- > MBTA Station
- > Dean College & Library
- > Council on Aging
- > Franklin High School
- > Eaton Place
- > Village Plaza



Greater Attleboro Taunton Regional Transit Authority

Rules of Conduct

- Drivers have the authority to insure the safety and comfort of all passengers.
- Rude, loud and abusive language will not be allowed.
- Proper behavior is expected at all times.
- Rules regarding objectional persons. GATRA reserves the right to refuse transportation to any person under the influence of intoxicating beverages or drugs or to a person whose conduct or personal hygiene is such or likely to be such as to make them objectionable to other passengers.

Tips for Riding the Bus

- Schedule times are approximate. Be at your stop about five minutes before the bus is scheduled to arrive.
- Have exact fare ready.
- Allow other passengers to board before you board.
- When boarding, use the handrail.
- Remember to let the bus go by before crossing the street.
- In consideration of others while riding, please do not smoke, drink, eat or play loud music.
- Respect fellow passengers.
- Please sit down immediately after boarding the bus. If there is standing room only, please stand behind the white line & keep the aisle clear.
- Front seats are reserved for the elderly and persons with disabilities.
- Strollers and shopping carts must be folded and removed from the aisle.
- Only service animals are allowed on the bus.
- Wear headphones when listening to music and please limit cell phone use for emergency situations ONLY.

STATEWIDE ACCESS PASS:

Statewide access passes for individuals with disabilities are issued by GATRA. The access pass offers half-fares on public bus transportation systems throughout Massachusetts, including GATRA.

A Personal Care Attendant (PCA) may ride free when accompanying an individual with a disability on the fixed-route service. To ride free, PCAs must register with GATRA.

Schedules are available in various formats for people with a disability.

FLAG STOPS:

In addition to designated stops on the schedule, passengers may board FAB anywhere along the bus route by waving to the driver as the vehicle approaches as long as it is safe for the bus to stop.

ACCESSIBILITY:

All GATRA vehicles are equipped with accessibility for wheelchairs.

SERVICE HOURS:

Monday - Friday
6:40 AM - 5:36 PM

Saturday
8:20 AM - 5:45 PM

No service on Sundays and the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving and Christmas.

FARE INFORMATION:

EXACT CHANGE REQUIRED

Cash Fares	
Regular	\$1.50
Senior (age 60+)	\$0.75
Disabled/Medicare Cards	\$0.75
Students (up to High School)	\$0.75
Children (6 & under, with adult)	FREE

PASSES:

1 Day Pass - Available on the Bus - EXACT CHANGE REQUIRED

Regular	\$4.00
Senior/Disabled/Medicare	\$2.00
Students (up to High School)	\$2.00

10 Ride Pass - Available on the Bus - EXACT CHANGE REQUIRED

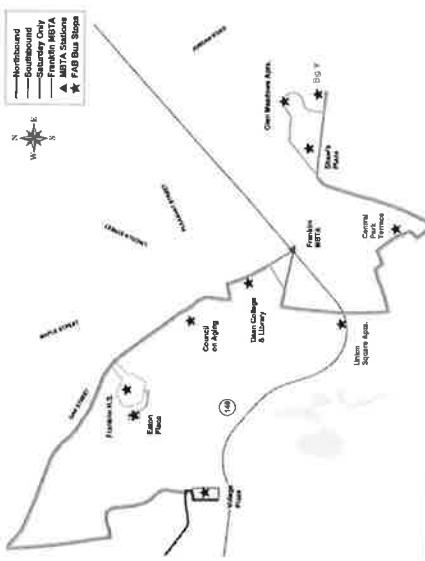
Regular	\$13.00
Senior/Disabled/Medicare	\$6.50
Students (up to High School)	\$6.50

Monthly Pass - Available at Central Park Terrace, the Council on Aging and the Town Municipal Building

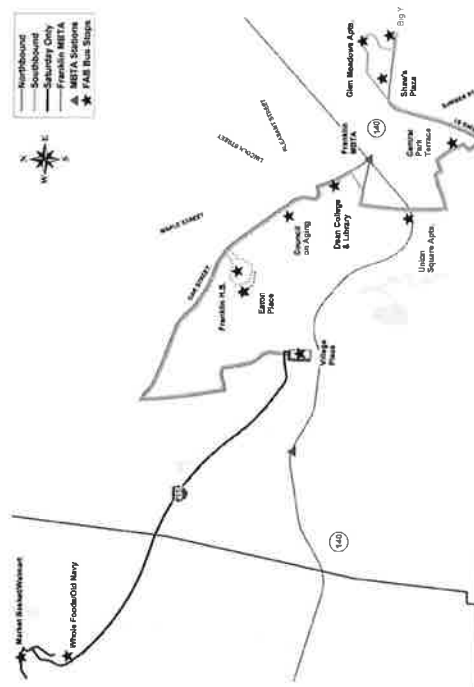
Regular	\$40.00
Senior/Disabled/Medicare	\$20.00
Students (up to High School)	\$20.00

FOR MORE INFORMATION

800.698.7676 ext. 1 (Kiessling Transit)
www.gatra.org



FAB WEEKDAY SCHEDULE



FAB SATURDAY SCHEDULE

NORTHBOUND

Big Y	Shaw's Plaza	Central Park Terrace	Union Square Apts.	MBTA	Dean College & Library	Council on Aging	Franklin High School	Eaton Place	Village Plaza
6:40 AM	6:41 AM	6:45 AM	6:47 AM	6:49 AM	6:50 AM	6:59 AM	7:07 AM		
7:36 AM	7:37 AM	7:41 AM	7:43 AM	7:47 AM	7:48 AM	8:56 AM	8:05 AM		
8:40 AM	8:41 AM	8:46 AM	8:48 AM	8:52 AM	8:53 AM	9:57 AM	9:06 AM		
9:41 AM	9:42 AM	9:47 AM	9:49 AM	9:53 AM	9:54 AM	10:48 AM	10:07 AM		
10:32 AM	10:33 AM	10:38 AM	10:40 AM	10:44 AM	10:45 AM	11:49 AM	10:56 AM		
11:33 AM	11:34 AM	11:39 AM	11:41 AM	11:45 AM	11:46 AM	12:40 PM	11:59 AM		
12:34 PM	12:35 PM	12:40 PM	12:42 PM	12:46 PM	12:47 PM	1:41 PM	12:57 PM		
1:35 PM	1:36 PM	1:41 PM	1:43 PM	1:47 PM	1:48 PM	2:42 PM	1:56 PM		
2:36 PM	2:37 PM	2:42 PM	2:44 PM	2:48 PM	2:49 PM	2:52 PM	2:56 PM		
3:37 PM	3:38 PM	3:43 PM	3:45 PM	3:49 PM	3:50 PM	3:53 PM	2:59 PM		
4:38 PM	4:39 PM	4:44 PM	4:46 PM	4:50 PM	4:51 PM	3:54 PM	4:00 PM		
							4:00 PM		
							5:01 PM		

SOUTHBOUND

Village Plaza	Eaton Place	Franklin High School	Council on Aging	Dean College & Library	Union Square Apts.	Central Park Terrace	Glen Meadow Apts.	Big Y
7:07 AM		7:15 AM		7:20 AM	7:23 AM	7:26 AM		7:34 AM
8:15 AM				8:25 AM	8:28 AM	8:31 AM		8:40 AM
9:16 AM			9:23 AM	9:26 AM	9:29 AM	9:32 AM		9:41 AM
10:07 AM			10:14 AM	10:17 AM	10:20 AM	10:23 AM		10:32 AM
11:08 AM			11:15 AM	11:18 AM	11:21 AM	11:24 AM		11:33 AM
12:09 PM			12:16 PM	12:19 PM	12:22 PM	12:25 PM		12:34 PM
1:07 PM	1:12 PM		1:17 PM	1:20 PM	1:23 PM	1:26 PM		1:35 PM
2:08 PM	2:13 PM	3:18 PM	2:18 PM	2:21 PM	2:24 PM	2:27 PM		2:36 PM
3:09 PM	3:14 PM		3:19 PM	3:22 PM	3:25 PM	3:28 PM		3:37 PM
4:10 PM	4:15 PM			4:23 PM	4:26 PM	4:29 PM		4:38 PM
5:11 PM				5:21 PM	5:24 PM	5:27 PM		5:36 PM

NORTHBOUND

Shaw's Plaza	Central Park Terrace	Union Square Apts.	MBTA	Dean College & Library	Eaton Place	Village Plaza	Whole Foods/Old Navy
8:20 AM	8:25 AM	8:27 AM	8:31 AM	8:32 AM	8:42 AM	8:42 AM	
9:40 AM	9:45 AM	9:47 AM	9:50 AM	9:52 AM	11:17 AM	11:22 AM	
11:00 AM	11:05 AM	11:07 AM	11:10 AM	11:12 AM	12:47 PM	12:52 PM	
12:30 PM	12:35 PM	12:37 PM	12:40 PM	12:42 PM	2:02 PM	2:12 PM	
1:50 PM	1:55 PM	1:57 PM	2:00 PM	2:02 PM	3:22 PM	3:32 PM	
3:10 PM	3:15 PM	3:17 PM	3:20 PM	3:22 PM	4:42 PM	4:52 PM	
4:30 PM	4:35 PM	4:37 PM	4:40 PM	4:42 PM			

SOUTHBOUND

Market Basket/Wal-Mart	Village Plaza	Eaton Place	Dean College & Library	Union Square Apts.	Central Park Terrace	Glen Meadow Apartments	Big Y
8:58 AM	9:15 AM	9:31 AM	9:25 AM	9:28 AM	9:31 AM	9:36 AM	
10:18 AM	10:35 AM	10:48 AM	10:45 AM	10:48 AM	10:51 AM	10:56 AM	
11:38 AM	11:55 AM	12:05 PM	12:05 PM	12:08 PM	12:11 PM	12:16 PM	
1:08 PM	1:25 PM	1:30 PM	1:35 PM	1:38 PM	1:41 PM	1:46 PM	
2:28 PM	2:45 PM	2:50 PM	2:55 PM	2:58 PM	3:01 PM	3:06 PM	
3:48 PM	4:05 PM	4:10 PM	4:15 PM	4:18 PM	4:21 PM	4:26 PM	
5:08 PM	5:25 PM	5:30 PM	5:35 PM	5:38 PM	5:41 PM	5:46 PM	

No service on Sundays and the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving and Christmas.



FRANKLIN LINE

Effective May 20, 2019

Monday to Friday

Inbound to Boston

ZONE STATION	790	700	702	704	706	740	708	742	710	712	714	716	718	720	722	746	724	726	728	730	732
6 Forge Park/495	4:55	5:30	6:03	6:35	7:06	-	7:50	-	9:22	10:55	12:20	1:35	2:57	4:01	5:03	-	7:05	7:43	9:01	10:25	11:46
6 Franklin/Dean Coll.	5:08	5:44	6:17	6:49	7:20	-	7:57	-	9:29	11:02	12:27	1:42	3:04	4:08	5:10	-	7:24	7:50	9:08	10:32	11:53
5 Norfolk	5:15	5:51	6:24	6:56	7:28	-	8:04	-	9:36	11:09	12:34	1:49	3:11	4:15	5:17	-	7:31	7:57	9:15	10:39	12:00
4 Walpole	-	-	-	f 6:58	-	-	8:11	-	9:43	11:16	12:41	1:56	3:26	4:30	5:31	6:37	7:38	8:04	9:22	10:46	12:07
4 Plimptonville	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Windsor Gardens	5:19	5:54	6:28	7:01	7:42	-	8:15	-	9:47	11:20	12:45	2:01	3:31	-	-	f 6:41	-	-	-	-	-
3 Norwood Central	5:23	5:58	6:33	7:06	7:35	-	8:21	-	9:51	11:24	12:49	2:05	3:35	4:37	5:38	6:45	7:46	8:11	9:29	10:53	f 12:14
3 Norwood Depot	5:26	-	6:36	7:09	-	7:50	-	8:36	9:53	11:26	12:51	2:07	3:37	4:39	-	6:47	7:48	8:13	9:31	10:55	f 12:16
3 Islington	5:29	6:02	6:40	7:13	-	7:54	-	8:40	9:56	11:29	12:54	2:10	3:40	4:42	-	6:50	7:51	8:16	9:34	10:57	f 12:18
2 Dedham Corp. Ctr.	5:32	6:05	6:43	7:16	7:41	-	8:27	-	9:59	11:31	12:56	2:12	3:42	4:45	5:43	6:52	7:53	8:18	9:36	11:00	f 12:21
2 Endicott	5:35	6:08	6:46	7:20	-	8:01	8:30	8:45	10:02	11:34	12:59	2:15	-	4:50	5:47	6:55	7:57	8:21	9:39	11:03	f 12:24
2 Readville	VIA	6:12	6:51	7:25	-	8:06	8:34	8:50	10:06	11:38	1:03	2:19	-	-	5:50	6:59	-	8:25	9:43	11:07	f 12:28
1 Hyde Park	FAIR.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1A Ruggles	MOUNT	-	L 7:01	L 7:35	L 7:58	-	L 8:46	L 9:01	L 10:16	-	-	-	-	-	-	-	L 8:09	L 8:35	L 9:53	-	-
1A Back Bay	LINE	L 6:24	L 7:05	L 7:39	L 8:02	L 8:18	L 8:50	L 9:05	L 10:20	L 11:49	L 1:14	L 2:50	L 4:02	L 5:10	L 6:05	L 7:13	L 8:13	L 8:39	L 9:57	L 11:19	L 12:39
1A South Station	6:09	6:30	7:11	7:45	8:08	8:24	8:56	9:11	10:25	11:54	1:19	2:35	4:07	5:15	6:10	7:18	8:18	8:44	10:02	11:24	12:44

Trains in purple box indicate peak period trains.

Monday to Friday

Outbound from Boston

ZONE STATION	701	741	703	705	707	709	711	713	715	743	717	745	719	721	723	725	727	729	731	
1A South Station	3:50	6:40	8:04	9:40	11:00	12:20	1:35	2:40	3:48	4:15	4:43	5:02	5:20	5:45	6:20	7:45	9:00	10:30	11:50	
1A Back Bay	-	6:45	8:09	9:45	11:05	12:25	1:40	2:45	3:53	4:20	4:48	5:07	5:25	5:50	6:25	7:50	9:05	10:35	11:55	
1A Ruggles	-	-	8:13	-	11:08	12:28	1:44	2:49	3:57	4:24	4:52	5:11	5:29	5:54	6:29	7:54	9:08	10:38	11:58	
1 Hyde Park	-	-	-	-	-	-	-	-	-	4:33	-	5:20	-	-	-	-	10:46	-	-	
2 Readville	-	6:56	-	9:56	-	12:38	1:53	2:59	4:37	-	5:24	-	6:38	8:03	9:18	10:50	12:08	-	-	
2 Endicott	-	f 6:59	-	9:59	11:19	12:41	1:57	3:02	4:40	-	5:28	-	6:08	6:42	8:06	9:21	10:53	12:11	-	
2 Dedham Corp. Ctr.	-	-	f 7:02	8:26	10:02	11:22	12:44	1:59	3:05	4:12	4:43	5:07	5:32	5:46	6:11	6:45	8:09	9:24	10:56	12:14
3 Islington	-	f 7:05	f 8:29	10:05	11:25	12:47	2:02	3:08	-	4:46	5:10	5:35	5:49	-	6:48	8:12	9:27	10:59	12:17	
3 Norwood Depot	-	f 7:08	8:32	10:08	11:28	12:50	2:05	3:11	-	4:49	5:13	5:39	-	6:18	6:52	8:15	9:30	11:02	12:20	
3 Norwood Central	-	L 4:12	f 7:11	8:35	10:11	11:31	12:53	2:08	3:14	4:17	4:52	5:17	5:43	5:54	6:22	6:56	8:18	9:33	11:05	12:23
4 Windsor Gardens	-	-	-	8:39	10:15	11:35	12:57	2:12	3:18	4:21	-	5:21	-	5:58	6:26	7:00	8:22	9:37	11:08	12:26
4 Plimptonville	-	-	-	-	-	-	-	-	-	-	-	L 5:50	-	-	-	-	-	-	-	-
4 Walpole	L 4:18	7:19	8:43	10:19	11:39	1:01	2:16	3:22	4:26	-	5:27	5:54	6:04	6:31	7:05	8:27	9:42	11:12	12:31	-
5 Norfolk	-	-	8:49	10:25	11:45	1:07	2:22	3:30	4:34	-	5:35	-	6:12	6:38	7:12	8:34	9:49	11:19	12:38	-
6 Franklin/Dean Coll.	4:30	-	8:56	10:32	11:52	1:14	2:29	3:37	4:41	-	5:42	-	6:19	6:45	7:19	8:41	9:56	11:26	12:45	-
6 Forge Park/495	4:40	-	9:04	10:40	12:00	1:22	2:37	3:47	4:49	-	5:50	-	6:27	6:52	7:28	8:49	10:04	11:34	12:53	-

Trains in purple box indicate peak period trains.

Keep in Mind:

This schedule will be effective from May 20, 2019 and will replace the schedule of October 29, 2018.

Presidents' Day and 4th of July operate on a **Saturday service schedule**.

New Year's Day, Memorial Day, Labor Day, Thanksgiving Day, and Christmas Day operate on a **Sunday service schedule**.

For all other holiday schedules, please check MBTA.com or call 617-222-3200.

Times in purple with "P" indicate a flag stop: Passengers must tell the conductor that they wish to leave. Passengers waiting to board must be visible on the platform for the train to stop.

Times in blue indicate an early departure (L stop): The train may leave ahead of schedule at these stops.

Bikes: Bicycles are allowed on trains with the bicycle symbol shown below the train number.

High level platform and bridge plate available. Visit mbta.com/accessibility for more information.

VIA FAIRMOUNT LINE: Operates via the Fairmount Line between Readville and South Station. See the Fairmount Line schedule for all stops.

For additional service to Readville Station, refer to the Fairmount Line schedule for particular trains.

For additional service to Ruggles Station, Providence and Needham Line schedules for particular trains.

For additional service to Hyde Park Station, refer to the Providence Line schedule for particular trains.

Saturday & Sunday

Inbound to Boston

ZONE STATION	SATURDAY TRAIN #	1702	1704	1706	1708	1710	1712	1714	1716	1718
6 Forge Park/495	6	6:40	8:40	10:40	12:40	2:40	4:40	6:40	8:40	10:40
6 Franklin/Dean Coll.	6	6:47	8:47	10:47	12:47	2:47	4:47	6:47	8:47	10:47
5 Norfolk	6	6:54	8:54	10:54	12:54	2:54	4:54	6:54	8:54	10:54
4 Walpole	6	7:01	9:01	11:01	1:01	3:01	5:01	7:01	9:01	11:01
4 Windsor Gardens	6	7:06	9:06	11:06	1:06	3:06	5:06	7:06	9:06	11:06
3 Norwood Central	6	7:10	9:10	11:10	1:10	3:10	5:10	7:10	9:10	11:10
3 Norwood Depot	6	7:12	9:12	11:12	1:12	3:12	5:12	7:12	9:12	11:12
3 Islington	6	7:16	9:16	11:16	1:16	3:16	5:16	7:16	9:16	11:16
2 Dedham Corp. Ctr.	6	7:19	9:19	11:19	1:19	3:19	5:19	7:19	9:19	11:19
2 Endicott	6	7:21	9:21	11:21	1:21	3:21	5:21	7:21	9:21	11:21
2 Readville	6	7:24	9:24	11:24	1:24	3:24	5:24	7:24	9:24	11:24
1A Ruggles	6	L 7:34	L 9:34	L 11:34	L 1:34	L 3:34	L 5:34	L 7:34	L 9:34	L 11:34
1A Back Bay	6	L 7:38	L 9:38	L 11:38	L 1:38	L 3:38	L 5:38	L 7:38	L 9:38	L 11:38
1A South Station	6	7:43	9:43	11:43	1:43	3:43	5:43	7:43	9:43	11:43

Trains 1702 and 1704 are Saturday only trains and will not operate on Sunday.

Saturday & Sunday

Outbound from Boston

ZONE STATION	SATURDAY TRAIN #	1703	1705	1707	1709	1711	1713	1715	1717	1719
1A South Station	6	7:20	9:20	11:20	1:20	3:20	5:20	7:20	9:20	11:20
1A Back Bay	6	7:25	9:25	11:25	1:25	3:25	5:25	7:25	9:25	11:25
1A Ruggles	6	7:28	9:28	11:28	1:28	3:28	5:28	7:28	9:28	11:28
2 Readville	6	7:38	9:38	11:38	1:38	3:38	5:38	7:38	9:38	11:38
2 Endicott	6	7:41	9:41	11:41	1:41	3:41	5:41	7:41	9:41	11:41
2 Dedham Corp. Ctr.	6	7:45	9:45	11:45	1:45	3:45	5:45	7:45	9:45	11:45
3 Islington	6	7:47	9:47	11:47	1:47	3:47	5:47	7:47	9:47	11:47
3 Norwood Depot	6	7:50	9:50	11:50	1:50	3:50	5:50	7:50	9:50	11:50
3 Norwood Central	6	7:53	9:53	11:53	1:53	3:53	5:53	7:53	9:53	11:53
4 Windsor Gardens	6	7:57	9:57	11:57	1:57	3:57	5:57	7:57	9:57	11:57
4 Walpole	6	8:03	10:03	12:03	2:03	4:03	6:03	8:03	10:03	12:03
5 Norfolk	6	8:10	10:10	12:10	2:10	4:10	6:10	8:10	10:10	12:10
6 Franklin/Dean Coll.	6	8:17	10:17	12:17	2:17	4:17	6:17	8:17	10:17	12:17
6 Forge Park/495	6	8:24	10:24	12:24	2:24	4:24	6:24	8:24	10:24	12:24

Trains 1703 and 1705 are Saturday only trains and will not operate on Sunday.

AD052019V1

Follow @MBTA_CR

Download the **Commuter Rail App**

Customer Service **617-222-3200**

Visit **MBTA.com**

Massachusetts Bay Transportation Authority **KBOLIS**

TRIP GENERATION CALCULATIONS

Land Use: 210

Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The number of vehicles and residents had a high correlation with average weekday vehicle trip ends. The use of these variables was limited, however, because the number of vehicles and residents was often difficult to obtain or predict. The number of dwelling units was generally used as the independent variable of choice because it was usually readily available, easy to project, and had a high correlation with average weekday vehicle trip ends.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units had the highest trip generation rate per dwelling unit of all residential uses because they were the largest units in size and had more residents and more vehicles per unit than other residential land uses; they were generally located farther away from shopping centers, employment areas, and other trip attractors than other residential land uses; and they generally had fewer alternative modes of transportation available because they were typically not as concentrated as other residential land uses.

Time-of-day distribution data for this land use are presented in Appendix A. For the six general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:00 and 5:00 p.m., respectively. For the two sites with Saturday data, the overall highest vehicle volume was counted between 3:00 and 4:00 p.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 10:15 and 11:15 a.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Delaware, Illinois, Indiana, Maryland, Minnesota, Montana, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, and Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 903, 925, 936

Single-Family Detached Housing (210)

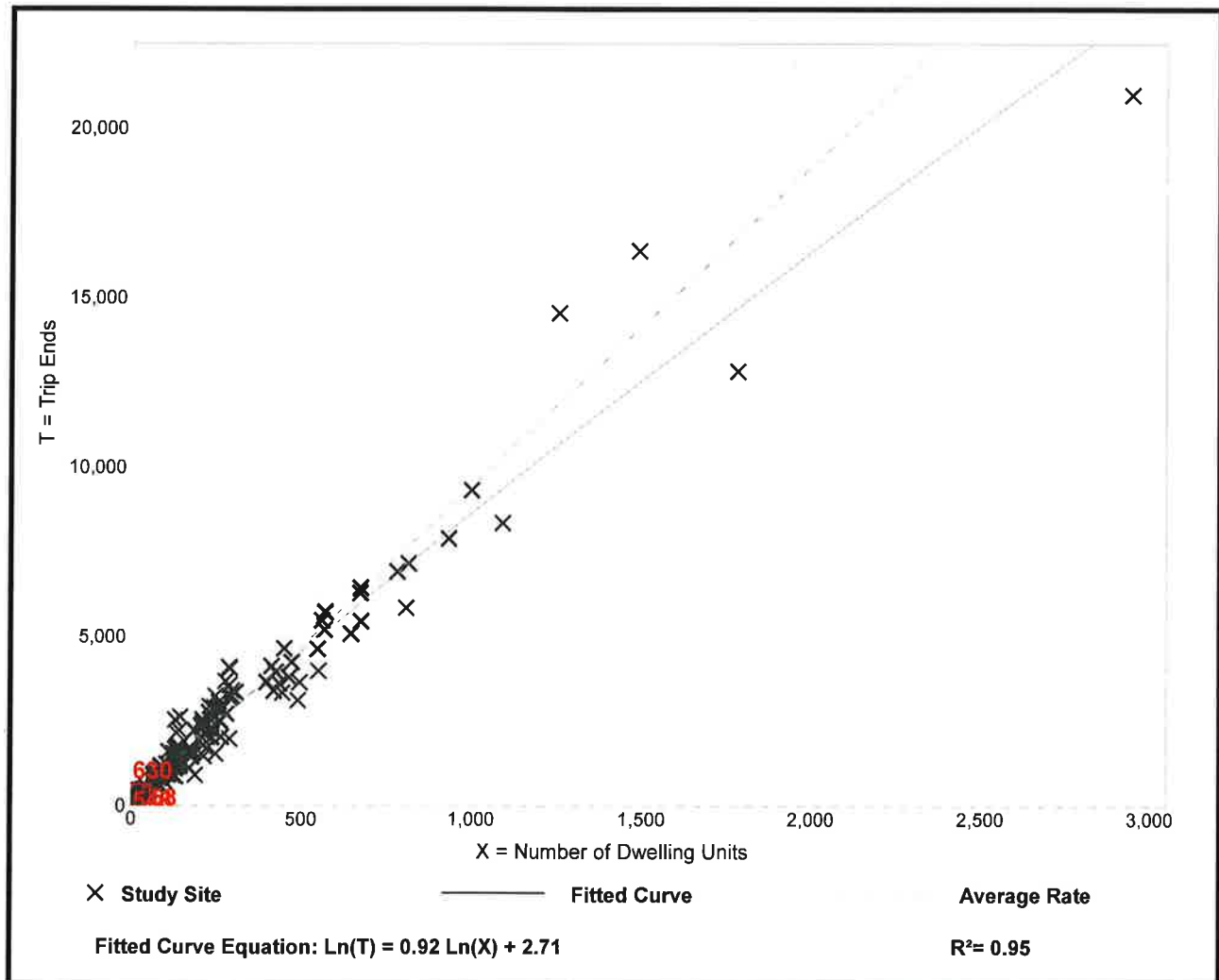
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

**Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 173

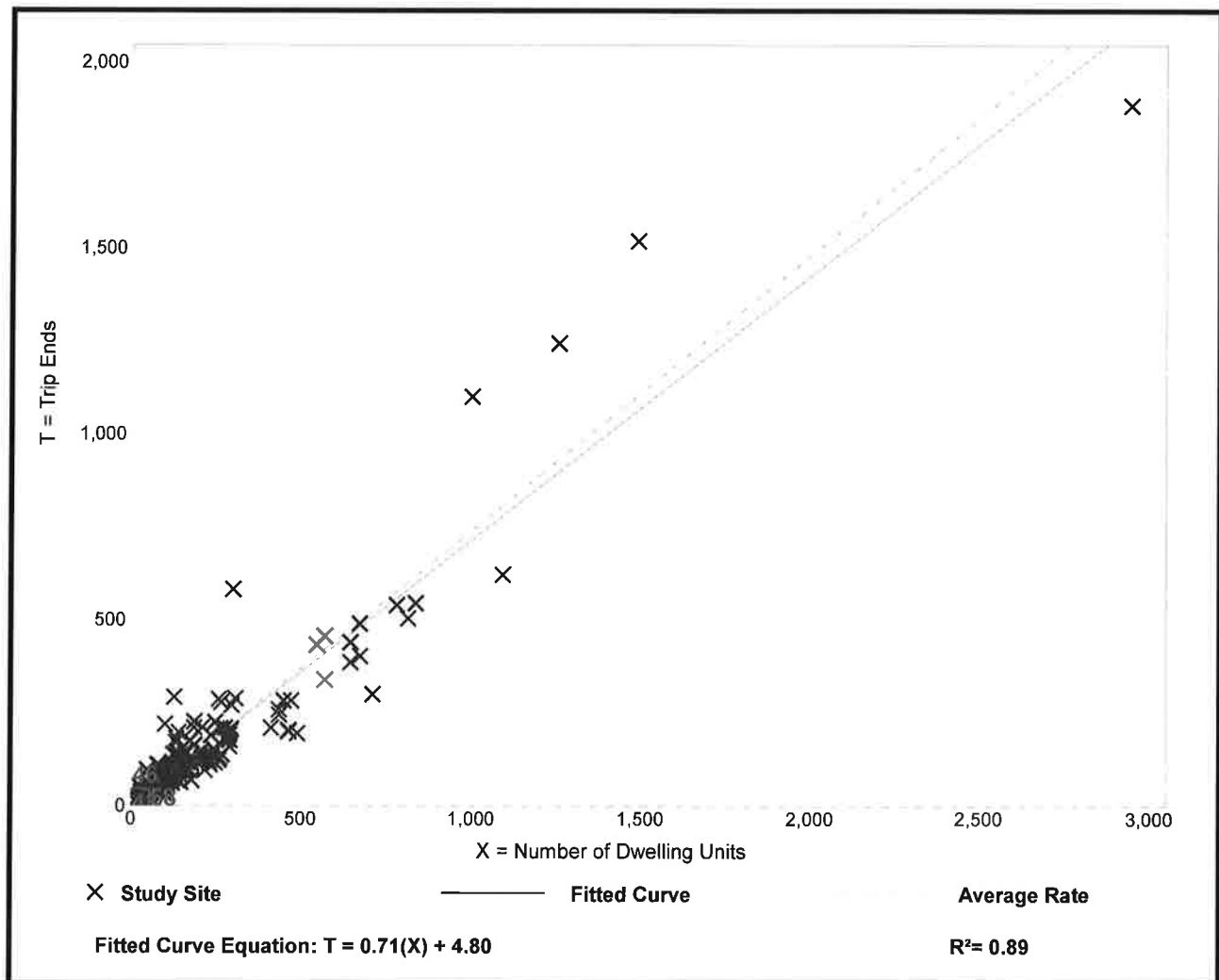
Avg. Num. of Dwelling Units: 219

Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

**Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 190

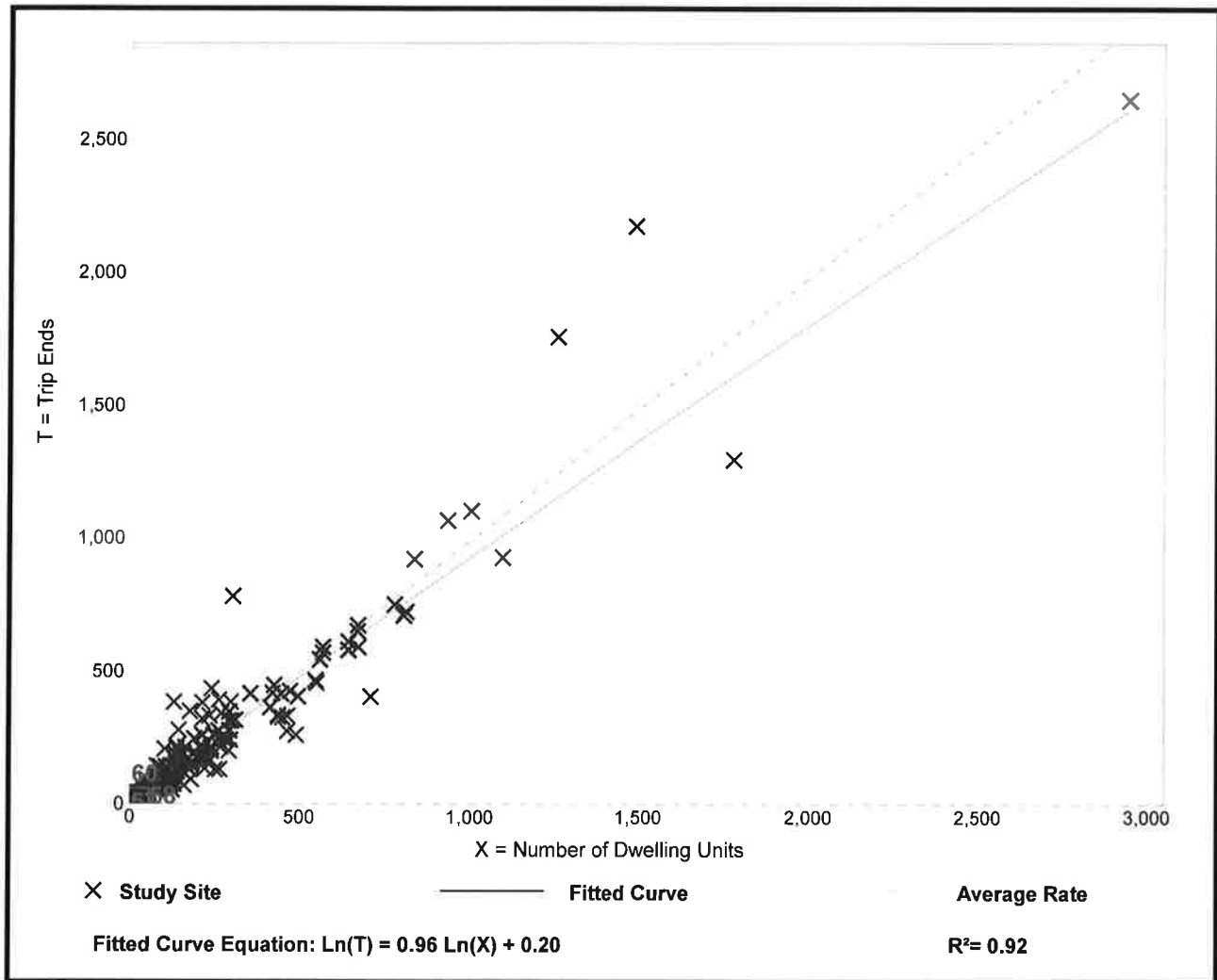
Avg. Num. of Dwelling Units: 242

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



JOURNEY TO WORK TRIP DISTRIBUTION

Proposed Residential Community
'Maple Hill'
Franklin, MA

Residence	Workplace	Number	Main Street				Lincoln Street (North)	Maple Street (North)	Franklin Springs Road (West)	
			[Lincoln Street & Maple Street]	(South)	(North)	(West)				
Franklin	Franklin	4,363	70%	3054	10%	436	5%	218	15%	654
Franklin	Boston	1,558	70%	1085	15%	233		0	15%	233
Franklin	Frammingham	568		0	50%	284	50%	284		0
Franklin	Milford	499	25%	125	25%	125	35%	175	15%	75
Franklin	Natick	405		0	50%	203	50%	203		0
Franklin	Norwood	395	25%	99	60%	237	15%	59		0
Franklin	Wellesley	333		0	50%	167	50%	167		0
Franklin	Westborough	304	60%	182		0	25%	76	15%	46
Franklin	Wrentham	299	65%	194	35%	105		0		0
Franklin	Needham	293		0	50%	147	50%	147		0
Franklin	Walpole	282	50%	141	50%	141		0		0
Franklin	Medway	274		0	50%	137	50%	137		0
Franklin	Foxborough	270	80%	216	20%	54		0		0
Franklin	Bellingham	231	25%	58	25%	58	25%	58	25%	58
Franklin	Dedham	205	60%	123	25%	51	15%	31		0
Franklin	Cambridge	202	65%	131	10%	20	10%	20	15%	30
Franklin	Providence	185	100%	185		0		0		0
Franklin	Marlborough	180	25%	45	25%	45	25%	45	25%	45
Franklin	Newton	178	20%	36	35%	62	35%	62	10%	18
Franklin	Canton	174	60%	104	40%	70		0		0
Franklin	Hopkinton	166	40%	66	25%	42	25%	42	10%	17
Franklin	Worcester	166	75%	125		0		0	25%	42
Franklin	Mansfield	161	80%	129	20%	32		0		0
Franklin	Westwood	150	20%	30	50%	75	30%	45		0
Franklin	Norfolk	146	70%	102	20%	29	10%	15		0
Franklin	Taunton	138	80%	110	20%	28		0		0
Franklin	Southborough	127	25%	32	25%	32	25%	32	25%	32
Franklin	Ashland	126		0	50%	63	50%	63		0
Franklin	Waltham	123	20%	25	35%	43	35%	43	10%	12
Franklin	Brookline	122	20%	24	35%	43	35%	43	10%	12
Franklin	Weymouth	119	75%	89	25%	30		0		0
Franklin	Quincy	97	75%	73	25%	24		0		0
Franklin	Hopedale	91	40%	36	20%	18	20%	18	20%	18
Franklin	Braintree	89	75%	67	25%	22		0		0
Franklin	Shrewsbury	82	50%	41		0		0	50%	41
Franklin	Holliston	80		0	50%	40	50%	40		0
Franklin	Stoughton	76	75%	57	25%	19		0		0
Franklin	Woonsocket	75	65%	49		0	20%	15	15%	11
		13,324		6,833		3,112		2,035		1,343
				51%		23%		15%		10%
		SAY		50%		25%		15%		10%

CAPACITY ANALYSIS WORKSHEETS

Maple Street at Kimberlee Avenue

2019 Existing
Weekday Morning Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection

Int Delay, s/veh 1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	12	16	73	5	3	102
Future Vol, veh/h	12	16	73	5	3	102
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	54	54	67	67	78	78
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	22	30	109	7	4	131

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	252	113	0	0	116
Stage 1	113	-	-	-	-
Stage 2	139	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	741	945	-	-	1485
Stage 1	917	-	-	-	-
Stage 2	893	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	739	945	-	-	1485
Mov Cap-2 Maneuver	739	-	-	-	-
Stage 1	917	-	-	-	-
Stage 2	890	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	844	1485
HCM Lane V/C Ratio	-	-	0.061	0.003
HCM Control Delay (s)	-	-	9.5	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

2019 Existing
Weekday Evening Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	
Traffic Vol, veh/h	5	11	96	9	14	90
Future Vol, veh/h	5	11	96	9	14	90
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	67	67	83	83	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	16	116	11	17	111

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	267	122	0	0	127
Stage 1	122	-	-	-	-
Stage 2	145	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	727	935	-	-	1472
Stage 1	908	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	718	935	-	-	1472
Mov Cap-2 Maneuver	718	-	-	-	-
Stage 1	908	-	-	-	-
Stage 2	876	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	854	1472
HCM Lane V/C Ratio	-	-	0.028	0.012
HCM Control Delay (s)	-	-	9.3	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

2026 No Build
Weekday Morning Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T			T
Traffic Vol, veh/h	12	16	81	5	3	114
Future Vol, veh/h	12	16	81	5	3	114
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	54	54	67	67	78	78
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	22	30	121	7	4	146

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	279	125	0	0	128
Stage 1	125	-	-	-	-
Stage 2	154	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	715	931	-	-	1470
Stage 1	906	-	-	-	-
Stage 2	879	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	713	931	-	-	1470
Mov Cap-2 Maneuver	713	-	-	-	-
Stage 1	906	-	-	-	-
Stage 2	876	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	823	1470
HCM Lane V/C Ratio	-	-	0.063	0.003
HCM Control Delay (s)	-	-	9.7	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

2026 No Build
Weekday Evening Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	
Traffic Vol, veh/h	5	11	107	9	14	99
Future Vol, veh/h	5	11	107	9	14	99
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	67	67	83	83	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	16	129	11	17	122

Major/Minor	Minor1	Major1	Major2	Major2	Major2
Conflicting Flow All	291	135	0	0	140
Stage 1	135	-	-	-	-
Stage 2	156	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	704	919	-	-	1456
Stage 1	896	-	-	-	-
Stage 2	877	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	695	919	-	-	1456
Mov Cap-2 Maneuver	695	-	-	-	-
Stage 1	896	-	-	-	-
Stage 2	866	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	835	1456
HCM Lane V/C Ratio	-	-	0.029	0.012
HCM Control Delay (s)	-	-	9.4	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

2026 Build
Weekday Morning Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	21	24	81	8	6	114
Future Vol, veh/h	21	24	81	8	6	114
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	54	54	67	67	78	78
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	39	44	121	12	8	146

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	289	127	0	0	133
Stage 1	127	-	-	-	-
Stage 2	162	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	706	929	-	-	1464
Stage 1	904	-	-	-	-
Stage 2	872	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	702	929	-	-	1464
Mov Cap-2 Maneuver	702	-	-	-	-
Stage 1	904	-	-	-	-
Stage 2	867	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	807	1464
HCM Lane V/C Ratio	-	-	0.103	0.005
HCM Control Delay (s)	-	-	10	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

2026 Build
Weekday Evening Peak Hour

1: Maple Street & Kimberlee Avenue

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	
Traffic Vol, veh/h	11	16	107	19	23	99
Future Vol, veh/h	11	16	107	19	23	99
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	67	67	83	83	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	24	129	23	28	122

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	319	141	0	0	152
Stage 1	141	-	-	-	-
Stage 2	178	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	678	912	-	-	1441
Stage 1	891	-	-	-	-
Stage 2	858	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	664	912	-	-	1441
Mov Cap-2 Maneuver	664	-	-	-	-
Stage 1	891	-	-	-	-
Stage 2	840	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	792	1441
HCM Lane V/C Ratio	-	-	0.051	0.02
HCM Control Delay (s)	-	-	9.8	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Maple Street at Franklin Springs Road

2019 Existing
Weekday Morning Peak Hour

2: Maple Street & Franklin Springs Road

Intersection

Int Delay, s/veh 2.8

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	11	32	32	57	73	45
Future Vol, veh/h	11	32	32	57	73	45
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	60	60	77	77	69	69
Heavy Vehicles, %	0	0	3	0	1	2
Mvmt Flow	18	53	42	74	106	65

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	297	139	171	0	-	0
Stage 1	139	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	698	915	1400	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	676	915	1400	-	-	-
Mov Cap-2 Maneuver	676	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	9.7	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1400	-	839	-	-
HCM Lane V/C Ratio	0.03	-	0.085	-	-
HCM Control Delay (s)	7.7	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

2019 Existing
Weekday Evening Peak Hour

2: Maple Street & Franklin Springs Road

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑		↓
Traffic Vol, veh/h	14	43	33	74	61	12
Future Vol, veh/h	14	43	33	74	61	12
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	75	75	86	86	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	57	38	86	68	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	237	75	81	0	0
Stage 1	75	-	-	-	-
Stage 2	162	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	756	992	1529	-	-
Stage 1	953	-	-	-	-
Stage 2	872	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	736	992	1529	-	-
Mov Cap-2 Maneuver	736	-	-	-	-
Stage 1	928	-	-	-	-
Stage 2	872	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	2.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1529	-	946	-	-
HCM Lane V/C Ratio	0.025	-	0.07	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

2026 No Build
Weekday Morning Peak Hour

2: Maple Street & Franklin Springs Road

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↕	↗	
Traffic Vol, veh/h	12	34	34	63	83	48
Future Vol, veh/h	12	34	34	63	83	48
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	60	60	77	77	69	69
Heavy Vehicles, %	0	0	3	0	1	2
Mvmt Flow	20	57	44	82	120	70

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	325	155	190	0	0
Stage 1	155	-	-	-	-
Stage 2	170	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-
Pot Cap-1 Maneuver	673	896	1378	-	-
Stage 1	878	-	-	-	-
Stage 2	865	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	651	896	1378	-	-
Mov Cap-2 Maneuver	651	-	-	-	-
Stage 1	849	-	-	-	-
Stage 2	865	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	2.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1378	-	816	-	-
HCM Lane V/C Ratio	0.032	-	0.094	-	-
HCM Control Delay (s)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

2026 No Build
Weekday Evening Peak Hour

2: Maple Street & Franklin Springs Road

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↕		↔	
Traffic Vol, veh/h	15	46	35	83	67	13
Future Vol, veh/h	15	46	35	83	67	13
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	75	75	86	86	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	61	41	97	74	14

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	260	81	88	0	-
Stage 1	81	-	-	-	-
Stage 2	179	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	733	985	1520	-	-
Stage 1	947	-	-	-	-
Stage 2	857	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	712	985	1520	-	-
Mov Cap-2 Maneuver	712	-	-	-	-
Stage 1	920	-	-	-	-
Stage 2	857	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1520	-	935	-	-
HCM Lane V/C Ratio	0.027	-	0.076	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

2026 Build
Weekday Morning Peak Hour

2: Maple Street & Franklin Springs Road

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	12	35	37	68	85	48
Future Vol, veh/h	12	35	37	68	85	48
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	60	60	77	77	69	69
Heavy Vehicles, %	0	0	3	0	1	2
Mvmt Flow	20	58	48	88	123	70

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	342	158	193	0	0
Stage 1	158	-	-	-	-
Stage 2	184	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-
Pot Cap-1 Maneuver	658	893	1374	-	-
Stage 1	875	-	-	-	-
Stage 2	852	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	634	893	1374	-	-
Mov Cap-2 Maneuver	634	-	-	-	-
Stage 1	843	-	-	-	-
Stage 2	852	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	2.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1374	-	809	-	-
HCM Lane V/C Ratio	0.035	-	0.097	-	-
HCM Control Delay (s)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

2026 Build
Weekday Evening Peak Hour

2: Maple Street & Franklin Springs Road

Intersection

Int Delay, s/veh 3.2

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	15	49	37	86	73	13
Future Vol, veh/h	15	49	37	86	73	13
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	75	75	86	86	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	65	43	100	81	14

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	274	88	95	0	-	0
Stage 1	88	-	-	-	-	-
Stage 2	186	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	720	976	1512	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	851	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	698	976	1512	-	-	-
Mov Cap-2 Maneuver	698	-	-	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	9.2	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	1512	-	927	-	-
HCM Lane V/C Ratio	0.028	-	0.081	-	-
HCM Control Delay (s)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lincoln Street at Bridle Path

2019 Existing
Weekday Morning Peak Hour

3: Lincoln Street & Bridle Path

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			↑		↓
Traffic Vol, veh/h	16	23	6	369	327	6
Future Vol, veh/h	16	23	6	369	327	6
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	65	65	74	74	64	64
Heavy Vehicles, %	6	4	17	1	2	17
Mvmt Flow	25	35	8	499	511	9

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1031	516	520	0	-
Stage 1	516	-	-	-	-
Stage 2	515	-	-	-	-
Critical Hdwy	6.46	6.24	4.27	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.336	2.353	-	-
Pot Cap-1 Maneuver	254	555	974	-	-
Stage 1	591	-	-	-	-
Stage 2	592	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	251	555	974	-	-
Mov Cap-2 Maneuver	251	-	-	-	-
Stage 1	584	-	-	-	-
Stage 2	592	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	974	-	371	-	-
HCM Lane V/C Ratio	0.008	-	0.162	-	-
HCM Control Delay (s)	8.7	0	16.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	15	16	10	363	442	15
Future Vol, veh/h	15	16	10	363	442	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	86	86	91	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	19	11	399	465	16

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	894	473	481	0	- 0
Stage 1	473	-	-	-	-
Stage 2	421	-	-	-	-
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	312	591	1082	-	-
Stage 1	627	-	-	-	-
Stage 2	662	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	308	591	1082	-	-
Mov Cap-2 Maneuver	308	-	-	-	-
Stage 1	619	-	-	-	-
Stage 2	662	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1082	-	409	-	-
HCM Lane V/C Ratio	0.01	-	0.088	-	-
HCM Control Delay (s)	8.4	0	14.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

2026 No Build
Weekday Morning Peak Hour

3: Lincoln Street & Bridle Path

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	16	23	6	396	351	6
Future Vol, veh/h	16	23	6	396	351	6
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	65	65	74	74	64	64
Heavy Vehicles, %	6	4	17	1	2	17
Mvmt Flow	25	35	8	535	548	9

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1104	553	557	0	-
Stage 1	553	-	-	-	-
Stage 2	551	-	-	-	-
Critical Hdwy	6.46	6.24	4.27	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.336	2.353	-	-
Pot Cap-1 Maneuver	229	529	943	-	-
Stage 1	568	-	-	-	-
Stage 2	569	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	226	529	943	-	-
Mov Cap-2 Maneuver	226	-	-	-	-
Stage 1	561	-	-	-	-
Stage 2	569	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	943	-	341	-	-
HCM Lane V/C Ratio	0.009	-	0.176	-	-
HCM Control Delay (s)	8.9	0	17.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

2026 No Build
Weekday Evening Peak Hour

3: Lincoln Street & Bridle Path

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↕	↕	
Traffic Vol, veh/h	15	16	10	389	474	15
Future Vol, veh/h	15	16	10	389	474	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	86	86	91	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	19	11	427	499	16

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	956	507	515	0	- 0
Stage 1	507	-	-	-	-
Stage 2	449	-	-	-	-
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	286	566	1051	-	-
Stage 1	605	-	-	-	-
Stage 2	643	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	282	566	1051	-	-
Mov Cap-2 Maneuver	282	-	-	-	-
Stage 1	597	-	-	-	-
Stage 2	643	-	-	-	-




Approach	EB	NB	SB
HCM Control Delay, s	15.4	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1051	-	381	-	-
HCM Lane V/C Ratio	0.01	-	0.095	-	-
HCM Control Delay (s)	8.5	0	15.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 1.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	24	32	9	396	351	9
Future Vol, veh/h	24	32	9	396	351	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	65	65	74	74	64	64
Heavy Vehicles, %	6	4	17	1	2	17
Mvmt Flow	37	49	12	535	548	14

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	1114	555	562	0	-	0
Stage 1	555	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.46	6.24	4.27	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.336	2.353	-	-	-
Pot Cap-1 Maneuver	226	527	939	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	222	527	939	-	-	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	19.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	939	-	332	-	-
HCM Lane V/C Ratio	0.013	-	0.259	-	-
HCM Control Delay (s)	8.9	0	19.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	20	22	20	389	474	24
Future Vol, veh/h	20	22	20	389	474	24
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	86	86	91	91	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	26	22	427	499	25

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	983	512	524	0	- 0
Stage 1	512	-	-	-	-
Stage 2	471	-	-	-	-
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	276	562	1043	-	-
Stage 1	602	-	-	-	-
Stage 2	628	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	268	562	1043	-	-
Mov Cap-2 Maneuver	268	-	-	-	-
Stage 1	585	-	-	-	-
Stage 2	628	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1043	-	369	-	-
HCM Lane V/C Ratio	0.021	-	0.132	-	-
HCM Control Delay (s)	8.5	0	16.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-



June 24, 2020

Anthony Padula, Chairman
Town of Franklin
Planning Board
355 E Central St
Franklin, MA 02038

RE: Site Plan: 70,72,88 and 94 East Central Street

Dear Mr. Padula,

We would like to thank the board for hearing our proposal for a new mixed-use development in the center of Franklin. As you are aware, we have been in front of the planning board since February 2020 and working with local officials since the fall of 2019 to make this project a beneficial asset to the downtown. It has been extremely well received by the community including all local municipal departments and the Franklin Downtown Partnership.

Background:

We purchased 94 East Central street in the summer of 2019 and started working with local officials on the design of a new mixed-use building in the fall of 2019. Meeting with Franklin's Fire Chief Jim McLaughlin was a major part of the design process to ensure the safety of the project. Chief McLaughlin requested we install an access road connecting 94 East Central St to 70/72 East Central St. The only way to accomplish this was to integrate part of the other abutting property at 88 East Central St to 94 East Central St. While working with the residents of 88 East Central St, both parties agreed to a purchase and sales agreement with the terms that once the new mixed-use building was complete, they would purchase one of its condominiums. This would enable us to reposition/develop their property and tie it in to the overall project. This was never part of our original plan but became necessary to satisfy the Fire chief's safety concerns while providing proper access for the fire department.

During our meeting on May 11, 2020 the board agreed on a multifamily use with 4 story height component and were overall satisfied with its appearance. At the next meeting on June 8, 2020 the board requested a combined plan of 94 East Central St & 88 East Central St showing the building centrally located on the both sites. Over the last few weeks, we worked with

engineers, architects and the residents of 88 East central St to try and find a solution to the board's request. After much time and effort, we have determined that there are to many challenges that won't allow us to combine the lots and reposition the building.

Challenges:

First, the house sitting on the property of 88 East Central St would have to be demolished in order to move the new building forward. The residents currently living in 88 East Central St will not move out of their home and live in temporary housing 2+ years while the proposed building is being constructed. Also, we do not have the right to force them out of their home.

Second, almost the entire property of 88 East Central St is made up of solid ledge. If the house was vacant, the proposed 4 story building would stand an additional 20+- feet higher than originally proposed due to the grade of the ledge. I believe the board and the town would both agree that this would not fit the aesthetics of the downtown. In order to match the height of the surrounding buildings we would have to remove all the ledge on 88 East Central St. This would take 4-5 months of blasting & rock removal which would create other major challenges making it financially unfeasible.

Third, the new condominium owners at 70/72 East Central St have been in full support of the proposed project as it was submitted. If the building was moved forward the views of 50% of the units at 70/72 would be adversely affected and could cause a sunlight problem.

Solution:

We understand that the board wants to include 88 East Central St into the master planning of this project to ensure the end result is something everyone is proud to be associated with. As a solution, on our June 29th planning board meeting we will have our architecture team present other options for 88 East Central for the board to review.

Best Regards,



Brad Chaffee

Owner/Applicant

94 EAST CENTRAL ST

PROPOSED DEVELOPMENT

OWNER: 70 E. CENTRAL STREET, LLC

PLANNING BOARD REVIEW

JUNE 29, 2020



PREPARED BY
KUTRANIERI
a r c h i t e c t s



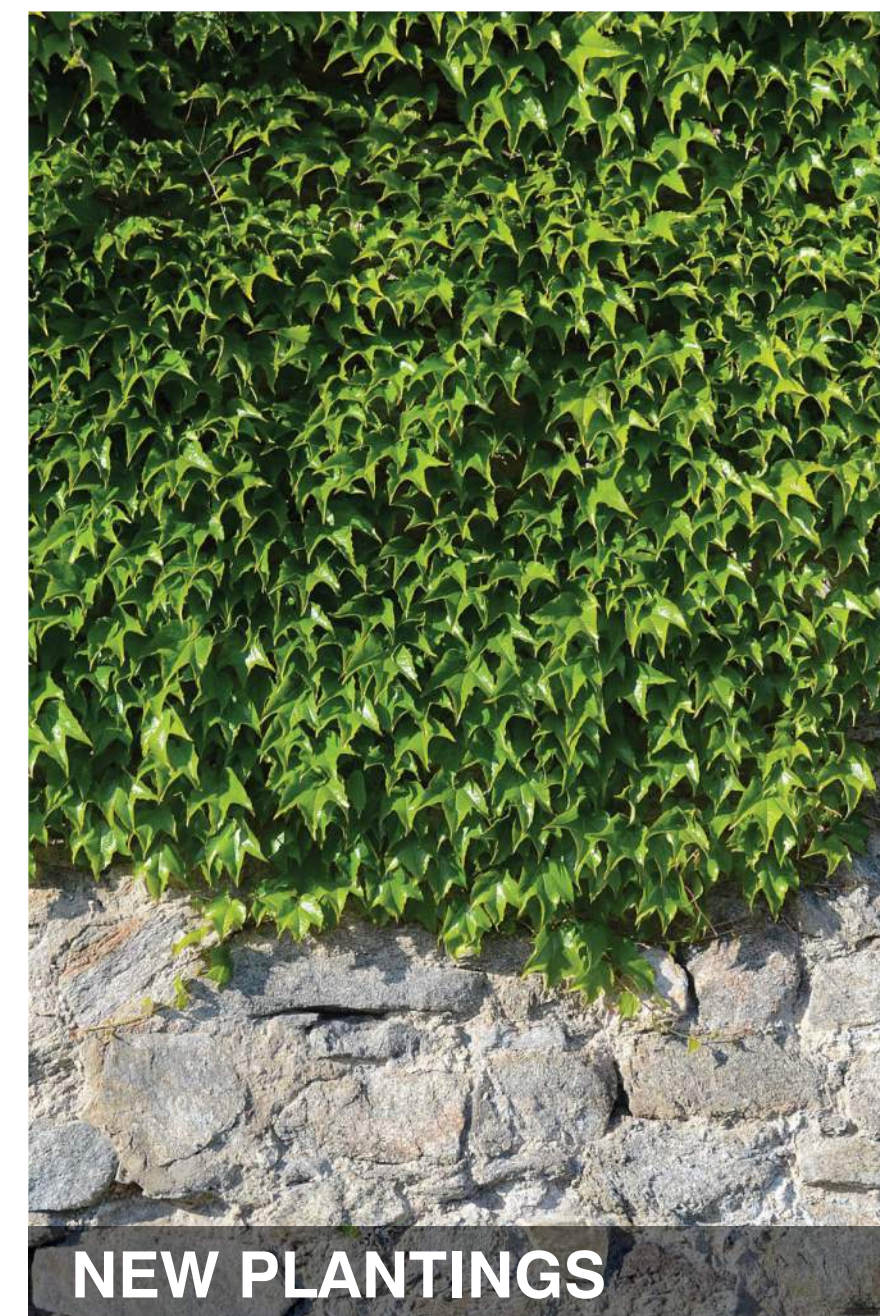


RETAIN THE CHARACTER OF THE EXISTING COTTAGE

COTTAGE RESTORATION:
CONCEPT IMAGES



REPAIR AND REPLACE EXTERIOR FINISHES



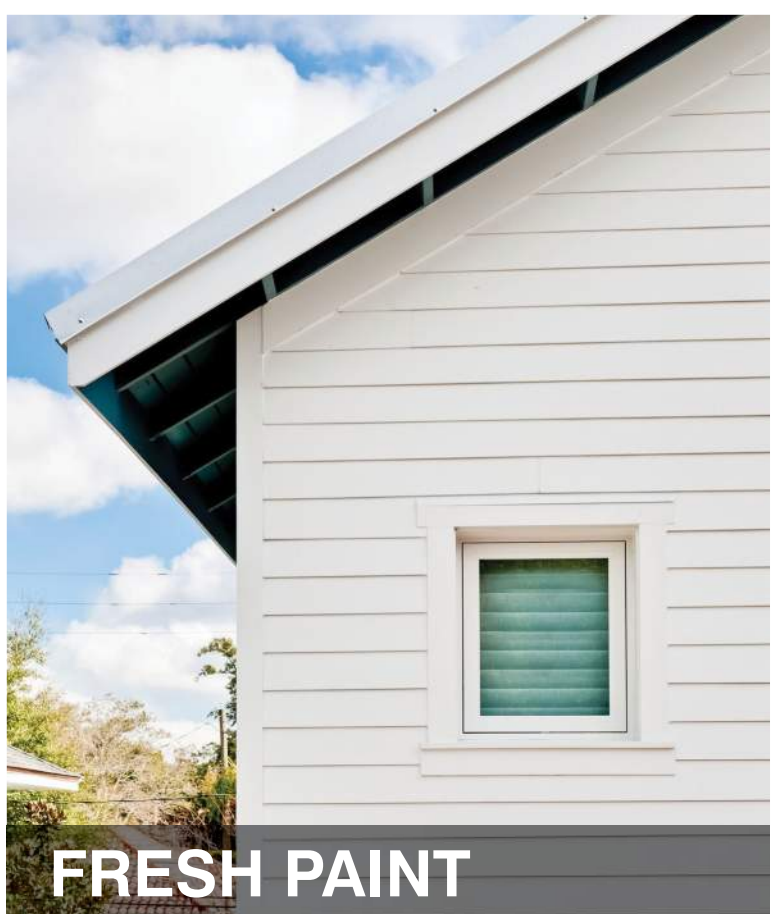
NEW PLANTINGS



REFRESHED STREET FACADE



NEW STANDING SEAM ROOF



FRESH PAINT



PLANNING BOARD REVIEW
OWNER: 70 E. CENTRAL STREET LLC
JUNE 29, 2020

PROPOSED DEVELOPMENT
94 EAST CENTRAL ST



SITE PLAN SKETCH - NOT TO SCALE

COTTAGE RESTORATION:
CONCEPT SITE PLAN



PRECEDENT PROJECTS - COMPLEMENTARY ADDITIONS

PLANNING BOARD REVIEW
OWNER: 70 E. CENTRAL STREET LLC
JUNE 29, 2020

PROPOSED DEVELOPMENT
94 EAST CENTRAL ST



FRANKLIN PLANNING & COMMUNITY DEVELOPMENT

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

DATE: June 25, 2020
TO: Planning Board
FROM: Department of Planning and Community Development
RE: 70, 72 88 & 94 East Central Street
Special Permit and Site Plan – Mixed Use

The DPCD has reviewed the above reference Special Permit and Site Plan Application for a Mixed-Use development for the Monday, June 29, 2020 Planning Board meeting and offers the following commentary:

General

1. The project is located at 70 East Central Street in the Commercial I Zoning District (Assessor's Map 286, Lot 032).
2. The applicant is proposing to construct a four (4) story, mixed used building with, Thirteen (13) residential apartments and, with retail/office on the first floor with drainage, grading, parking and other associated infrastructure. There is an existing single-family residential house which will be demolished.
3. Two Special Permits have been filed
 - Zoning By-Law §185 Attachment 9: Maximum Height of Building: (Note 9) – requires applicant to file a Special Permit for Stories and/or feet of the structure. The Applicant is proposing a four story, 49.5 foot building.
 - Zoning By-Law §185 Attachment 7: Multifamily authorized under Special Permit Planning Board for Commercial I zoning District.
5. The applicant has requested the following waivers:
 1. To allow less than 42" of cover over the RCP drain pipe
 2. To allow the use of HPDE pipe from catch basin 92 to the pond, from the pond to drain manhole 93, from the trench drain to drain manhole 91 and the roof leader collection system to the pond.

**No new plans have been submitted for this hearing.
Applicant has provided a written letter for the Board's consideration.**

Comments from the February 10, 2020 meeting:

1. The Board expressed concerns about Fire access. *Deputy Fire Chief has submitted a letter and is satisfied with the fire access.*
2. The Board expressed concerns about the height of the building. *The Applicant has provided color renderings showing the building height to be the same as the adjacent buildings previously approved by the Planning Board.*
3. The lot itself will need to be combined with 70 & 72 East Central Street to be a conforming lot. *The Applicant has revised the application as a modification to include 70, 72 & 94 East Central St.*
4. There was a question about the Certificate of Ownership. *DPCD can confirm a notarized copy of the Certificate of Ownership is on file. Due the office being closed, it is not included in this packet.*

Comments from the May 6, 2020 meeting:

1. Add square footage of the frontage of the property. *Applicant has provided square footage on the plans.*
2. Planning Board indicated they were satisfied with the height of the building.
3. Applicant received Design Review Recommendation on June 2, 2020.
4. BETA and Town Engineer has no further comments.

Suggested Special Conditions:

1. Applicant must file a Limited Site Plan for each tenant use in the commercial space.
2. Applicant must file an 81-P ANR to combine lots 70, 72 & 94 East Central Street prior to the start of construction.

DPCD has no further comments.

Special Permit findings are included in the Application and on record.

Special Permit VOTE:

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

If you vote NO on any of the following, please state reason why you are voting NO:

(1) Special Permits:

- a. To allow the Building height of 49.5 feet and/or 4 stories in the Downtown Commercial (DC) Zoning District as shown on the Plan.**
- b. Allow Multifamily in Commercial I Zoning District**

ROLE CALL VOTE:

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

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(b) Vehicular traffic flow, access and parking and pedestrian safety are properly addressed.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(c) Public roadways, drainage, utilities and other infrastructure are adequate or will be upgraded to accommodate development.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(d) Neighborhood character and social structure will not be negatively impacted.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(e) Project will not destroy or cause substantial damage to any environmentally-significant natural resource, habitat, or feature or, if it will, proposed mitigation, remediation, replication or compensatory measures are adequate.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(f) Number, height, bulk, location and siting of building(s) and structure(s) will not result in abutting properties being deprived of light or fresh air circulation or being exposed to flooding or subjected to excessive noise, odor, light, vibrations, or airborne particulates.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

(g) Water consumption and sewer use, taking into consideration current and projected future local water supply and demand and wastewater treatment capacity, will not be excessive.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

B. VOTE:

READ the Following to the Audience ROLE CALL VOTE:

The proposed use will not have adverse effects which overbalance its beneficial effects on either the neighborhood or the Town, in view of the particular characteristics of the site and of the proposal in relation to that site.

Joseph Halligan, Jr.	YES	NO	Gregory Rondeau	YES	NO
William David	YES	NO	Rick Power	YES	NO

C. WAIVERS:

The Planning Board should vote on the following requested waivers:

1. To allow less than 42” of cover over the RCP drain pipe
2. To allow the use of HPDE pipe from catch basin 92 to the pond, from the pond to drain manhole 93, from the trench drain to drain manhole 91 and the roof leader collection system to the pond.

D. SPECIAL CONDITIONS:

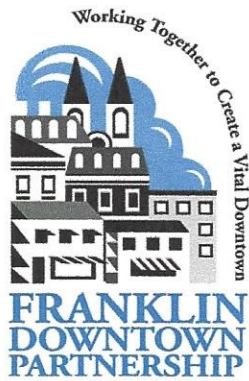
The Planning Board should determine if the following Special Conditions will be added to the Certificate of Vote:

3. Applicant must file a Limited Site Plan for each tenant use in the commercial space.
4. Applicant must file an 81-P ANR to combine lots 70, 72 & 94 East Central Street prior to the start of construction.

Suggested Standard Conditions of Approval:

1. This Special Permit shall not be construed to run with the land and shall run with the Site Plan as endorsed by the Planning Board. A new Special Permit shall be required from the Planning Board if any major change of use or major change to the site plan is proposed.
2. This Special Permit shall lapse if a substantial use or construction has not begun, except for good cause, within twenty four (24) months of approval, unless the Board grants an extension. No final Certificate of Occupancy shall be issued until all requirements of the Special Permit have been completed to the satisfaction of the Board unless the applicant has submitted a Partial Certificate of Completion for the remainder of the required improvements. The applicant's engineer or surveyor, upon completion of all required improvements, shall submit a Certificate of Completion. The Board or its agent(s) shall complete a final inspection of the site upon filing of the Certificate of Completion by the applicant. Said inspection is further outlined in condition #4.
3. Construction or operations under this Special Permit shall conform to any subsequent amendment of the Town of Franklin Zoning Bylaw (§185) unless the use or construction is commenced within a period of six (6) months after the issuance of this Special Permit and, in cases involving construction, unless such construction is continued through to completion as continuously and expeditiously as is reasonable.

4. The Planning Board will use outside consultant services to complete construction inspections upon the commencement of construction. The Franklin Department of Public Works Director, directly and through employees of the Department of Public Works and outside consultant services shall act as the Planning Board's inspector to assist the Board with inspections necessary to ensure compliance with all relevant laws, regulations and Planning Board approved plan specifications. Such consultants shall be selected and retained upon a majority vote of the Board.
5. Actual and reasonable costs of inspection consulting services shall be paid by the owner/applicant before or at the time of the pre-construction meeting. Should additional inspections be required beyond the original scope of work, the owner/applicant shall be required to submit fees prior to the issuance of a Final Certificate of Completion by the Planning Board (Form H). Said inspection is further outlined in condition #4.
6. No alteration of the Special Permit and the plans associated with it shall be made or affected other than by an affirmative vote of the members of the Board at a duly posted meeting and upon the issuance of a written amended decision.
7. All applicable laws, by-laws, rules, regulations, and codes shall be complied with, and all necessary licenses, permits and approvals shall be obtained by the owner/applicant.
8. Prior to the endorsement of the site plan, the following shall be done:
 - The owner/applicant shall make a notation on the site plan that references the Special Permit and the conditions and dates of this Certificate of Vote.
 - A notation shall be made on the plans that all erosion mitigation measures shall be in place prior to major construction or soil disturbance commencing on the site.
 - All outstanding invoices for services rendered by the Town's Engineers and other reviewing Departments of the Town relative to their review of the owner/applicant's application and plans shall have been paid in full.
 - The owner/applicant shall submit a minimum of six copies of the approved version of the plan.
9. Prior to any work commencing on the subject property, the owner/applicant shall provide plans to limit construction debris and materials on the site. In the event that debris is carried onto any public way, the owner/applicant and his assigns shall be responsible for all cleanup of the roadway. All cleanups shall occur within twenty-four (24) hours after first written notification to the owner/applicant by the Board or its designee. Failure to complete such cleanup may result in suspension of construction of the site until such public way is clear of debris.
10. The owner/applicant shall install erosion control devices as necessary and as directed by the Town's Construction Inspector.



March 12, 2020

Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Housing in downtown Franklin

Dear Members of the Planning Board,

The Franklin Downtown Partnership is honored to recognize the work of its members who are building housing in Franklin's downtown residential neighborhoods. We have a number of members who are involved in real estate and marketing, financing, landscaping, residential furnishings and decor, and development and construction.

These businesses and others are helping Franklin to realize some of its housing goals from the 2013 Master Plan including:

- Goal 1: Provide the appropriate mix of housing alternatives that meets the needs of Franklin based employment.
- Goal 5: Encourage future housing developments to take advantage of public transportation resources, including the MBTA commuter rail, and GATRA bus service.

These goals are further enhanced through two objectives:

- Objective 5.1: Promote mixed-use, Transit-Oriented Development in appropriate areas.
- Objective 5.2: Encourage development of housing near public transportation, including the MBTA stations in Downtown Franklin and the Forge Park Station.

One example of new residential construction in downtown Franklin is The Residences Downtown, a luxury condominium development. This condo project was developed and constructed by Brad Chaffee, CEO, Camford Property Group Inc.

This property and others are contributing to the vitality of Franklin's downtown. People living downtown shop in its stores and dine in its restaurants. They provide a sense of robust energy after the end of the traditional business day. They extend the life of the downtown neighborhood.

We look forward to seeing more residential construction advancing economic development in Downtown Franklin.

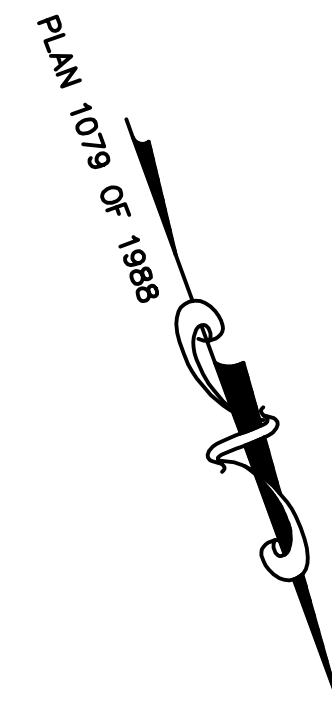
Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Piana".

Lisa Piana, Executive Director
Franklin Downtown Partnership Board of Directors

SITE PLAN MODIFICATION

70, 72, 88 AND 94 EAST CENTRAL STREET



LOCUS MAP
SCALE: 1" = 100'

94 EAST CENTRAL STREET PROPERTY IS LOCATED WITHIN A COMMERCIAL I ZONE.

REQUIREMENTS:	EXISTING	PROPOSED
DOWNTOWN COM. AREA:	5,000 S.F.	66,535± S.F.
FRONTAGE:	50'	186.07' & 49.02'
DEPTH:	50'	268'
HEIGHT:	3 STORIES - 40' *15	2 STORIES
WIDTH:	45'	>45'

EXISTING	PROPOSED
66,535± S.F.	66,535± S.F.
186.07' & 49.02'	186.07' & 49.02'
268'	268'
2 STORIES	4 STORIES - 49.5'
>45'	>45'

REQUIREMENTS:	EXISTING	PROPOSED
COVERAGE - STRUCTURES:	80%	9.1%
STRUC. & PAVING:	90%	42.7%
25.2%	64.8%	

SETBACKS-
FRONT: 20' *1 161.2' 148.8'
SIDE: 10' *14 24.6' 14' & 14.5'
REAR: 15' 35.5'

*1 - BUT NO NEW STRUCTURE SHALL BE REQUIRED TO PROVIDE A DEEPER YARD THAN EXISTED ON THAT PARCEL UPON ADOPTION OF THIS AMENDMENT.
*14 - THE 10-FOOT SIDE SETBACK IS ONLY REQUIRED ON ONE SIDE OF THE LOT; IF LOT ABUTS A RESIDENTIAL DISTRICT, A 20-FOOT SETBACK IS REQUIRED ON THE ABUTTING SIDE.
*15 - BUILDINGS UP TO 50 FEET IN HEIGHT, REGARDLESS OF THE NUMBER OF STORIES, MAY BE PERMITTED BY A SPECIAL PERMIT FROM THE PLANNING BOARD.

REQUIREMENTS FOR 94 EAST CENTRAL STREET ZONE COMMERCIAL 1
EXISTING AND PROPOSED LOT AREA, FRONTAGE, DEPTH, WIDTH AND COVERAGE BASED ON THE LOTS BEING COMBINED.
BUILDING HEIGHT, AND SETBACKS BASED ON PROPOSED BUILDING LOCATED ON 94 EAST CENTRAL STREET.
THE PROPERTY IS NOT LOCATED WITHIN A FRANKLIN WATER RESOURCE DISTRICT.
THE PROPERTY IS LOCATED IN A ZONE C BASED ON FEMA FIRM MAP 25021C0309E DATED JULY 17, 2012.

94 EAST CENTRAL STREET:
EXISTING BUILDING USE RESIDENTIAL.
PROPOSED BUILDING USE MIXED WITH RESIDENTIAL.

DRAWING INDEX:

1. COVER SHEET
 2. EXISTING CONDITIONS PLAN
 3. SITE LAYOUT PLAN
 4. SITE GRADING AND UTILITY PLAN
 5. SITE PLANTING PLAN
 6. EROSION CONTROL PLAN
 7. CONSTRUCTION DETAILS
 8. CONSTRUCTION DETAILS
 9. CONSTRUCTION DETAILS
- SITE LIGHTING-LIGHTING PLAN,
PHOTOMETRICS AND SCHEDULES
BY SK & ASSOCIATES

MAP 286 PARCELS 32 AND 34
ARE TO BE COMBINED.
MAP 286 PARCEL 33 HAS A PROPOSED
EASEMENT FOR ACCESS AND UTILITIES.

- REFERENCES:**
ASSESSORS MAP 286 PARCEL 32
DEED BOOK 36860 PAGE 516
DEED BOOK 35983 PAGE 116
DEED BOOK 24648 PAGE 492
PLAN 108 OF 1908
PLAN 576 OF 1900
OWNERS PLAN OF LAND BY GUERRIERE AND HALNON, INC
DATED OCTOBER 22, 2018
PLAN 3334 OF 1913
PLAN 853 OF 1928

OWNER:
MAP 286 PARCELS 32 AND 34
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

OWNER MAP 286 PARCEL 33
JOHN AND CARMEL SHERRY
88 EAST CENTRAL STREET

APPLICANT:
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

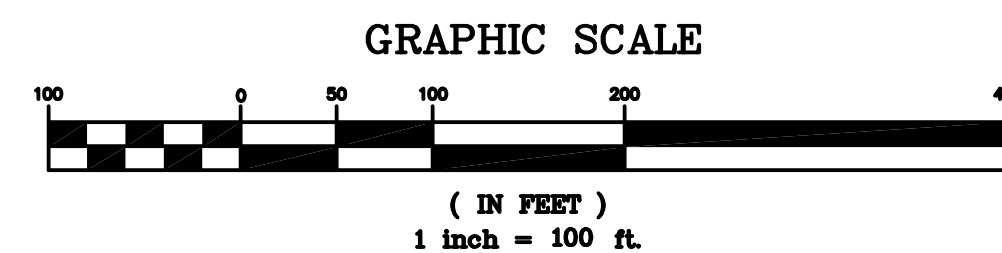
SITE PLAN MODIFICATION
COVER SHEET
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 100'

- ALL EROSION CONTROL MITIGATION MEASURES SHALL BE IN PLACE PRIOR TO MAJOR CONSTRUCTION OR SOIL DISTURBANCE COMMENCING ON THE SITE.

- WAIVER REQUESTS:**
1. TO ALLOW LESS THAN 42" OF COVER OVER THE RCP DRAIN PIPE. PROPOSED CLASS V RCP.
 2. TO ALLOW THE USE OF HPDE PIPE FROM CATCH BASIN 92 TO THE POND, FROM THE POND TO DRAIN MANHOLE 93, FROM THE TRENCH DRAIN TO DRAIN MANHOLE 91 AND THE ROOF LEADER COLLECTION SYSTEM TO THE POND.

SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	
BK#	FIELD BOOK	PG#
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 100'	UC1334	1 of 9

MAP 286 PARCEL 44
79 CROSS STREET
N/F DESJARDINS
BOOK 36745 PAGE 271
ZONE - SINGLE FAMILY IV
USE - RESIDENTIAL

MAP 286 PARCEL 42
54-60 SUMMER STREET
N/F THAYER
BOOK 8402 PAGE 188
ZONE - SINGLE FAMILY IV
USE - RESIDENTIAL

MAP 286 PARCEL 41
48 SUMMER STREET
N/F THAYER
BOOK 17756 PAGE 468
ZONE - SINGLE FAMILY IV
USE - RESIDENTIAL

MAP 286 PARCEL 40
38 SUMMER STREET
N/F RANIERI TRUST
BOOK 30861 PAGE 162
ZONE - SINGLE FAMILY IV
USE - RESIDENTIAL

MAP 286 PARCEL 32
70 EAST CENTRAL STREET
N/F 37 EAST CENTRAL STREET, LLC
BOOK 37054 PAGE 422
ZONE - COMMERCIAL 1
USE - SEE SHEET 1

MAP 286 PARCEL 33
88 EAST CENTRAL STREET
N/F SHERRY
BOOK 24648 PAGE 492
ZONE - COMMERCIAL 1
USE RESIDENTIAL

MAP 286 PARCEL 34
70 EAST CENTRAL STREET
N/F 37 EAST CENTRAL STREET, LLC
BOOK 37054 PAGE 422
ZONE - DOWNTOWN COMMERCIAL
USE - MIXED

REFERENCES:
ASSESSORS MAP 286 PARCEL 32
DEED BOOK 36860 PAGE 516
DEED BOOK 35983 PAGE 116
DEED BOOK 24648 PAGE 492
PLAN 108 OF 1908
PLAN 576 OF 1900
OWNERS PLAN OF LAND BY GUERRIERE AND HALNON, INC
DATED OCTOBER 22, 2018
PLAN 3334 OF 1913
PLAN 853 OF 1928

NOTES:
1. ELEVATIONS DATUM NGVD 1929.
2. EXISTING CONDITIONS SURVEY WAS COMPLETED BETWEEN JUNE 12, 2019 AND JANUARY 6, 2020.
3. SOIL TYPES TAKEN FROM SOILS MAP OF NORFOLK COUNTY.

LEGEND:

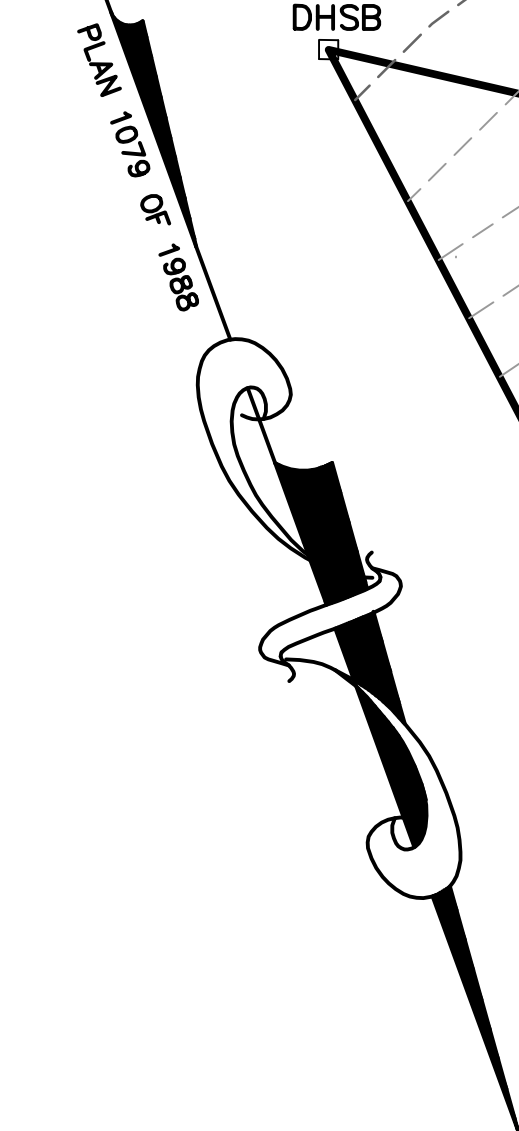
- DHSB DRILL HOLE STONE BOUND
- - - - - EXISTING COUNTOUR
- - - - - PROPOSED COUNTOUR
- x274.3 SPOT GRADE - PROPOSED
- x274.3EX. SPOT GRADE - EXISTING
- ⊙ 48M EXIST. TREE - DIAMETER - SPECIES
- ⊕ UP4-1 UTILITY POLE
- OHW - OVERHEAD WIRES
- ⊗ GAS GATE
- ⊕ WATER CURB STOP
- ⊗ WATER GATE
- ⊕ FIRE HYDRANT
- ⊕ DRAIN MANHOLE
- CATCH BASIN
- ⊕ SEWER MANHOLE
- D DUMPSTER
- VCC VERTICAL CONCRETE CURBING
- VGC VERTICAL GRANITE CURBING
- CCB CAPE COD BERM
- ⊕ HANDICAP PARKING SPACE
- ⊕ BUILDING MOUNTED LIGHT
- POLE MOUNTED LIGHT

OWNER:
MAP 286 PARCELS 32 AND 34
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

OWNER MAP 286 PARCEL 33
JOHN AND CARMEL SHERRY
88 EAST CENTRAL STREET

APPLICANT:
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

SITE PLAN MODIFICATION
EXISTING CONDITIONS PLAN
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 20'



NOTE:
SEWER, DRAIN AND WATER LOCATIONS AND ELEVATIONS WERE TAKEN FROM PLANS OF RECORD AND ARE NOT THE RESULT OF A FIELD SURVEY.

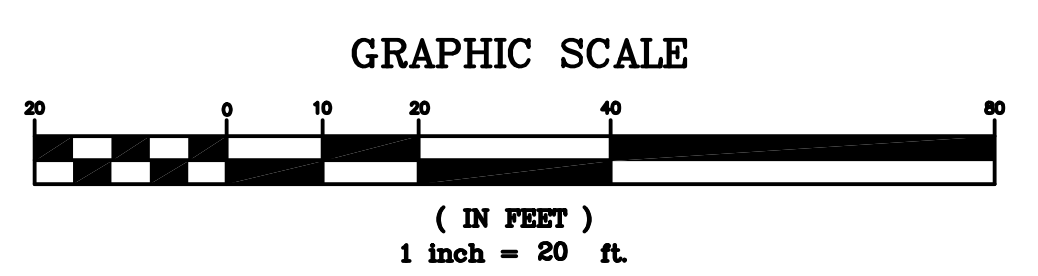
MAP 286 PARCEL 31
100 EAST CENTRAL STREET
N/F 100 EAST CENTRAL STREET, LLC
BOOK 22935 PAGE 214
ZONE - COMMERCIAL 1
USE - RESIDENTIAL

SMH
RIM=312.29
INV = 307.27

DMH
RIM=312.84
12" RCP INV IN = 307.97
12" RCP INV OUT = 307.94

CB
RIM = 312.79
12" RCP INV = 309.09

EAST CENTRAL STREET
1928 COUNTY LAYOUT



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19		BL
BK#	FIELD BOOK	PG#
3/20		RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

DATE
MAR. 4, 2020
SCALE
1" = 20'
PROJECT
UC1334
SHEET
2 of 9

SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE _____

NOTE:
THE SITE USES ARE NOT ANTICIPATED TO REQUIRE A LOADING AREA HOWEVER THE FOLLOWING PROVISIONS HAVE BEEN LISTED.

A SU-30 TRUCK (LARGEST DELIVERY VEHICLE TO ACCESS THE SITE) WILL BE ABLE TO ACCESS THE SITE AND WOULD BE ABLE TO TRAVEL THROUGH THE 70 EAST CENTRAL STREET SITE DRIVEWAY. THE TRUCK COULD OFF LOAD AT THE DRIVEWAY CONNECTING THE PARKING AREAS.

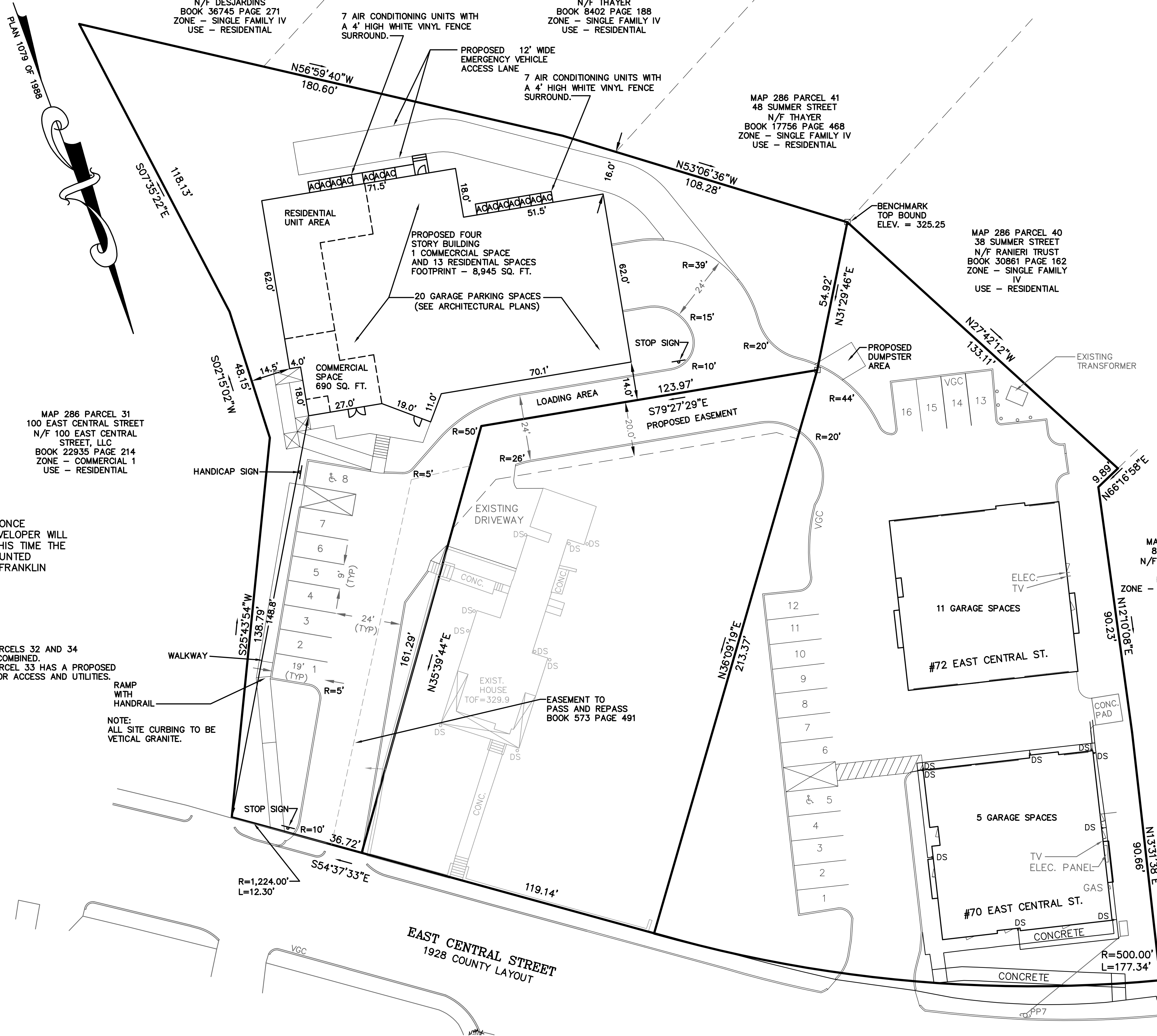
NOTES:
- NO SITE SIGNS ARE PROPOSED AT THIS TIME. ONCE TENANTS ARE SECURED THE TENANT OR DEVELOPER WILL SUBMIT AND OBTAIN APPROVAL FOR SIGNS. AT THIS TIME THE DEVELOPER IS PLANNING TO UTILIZE BUILDING MOUNTED SIGNAGE THAT WILL COMPLY WITH THE TOWN OF FRANKLIN REQUIREMENTS.

MAP 286 PARCELS 32 AND 34 ARE TO BE COMBINED. MAP 286 PARCEL 33 HAS A PROPOSED EASEMENT FOR ACCESS AND UTILITIES.

LEGEND:

- DHSB DRILL HOLE STONE BOUND
- - - 297 - - EXISTING COUNTOUR
- 297 - PROPOSED COUNTOUR
- x274.3 SPOT GRADE - PROPOSED
- x274.3EX. SPOT GRADE - EXISTING
- ⊙ 48M EXIST. TREE - DIAMETER - SPECIES
- UP4-1 UTILITY POLE
- OHW - OVERHEAD WIRES
- GAS GATE
- WATER CURB STOP
- WATER GATE
- FIRE HYDRANT
- DRAIN MANHOLE
- CATCH BASIN
- SEWER MANHOLE
- D DUMPSTER
- VCC VERTICAL CONCRETE CURBING
- VGC VERTICAL GRANITE CURBING
- CCB CAPE COD BERM
- HANDICAP PARKING SPACE
- BUILDING MOUNTED LIGHT
- POLE MOUNTED LIGHT

NOTE:
ALL SITE CURBING TO BE VETICAL GRANITE.



PARKING CALCULATIONS:
COMMERCIAL I REQUIREMENTS (SECTIONS 185-21B.(2)(a) 1.5 SPACES PER RESIDENTIAL DWELLING UNIT.
13 RESIDENTIAL UNITS PROPOSED REQUIRES 20 SPACES
20 GARAGE SPACES ARE PROPOSED FOR THE RESIDENTIAL UNITS
COMMERCIAL SPACE (NON RESIDENTIAL USE) 1 SPACE PER 500 SQ. FT. = 690 SQ. FT. / 500 = 2 SPACES REQUIRED
21 TOTAL SPACES INCLUDING.
28 SPACES PROPOSED INCLUDING 1 HANDICAP OUTSIDE SPACE.

PARKING CALCULATIONS 70 EAST CENTRAL STREET SITE PLAN APPROVAL:
DOWNTOWN COMMERCIAL REQUIREMENTS (SECTIONS 185-21(3)(a) & (b) 1.5 SPACES PER RESIDENTIAL DWELLING UNIT.
12 RESIDENTIAL UNITS PROPOSED REQUIRES 18 SPACES
20 GARAGE SPACES ARE PROPOSED FOR THE RESIDENTIAL UNITS.
14 SPACES PROPOSED INCLUDING 1 HANDICAP SPACE.
TOTAL OF 34 SPACES ORIGINALLY PROPOSED

REVISIONS PROPOSED FOR 70-72 EAST CENTRAL STREET PARKING WITH THE SITE PLAN FOR 70, 72, 88 AND 94 EAST CENTRAL STREET
ELIMINATE 4 GARAGE PARKING SPACES
ADDED 2 SPACES TO PARKING AREA
= 16 GARAGE SPACES AND 16 OUTDOOR SPACES
32 SPACES PROVIDED WHERE 18 SPACES ARE REQUIRED AS REVISED 70 & 72 EAST CENTRAL STREET PARKING AREA HAS 14 SPACES ABOVE THE ZONING BYLAW PARKING REQUIREMENTS.

MAP 286 PARCEL 39 8 SUMMER STREET N/F G & K SIMON, INC. BOOK 8449 PAGES 33 & 34 ZONE - DOWNTOWN COMMERCIAL USE - RETAIL

RESIDENTIAL DENSITY:
COMMERCIAL I REQUIREMENTS (185 ATTACHMENT 7 - 6.1*3)
*3 - NO MORE THAN ONE DWELLING UNIT PER 1,000 SQUARE FEET OF LOT AREA MAY BE PERMITTED.
LOT AREA = 33,307 SQ. FT. / 1,000 = 33 UNITS PERMISSIBLE
13 UNITS PROPOSED.

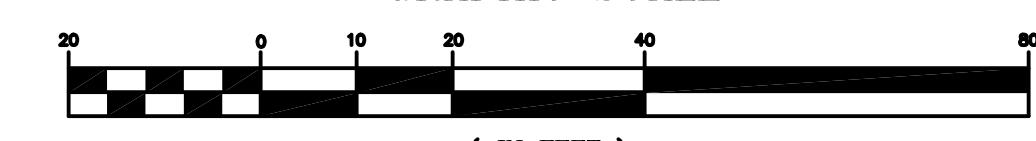
OWNER:
MAP 286 PARCELS 32 AND 34 70 EAST CENTRAL STREET, LLC 37 EAST CENTRAL STREET FRANKLIN, MASSACHUSETTS
OWNER MAP 286 PARCEL 33 JOHN AND CARMEL SHERRY 88 EAST CENTRAL STREET
APPLICANT:
70 EAST CENTRAL STREET, LLC 37 EAST CENTRAL STREET FRANKLIN, MASSACHUSETTS

SITE PLAN MODIFICATION
SITE LAYOUT PLAN
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 20'

SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE

GRAPHIC SCALE



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	BL
BK#	FIELD BOOK	PG#
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 20'	UC1334	3 of 9

- LEGEND:**
- DHSB DRILL HOLE STONE BOUND
 - - - 297 - - EXISTING COUNTOUR
 - 297 - - PROPOSED COUNTOUR
 - x274.3 SPOT GRADE - PROPOSED
 - x274.3EX SPOT GRADE - EXISTING
 - 48M EXIST. TREE - DIAMETER - SPECIES
 - UP4-1 UTILITY POLE
 - OHW OVERHEAD WIRES
 - GAS GATE
 - WATER CURB STOP
 - WATER GATE
 - FIRE HYDRANT
 - DRAIN MANHOLE
 - CATCH BASIN
 - SEWER MANHOLE
 - D DUMPSTER
 - VCC VERTICAL CONCRETE CURBING
 - VGC VERTICAL GRANITE CURBING
 - CCB CAPE COD BERM
 - HP HANDICAP PARKING SPACE
 - BLD BUILDING MOUNTED LIGHT
 - PM POLE MOUNTED LIGHT

MARCH 13, 2019
 PERFORMED BY CARLOS A. QUINTAL, P.E., SOIL EVALUATOR

TP 1 ELEV. = 324.24 - ABANDONED

TP 2 ELEV. = 324.75
 0 - 8" A 10YR 3/3 SANDY LOAM
 8" - 24" B 10YR 6/6 SANDY LOAM
 24" - 60" C 2.5Y 5/6 SANDY LOAM

TP 3 ELEV. = 323.85
 0 - 8" A 10YR 3/3 SANDY LOAM
 8" - 24" B 10YR 6/6 SANDY LOAM
 24" - 64" C 2.5Y 5/6 SANDY LOAM

TP 4 ELEV. = 317.52
 0 - 12" A 10YR 3/3 SANDY LOAM
 12" - 36" B 10YR 6/6 SANDY LOAM
 36" - 90" C 2.5Y 4/3 GRAVELLY SANDY LOAM
 NO GROUNDWATER
 NO MOTTLING AT 90" ELEV. = 310.02

TP 5 ELEV. = 318.53
 0 - 18" A 10YR 3/3 SANDY LOAM
 18" - 42" B 10YR 6/6 SANDY LOAM
 42" - 109" C 2.5Y 5/6 SANDY LOAM
 GROUNDWATER AT 100" ELEV. = 310.20
 NO MOTTLING OBSERVED

TP 6 ELEV. = 318.03
 0 - 10" A 10YR 3/3 SANDY LOAM
 10" - 42" B 10YR 6/6 SANDY LOAM
 42" - 97" C 2.5Y 5/6 SANDY LOAM
 NO GROUNDWATER OBSERVED
 NO MOTTLING OBSERVED AT 97" ELEV. = 309.94

ALL TEST PITS WERE DUG TO REFUSAL

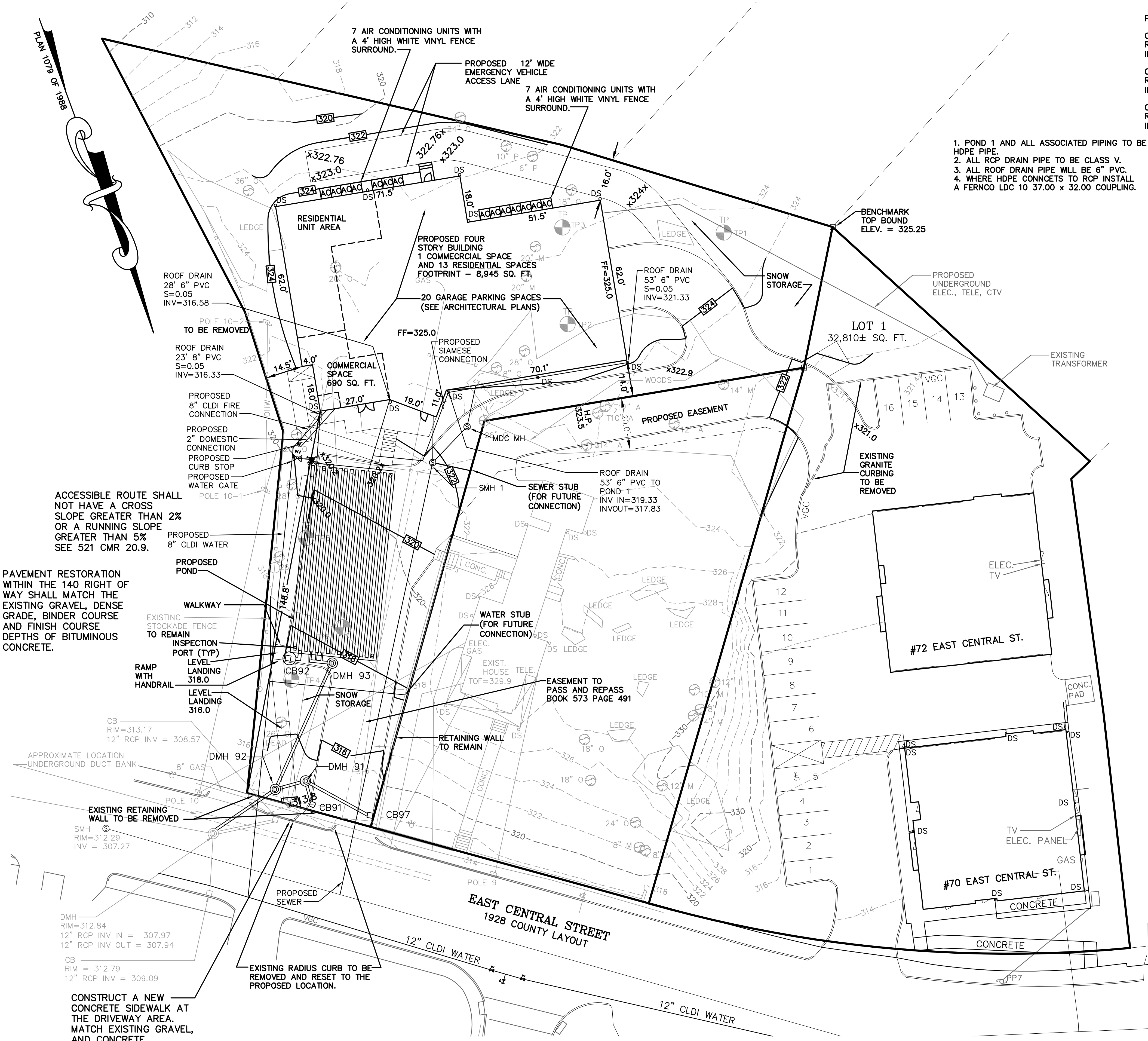
SIGHT DISTANCE BASED ON POSTED SPEED OF 25 MPH AT THE INTERSECTION OF EAST CENTRAL STREET AND ALPINE PLACE.
 PER MASDOT STOPPING SIGHT DISTANCE FOR 25 MPH AT 0% GRADE - 155 FEET.
 SIGHT DISTANCE WAS MEASURED 14.5 FEET FROM EDGE LINE.
 EXITING THE SITE:
 LOOKING WEST 200 + FEET.
 LOOKING EAST 300 + FEET.

REFERENCE MASS HIGHWAY EXHIBIT 3.8
 200 FOOT SIGHT DISTANCE AT ZERO GRADE HAD A DESIGN SPEED OF 30 MPH.

PAVEMENT RESTORATION WITHIN THE 140 RIGHT OF WAY SHALL MATCH THE EXISTING GRAVEL, DENSE GRADE, BINDER COURSE AND FINISH COURSE DEPTHS OF BITUMINOUS CONCRETE.

ACCESSIBLE ROUTE SHALL NOT HAVE A CROSS SLOPE GREATER THAN 2% OR A RUNNING SLOPE GREATER THAN 5%
 SEE 521 CMR 20.9.

CONSTRUCT A NEW CONCRETE SIDEWALK AT THE DRIVEWAY AREA. MATCH EXISTING GRAVEL, AND CONCRETE THICKNESSES.



PROPOSED DRAINAGE STRUCTURE SCHEDULE:

CB 91 RIM = 314.1 INV OUT = 310.74 12" RCP	DMH 91 - CDS WQU RIM = 315.0 INV IN = 310.68 12" RCP - CB 91 & 97 INV OUT = 310.58 12" RCP
CB 97 RIM = 314.2 INV OUT = 310.80 12" RCP	DMH 92 RIM 314.5 INV IN = 310.5 12" RCP - DMH 91 INV IN = 310.5 12" RCP - DMH 93 INV OUT = 308.5 12" RCP
CB 92 STORMCEPTOR 450I RIM = 317.58 INV OUT = 314.75 12" HDPE	DMH 93 RIM=317.9 INV IN =315.0 12" HDPE INV OUT = 312.46 12" RCP

- POND 1 AND ALL ASSOCIATED PIPING TO BE CLASS V. HDPE PIPE.
- ALL RCP DRAIN PIPE TO BE CLASS V.
- ALL ROOF DRAIN PIPE WILL BE 6" PVC.
- WHERE HDPE CONNETS TO RCP INSTALL A FERRO LDC 10 37.00 x 32.00 COUPLING.

- UTILITY NOTES:**
- DOMESTIC WATER SUPPLY SHALL BE BASED ON PLUMBING ENGINEERS CALCULATIONS.
 - FIRE SUPPLY LINE TO BE CONNECTED TO EXISTING WATER MAIN IN STREET. LOCATION SHOWN APPROXIMATELY. FINAL SIZING AND LOCATION SHALL BE DETERMINED BY THE PLUMBING ENGINEER.
 - ELECTRIC, TELEPHONE AND CABLE TV LOCATIONS TO BE DETERMINED BY THE APPROPRIATE UTILITY COMPANIES. SERVICES ARE PROPOSED TO BE CONNECTED TO THE 70-72 EAST CENTRAL STREET SITE AND SHALL BE UNDERGROUND.
 - GAS SERVICE AND LOCATIONS TO BE DETERMINED BY THE GAS COMPANY.
 - PIV AND SIAMESE CONNECTIONS SHOWN APPROXIMATE. FINAL LOCATIONS TO BE DESIGNED BY PLUMBING ENGINEER AND APPROVED BY FIRE DEPARTMENT.
 - THE DRAINAGE INSTALLATION SHALL BE INSPECTED AND CERTIFIED BY THE DESIGN ENGINEER PRIOR TO BACKFILLING.
 - EXISTING WATER SERVICE TO BE CUT AND CAPPED AT THE MAIN PER DPW REQUIREMENTS.
 - EXISTING SEWER SERVICE TO BE CUT AND CAPPED AT THE PROPERTY LINE.
 - EXISTING ELECTRIC, TELEPHONE AND CTV SERVICES TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANIES. POLE 10-2 TO BE REMOVED AS PERMITTED BY THE APPROPRIATE UTILITY COMPANY.

- NOTES:**
- CONTRACTOR TO CONTACT DIGSAFE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES ANY REPORT ANY DISCREPANCIES TO UNITED CONSULTANTS, INC.
 - ALL WORK SHALL CONFORM TO THE TOWN OF FRANKLIN DPW STANDARDS.
 - MAINTAIN A MINIMUM OF 10' SEPARATION FROM THE WATER SERVICE TO THE SEWER SERVICE.

THE DESIGN ENGINEER SHALL INSPECT THE EXCAVATION OF THE SOIL INFILTRATION AREA PRIOR TO ANY FILL OR STONE MATERIAL BEING PLACED.

MAP 286 PARCELS 32 AND 34 ARE TO BE COMBINED.
 MAP 286 PARCEL 33 HAS A PROPOSED EASEMENT FOR ACCESS AND UTILITIES.

OWNER:
 MAP 286 PARCELS 32 AND 34
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS

OWNER MAP 286 PARCEL 33
 JOHN AND CARMEL SHERRY
 88 EAST CENTRAL STREET

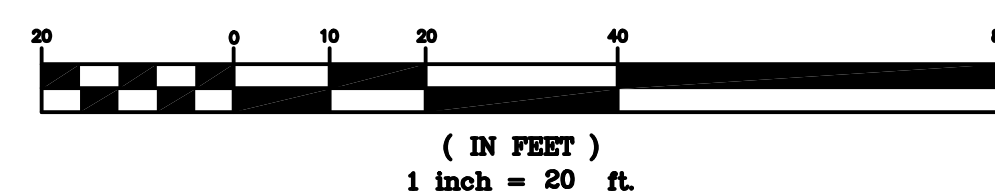
APPLICANT:
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS

**SITE PLAN MODIFICATION
 GRADING & UTILITY PLAN**
 70, 72, 88 AND 94 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 PREPARED FOR
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 MARCH 4, 2020
 SCALE: 1" = 20'

**SITE PLAN APPROVAL
 REQUIRED
 FRANKLIN PLANNING BOARD**

DATE

GRAPHIC SCALE



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	BL
BK#	FIELD BOOK	PG# 63
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

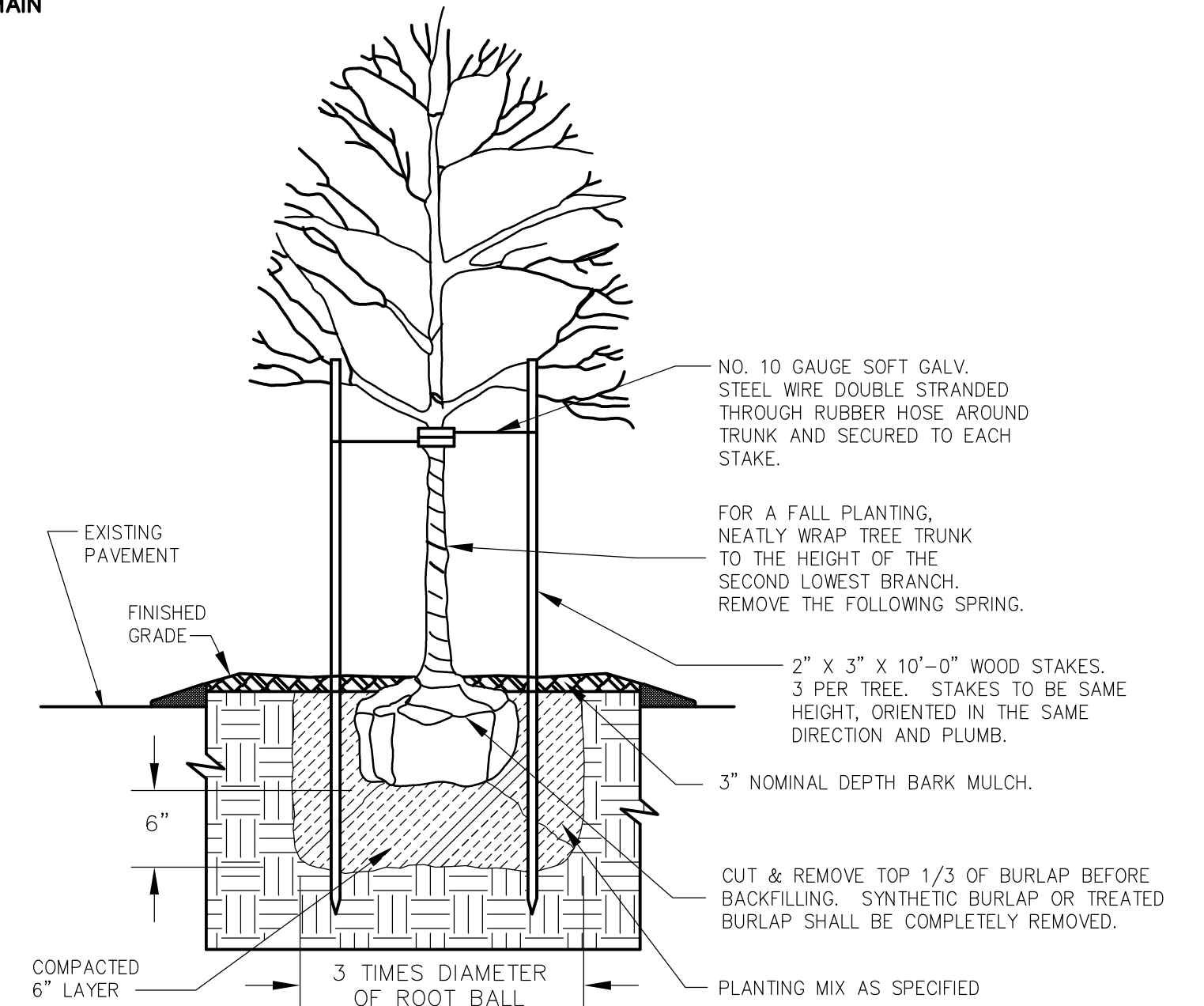
**UNITED
 CONSULTANTS
 INC.**
 850 FRANKLIN STREET SUITE 11D
 WRENTHAM, MASSACHUSETTS 02093
 508-384-6560 FAX 508-384-6566

DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 20'	UC1334	4 of 9

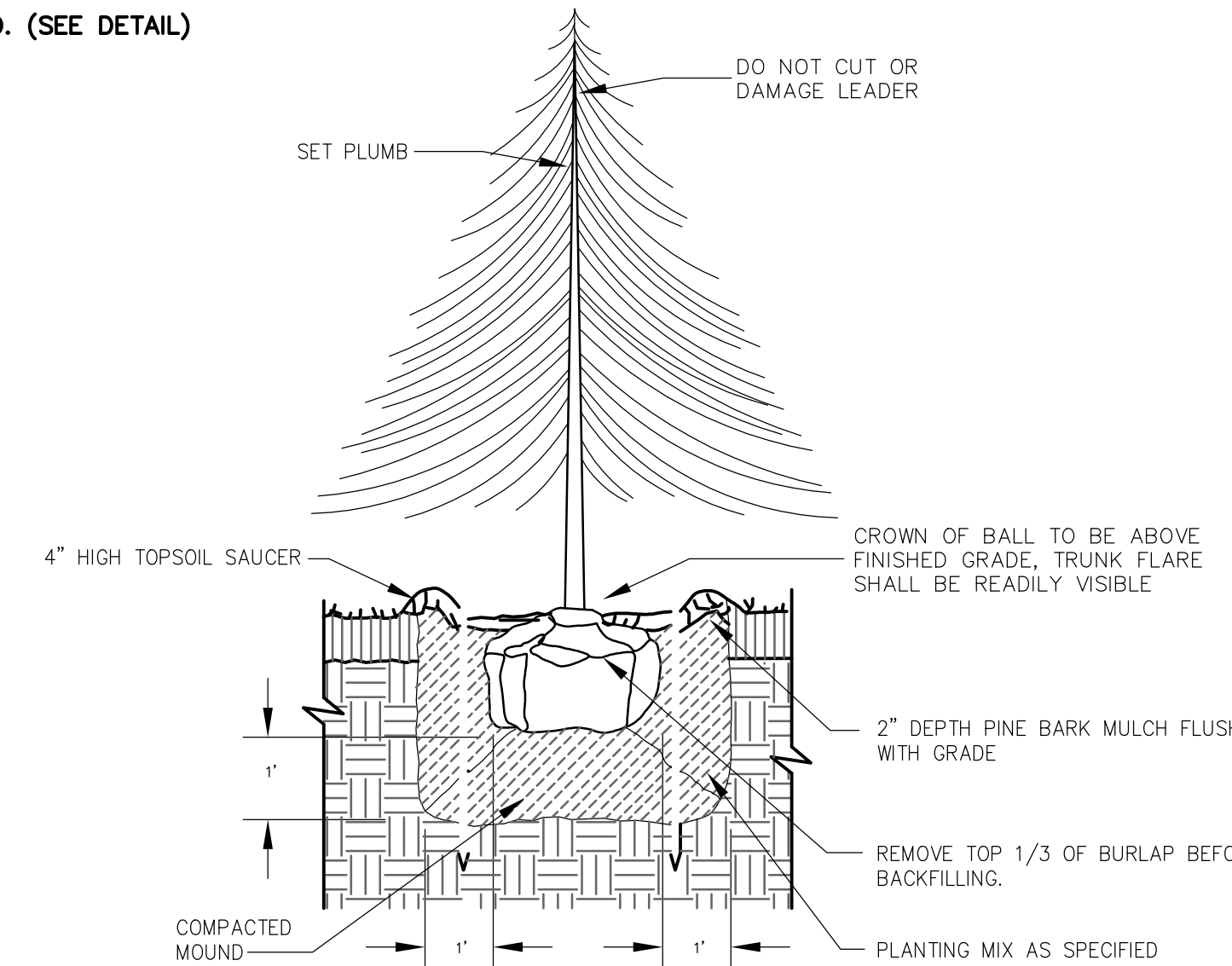
PLANTING SCHEDULE

NUMBER	COMMON NAME	SCIENTIFIC NAME	SIZE	CONDITION
2	AMERICAN ELM - AE	ULMUS AMERICANA	3"	B&B
1	RED MAPLE - RM	ACER RUBRUM	3"	B&B
8	ARBORVITAE - A	THUJA PLICATA	4 - 6 FEET	B&B

EXISTING TREE LEGEND:
 R - TO BE REMOVED
 K - TO REMAIN



DECIDUOUS TREE PLANTING



EVERGREEN TREE PLANTING

OWNER:
 MAP 286 PARCELS 32 AND 34
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS

OWNER MAP 286 PARCEL 33
 JOHN AND CARMEL SHERRY
 88 EAST CENTRAL STREET

APPLICANT:
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS

SITE PLAN MODIFICATION
 PLANTING PLAN
 70, 72, 88 AND 94 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 PREPARED FOR
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 MARCH 4, 2020
 SCALE: 1" = 20'

- PER SECTION 185-21C(5) PROVIDE 1 TREE PER 10 PARKING SPACES. 8 PARKING SPACES OUTSIDE OF BUILDING AND 28 SPACES TOTAL = 3 TREES
 3 TREES PROVIDED.
 - ALL PLANTINGS ARE IN ACCORDANCE WITH THE TOWN OF FRANKLIN BEST DEVELOPMENT PRACTICES GUIDEBOOK.

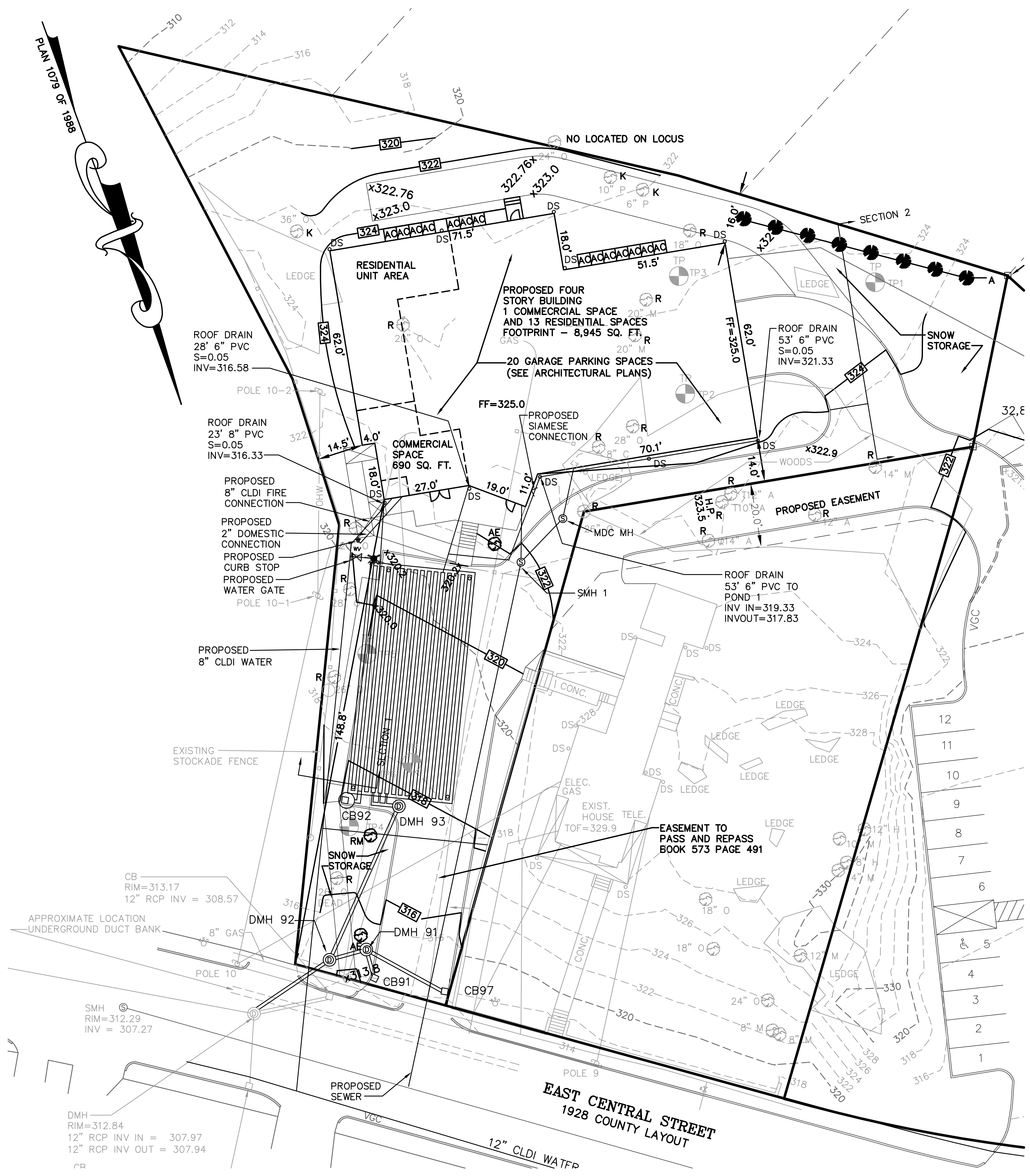
GENERAL NOTES

1. PLANTING HOLE SHALL BE THREE TIMES ROOT BALL DIAMETER.
2. ALL INSTALLED PLANT MATERIAL SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE (TOP OF PLANTING SOIL MIX), AS IT BORE TO THE NURSERY OR FIELD GRADE.
3. THE PLANTING HOLE DEPTH SHALL PROVIDE FOR A SIX INCH DEPTH OF PLANTING SOIL MIX BELOW THE ANTICIPATED ROOT BALL BOTTOM.
4. NOTWITHSTANDING THE REQUIREMENTS OF NOTES 1 & 3 ABOVE, NO PLANTING HOLE FOR TREES SHALL HAVE LESS THAN ONE CUBIC YARD OF PLANTING SOIL MIX.
5. PLANTING SOIL MIX SHALL BE A LOAM OR SANDY LOAM, AS DEFINED BY THE U.S.D.A. THE FIRST (BOTTOM) SIX INCH LAYER IN THE PRE-EXCAVATED PLANTING HOLE SHALL BE FIRMLY TAMPED TO PREVENT SETTLEMENT OF THE ROOT BALL POSITIONED THEREON. SUBSEQUENT LIFTS TO FINISH GRADE SHALL BE IN SIX INCH LOOSE LIFTS, EACH SETTLED BY THOROUGH SOAKING.
6. UPON ATTAINMENT OF FINISH GRADE WITHIN EACH PLANTING BED, THE GROUND SURFACE SHALL RECEIVE AN EVEN APPLICATION OF ORGANIC NON-PHOSPHORUS FERTILIZER APPLIED PER THE MANUFACTURERS RECOMMENDATIONS.
7. COVERED WITH A THREE INCH NOMINAL DEPTH OF SHREDDED CEDAR BARK (OR APPROVED EQUIVALENT), MAINTAINING A ONE INCH MINIMUM DEPTH AT THE BERM EDGE, AND IMMEDIATELY RISING TO A THREE INCH DEPTH ACROSS THE PLANTING BED OR LANDSCAPE ISLAND. (SEE DETAIL)

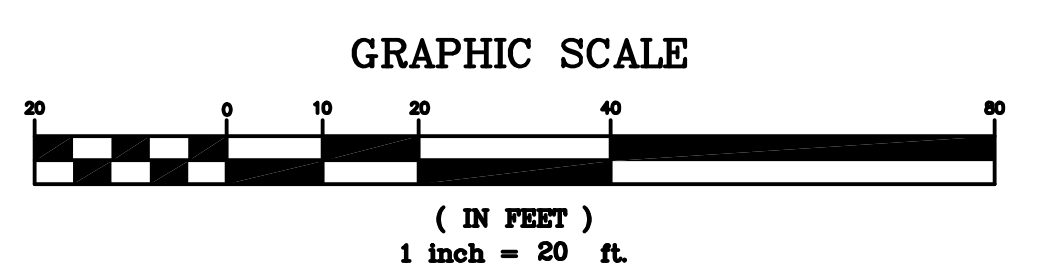
LEGEND:

- DHSB DRILL HOLE STONE BOUND
- - 297 - - EXISTING COUNTOUR
- 297 - PROPOSED COUNTOUR
- x274.3 SPOT GRADE - PROPOSED
- x274.3EX. SPOT GRADE - EXISTING
- 48M EXIST. TREE - DIAMETER - SPECIES
- UP4-1 UTILITY POLE
- OHW OVERHEAD WIRES
- GAS GATE
- WATER CURB STOP
- WATER GATE
- FIRE HYDRANT
- DMH DRAIN MANHOLE
- CATCH BASIN
- ⊙ SEWER MANHOLE
- D DUMPSTER
- VCC VERTICAL CONCRETE CURBING
- VGC VERTICAL GRANITE CURBING
- CCB CAPE COD BERM
- ⊕ HANDICAP PARKING SPACE
- BUILDING MOUNTED LIGHT
- POLE MOUNTED LIGHT

MAP 286 PARCELS 32 AND 34 ARE TO BE COMBINED.
 MAP 286 PARCEL 33 HAS A PROPOSED EASEMENT FOR ACCESS AND UTILITIES.



SITE PLAN APPROVAL
 REQUIRED
 FRANKLIN PLANNING BOARD
 DATE



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	BL
BK#	FIELD BOOK	PG#
3/20	RRG	RRG
3/20	RRG	RRG
3/20	COMP	COMP
3/20	CAQ	CAQ

UNITED CONSULTANTS INC.
 850 FRANKLIN STREET SUITE 11D
 WRENTHAM, MASSACHUSETTS 02093
 508-384-6560 FAX 508-384-6566

DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 20'	UC1334	5 of 9

OPERATION AND MAINTENANCE PLAN

CONSTRUCTION PHASE

1. THE OWNERS REPRESENTATIVE, BRAD CHAFFEE (1-508-331-6161), SHALL BE THE RESPONSIBLE PARTY FOR THE STORMWATER MAINTENANCE PLAN.
2. THE SITE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES WEEKLY AND AFTER ALL RAIN EVENTS.
3. SEDIMENT SHALL BE REMOVED FROM COMPOST SOCK WHEN A MAXIMUM DEPTH OF 6" IS OBSERVED OR AS NEEDED.
4. CONSTRUCTION ENTRY MAT SHALL BE INSPECTED WEEKLY AND AFTER ALL RAIN EVENTS. SEE DETAIL FOR MAINTENANCE REQUIREMENTS.
5. DAMAGED OR DETERIORATED COMPOST SOCK AREAS SHALL BE REPLACED IMMEDIATELY.
6. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND ALL DISTURBED AREAS ARE STABILIZED.
7. SILT SAKS SHALL BE INSTALLED AT ALL CATCH BASINS AND SHALL BE INSPECTED WEEKLY AND AFTER ALL RAIN EVENTS.
8. CLEANING OF SILT SAKS SHALL BE COMPLETED AS NECESSARY.
9. THE STORMCEPTOR UNITS SHALL BE CLEANED WITH A VACUUM TRUCK.

INSPECTION AND MAINTENANCE SCHEDULE:

1. INSPECTIONS SHALL BE CONDUCTED BY THE APPLICANTS ENGINEER, CONTRACTOR AND / OR REPRESENTATIVES OF THE TOWN AS NECESSARY. AT A MINIMUM INSPECTIONS SHALL BE CONDUCTED ON A MONTHLY BASIS.
2. MONTHLY INSPECTIONS SHALL INCLUDE THE PARKING LOT SURFACE TO DETERMINE IF ACCUMULATED SEDIMENT ARE TO BE REMOVED.
3. INSPECTIONS OF THE STORMCEPTOR UNITS TO DETERMINE DEPTH OF SEDIMENT AND REQUIRED CLEANING.
4. INSPECTION OF THE EXISTING CATCH BASINS TO DETERMINE THE DEPTH OF SEDIMENT AND REQUIRED CLEANING.
5. INSPECTION OF POND 1, THE EXISTING POND AND THE RAIN GARDEN TO DETERMINE IF CLEANING IS NECESSARY.

OPERATION AND MAINTENANCE SCHEDULE

CONSTRUCTION PHASE:

1. THE EROSION CONTROL BARRIERS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER ALL STORM EVENTS.
2. ONCE THE PARKING LOT HAS BEEN PAVED DAILY INSPECTIONS SHALL BE CONDUCTED TO DETERMINE THE NECESSITY TO REMOVE ANY ACCUMULATED SEDIMENT. THE REMOVAL OF THE ACCUMULATED SEDIMENT SHALL BE COMPLETED ON THE DAY THE DETERMINATION IS MADE.
3. SILT SAKS SHALL BE INSTALLED AT THE STORMCEPTOR UNITS, CATCH BASIN 91 AND CB97 AND THE TWO CATCH BASINS ON 70 - 72 EAST CENTRAL STREET SITE. ONCE INSTALLED THEY SHALL BE INSPECTED ON A WEEKLY BASIS AND CLEANED AS NECESSARY.
4. THE STORMCEPTOR UNITS SHALL BE INSPECTED ON A WEEKLY BASIS AND CLEANED WHEN THE SEDIMENT DEPTH REACHES 8"
5. THE POND SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED WHEN 2" OF SEDIMENT HAS ACCUMULATED AT THE INLET. ANY TRASH OR CONSTRUCTION DEBRIS SHALL BE IMMEDIATELY REMOVED.

ADDITIONAL EROSION CONTROLS MAY BE REQUIRED DEPENDING ON ACTUAL FIELD CONDITIONS DURING CONSTRUCTION.

LONG TERM:

1. THE PARKING LOT SHALL BE SWEEPED TWICE PER YEAR WITH ONE BEING AFTER THE LAST WINTER SANDING.
2. THE STORMCEPTORS SHALL BE INSPECTED 4 TIMES PER YEAR AND SEDIMENT REMOVED WHEN THE DEPTH REACHES 8 INCHES
3. THE POND SHALL BE INSPECTED AND PREVENTIVE MAINTENANCE PERFORMED TWICE PER YEAR. THE PONDS SHALL BE INSPECTED AFTER EVERY STORM EVENT EXCEEDING 1 INCH OF RAINFALL FOR THE FIRST 3 MONTHS AND THEN TWICE PER YEAR THEREAFTER AND WHEN THERE ARE DISCHARGES THROUGH THE HIGH OUTLET.
4. DURING INSPECTIONS OF STORM-WATER FACILITIES ANY TRASH OR DEBRIS DISCOVERED SHALL BE IMMEDIATELY REMOVED.

NOTES:

1. ANY AREA NOT BEING ACTIVELY WORKED FOR 14 DAYS SHALL BE TEMPORARILY STABILIZED.
2. UPON COMPLETION OF GRADING ACTIVITIES THE AREA SHALL BE STABILIZED OR PLANTED WITHIN 7 DAYS.
3. NON-PHOSPHORUS FERTILIZER SHALL BE APPLIED AS NECESSARY.
4. NON-HALOGENATED ICE MELT SHALL BE APPLIED AS NECESSARY.

PROJECT NARRATIVE:

THE PROJECT CONSISTS OF THE DEMOLITION OF AN EXISTING BUILDING AND IMPROVEMENTS. UPON RECEIPT OF ALL NECESSARY APPROVALS THE APPLICANT WILL FILE FOR AND OBTAIN THE NECESSARY ADDITIONAL PERMITS INCLUDING SEWER AND WATER CONNECTION PERMITS, STREET OPENING PERMITS AND BUILDING PERMIT. UPON SECURING ALL THE NECESSARY PERMITS THE PROJECT WILL MOVE TO THE CONSTRUCTION PHASE AND WILL BE COMPLETED BASED ON THE CONSTRUCTION SEQUENCE.

EROSION CONTROL NOTES:

1. COMPOST SOCK SHALL BE INSTALLED PRIOR TO TREE CLEARING OR SITE WORK COMMENCING.
2. ENTRY MAT TO BE INSTALLED.
3. COMPOST SOCK TO REMAIN IN CONTACT WITH THE EARTH. REPAIR OR RESET AS NECESSARY.
4. SLOPES GREATER THAN 3' HORIZONTAL TO 1' VERTICAL SHALL BE STABILIZED WITH HYDROSEED, SECURED GEOTEXTILE FABRIC OR RIPRAP AS REQUIRED TO PREVENT EROSION. ALL SLOPE FLATTER THAN 3' HORIZONTAL TO 1' VERTICAL SHALL BE HYDROSEED.
5. STORMCEPTOR UNITS, CATCH BASINS AND PARKING AREA TO BE CLEANED ONCE CONSTRUCTION IS COMPLETED.
6. ALL SEDIMENT COLLECTED DURING THE CONSTRUCTION PHASE OR POST CONSTRUCTION PHASE SHALL BE DISPOSED OF TO AN APPROVED LOCATION.
7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE EROSION CONTROL MEASURES SHALL BE REMOVED.
8. DAMAGED OR DETERIORATED EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED IMMEDIATELY AFTER THEY HAVE BEEN IDENTIFIED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INSPECTIONS.
10. DUST CONTROL WILL BE BY SPRAYING WATER AS NECESSARY. THE USE OF OILS, PETROLEUM PRODUCTS OR TOXIC LIQUIDS FOR DUST CONTROL IS PROHIBITED.

CONSTRUCTION SEQUENCE:

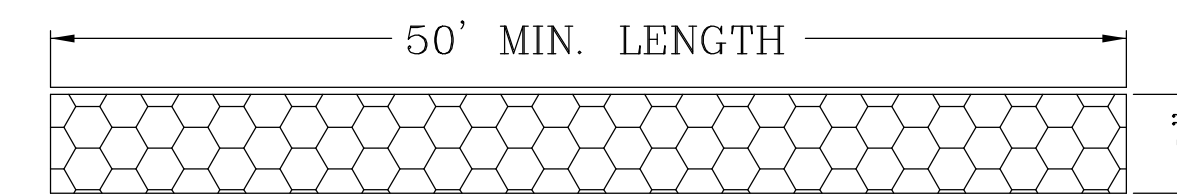
1. INSTALL COMPOST SOCK, SILT SAKS AND ENTRY MAT.
2. DEMOLISH EXISTING BUILDING
3. LEDGE REMOVAL TO SUBGRADE.
4. EXCAVATE FOR BUILDING FOUNDATION.
5. FORM AND POUR BUILDING FOOTINGS AND FOUNDATION.
6. UPON ADEQUATE CURING OF THE FOUNDATION CONCRETE THE FOUNDATION SHALL BE BACKFILLED TO SUBGRADE.
7. CONSTRUCT BUILDING SIMULTANEOUSLY WITH THE FOLLOWING SITE WORK.
8. BRING THE REMAINDER OF THE SITE TO SUBGRADE.
9. INSTALL THE UNDERGROUND UTILITIES - WATER, SEWER, ELECTRIC AND DRAINAGE.
10. UPON COMPLETION OF THE UNDERGROUND UTILITIES, BRING THE PARKING AREAS TO PROPER GRADES WITH GRAVEL.
11. PAVE THE PARKING AREAS WITH THE BINDER COURSE.
12. INSTALL THE CURBING, THE DUMPSTER PAD AND THE FENCE.
13. LOAM ALL DISTURBED AREAS.
14. PLANT SITE TREES.
15. PAVE THE PARKING AREA WITH THE TOP COURSE.
16. IF NECESSARY COMPLETE AN AS-BUILT PLAN AND SUBMIT A FORM H.

OWNER:
MAP 286 PARCELS 32 AND 34
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

OWNER MAP 286 PARCEL 33
JOHN AND CARMEL SHERRY
88 EAST CENTRAL STREET

APPLICANT:
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

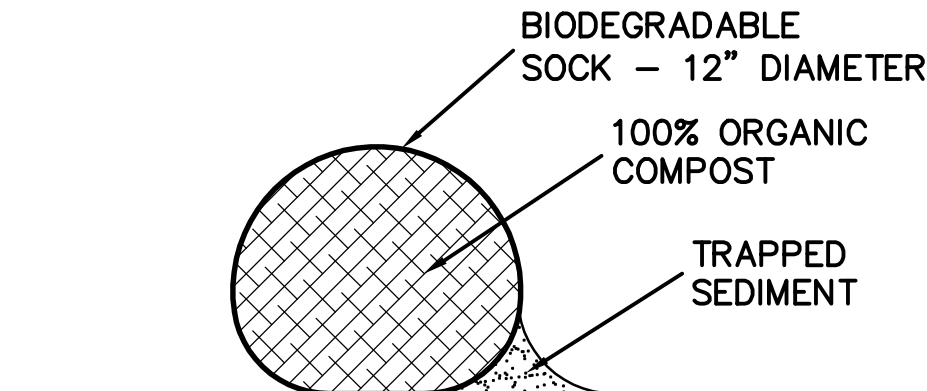
SITE PLAN MODIFICATION
EROSION CONTROL PLAN
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 20'



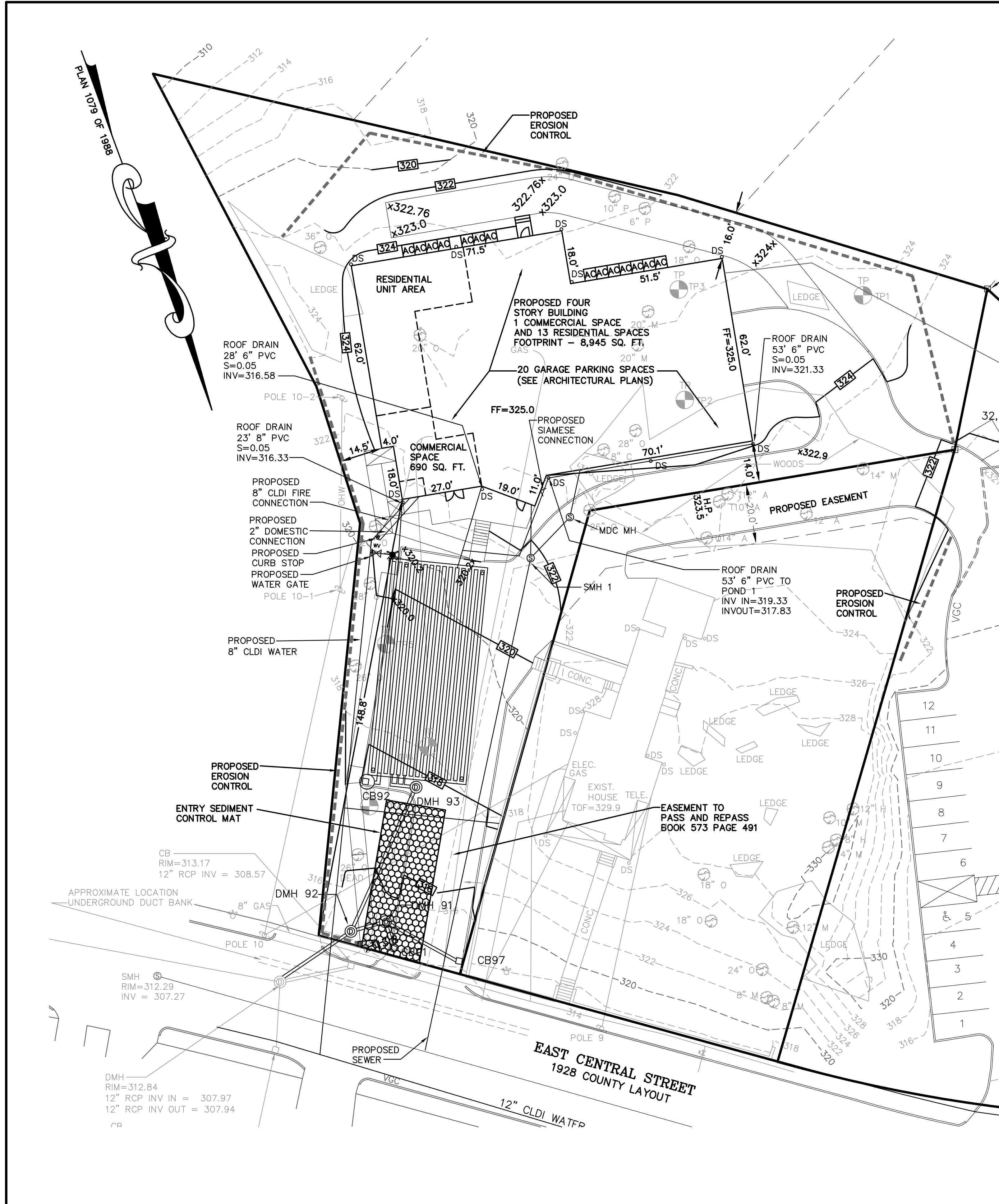
ENTRY SEDIMENTATION CONTROL MAT SECTION
N.T.S.

NOTES:

1. PAD SHALL BE A MINIMUM OF 20 FEET IN WIDTH. EXISTING ASPHALT DRIVE TO REMAIN IN PLACE UNTIL FINAL PAVEMENT IS TO BE INSTALLED.
2. PAD SHALL CONSIST OF 4" STONE 8" MIN. DEPTH AND THEN TOP DRESSED WITH 4" OF 1" - 2" WASHED STONE.

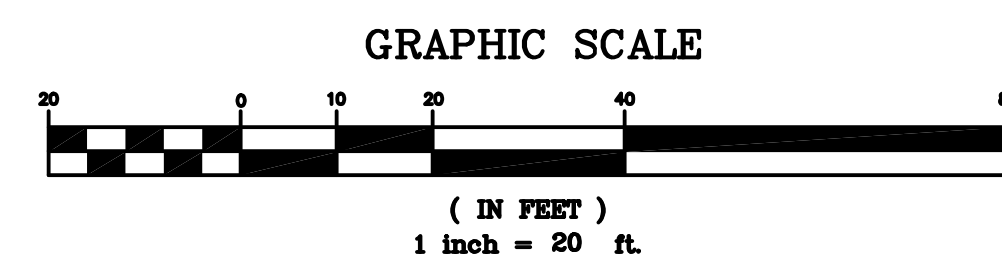


COMPOST SOCK DETAIL



SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE

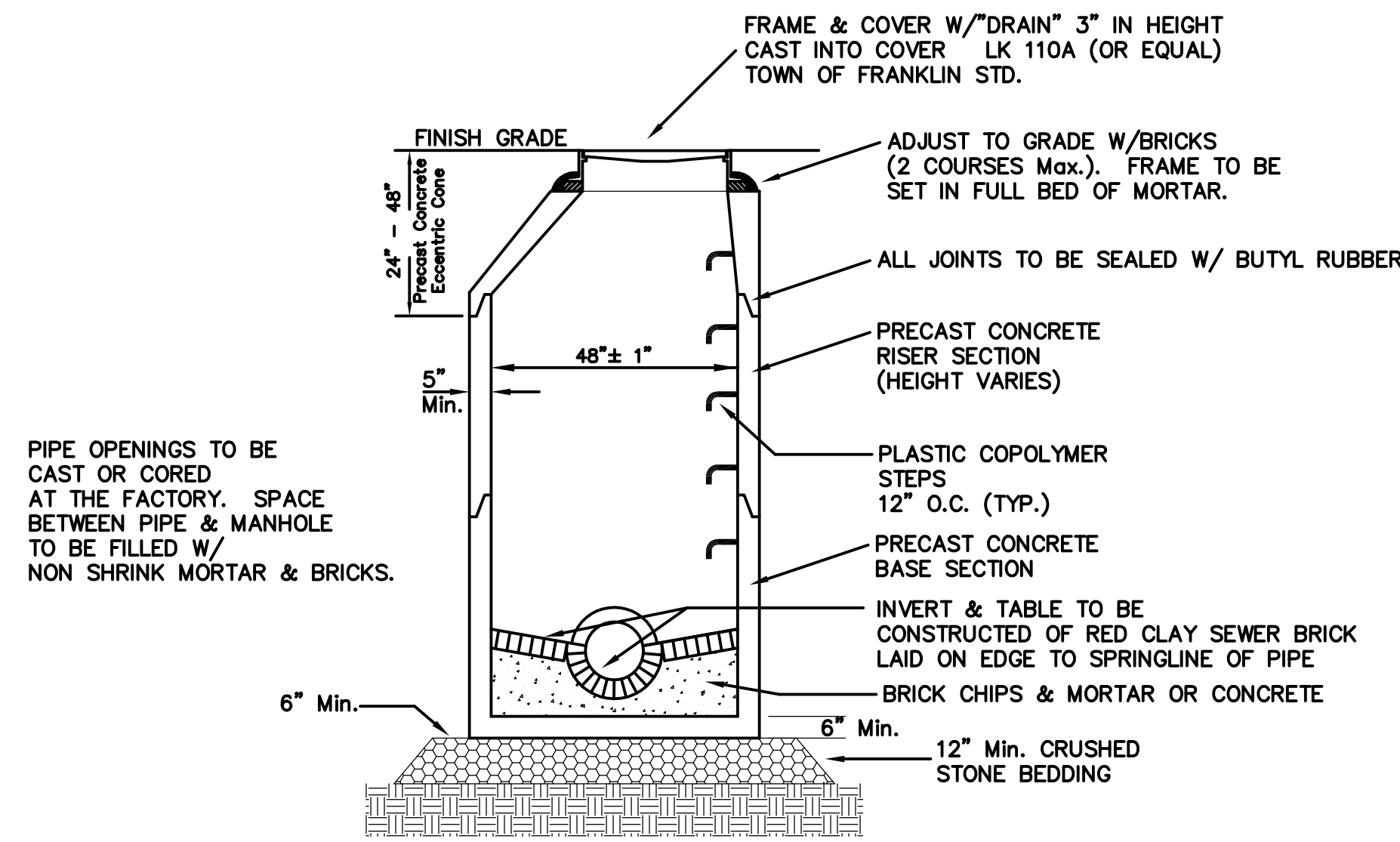


NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

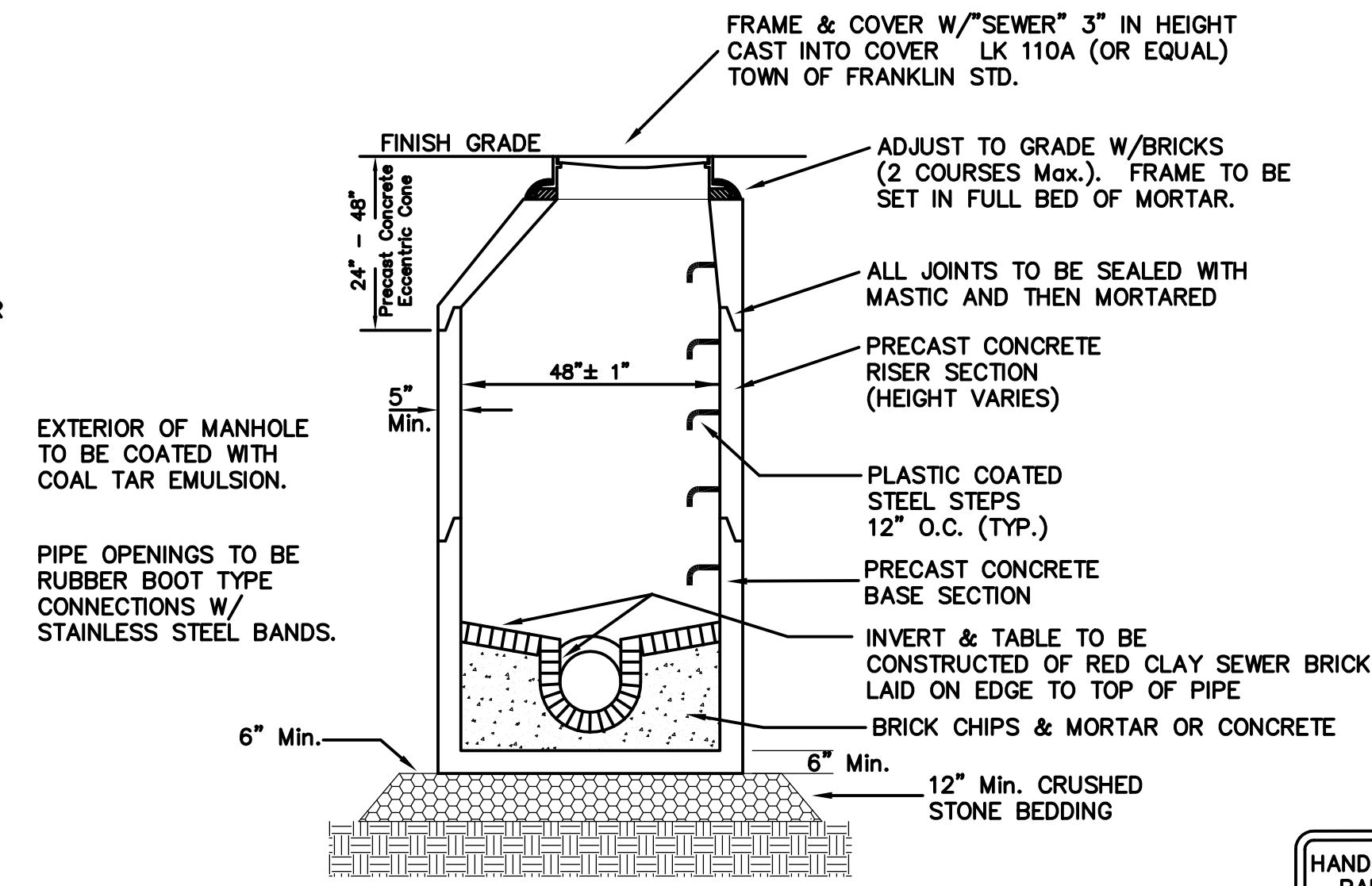
DATE	FIELD BY:	INT.
6/19	CALCS BY:	BL
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED
CONSULTANTS
INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

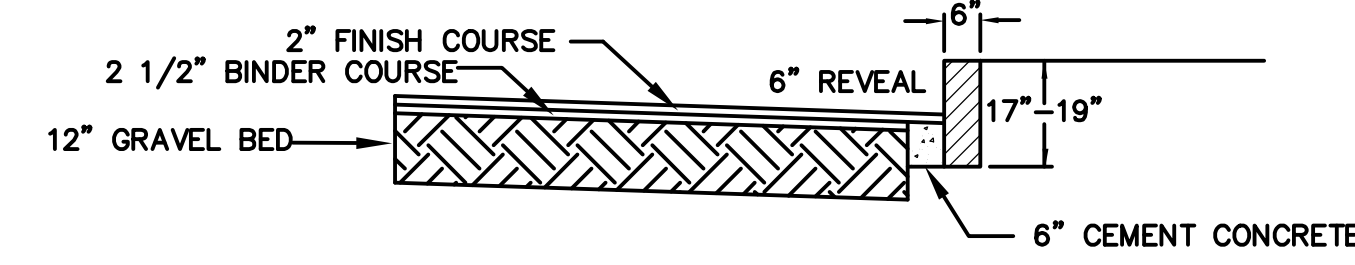
DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 20'	UC1334	6 of 9



PRECAST DRAIN MANHOLE

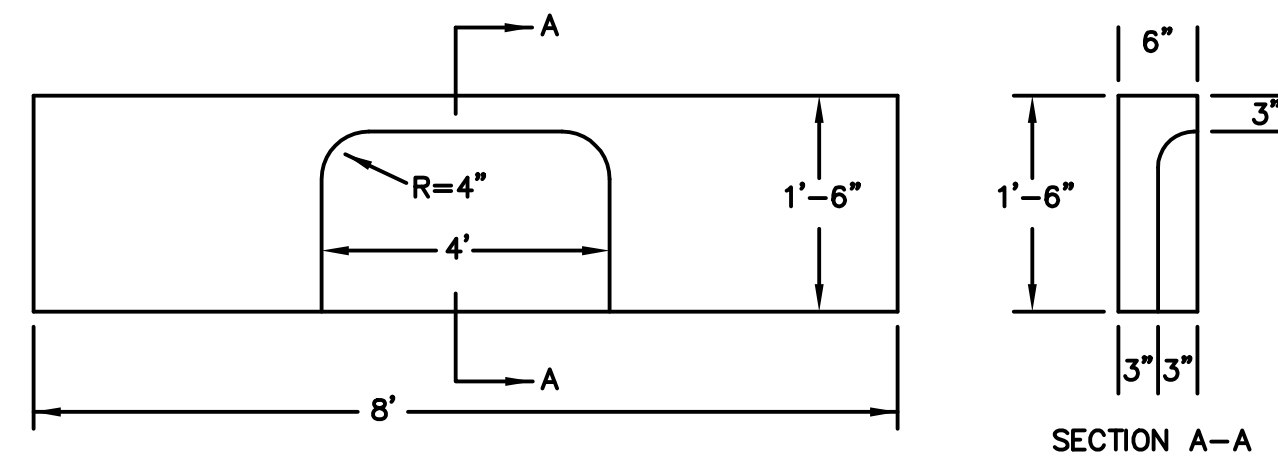


PRECAST SEWER MANHOLE

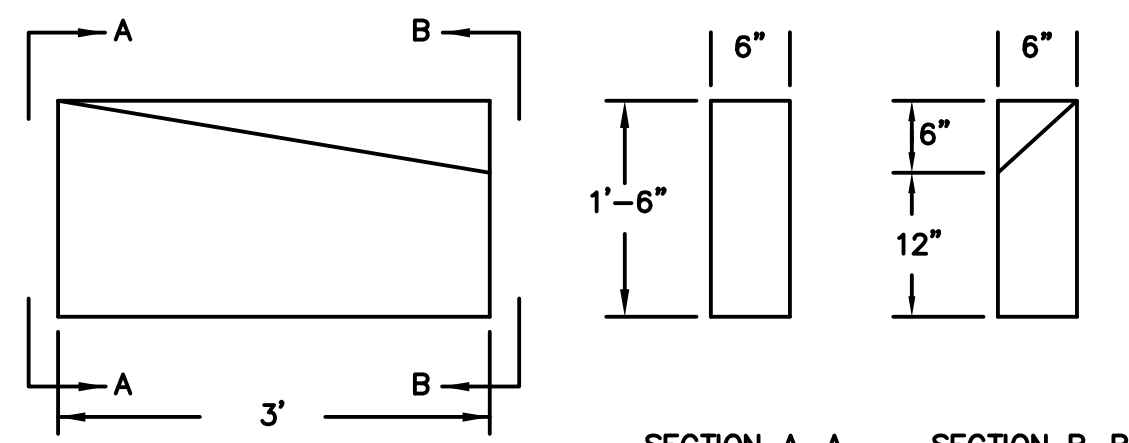


PAVEMENT AND VA-4 VERTICAL GRANITE CURBING

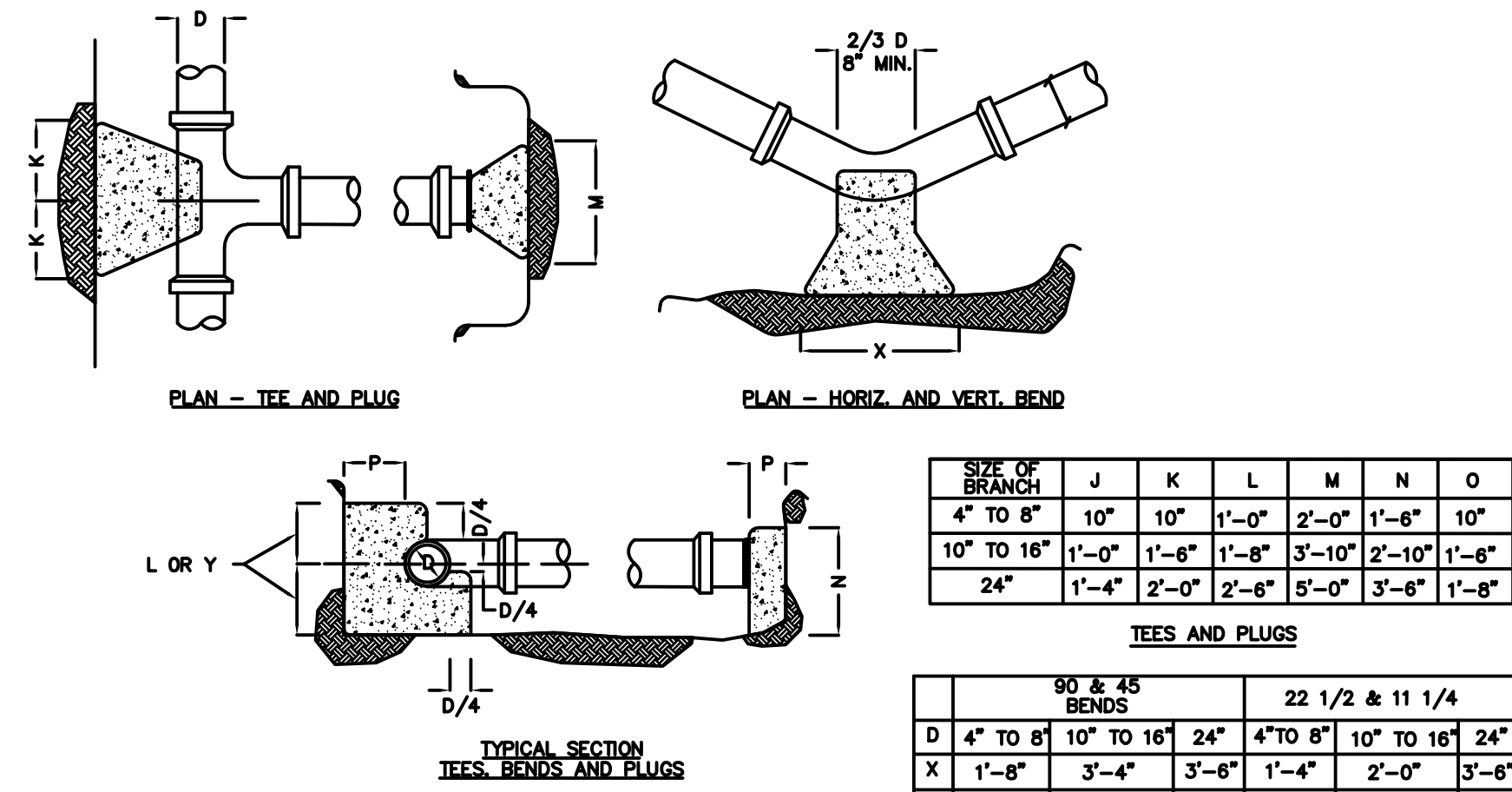
NOTE: GRAVEL UNDER PAVEMENT AND SIDEWALKS TO BE M1.03.0 (TYPE B)



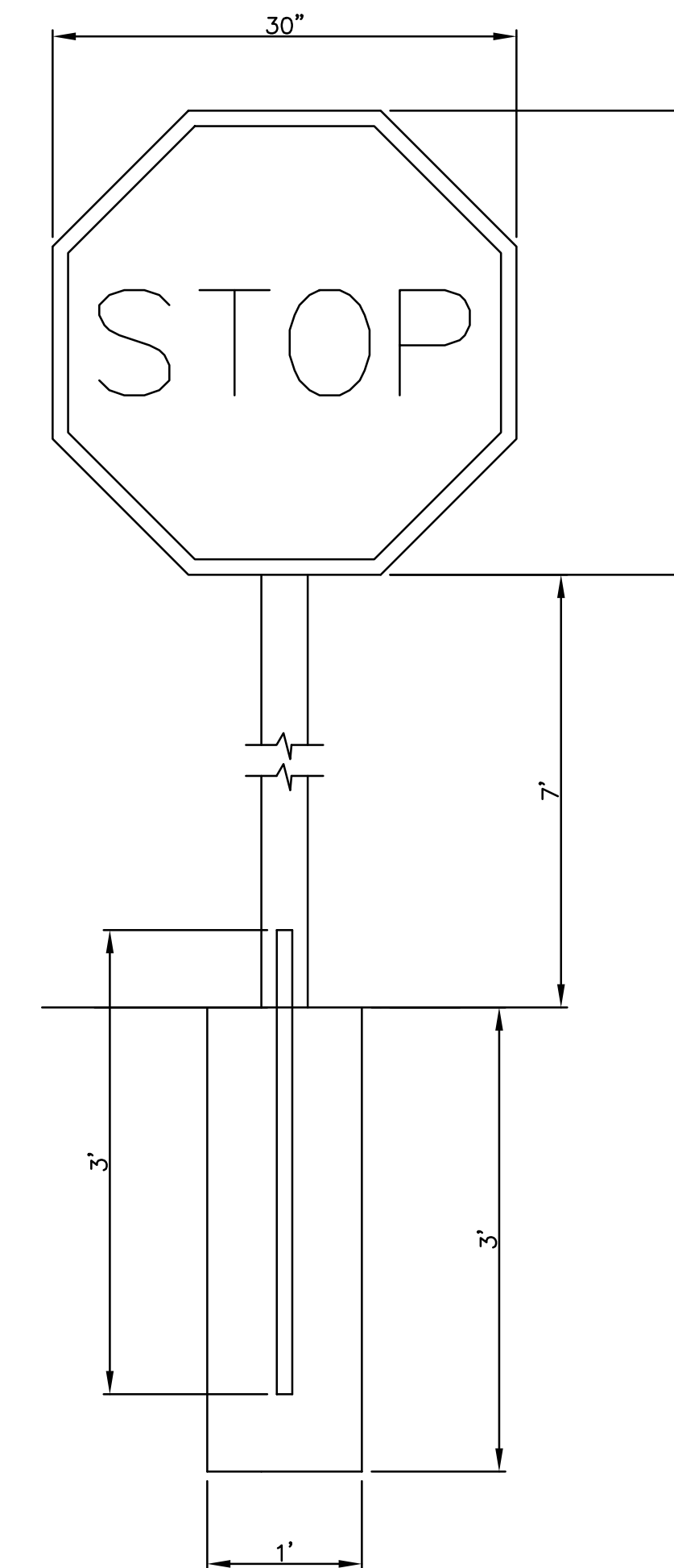
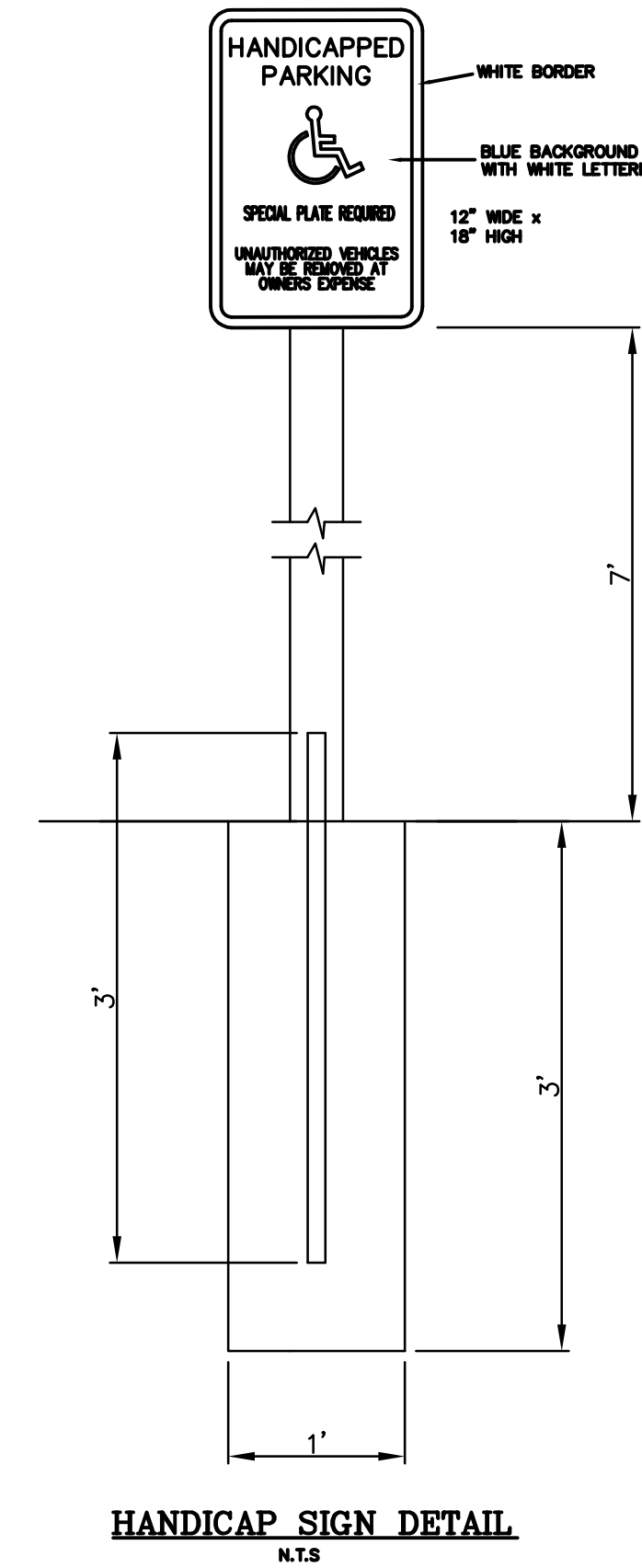
GRANITE CURB INLET DETAIL



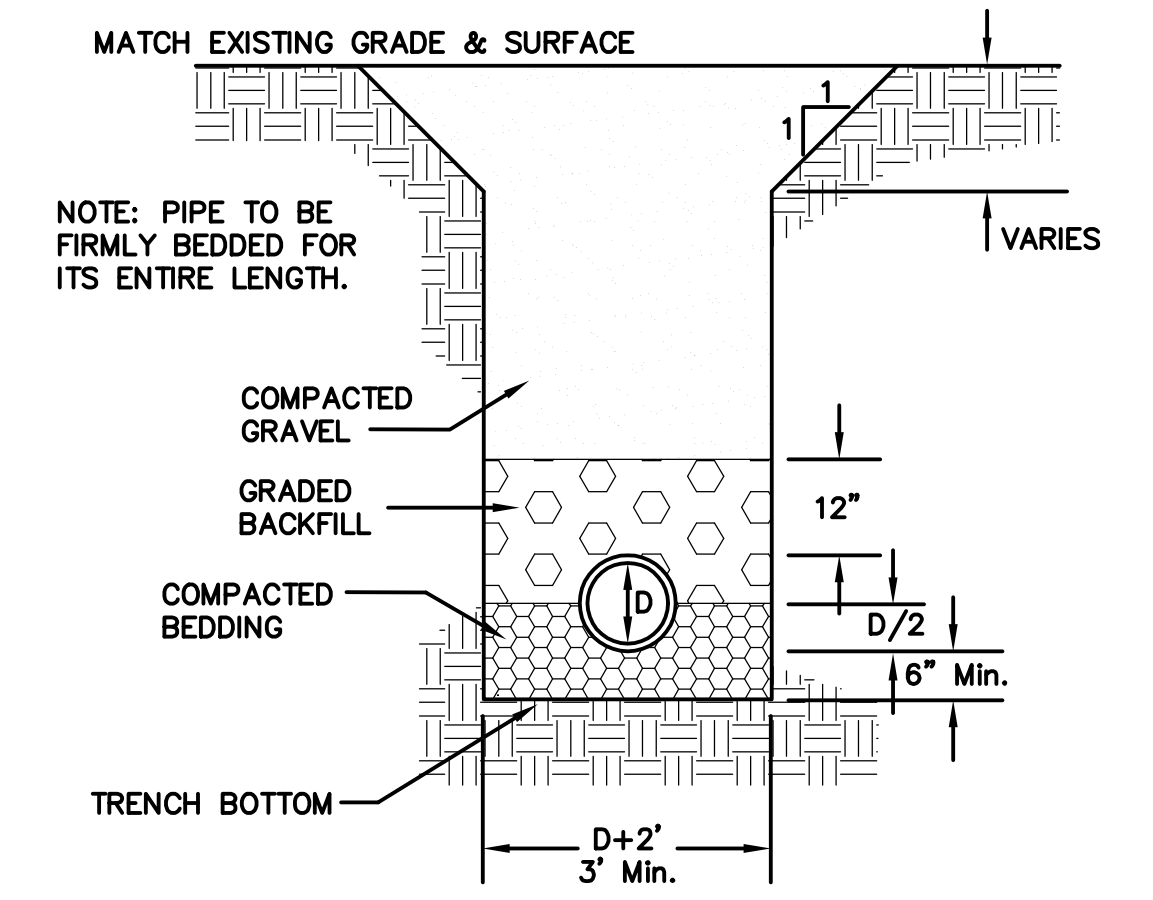
GRANITE CURB TRANSITION DETAIL



THRUST BLOCK DETAILS

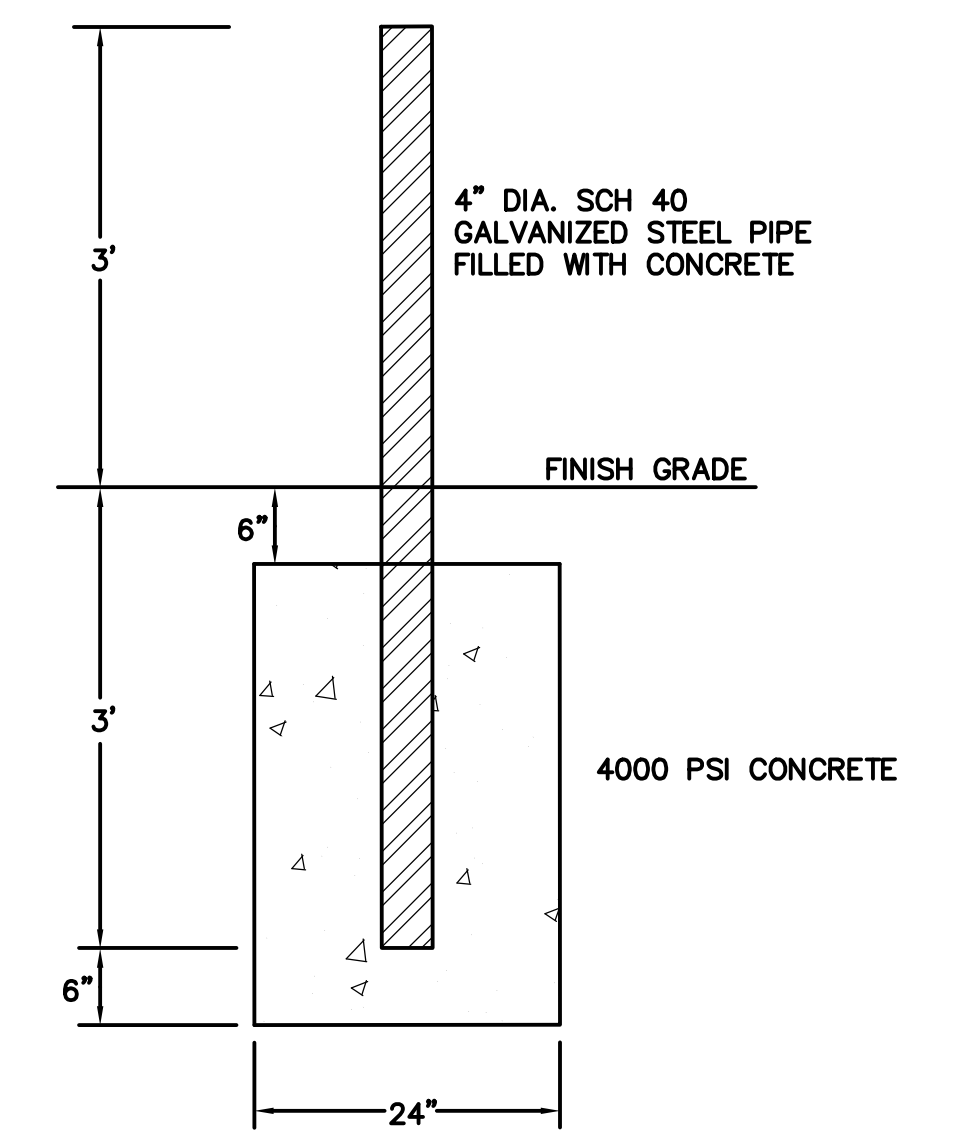


STOP SIGN DETAIL N.T.S.

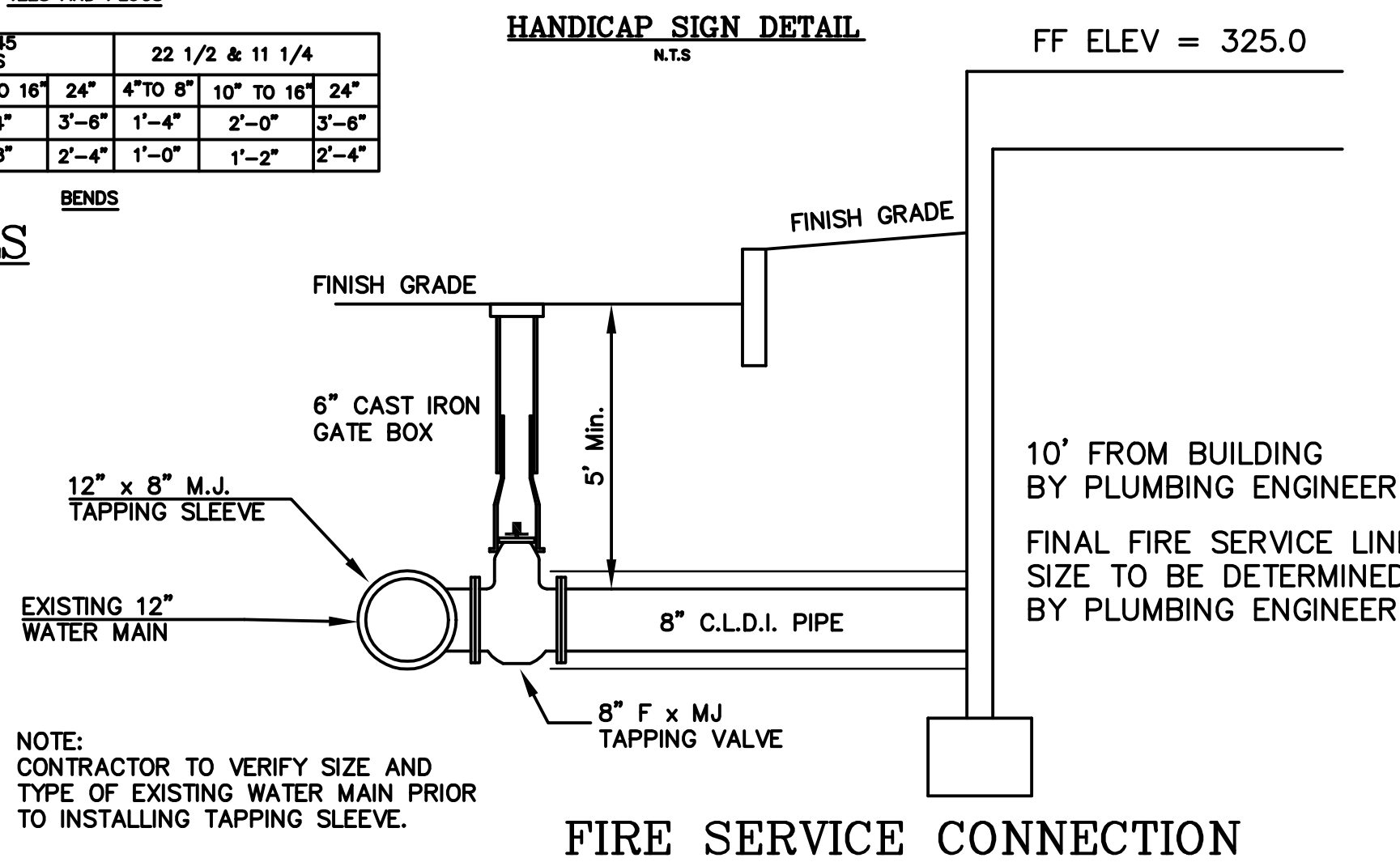


TYPE OF PIPE	RCP DRAIN	CLDI WATER	PVC SEWER	D.I. SEWER
BEDDING MATERIAL	PROC. GRAVEL	SAND	3/4" STONE	3/8" STONE
BACKFILL MATERIAL	ORD. FILL	SAND	3/4" STONE	3/8" STONE

UTILITY TRENCH DETAIL



BOLLARD DETAIL



FIRE SERVICE CONNECTION

NOTE: CONTRACTOR TO VERIFY SIZE AND TYPE OF EXISTING WATER MAIN PRIOR TO INSTALLING TAPPING SLEEVE.

- NOTES:
- CONTRACTOR TO CONTACT DIGSAFE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES ANY REPORT ANY DISCREPANCIES TO UNITED CONSULTANTS, INC.
 - ALL WORK SHALL CONFORM TO THE TOWN OF FRANKLIN DPW STANDARDS.
 - MAINTAIN A MINIMUM OF 10' SEPARATION FROM THE WATER SERVICE TO THE SEWER SERVICE.

OWNER:
MAP 286 PARCELS 32 AND 34
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

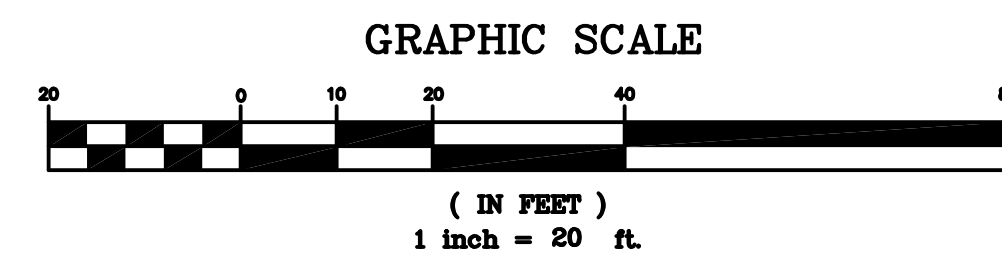
OWNER MAP 286 PARCEL 33
JOHN AND CARMEL SHERRY
88 EAST CENTRAL STREET

APPLICANT:
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

SITE PLAN MODIFICATION
CONSTRUCTION DETAIL PLAN - 1
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 20'

SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE



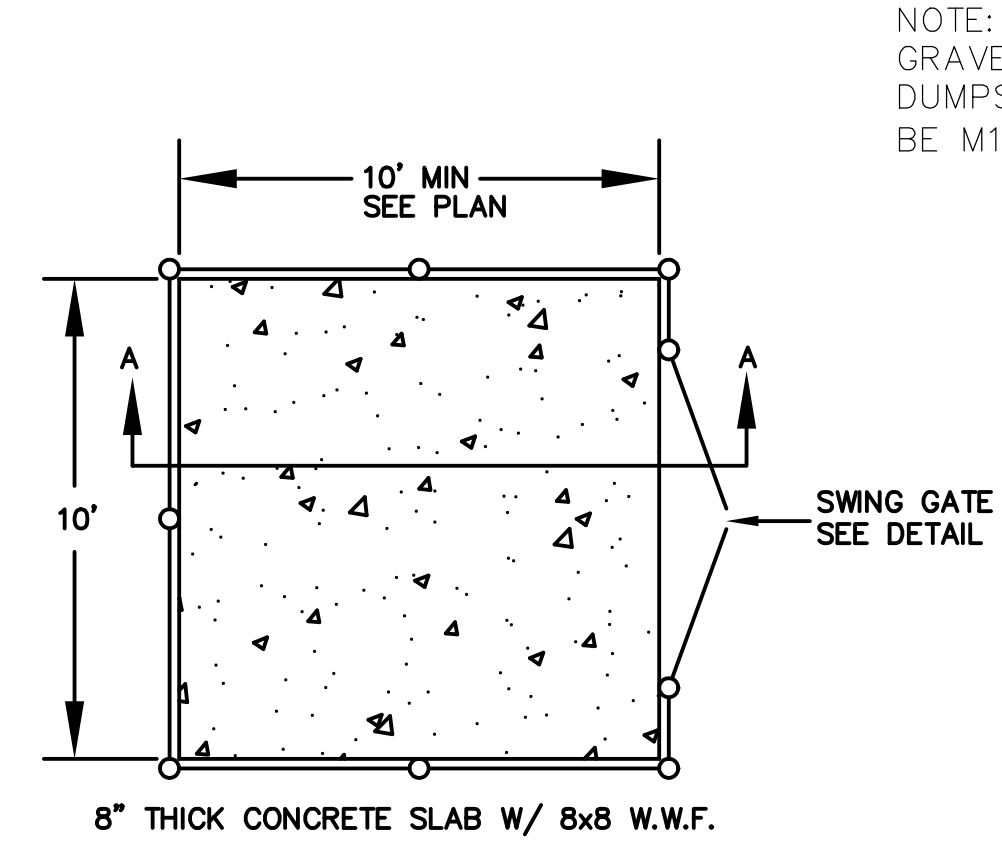
NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	BL
BK# 74	FIELD BOOK	PG# 63
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

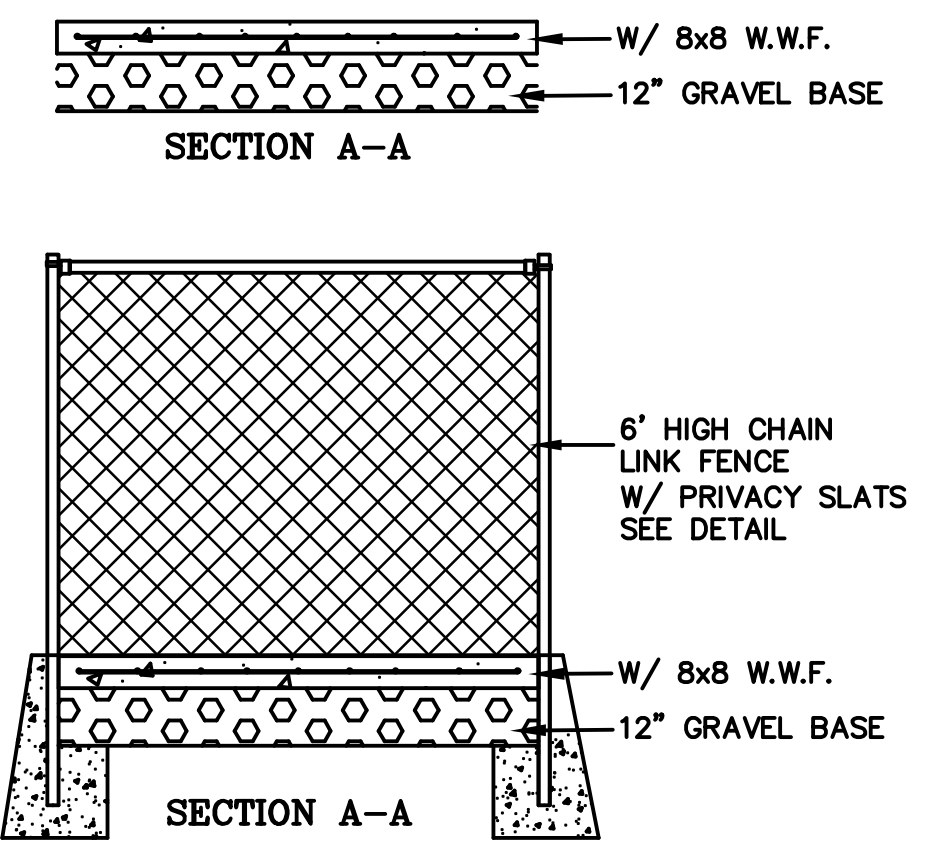
UNITED CONSULTANTS INC.

850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

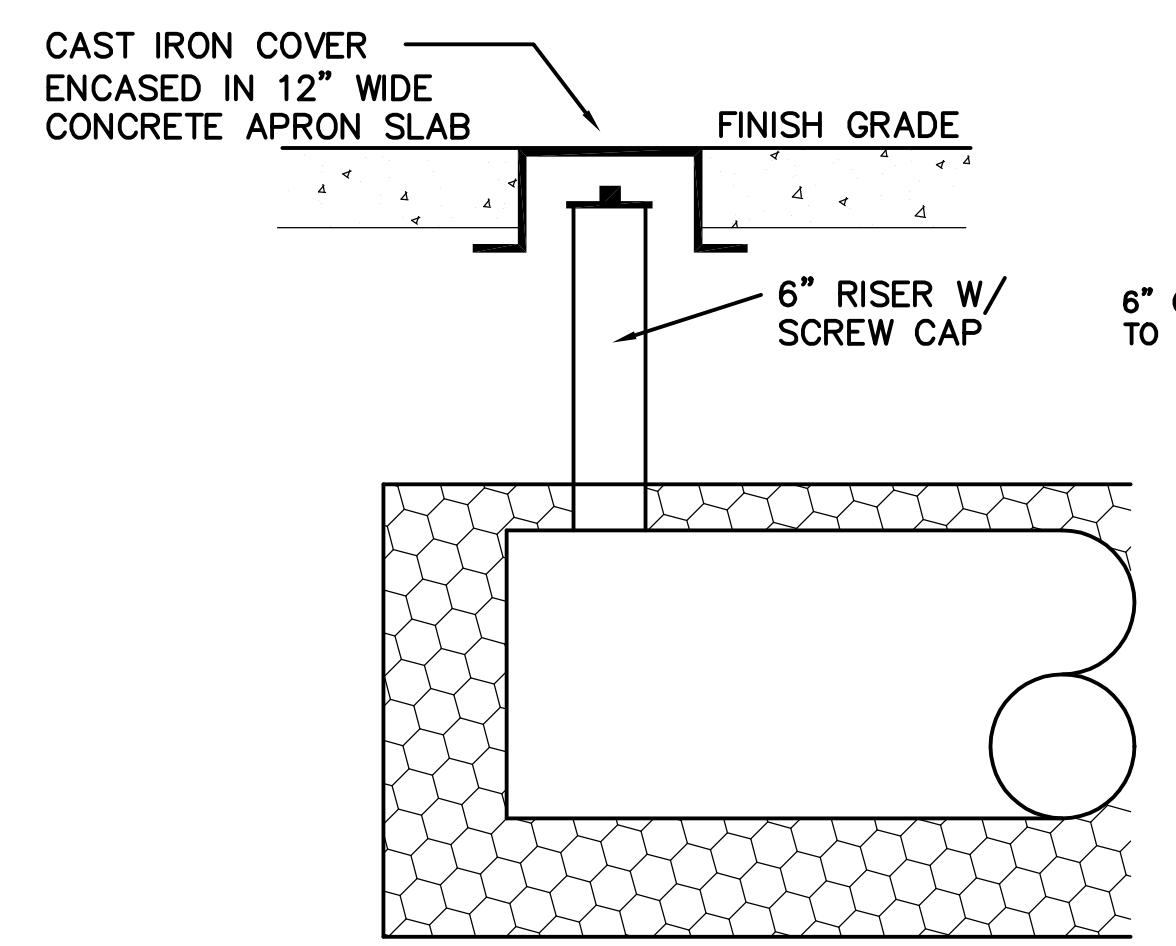
DATE	SCALE	PROJECT	SHEET
MAR. 4, 2020	1" = 20'	UC1334	7 of 9



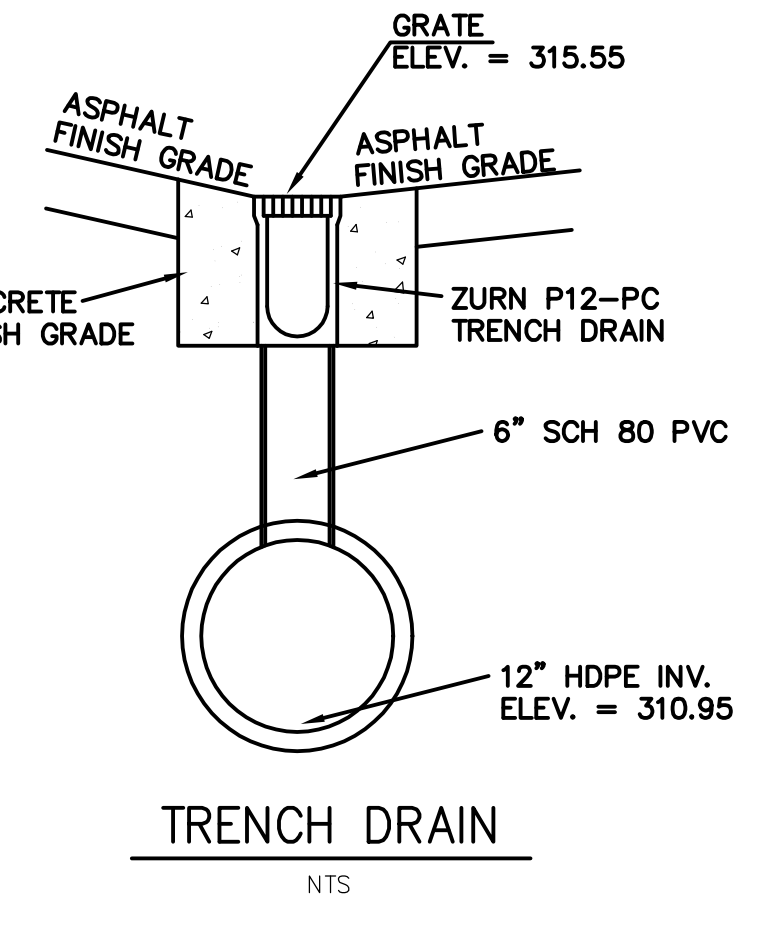
CONCRETE DUMPSTER PAD



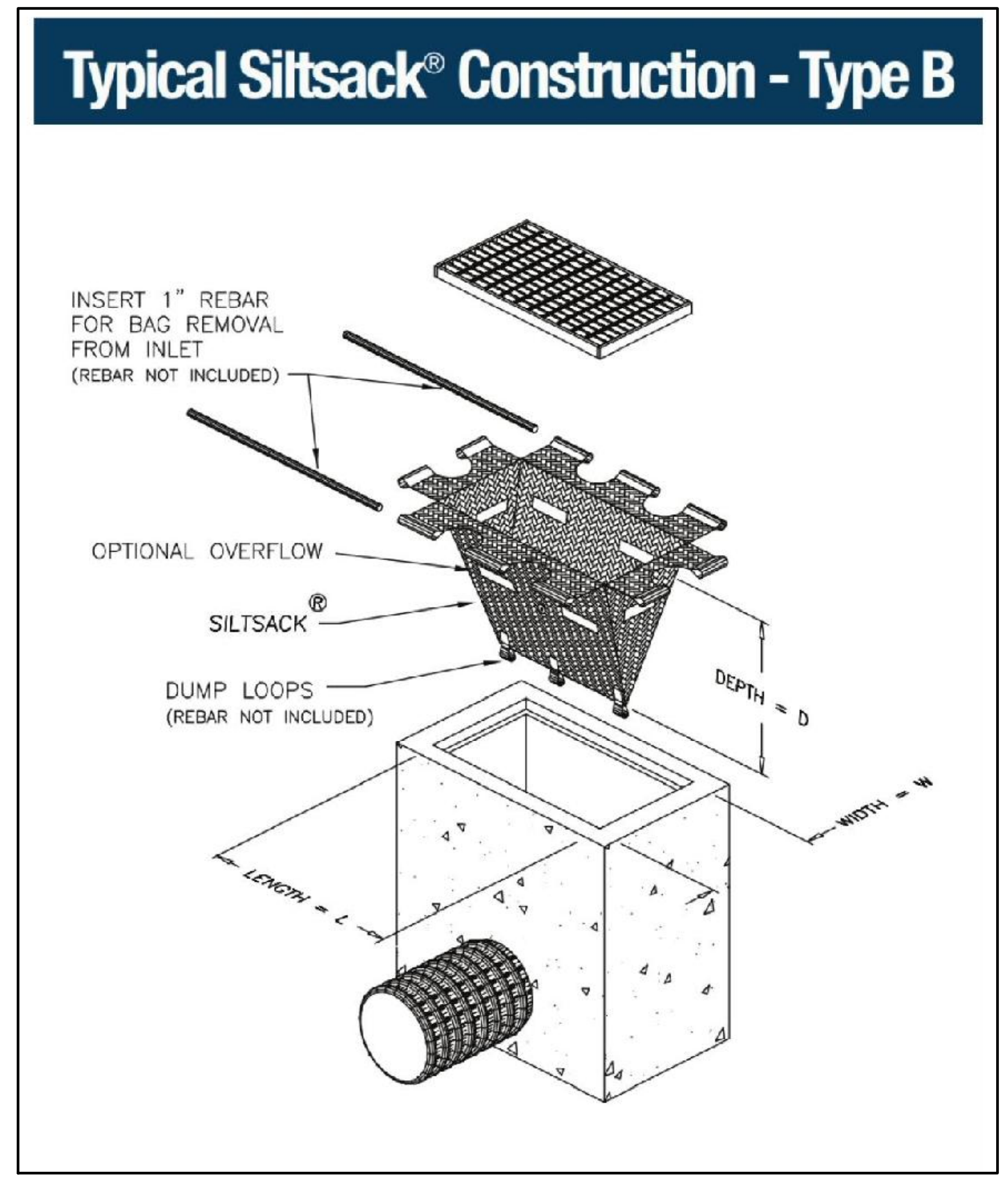
DUMPSTER AREA FENCE



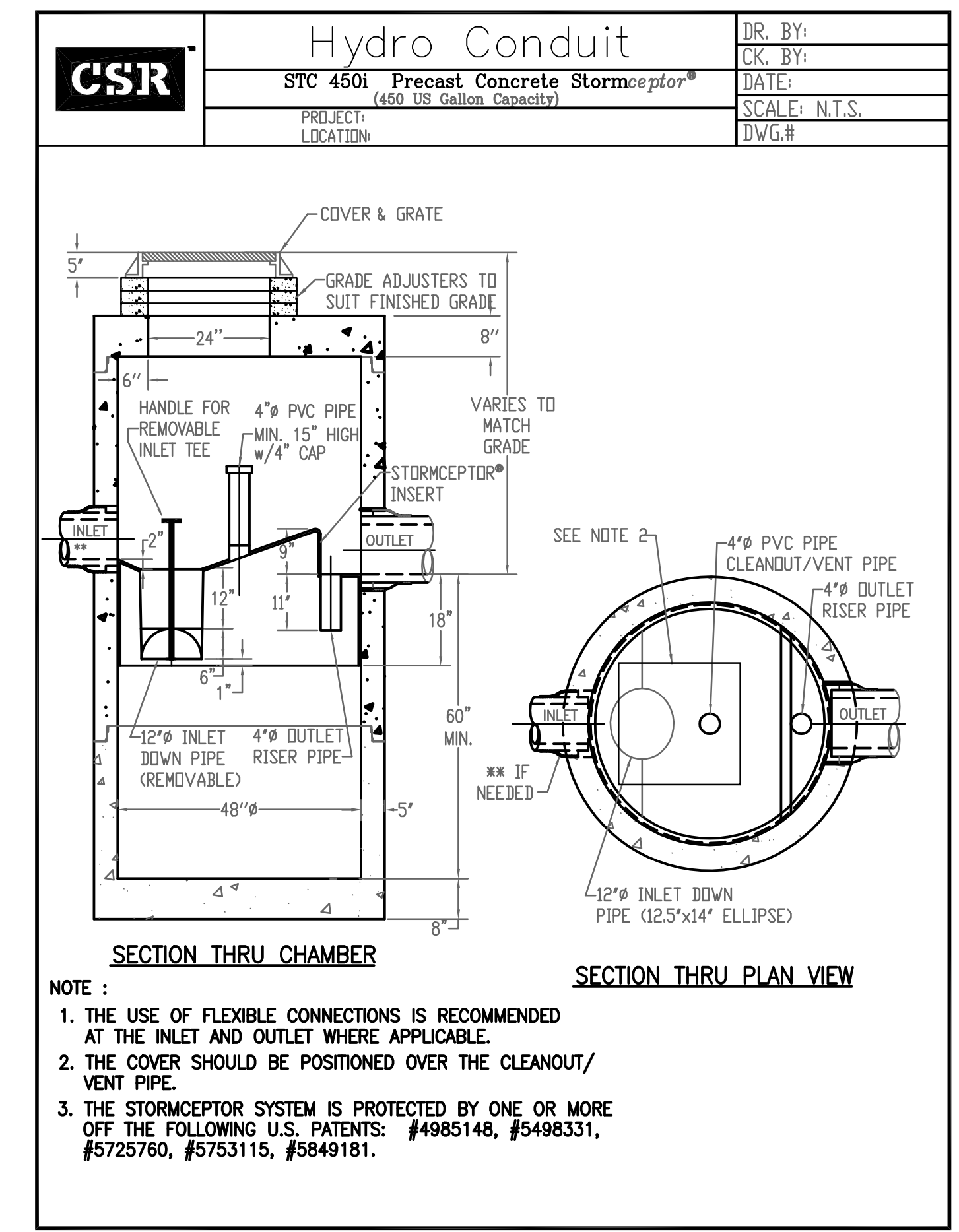
INSPECTION PORT DETAIL
DRAINAGE INFILTRATION AREAS
N.T.S.



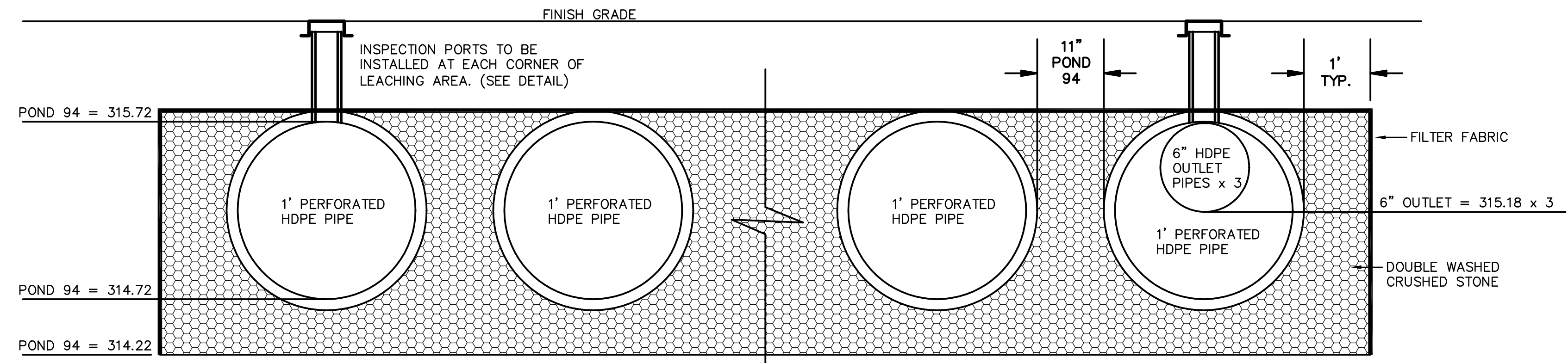
TRENCH DRAIN
N.T.S.



Typical Siltsack® Construction - Type B



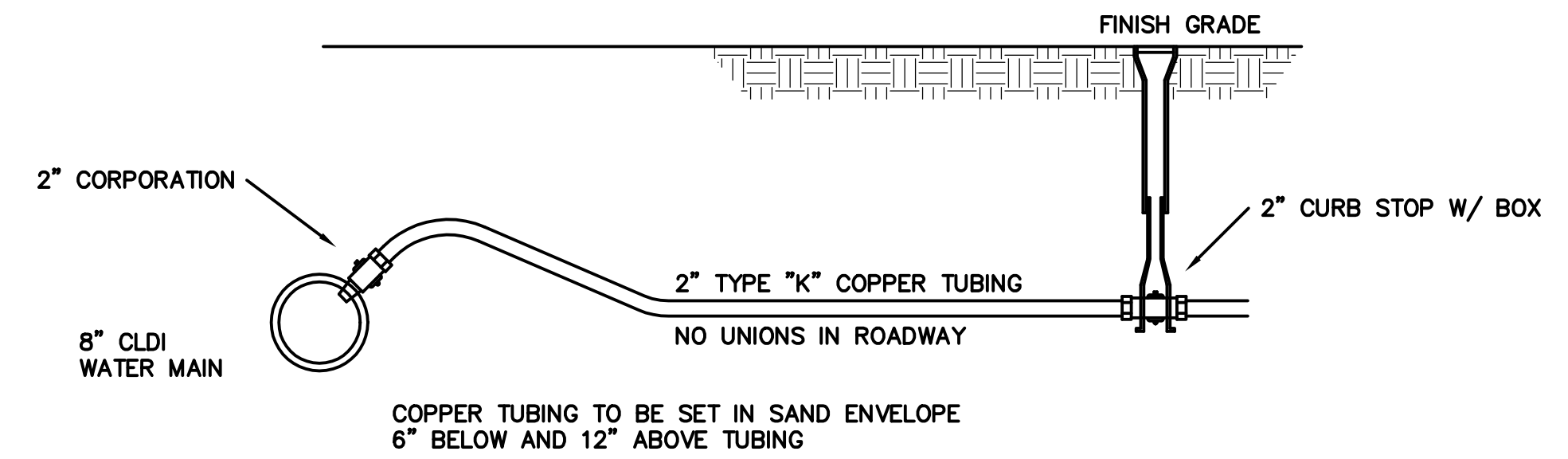
- NOTE:
1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
 2. THE COVER SHOULD BE POSITIONED OVER THE CLEANOUT/VENT PIPE.
 3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181.



DRAINAGE INFILTRATION AREA

NOTE:
INFILTRATION POND 94
CONSISTS OF 15 ROWS OF 1'
DIAMETER PERFORATED HDPE
PIPE 71' IN LENGTH.

THE DESIGN ENGINEER SHALL INSPECT THE EXCAVATION OF THE SOIL INFILTRATION AREA PRIOR TO ANY FILL BEING PLACED.



2" DOMESTIC WATER SERVICE

- NOTES:
1. CONTRACTOR TO CONTACT DIGSAFE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 2. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UTILITIES ANY REPORT ANY DISCREPANCIES TO UNITED CONSULTANTS, INC.
 3. ALL WORK SHALL CONFORM TO THE TOWN OF FRANKLIN DPW STANDARDS.
 4. MAINTAIN A MINIMUM OF 10' SEPARATION FROM THE WATER SERVICE TO THE SEWER SERVICE.

OWNER:
MAP 286 PARCELS 32 AND 34
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

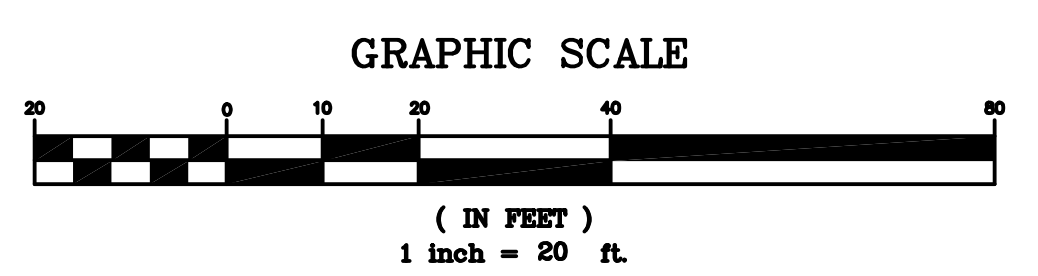
OWNER MAP 286 PARCEL 33
JOHN AND CARMEL SHERRY
88 EAST CENTRAL STREET

APPLICANT:
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS

SITE PLAN MODIFICATION
CONSTRUCTION DETAIL PLAN - 2
70, 72, 88 AND 94 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
PREPARED FOR
70 EAST CENTRAL STREET, LLC
37 EAST CENTRAL STREET
FRANKLIN, MASSACHUSETTS
MARCH 4, 2020
SCALE: 1" = 20'

SITE PLAN APPROVAL
REQUIRED
FRANKLIN PLANNING BOARD

DATE	

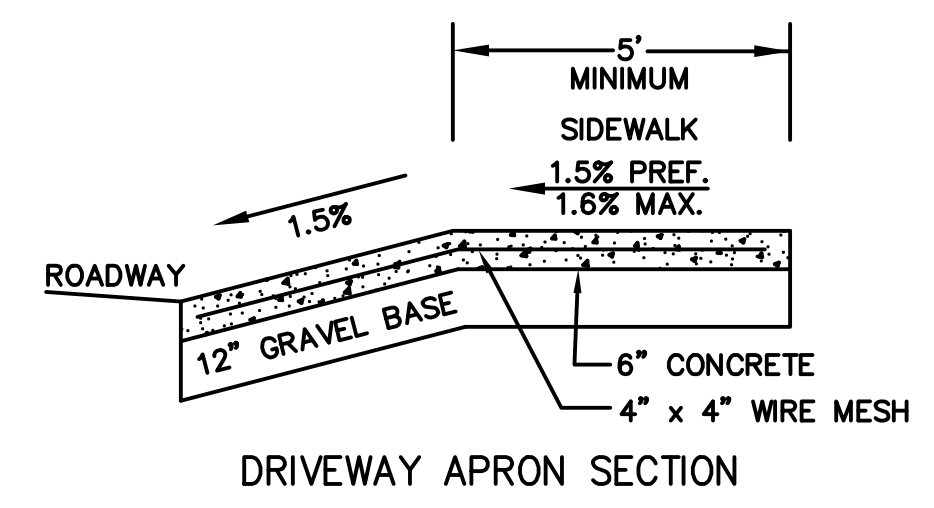
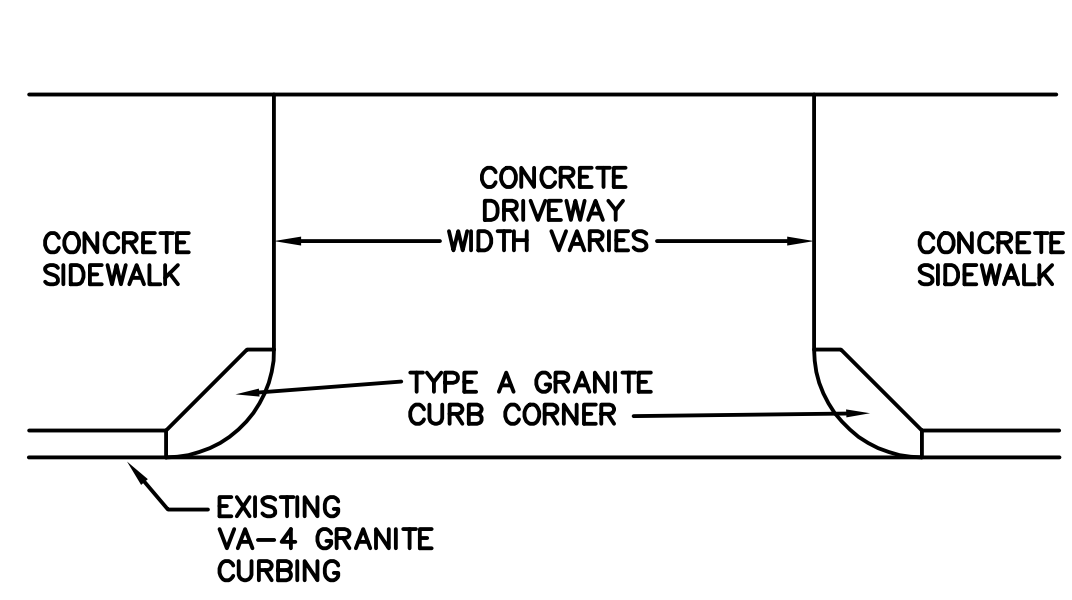


NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

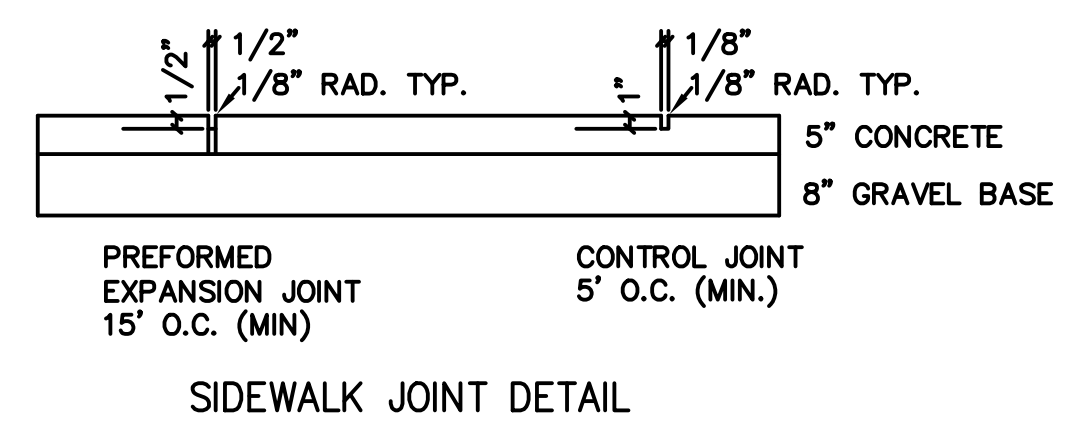
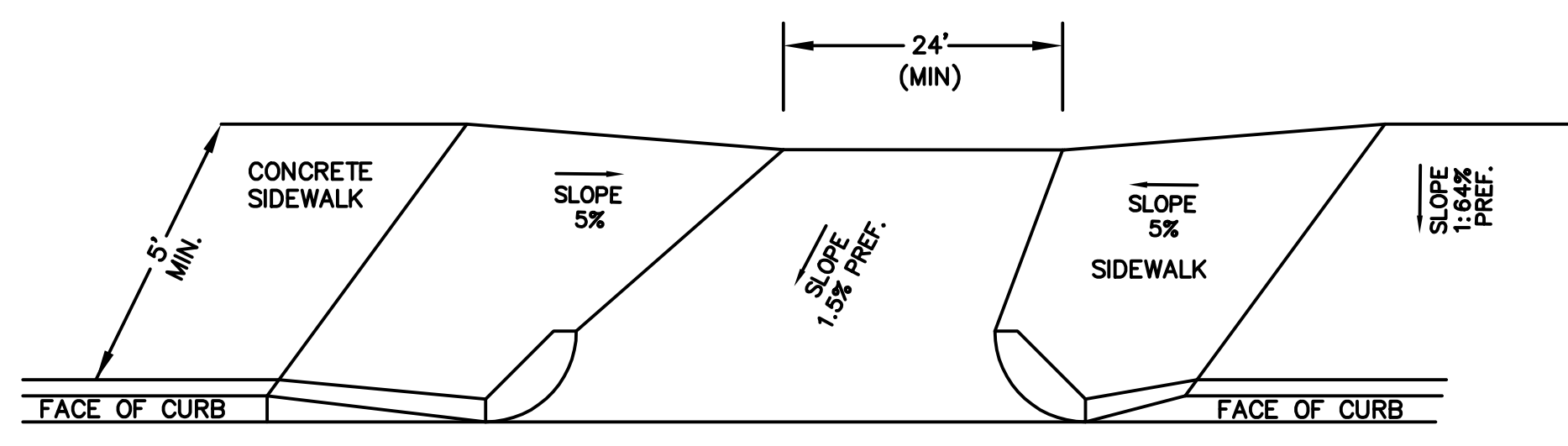
DATE	FIELD BY:	INT.
6/19	BL	
BK# 74	FIELD BOOK	PG# 63
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED
CONSULTANTS
INC.
850 FRANKLIN STREET SUITE 11D
WRENTHAM, MASSACHUSETTS 02093
508-384-6560 FAX 508-384-6566

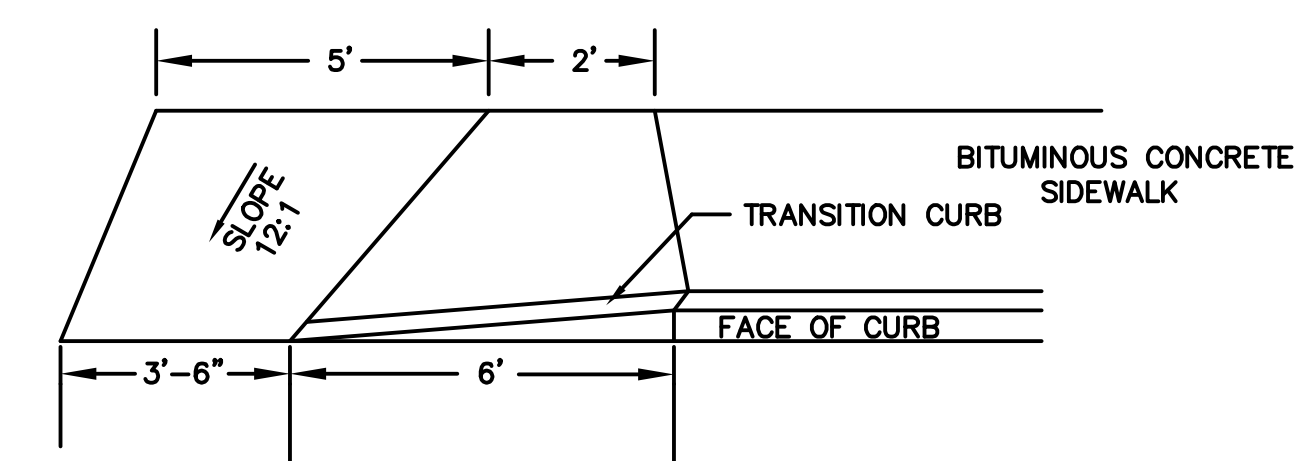
DATE	MAR. 4, 2020
SCALE	1" = 20'
PROJECT	UC1334
SHEET	8 of 9



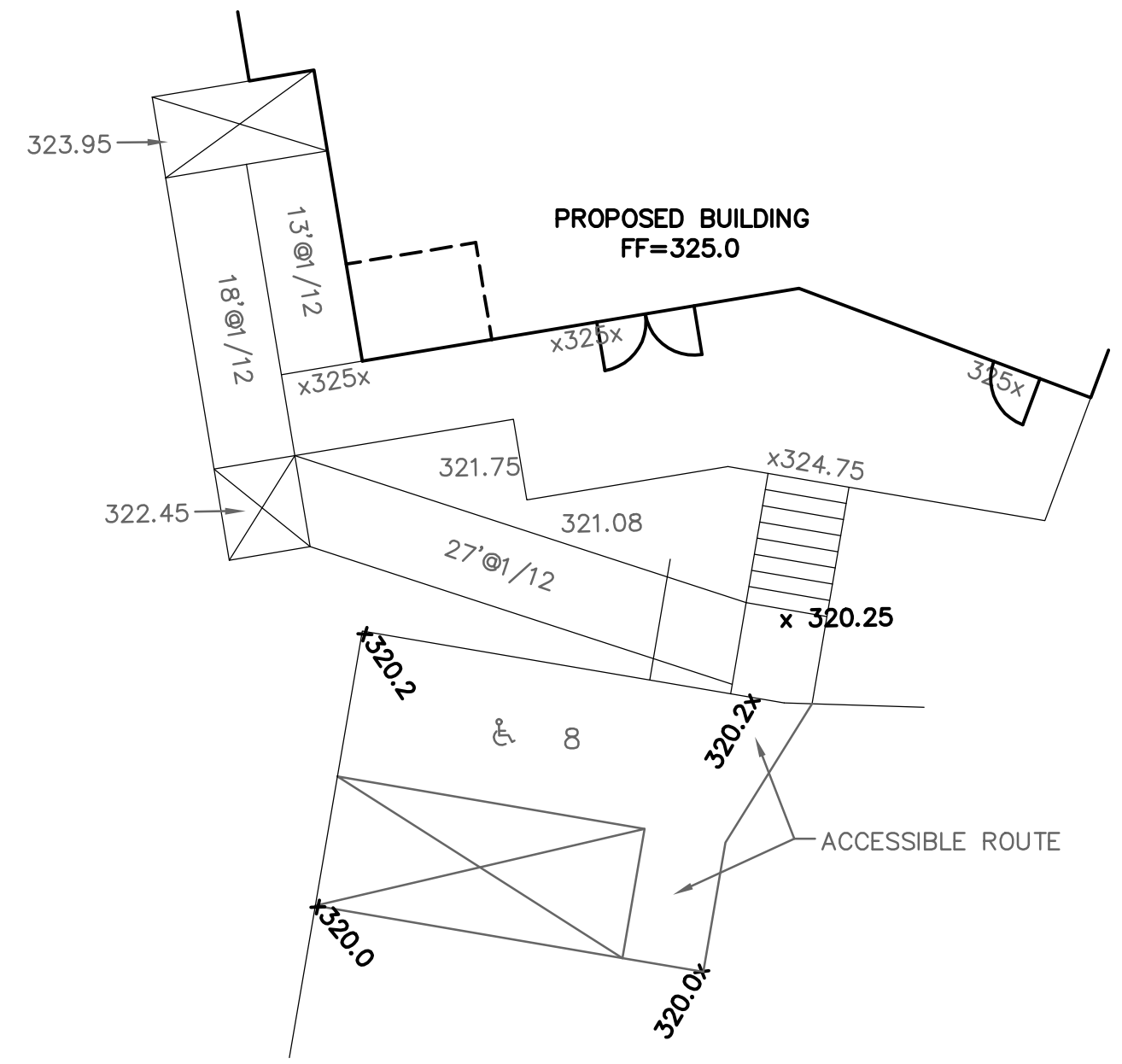
NOTES:
 1. CROSS SLOPE ON ANY RAMP, LANDING OR ACCESSIBLE ROUTE SHALL NOT EXCEED 3/16" PER FOOT.
 2. THE SIDEWALKS ARE 5' MINIMUM IN WIDTH.
 3. ALL SIDEWALKS SHALL BE 4,000 PSI CONCRETE.
 4. GRAVEL UNDER SIDEWALK TO BE M1.03.0 (TYPE B)



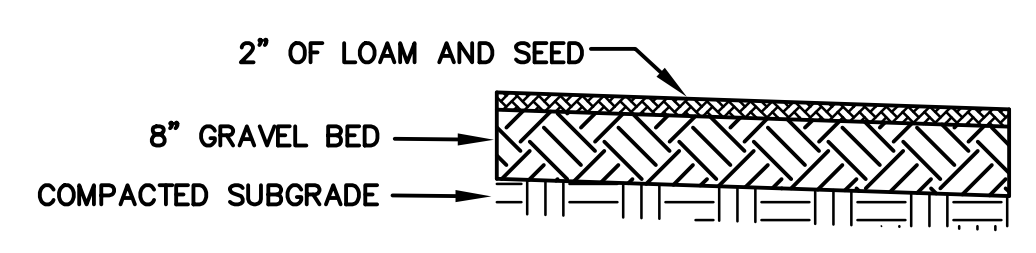
DRIVEWAY APRON



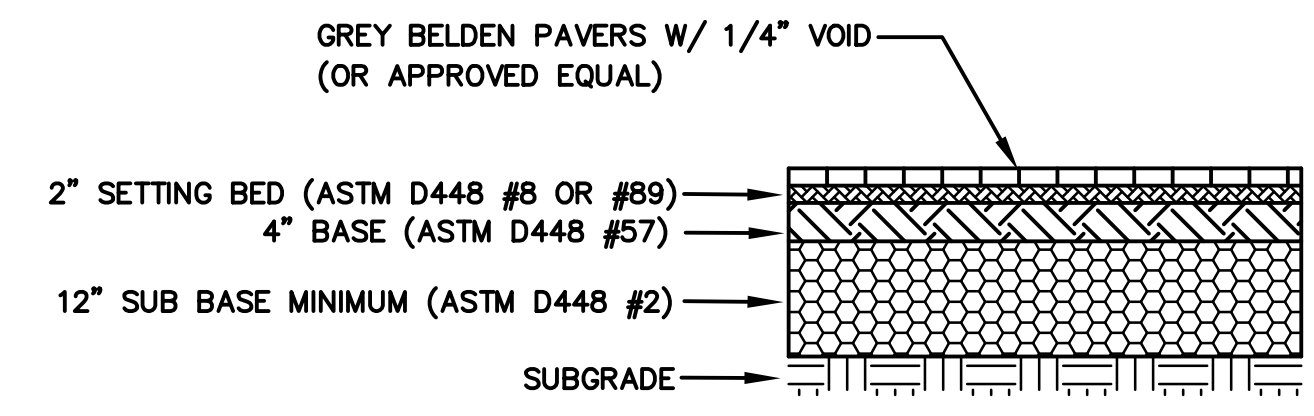
WHEELCHAIR RAMP



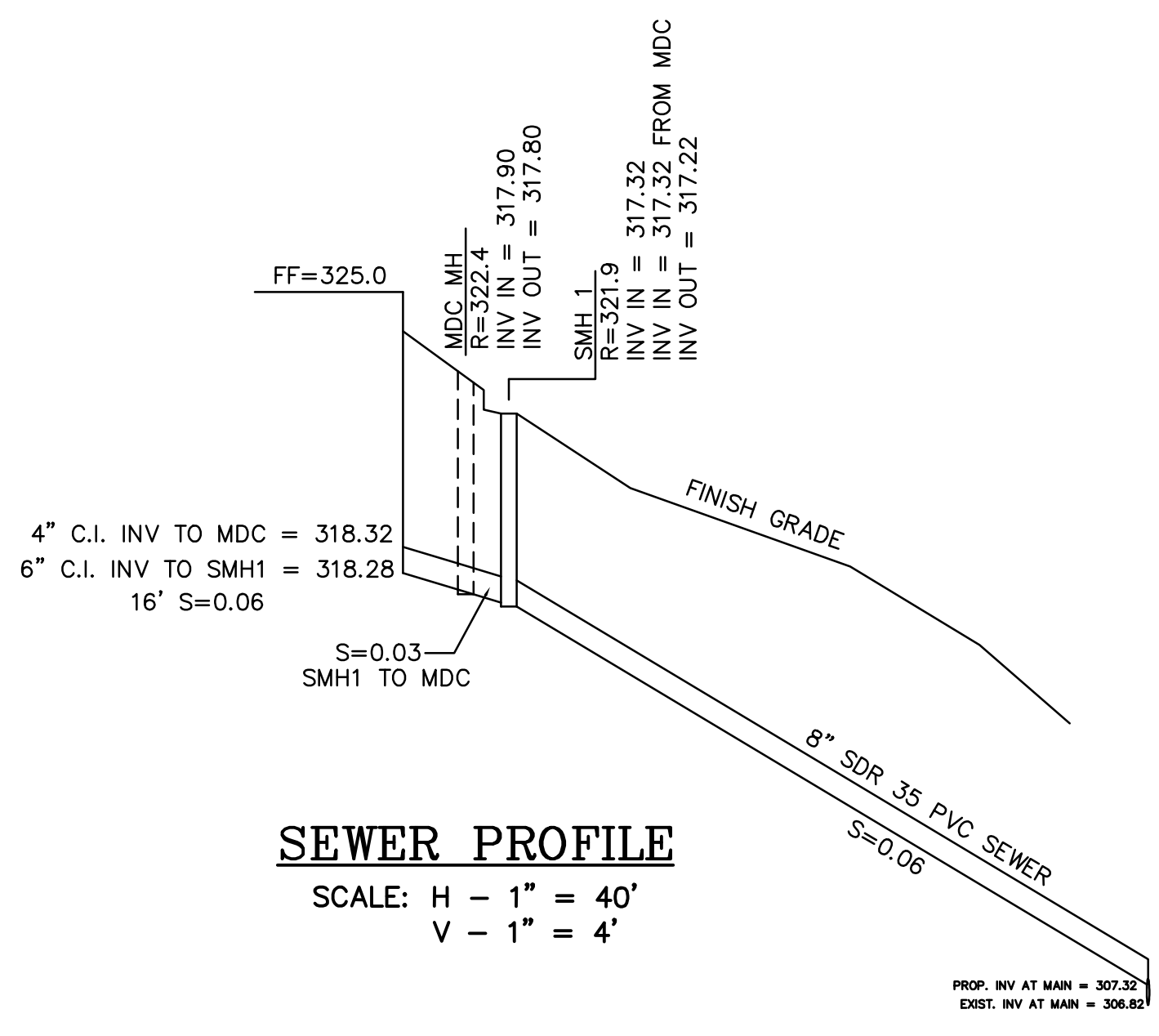
ACCESIBLE ROUTE
SCALE: 1" = 10'



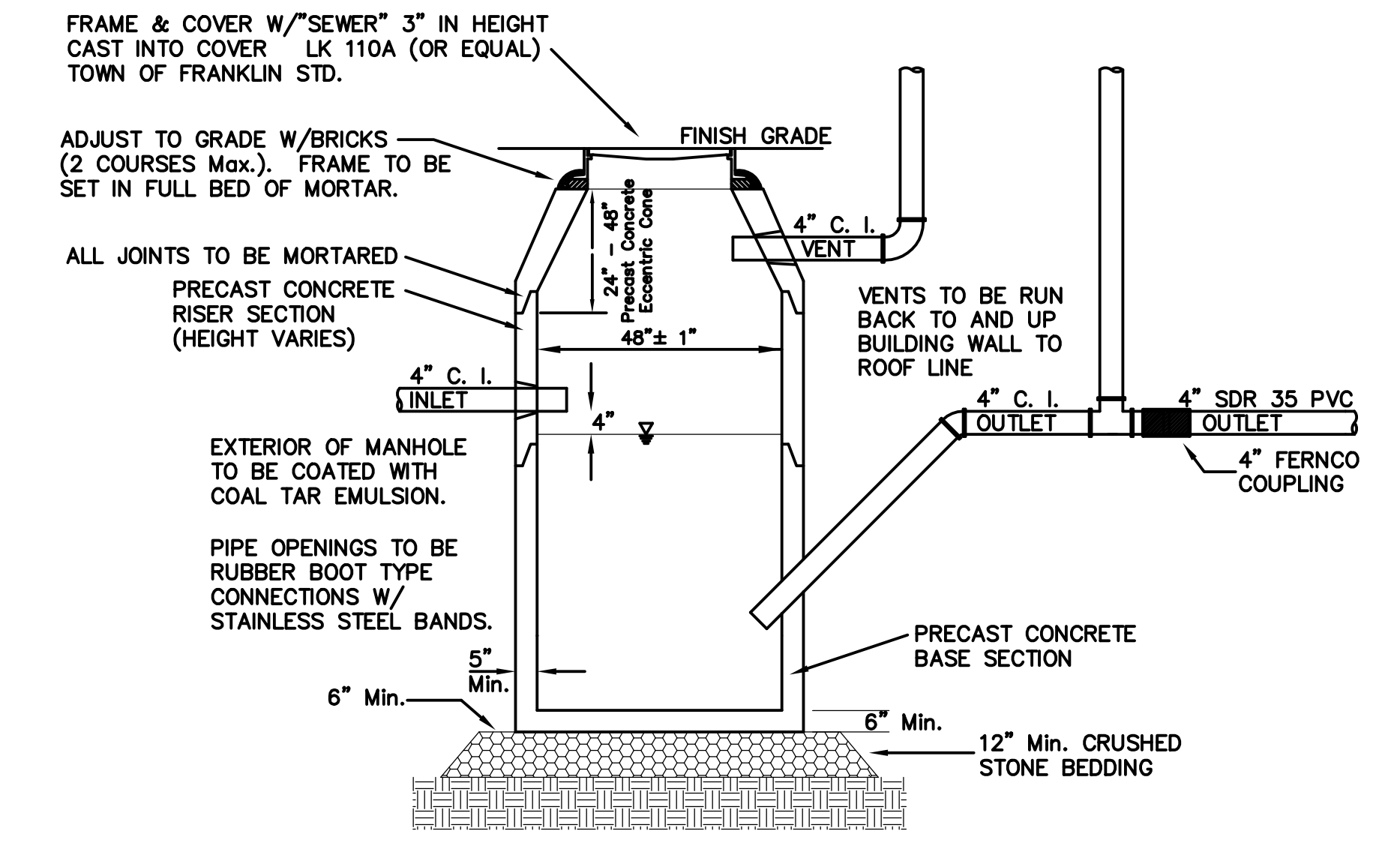
GRAVEL EMERGENCY VEHICLE ACCESS LANE



PAVER WALKWAY AND RAMP DETAIL



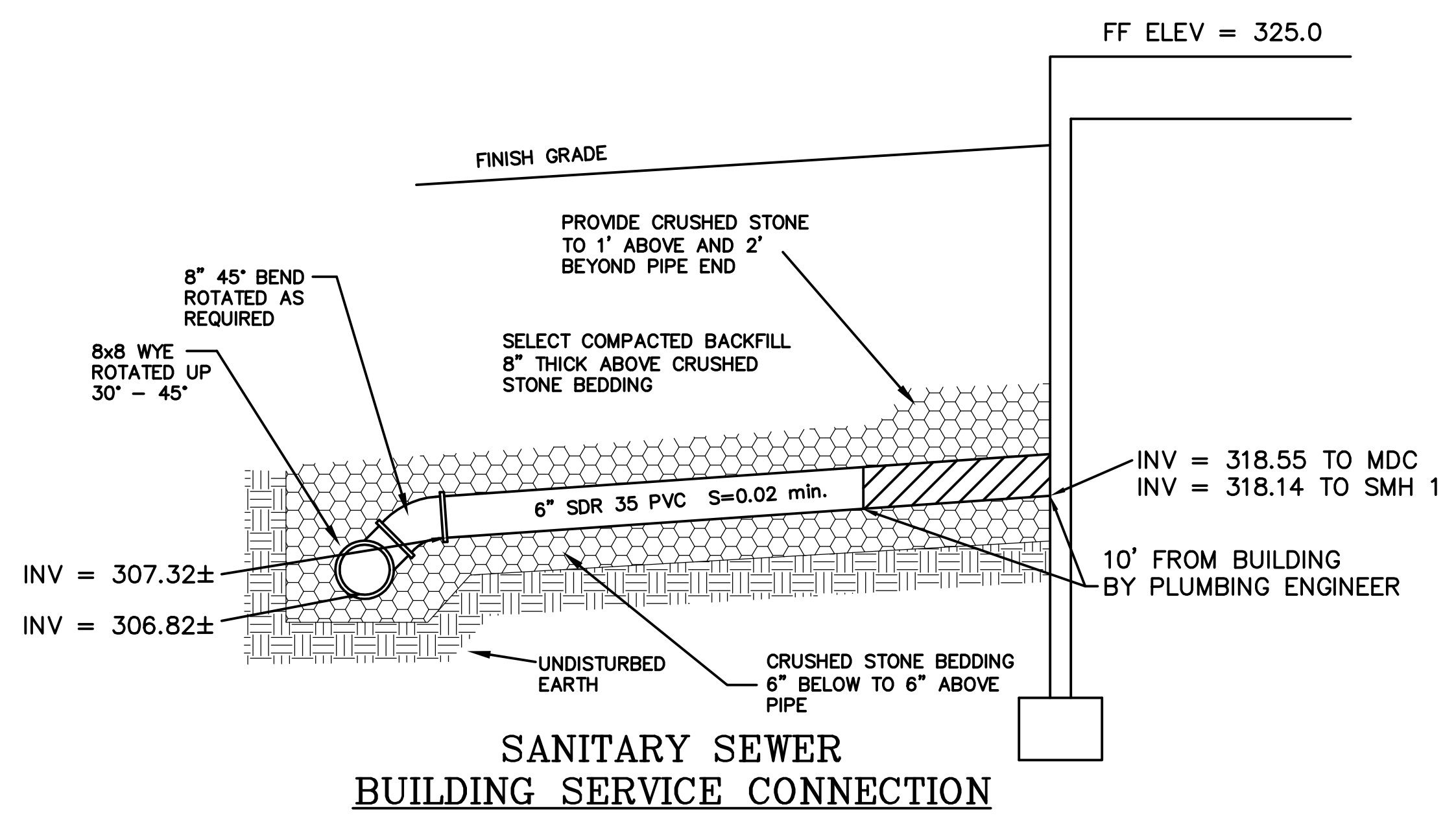
SEWER PROFILE
SCALE: H - 1" = 40'
V - 1" = 4'



M.D.C. STYLE TRAP

CONTRACTOR TO CONFIRM EXISTING ELEVATIONS AT CONNECTION POINT AND NOTIFY THE DESIGN ENGINEER.

SEWER PIPE TO BE 8" SDR 35. SEWER PIPE SIZE AND TYPE WITHIN 10 FEET OF THE BUILDING SHALL BE PROVIDED BY THE PLUMBING ENGINEER. SEWER PIPE TO MDC SHALL BE 4" CAST IRON INTO AND OUT OF MDC MANHOLE. REFER TO DETAIL FOR CONNECTION TO PVC.



SANITARY SEWER BUILDING SERVICE CONNECTION

OWNER: MAP 286 PARCELS 32 AND 34 70 EAST CENTRAL STREET, LLC 37 EAST CENTRAL STREET FRANKLIN, MASSACHUSETTS

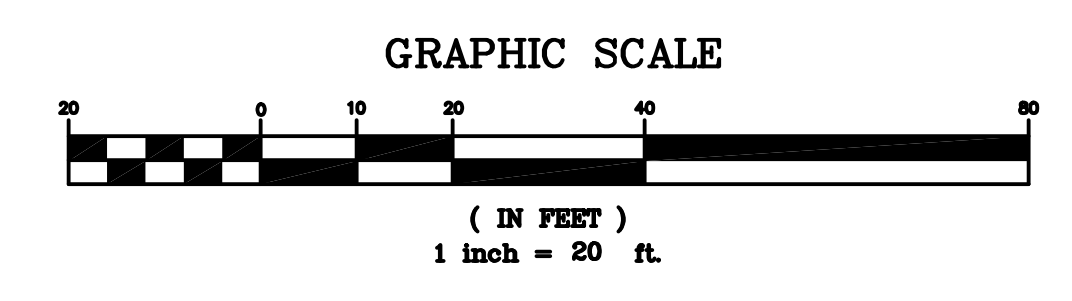
OWNER MAP 286 PARCEL 33 JOHN AND CARMEL SHERRY 88 EAST CENTRAL STREET

APPLICANT: 70 EAST CENTRAL STREET, LLC 37 EAST CENTRAL STREET FRANKLIN, MASSACHUSETTS

NOTES:
 1. RAMPS, LANDINGS AND ENTRANCE AREA SHOWN FOR GRADING OF THE ACCESSIBLE ROUTE ONLY.
 2. THE ARCHITECT SHALL PROVIDE CONSTRUCTION DETAILS FOR THE RAMP, LANDINGS AND ENTRANCE AREA.
 3. RAMPS TO INCLUDE HANDRAILS.

SITE PLAN APPROVAL REQUIRED
FRANKLIN PLANNING BOARD

DATE	



NO.	DATE	DESCRIPTION	BY
2	5/29/20	REVIEW COMMENTS	RRG
1	4/23/20	REVIEW COMMENTS	RRG

DATE	FIELD BY:	INT.
6/19	BL	
BK# 74	FIELD BOOK	PG# 63
3/20	CALCS BY:	RRG
3/20	DESIGNED BY:	RRG
3/20	DRAWN BY:	COMP
3/20	CHECKED BY:	CAQ

UNITED CONSULTANTS INC.
 850 FRANKLIN STREET SUITE 11D
 WRENTHAM, MASSACHUSETTS 02093
 508-384-6560 FAX 508-384-6566

SITE PLAN MODIFICATION
 CONSTRUCTION DETAIL PLAN - 3
 70, 72, 88 AND 94 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 PREPARED FOR
 70 EAST CENTRAL STREET, LLC
 37 EAST CENTRAL STREET
 FRANKLIN, MASSACHUSETTS
 MARCH 4, 2020
 SCALE: 1" = 20'

DATE	MAR. 4, 2020
SCALE	1" = 20'
PROJECT	UC1334
SHEET	9 of 9