



# TOWN OF WAKEFIELD

## TRAFFIC ADVISORY COMMITTEE

### NOTICE OF MEETING

September 18<sup>th</sup>, 2020 | 8:30 a.m.

Via Zoom: <https://us02web.zoom.us/j/81171204956>

*Consistent with the Governor's orders suspending certain provisions of the Open Meeting Law and banning gatherings of more than 10 people, this meeting will be conducted by remote participation to the greatest extent possible. The public may not physically attend this meeting, but every effort will be made to allow the public to view and/or listen to the meeting in real time. Persons who wish to do so are invited to click on the following link <https://us02web.zoom.us/j/81171204956>. If you do not have a camera or microphone on your computer you may use the following dial in number: 1-312-626-6799 Meeting ID 811 7120 4956. Please only use dial in or computer and not both, as audio feedback will distort the meeting. This meeting will be audio and video recorded.*

### **ITEM 1 | Call to order**

### **ITEM 2 | Attendance & Approval of Minutes**

### **ITEM 3 | Public Engagement**

Any member of the public who wishes to address the Traffic Advisory Committee is asked to submit any comments or concerns to <https://www.wakefield.ma.us/public-participation> at least two hours prior to the start of the meeting. Alternatively, members of the public are invited to participate via the Zoom virtual meeting, using the instructions listed above.

### **ITEM 4 | New Development Review**

A. 581-583 Salem St. Development: 19-unit mid-rise apartment building. Board of Appeals application review.

B. 610 Salem St. Development: 30-unit mid-rise apartment building. Board of Appeals application review.

C. 200 Quannapowitt Parkway – proposed mixed use development. 485 residential units, 10,000 sf of mixed-use (5,000 sf retail & 5,000 sf restaurant). Transportation scoping request from Vanasse & Associates, Inc. OBO Cabot, Cabot & Forbes.

### **ITEM 5 | Signage**

Plymouth Rd. Dead-End Street/Not a Thru Street sign request.

### **ITEM 6 | Parking Restriction**

Melvin St. Extension at Water St. restriction request – parking on one side only.

### **ITEM 6 | Matters Not Anticipate for Agenda**

Any matters not anticipated prior to the 48-hour public notice requirement necessitating immediate action by the Traffic Advisory Committee.



**TRAFFIC IMPACT ASSESSMENT**  
for  
**#581 & #5383R & 581-583 Salem Street**

**Wakefield, Massachusetts**

**Date: June 29, 2020**

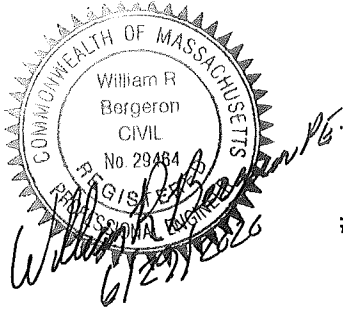
**By: Ocean City Development, LLC, 20C  
Delcarmine Street, Wakefield, Ma. 01880**

**HAYES ENGINEERING, INC.,**  
603 Salem Street

Wakefield, MA 01880



Tel: (781) 246-2800  
Fax :( 781) 246-7596



WAK-0593A

**TRAFFIC IMPACT ASSESSMENT  
#581-#583R & #581-583 Salem Street  
Wakefield, Massachusetts**

June 29, 2020

**INTRODUCTION**

The purpose of this report is to identify the potential traffic impacts of the proposed replacement of the existing small office, gym and three apartment units. The proposed plan will remove the existing three apartment units, small 937 square foot office and a 4,025 square foot health/fitness club located with the two building on site and replace it with the new four-story, 19-unit apartment structure. The site locus is shown on the existing and proposed site plans. The existing site has a paved access across the entire lot frontage. The proposed access drive will be restricted to the proposed location and excess paved driveway aprons will be replaced with tree lawn. The structure will be constructed on a 24,638 square foot parcel.

This Traffic Assessment provides information relative to the traffic generation from the proposed change in use of the site, as well as a review of the new site access to the new apartment building on Salem Street.

**VEHICLE SPEEDS**

Speed observations were observed on Monday, June 29, 2020, around 10:15 AM. There were no abnormal activities related to traffic in either direction during the observations. The observations made consisted of free-flowing vehicle speeds by traffic not encumbered by peak hour traffic and/or platooning effect that can occur. The posted speed limit is 30 MPH for both directions in the vicinity of the new driveway and there were no obvious vehicles noticed exceeding this by a significant amount.

The sight distances available for this site significantly exceed any reasonable speed that could be expected therefore a speed study was not warranted for this location.

**PROJECT-RELATED TRAFFIC**

The traffic estimated to be generated by the proposed 19 multi-family housing units at the present location of #581 Salem Street was obtained by utilizing the technical information available in "Trip Generation", by the Institute of Transportation Engineers, (ITE), 10<sup>th</sup> Edition, 2010. The existing traffic was based upon, Land Use Code: 220 – Multi-family Housing (Low-rise), Land Use Code 492 Health/Fitness Club and Land Use Code: 712 – Small Office Building. The proposed traffic generated by the new use was based upon Land Use Code: 221 (Mid-rise). The ITE data is summarized in **TABLE I**.

The net change in traffic for the site options will result in a decrease of 68 trips on the average weekday daily traffic, with 2 less vehicle trips during the AM peak hour and 25

less trips during the PM peak hour for the multi-family housing option. **TABLE I** outlines the specific changes with the two development options for this site.

**TABLE I**

ITE Land Use Code	AM (peak hour)			PM (peak hour)			ADT*
	IN	OUT	TOTAL	IN	OUT	TOTAL	
712 – Small Office Building. (937 square feet)	1	1	2	0	2	2	15
220 – Multi- Family Housing (Low-rise) (3 Dwellings)	0	2	2	2	1	3	22
492 - Health/Fitness Club 4,025 square feet	2	3	5	16	13	29	133
Sub-total Existing	<u>3</u>	<u>6</u>	<u>9</u>	<u>18</u>	<u>16</u>	<u>34</u>	<u>170</u>
221 – Multi-Family Housing (Mid-rise – 19 units)	2	5	7	5	4	9	102
Net Change	-1	-1	-2	-13	-12	-25	-68

\* Average Daily Traffic

**STOPPING SIGHT DISTANCE**

Sight distance considerations are divided into two criteria: (1) Stopping Sight Distance (SSD) and (2) Intersection Sight Distance (ISD). Approach SSD is the distance required for an approaching vehicle to perceive and react accordingly to a driveway exiting vehicle or object. Stopping sight distances used for design is the sum of two distances: (A) the distance a vehicle travels after the driver sees an object and begins braking, and (B) the distance it travels during braking, as calculated for wet level pavement. When the main roadway is either on an upgrade or downgrade, grade correction factors are applied.

ISD is based upon a perception and reaction time, and time required to complete the desired exiting maneuver after the decision to do so have been made. Values for exiting ISD represent time required to turn left or right from a stop condition, to accelerate to the operating speed of the street without causing approaching vehicles to reduce speed by more than 70% of their initial/design speed and, upon turning left, to clear the near half of the street without conflicting with vehicles approaching from the left having to reduce their speed by more than 70% of their initial/design speed. The ISD, therefore, is considered to enhance the operation of the adjacent street traffic over and above the



actual needs of the stopping sight distance that is needed for the safe operation of the intersection.

Approach SSD is far more important, as it represents the minimum distance required for safe stopping, while exiting ISD criteria is based only upon acceptable speed reductions to the approaching traffic streams. As noted in ASSHTO, "If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions". This would be, basically, the minimum criteria for the safe operation of an unsignalized intersection.

A site inspection was conducted to identify the potential traffic safety problems that may be associated with the proposed new site driveway relative to available sight distances, as well as review of the existing roadway conditions. The stopping sight distances measured in the field, at Salem Street and the proposed site drive intersection are summarized in **TABLE II** as shown on the attached photos.

**TABLE II**  
**Stopping Sight Distance**  
**(Wet Pavement)**

<u>Location</u>	<u>Posted Design Speed</u>	<u>Recommended SSD for 30 MPH</u> *	<u>Available Stopping Sight Distance</u>
Salem Street @ Site Driveway Eastbound approach	30 mph	188 ft.	700 ft. +/-
Westbound @ Site Driveway	30 mph	211 ft.	580 ft. +/-*

\*Source: A Policy on Geometric Design of Highways and Streets, 2004, Fifth Edition (attached).

**CONCLUSIONS**

The multi-family housing use has been designed to provide the appropriate on-site parking and pedestrian movements, as well as a driveway access. This will eliminate the existing full access along the lot frontage that currently exists and improve control of the site access significantly. The site will also allow emergency vehicles access from Salem Street to the rear of the site.

The proposed new use will result in decreases in the AM, PM and Average daily traffic based upon utilizing the technical information available in "Trip Generation", by the

Institute of Transportation Engineers, (ITE), 10<sup>th</sup> Edition, 2010. Therefore, minimal impacts will result with the proposed construction for the adjacent roadways.

The proposed site driveway to #581 Salem Street will be used as full-access, un-signalized driveway movements in and out of the site. Any delays will be restricted to the site drive.

The available stopping sight distances exceed the required amount of distance needed on the adjacent roadway for speeds more than 60 miles per hour for each direction. The proposed site drive at the new intersection will provide ample site visibility and will provide safe stopping sight distances. It will also significantly exceed the geometric design standards required by the American Association of State Highway and Transportation Officials (AASHTO) for the 85<sup>th</sup> Percentile observed speeds.

Therefore, based upon the minimal impact for the proposed apartment build condition, it is expected that the adjacent roadways will not experience any significant change. The proposed multi-family housing use will result in no perceptible change within the community.



Salen Street at Site Driveway West bound Approach



**CROSSFIT 128**  
Call, E-Mail or Drop In  
for more information!  
Classes offered 7 days  
per week!  
info@crossfit128.com  
781-258-1151

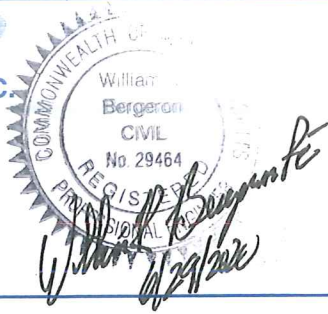


*Salem Street at Site Driveway Eastbound Approach*





HAYES ENGINEERING, INC.  
603 SALEM STREET  
WAKEFIELD, MA 01880  
TEL: (781) 246-2800  
FAX: (781) 246-7596



JOB FILE #: WAK-0593A  
NAME: \_\_\_\_\_  
DATE: 6-26-2020  
MADE BY: \_\_\_\_\_

MEMO  
 CALCULATION

### Stopping Sight Distance with Grade Adjustment

$$d = 1.47 Vt + \frac{V^2}{30 \left( \frac{a}{32.2} \pm G \right)}$$

$$t = 2.5 \text{ seconds}, a = 11.2 \text{ Ft/sec}^2, V = \text{Speed MPH}, G = \text{Grade}$$

Westbound Approach Posted Speed 30 MPH  $G = +3.80\%$

$$d = 1.47(30)(2.5) + \frac{30^2}{30 \left( \frac{11.2}{32.2} + 0.038 \right)}$$

$$= 110.25 + 77.76 = 188 \text{ Feet}$$

Eastbound Approach Posted Speed 30 MPH  $G = -2.22\%$

$$d = 1.47(30)(2.5) + \frac{30^2}{30 \left( \frac{11.2}{32.2} - 0.022 \right)}$$

$$= 110.25 + 92.07 = 202.32 \text{ Feet}$$

Intersection Sight Distance for 30 MPH is 335 Feet

Available intersection sight distance provided is  
greater than 30 MPH for each direction



- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 220 - Multifamily Housing (Low-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

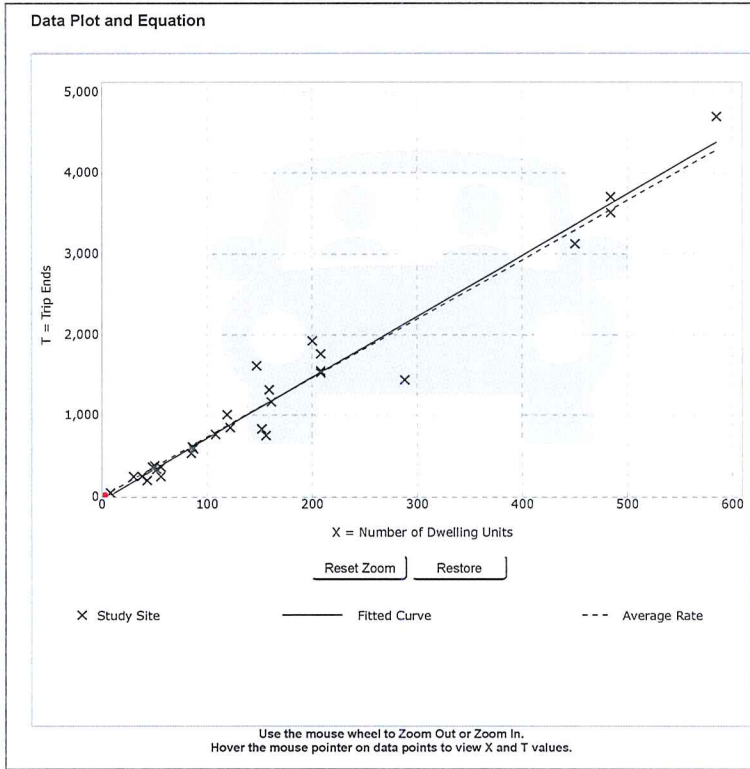
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**  
   
Trip ends are not estimated for some methods as it yields negative values



**DATA STATISTICS**

**Land Use:**  
 Multifamily Housing (Low-Rise) (220) [Click for more details](#)

**Independent Variable:**  
 Dwelling Units

**Time Period:**  
 Weekday

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 29

**Avg. Num. of Dwelling Units:**  
 168

**Average Rate:**  
 7.32

**Range of Rates:**  
 4.45 - 10.97

**Standard Deviation:**  
 1.31

**Fitted Curve Equation:**  
 $T = 7.56(X) - 40.86$

**R<sup>2</sup>:**  
 0.96

**Directional Distribution:**  
 50% entering, 50% exiting

**Calculated Trip Ends:**  
 Average Rate: 22 (Total), 11 (Entry), 11 (Exit)  
 Fitted Curve: Not Available

ADD-ONS

Try OTISS Pro



ITETripGen Web-based App

- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 220 - Multifamily Housing (Low-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

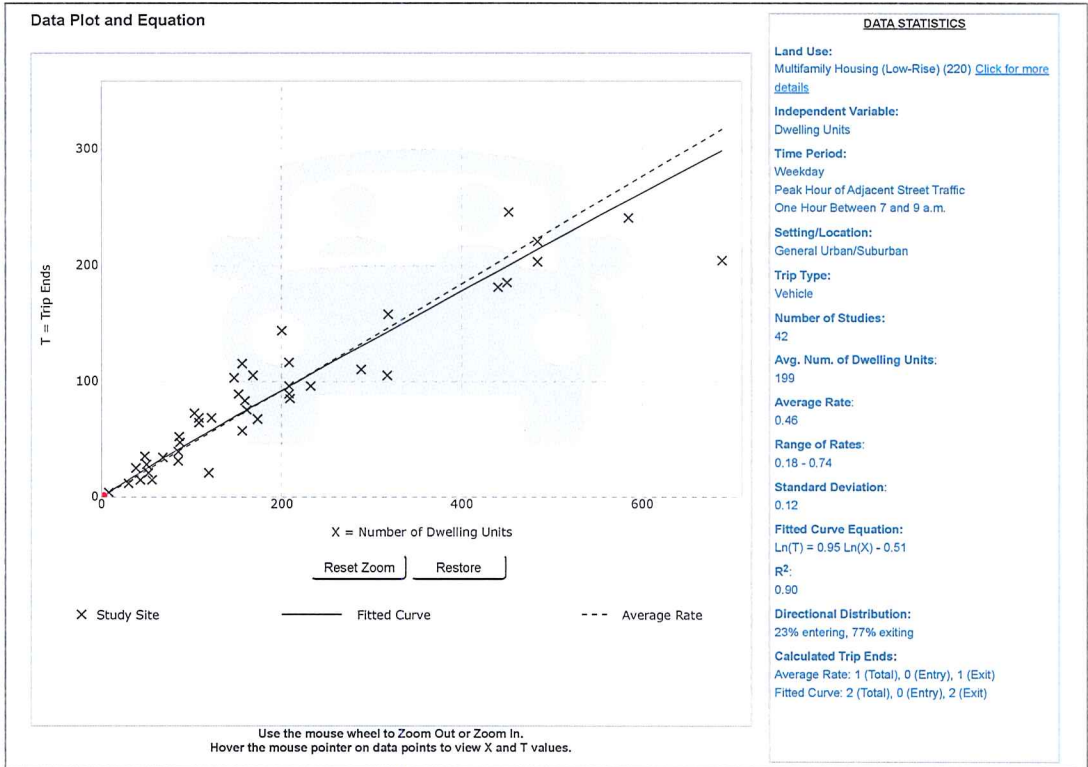
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**



ADD-ONS

Try OTISS Pro





- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 220 - Multifamily Housing (Low-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

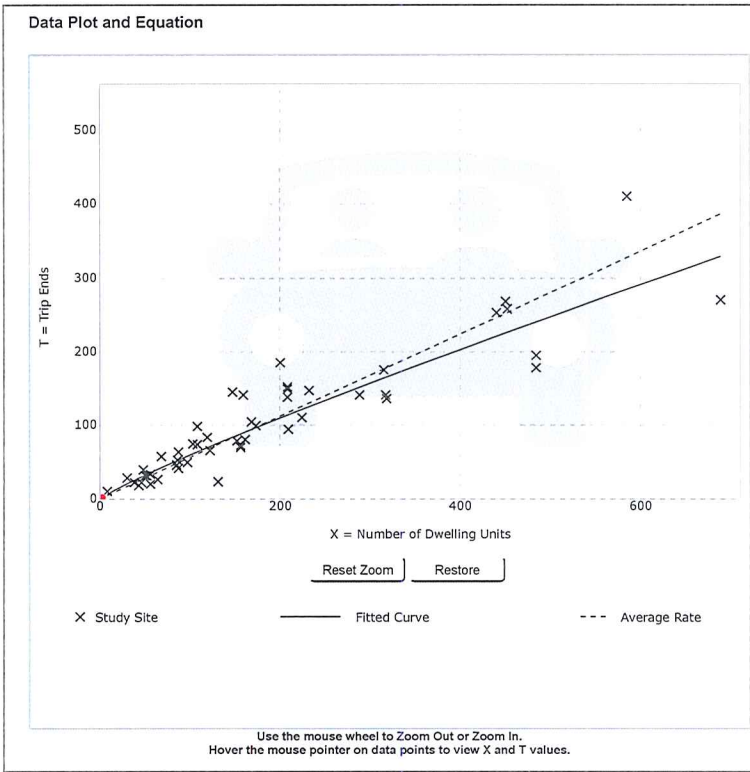
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**



**DATA STATISTICS**

**Land Use:**  
 Multifamily Housing (Low-Rise) (220) [Click for more details](#)

**Independent Variable:**  
 Dwelling Units

**Time Period:**  
 Weekday  
 Peak Hour of Adjacent Street Traffic  
 One Hour Between 4 and 6 p.m.

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 50

**Avg. Num. of Dwelling Units:**  
 187

**Average Rate:**  
 0.56

**Range of Rates:**  
 0.18 - 1.25

**Standard Deviation:**  
 0.16

**Fitted Curve Equation:**  
 $\ln(T) = 0.89 \ln(X) - 0.02$

**R<sup>2</sup>:**  
 0.86

**Directional Distribution:**  
 63% entering, 37% exiting

**Calculated Trip Ends:**  
 Average Rate: 2 (Total), 1 (Entry), 1 (Exit)  
 Fitted Curve: 3 (Total), 2 (Entry), 1 (Exit)

ADD-ONS  
 Try OTISS Pro





Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**

Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

712

**LAND USE GROUP:**

(700-799) Office

**LAND USE :**

712 - Small Office Building

**LAND USE SUBCATEGORY:**

All Sites

**INDEPENDENT VARIABLE (IV):**

1000 Sq. Ft. GFA

**TIME PERIOD:**

Weekday

**SETTING/LOCATION:**

General Urban/Suburban

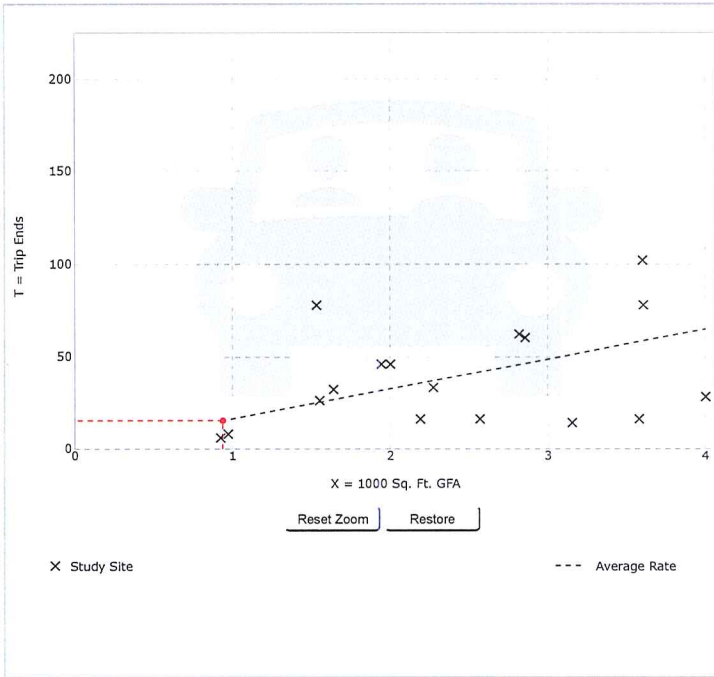
**TRIP TYPE:**

Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**

0.94 Calculate

**Data Plot and Equation**



Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

**DATA STATISTICS**

**Land Use:**  
Small Office Building (712) [Click for more details](#)

**Independent Variable:**  
1000 Sq. Ft. GFA

**Time Period:**  
Weekday

**Setting/Location:**  
General Urban/Suburban

**Trip Type:**  
Vehicle

**Number of Studies:**  
17

**Avg. 1000 Sq. Ft. GFA:**  
2

**Average Rate:**  
16.19

**Range of Rates:**  
4.44 - 50.91

**Standard Deviation:**  
11.03

**Fitted Curve Equation:**  
Not Given

**R<sup>2</sup>:**  
\*\*\*\*

**Directional Distribution:**  
50% entering, 50% exiting

**Calculated Trip Ends:**  
Average Rate: 15 (Total), 7 (Entry), 8 (Exit)

ADD-ONS

Try OTISS Pro



- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 712

**LAND USE GROUP:**  
 (700-799) Office

**LAND USE:**  
 712 - Small Office Building

**LAND USE SUBCATEGORY:**  
 All Sites

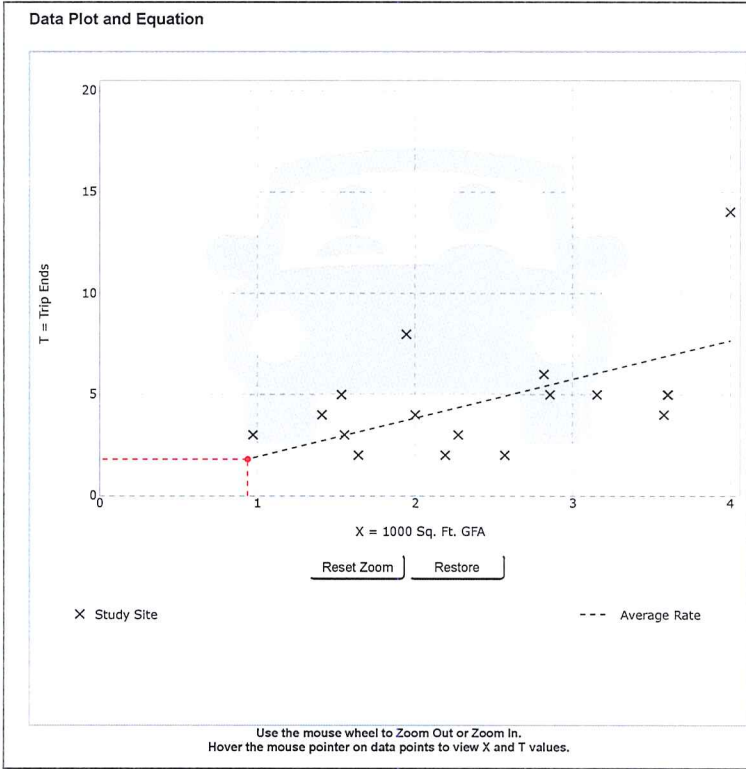
**INDEPENDENT VARIABLE (IV):**  
 1000 Sq. Ft. GFA

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**  
 0.94



#### DATA STATISTICS

**Land Use:**  
 Small Office Building (712) [Click for more details](#)

**Independent Variable:**  
 1000 Sq. Ft. GFA

**Time Period:**  
 Weekday  
 Peak Hour of Adjacent Street Traffic  
 One Hour Between 7 and 9 a.m.

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 17

**Avg. 1000 Sq. Ft. GFA:**  
 2

**Average Rate:**  
 1.92

**Range of Rates:**  
 0.78 - 4.12

**Standard Deviation:**  
 0.97

**Fitted Curve Equation:**  
 Not Given

**R<sup>2</sup>:**  
 \*\*\*\*

**Directional Distribution:**  
 83% entering, 17% exiting

**Calculated Trip Ends:**  
 Average Rate: 2 (Total), 1 (Entry), 1 (Exit)

ADD-ONS


Try OTISS Pro



- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 

**LAND USE GROUP:**  
 (700-799) Office

**LAND USE:**  
 712 - Small Office Building

**LAND USE SUBCATEGORY:**  
 All Sites

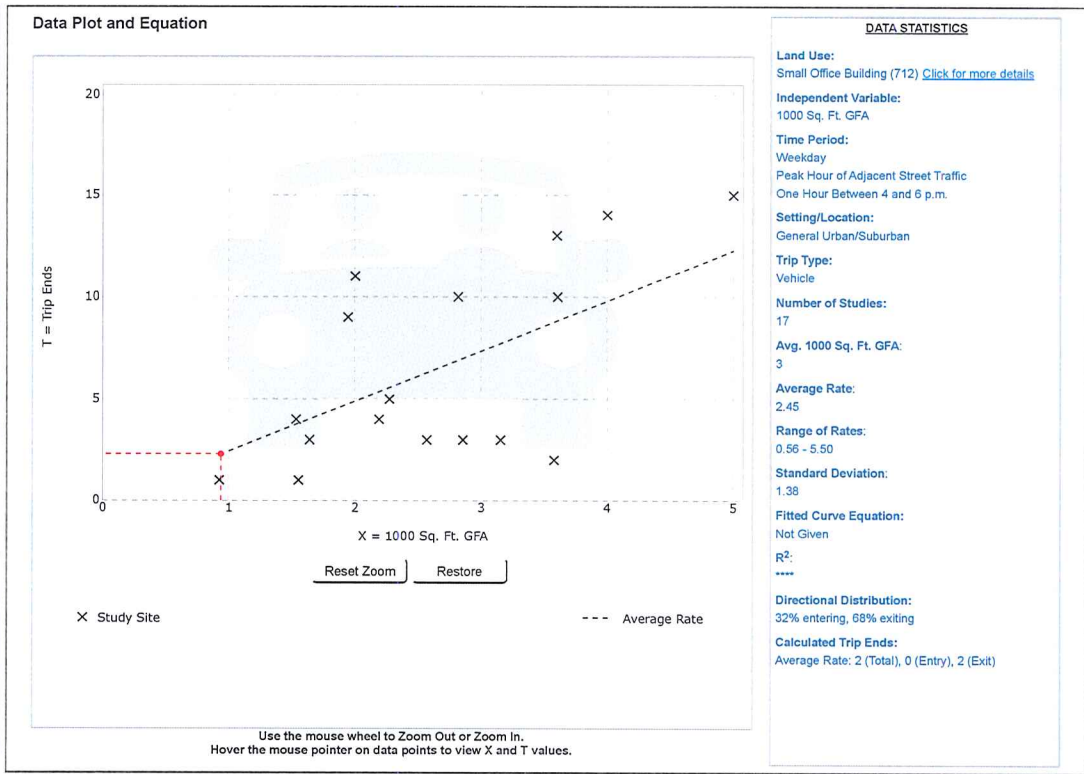
**INDEPENDENT VARIABLE (IV):**  
 1000 Sq. Ft. GFA

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**



ADD-ONS

Try OTISS Pro

## Land Use: 492

# Health/Fitness Club

### Description

A health/fitness club is a privately-owned facility that primarily focuses on individual fitness or training. It typically provides exercise classes; weightlifting, fitness and gymnastics equipment; spas; locker rooms; and small restaurants or snack bars. This land use may also include ancillary facilities, such as swimming pools, whirlpools, saunas, tennis, racquetball and handball courts, and limited retail. These facilities are membership clubs that may allow access to the general public for a fee. Racquet/tennis club (Land Use 491), athletic club (Land Use 493), and recreational community center (Land Use 495) are related uses.

### Additional Data

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), Connecticut, New Jersey, Pennsylvania, Vermont, and Wisconsin.

### Source Numbers

253, 571, 588, 598, 728, 926, 959, 971



ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

**LAND USE GROUP:**  
 (400-499) Recreational

**LAND USE:**  
 492 - Health/Fitness Club

**LAND USE SUBCATEGORY:**  
 All Sites

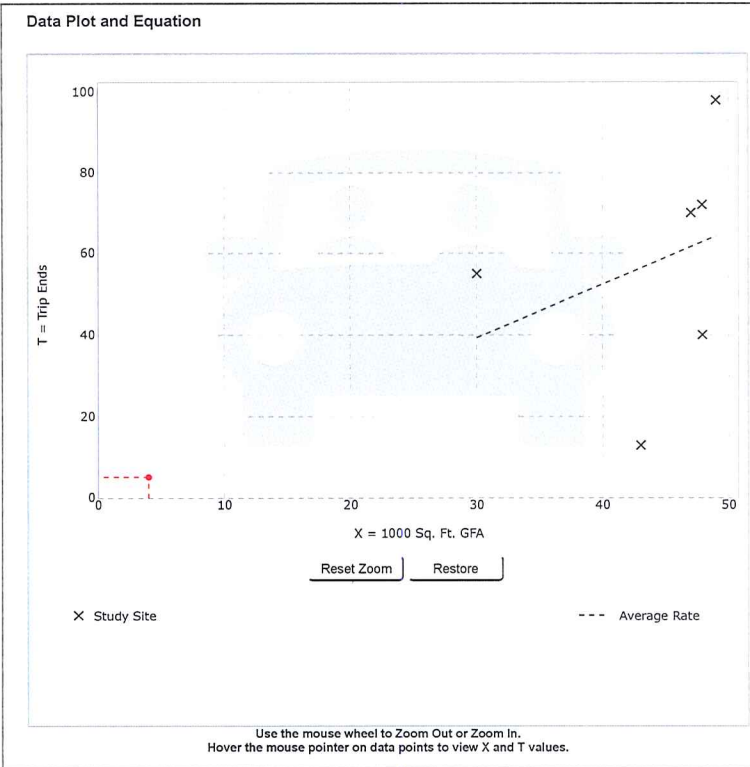
**INDEPENDENT VARIABLE (IV):**  
 1000 Sq. Ft. GFA

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**



**DATA STATISTICS**

**Land Use:**  
 Health/Fitness Club (492) [Click for more details](#)

**Independent Variable:**  
 1000 Sq. Ft. GFA

**Time Period:**  
 Weekday  
 Peak Hour of Adjacent Street Traffic  
 One Hour Between 7 and 9 a.m.

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 6

**Avg. 1000 Sq. Ft. GFA:**  
 44

**Average Rate:**  
 1.31

**Range of Rates:**  
 0.30 - 2.00

**Standard Deviation:**  
 0.64

**Fitted Curve Equation:**  
 Not Given

**R<sup>2</sup>:**  
 \*\*\*\*

**Directional Distribution:**  
 51% entering, 49% exiting

**Calculated Trip Ends:**  
 Average Rate: 5 (Total), 2 (Entry), 3 (Exit)

ADD-ONS

Try OTISS Pro



Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 492

**LAND USE GROUP:**  
 (400-499) Recreational

**LAND USE:**  
 492 - Health/Fitness Club

**LAND USE SUBCATEGORY:**  
 All Sites

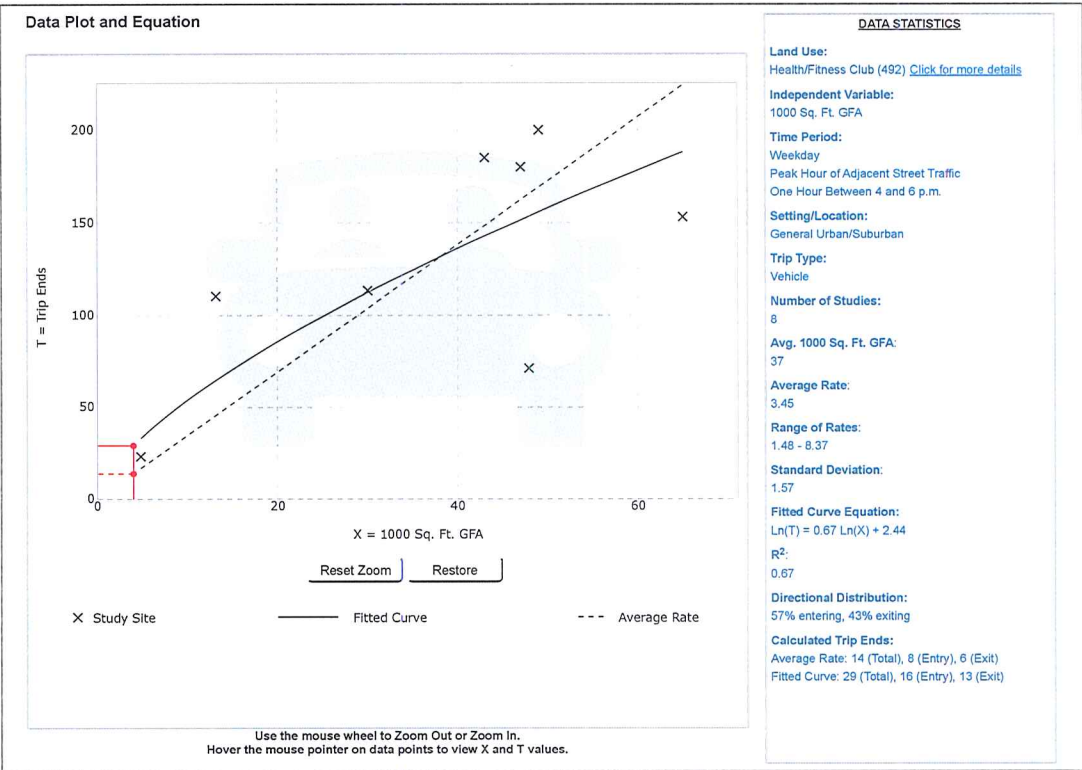
**INDEPENDENT VARIABLE (IV):**  
 1000 Sq. Ft. GFA

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**  
 4.02



ADD-ONS

Try OTISS Pro





ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

---

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 221

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

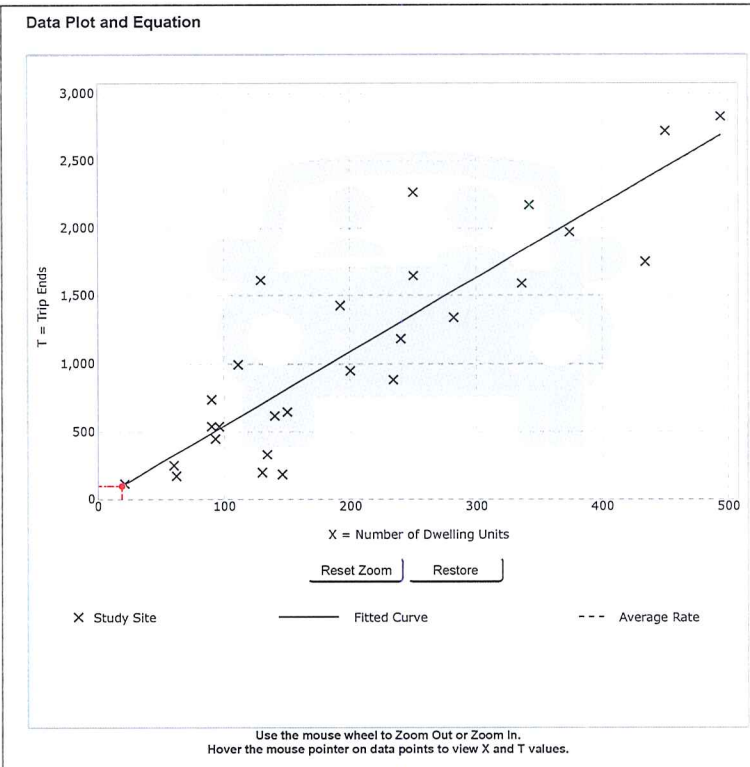
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**  
 19



**DATA STATISTICS**

**Land Use:**  
 Multifamily Housing (Mid-Rise) (221) [Click for more details](#)

**Independent Variable:**  
 Dwelling Units

**Time Period:**  
 Weekday

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 27

**Avg. Num. of Dwelling Units:**  
 205

**Average Rate:**  
 5.44

**Range of Rates:**  
 1.27 - 12.50

**Standard Deviation:**  
 2.03

**Fitted Curve Equation:**  
 $T = 5.45(X) - 1.75$

**R<sup>2</sup>:**  
 0.77

**Directional Distribution:**  
 50% entering, 50% exiting

**Calculated Trip Ends:**  
 Average Rate: 103 (Total), 51 (Entry), 52 (Exit)  
 Fitted Curve: 102 (Total), 51 (Entry), 51 (Exit)

ADD-ONS

Try OTISS Pro



- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

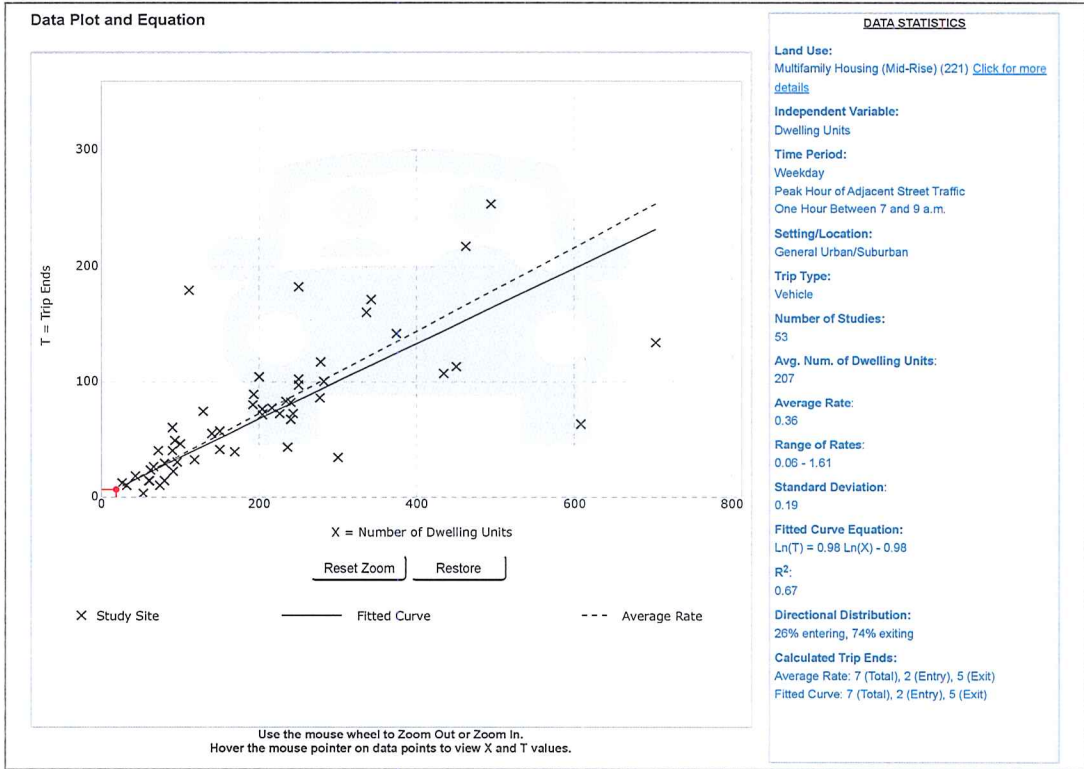
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**



ADD-ONS

Try OTISS Pro






- Graph Look Up
- Technical Support
- Add Users
- Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE:**  
 221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

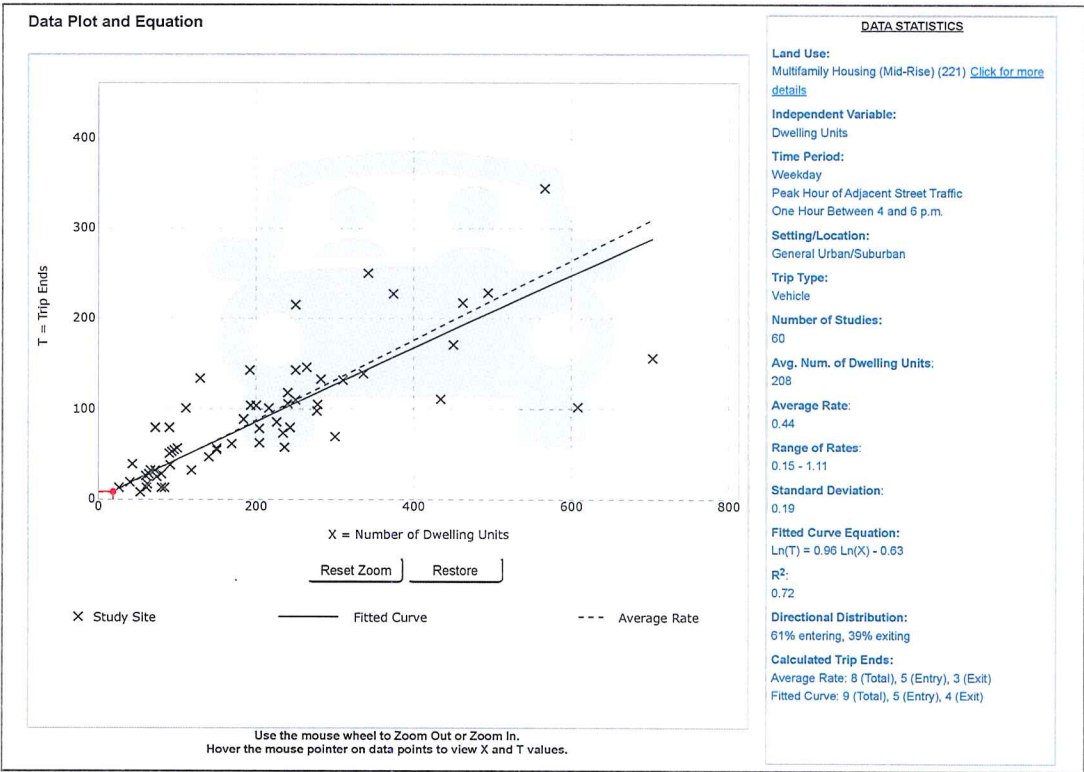
**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**

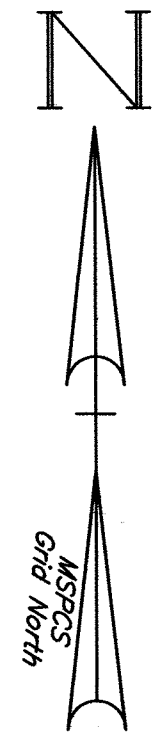


ADD-ONS

Try OTISS Pro

# SITE PLAN

#581-583R & #581-583



**NOTES:**

- PROPERTY LIES WITHIN THE BUSINESS ZONE AND SINGLE RESIDENCE.
- TOPOGRAPHIC INFORMATION DEPICTED HEREON IS THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED BY HAYES ENGINEERING, INC. DURING FEBRUARY 2014 AND APRIL 2020.
- THE DATUM IS WAKEFIELD SEWER BASE.
- THE PROPERTY IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE (A or V) AS DEPICTED ON FLOOD INSURANCE RATE MAPS COMMUNITY PANEL NUMBER 25017C0318E EFFECTIVE DATE JUNE 4, 2010.
- PERIMETER INFORMATION FROM ON THE GROUND SURVEYS BY HAYES ENGINEERING, INC.
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED FROM FIELD SURVEY INFORMATION AND AVAILABLE EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES AND DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND VERIFYING THE LOCATIONS, SIZES, AND ELEVATIONS OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THESE PLANS AND SHALL NOTIFY THE ENGINEER IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED DESIGN AND THE APPROPRIATE REMEDIAL ACTION PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTORS ARE RESPONSIBLE FOR CONTACTING DIG SAFE AT (800) 322-4844 PRIOR TO THE START OF ANY CONSTRUCTION.

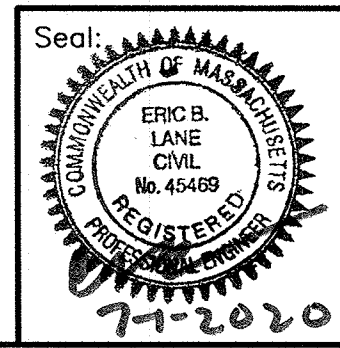
**NOTE:**

INFORMATION SHOWN ON THIS SHEET WAS TAKEN FROM AN AUTOCAD DRAWING OF THE TOWN OF WAKEFIELD GIS.

Owners: G. N. J. Real Estate Holdings, LLC  
 Assessor's Parcel Id: 39A-156-31AA  
 Deed Reference: Book 69116 Page 32  
 #581-583R Salem Street

#581-583 Salem Street, LLC  
 Assessor's Parcel Id: 39A-157-31A  
 Deed Reference: Book 63365 Page 593  
 #581-583 Salem Street

SHEET INDEX	
PLAN TITLE	SHEET DESIGNATION
INDEX	C1
EXISTING CONDITIONS	C2
SITE DEVELOPMENT PLAN	C3
UTILITIES PLAN	C4
LAYOUT & MATERIALS	C5
DETAIL SHEET	C6
DETAIL SHEET	C7



Prepared For:

Applicant  
 Ocean City Development LLC  
 200 DeCaroline Street  
 Wakefield, MA 01880

Prepared By:

Hayes Engineering, Inc.  
 903 Salem Street, 2nd Fl.  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

Design By: JO

Drawn By:

Checked By:

Project File: WAK-0593A

Comp. No: WAK256

Issued For Permit

Issued For Review

Issued For Bid

Issued For Construction

Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Scale: 1" = 100'  
 0' 50' 100' 200'  
 Date: June 30, 2020

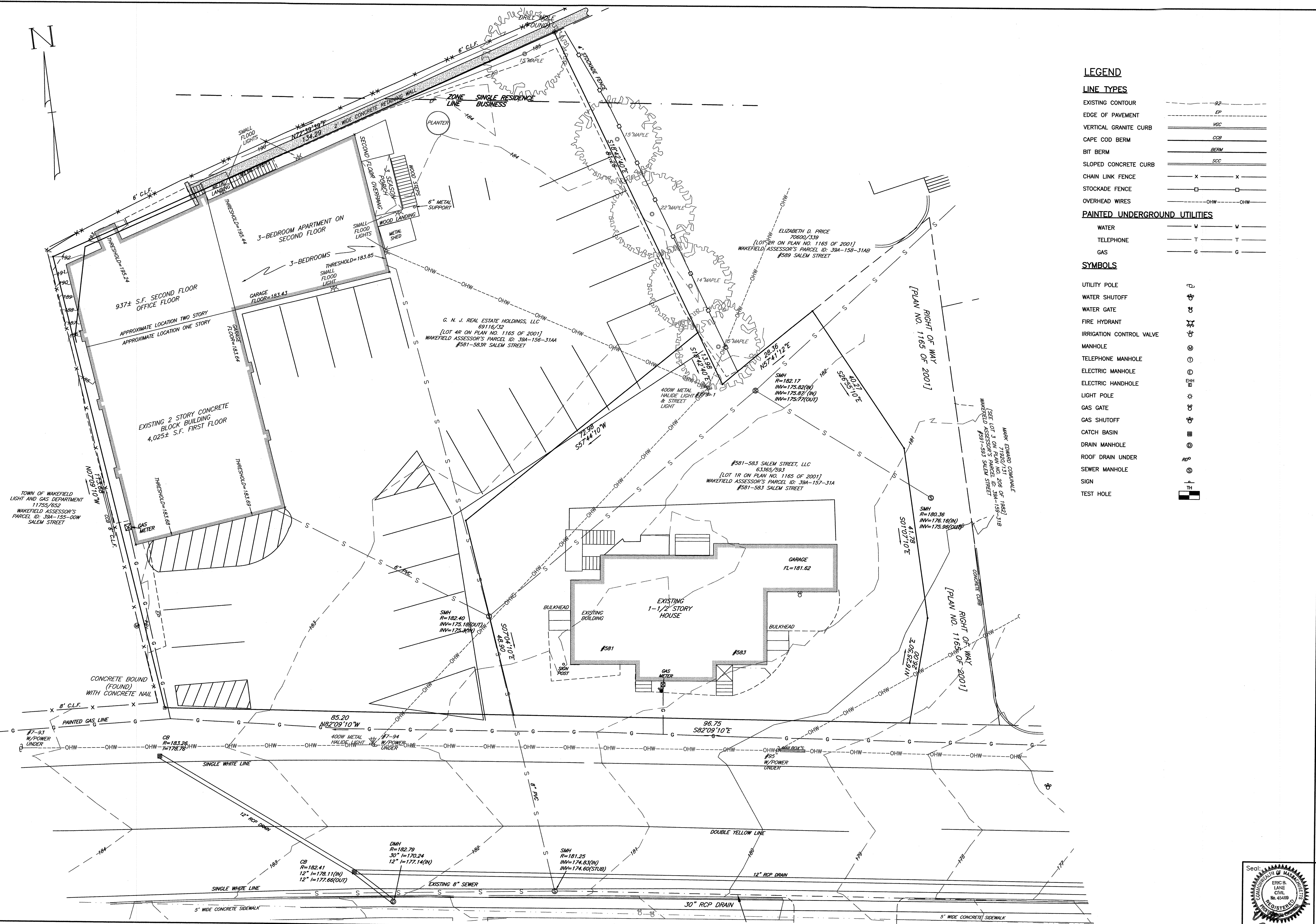
Drawing Title:

INDEX PLAN  
 #581-583R & #581-583  
 SALEM STREET  
 WAKEFIELD, MASS.

Drawing No.:

C1  
 SHEET 1 OF 7





**LEGEND**

**LINE TYPES**

- EXISTING CONTOUR - - - - - 92
  - EDGE OF PAVEMENT - - - - - 92
  - VERTICAL GRANITE CURB = = = = = 92
  - CAPE COD BERM = = = = = 92
  - BIT BERM = = = = = 92
  - SLOPED CONCRETE CURB = = = = = 92
  - CHAIN LINK FENCE x x x x x 92
  - STOCKADE FENCE □ □ □ □ □ 92
  - OVERHEAD WIRES - - - - - 92
- PAINTED UNDERGROUND UTILITIES**
- WATER - - - - - 92
  - TELEPHONE - - - - - 92
  - GAS - - - - - 92

**SYMBOLS**

- UTILITY POLE ⊕
- WATER SHUTOFF ⊕
- WATER GATE ⊕
- FIRE HYDRANT ⊕
- IRRIGATION CONTROL VALVE ⊕
- MANHOLE ⊕
- TELEPHONE MANHOLE ⊕
- ELECTRIC MANHOLE ⊕
- ELECTRIC HANDHOLE ⊕
- LIGHT POLE ⊕
- GAS GATE ⊕
- GAS SHUTOFF ⊕
- CATCH BASIN ⊕
- DRAIN MANHOLE ⊕
- ROOF DRAIN UNDER ⊕
- SEWER MANHOLE ⊕
- SIGN ⊕
- TEST HOLE ⊕

Prepared For:  
Ocean City Development LLC  
200 Dales Drive  
Wakefield, MA 01880

Prepared By:  
*Hayes*  
Hayes Engineering, Inc.  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

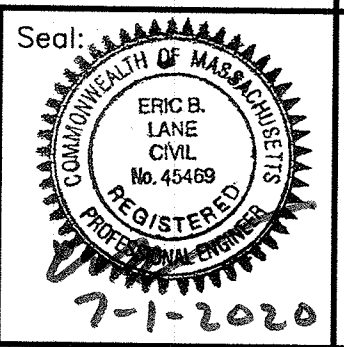
Design By: JO  
Drawn By:  
Checked By:  
Project File: WAK-0593A  
Comp. No: WAK256  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Scale: 1"=10'  
0' 5' 10' 20'  
Date: June 30, 2020

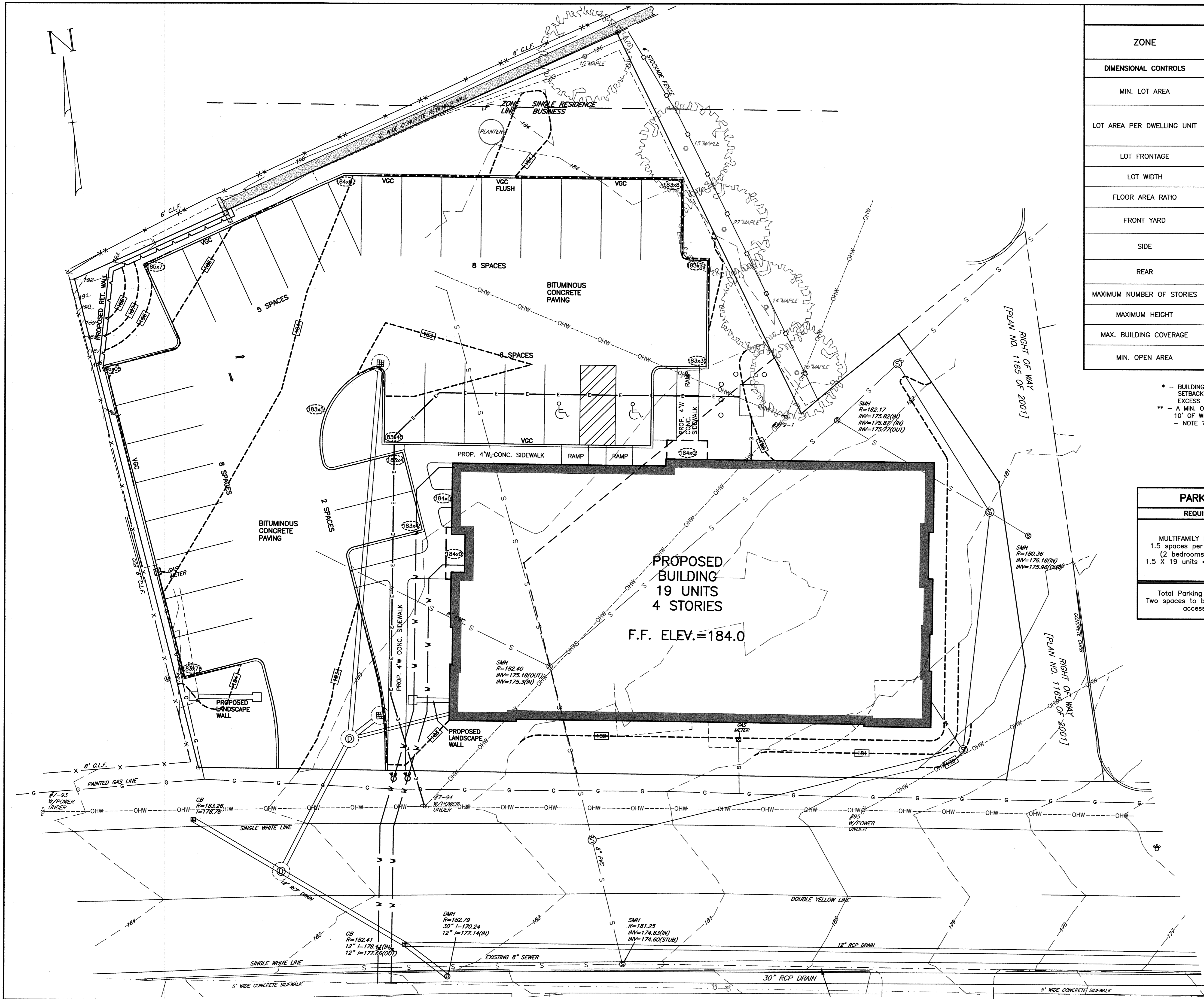
Drawing Title:  
**EXISTING CONDITIONS PLAN  
#581-583R & #581-583  
SALEM STREET  
WAKEFIELD, MASS.**

Drawing No.:  
**C2**  
SHEET 2 OF 7



N:\WAK256\SP581-583R\plan.dwg, 7/1/2020 1:43:04 PM, EBL





**ZONING TABLE**

ZONE	MID-RISE APARTMENT COMPLEX (190-32)	TABLE 2 DIMENSIONAL REGULATIONS (BUSINESS)	PROVIDED
DIMENSIONAL CONTROLS	REQUIRED/ALLOWED	REQUIRED/ALLOWED	PROVIDED
MIN. LOT AREA	4,000 s.f.	--	24,638 s.f.
LOT AREA PER DWELLING UNIT	1,200 S.F. (20 Units)		(3) One Bedroom Units (16) Two Bedroom Units
LOT FRONTAGE	180 ft.	40 ft.	181.95
LOT WIDTH	180 ft.	40 ft.	149.46
FLOOR AREA RATIO		1.5	1.02
FRONT YARD	30 ft. or Height of Building, Whichever is Greater	--	11.5 ft.
SIDE	30 ft. or Height of Building, Whichever is Greater	--**	9.6 ft.
REAR	30 ft. or Height of Building, Whichever is Greater	--**	10.6 ft.
MAXIMUM NUMBER OF STORIES	5	--	4
MAXIMUM HEIGHT	50 ft.	60 ft.*	49.1 ft.
MAX. BUILDING COVERAGE	35%	80%	25.6%
MIN. OPEN AREA	30%	10%	30.4%

\* - BUILDINGS OVER 50 FEET SHALL PROVIDE A FRONT YARD SETBACK OF FIVE FEET PLUS ONE FOOT OF HEIGHT IN EXCESS OF 50 FEET (ZONING TABLE 2 - NOTE 8)  
 \*\* - A MIN. OF 15' ADJACENT TO A RESIDENTIAL DISTRICT 10' OF WHICH SHALL NOT BE PAVED. (ZONING TABLE 2 - NOTE 7)

PARKING CALCULATIONS	
REQUIRED	PROVIDED
MULTIFAMILY DWELLINGS: 1.5 spaces per dwelling unit (2 bedrooms or fewer) 1.5 X 19 units = 28.5 spaces	29 spaces (9 x 18')
Total Parking Proposed - Two spaces to be handicapped accessible	29 spaces

Prepared For:  
 Ocean City Development LLC  
 1000 Ocean Avenue  
 Wakefield, MA 01880

Applicant:  
 Ocean City Development LLC  
 1000 Ocean Avenue  
 Wakefield, MA 01880

Prepared By:  
 Hayes Engineering, Inc.  
 603 Salem Street  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

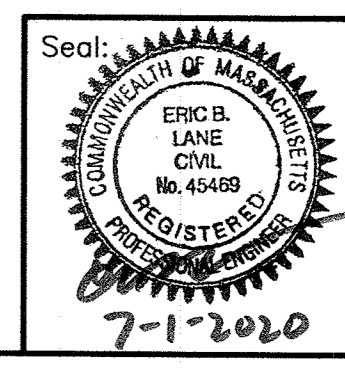
Design By: JO  
 Drawn By:  
 Checked By:  
 Project File: WAK-0593A  
 Comp. No: WAK256  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

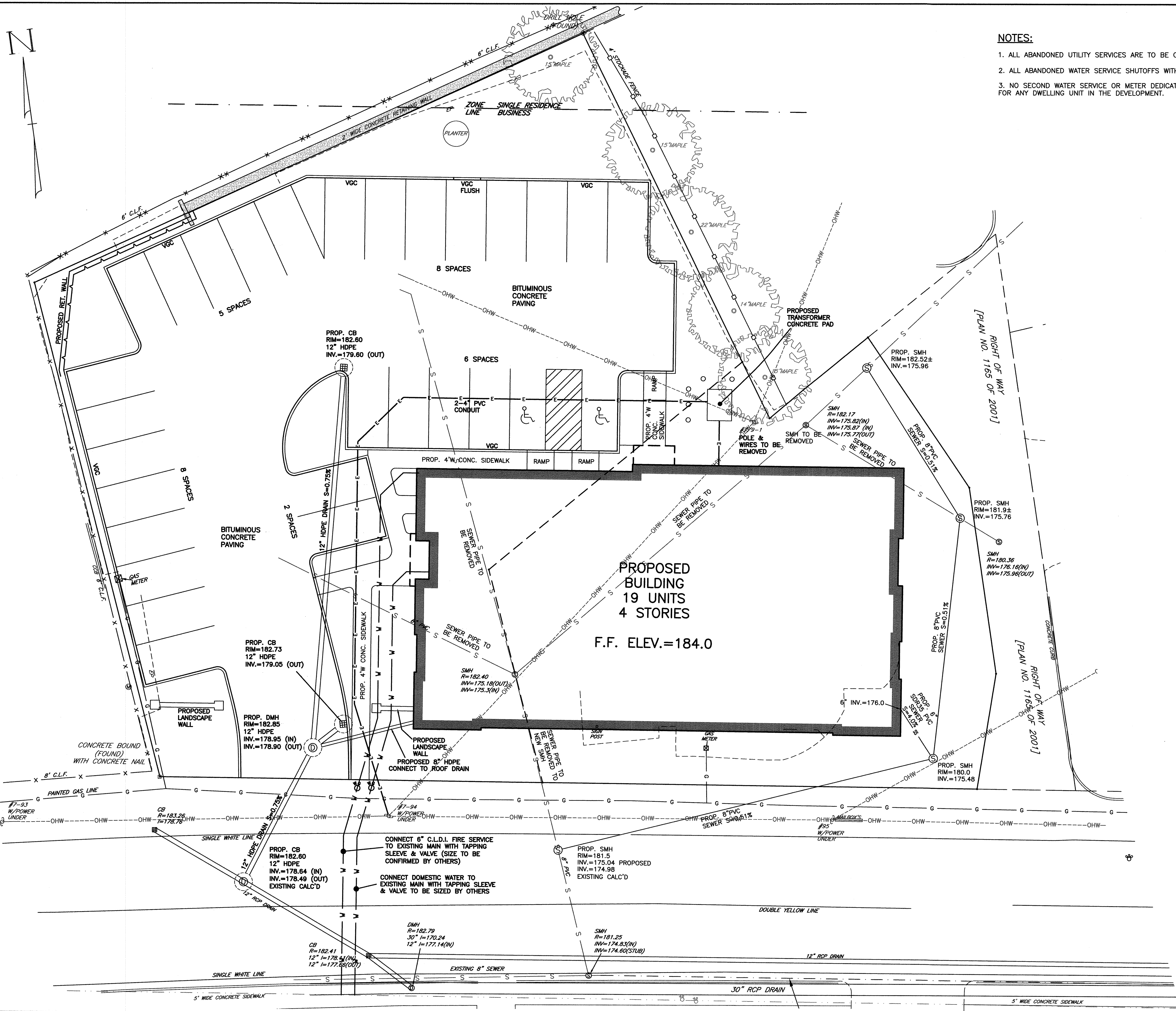
Scale: 1" = 10'  
 0' 5' 10' 20'  
 Date: June 30, 2020

Drawing Title:  
**SITE DEVELOPMENT PLAN  
 #581-583R & #581-583  
 SALEM STREET  
 WAKEFIELD, MASS.**

Drawing No.:  
**C3**  
 SHEET 3 OF 7







**NOTES:**

1. ALL ABANDONED UTILITY SERVICES ARE TO BE CUT AND CAPPED AT THEIR RESPECTIVE MAINS.
2. ALL ABANDONED WATER SERVICE SHUTOFFS WITHIN AND/OR FEEDING THE SITE ARE TO BE REMOVED.
3. NO SECOND WATER SERVICE OR METER DEDICATED TO OUTSIDE IRRIGATION SYSTEMS WILL BE ALLOWED FOR ANY DWELLING UNIT IN THE DEVELOPMENT.

Prepared For:

Applicant  
Ocean City Development LLC  
200 Dalcarnine Street  
Warefield, MA 01880

Prepared By:

Hayes Engineering, Inc.  
*Hayes*  
603 Salem Street  
Warefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

Design By: JO  
Drawn By:  
Checked By:  
Project File: WAK-0593A  
Comp. No: WAK256  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
1		
2		
3		
4		
5		
6		
7		
8		
9		

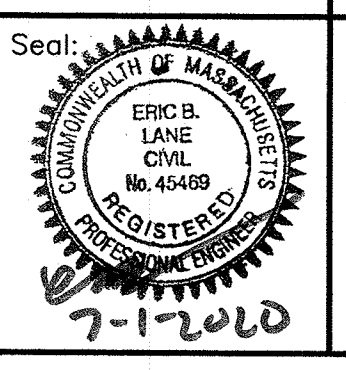
Scale: 1" = 10'  
0' 5' 10' 20'  
Date: June 30, 2020

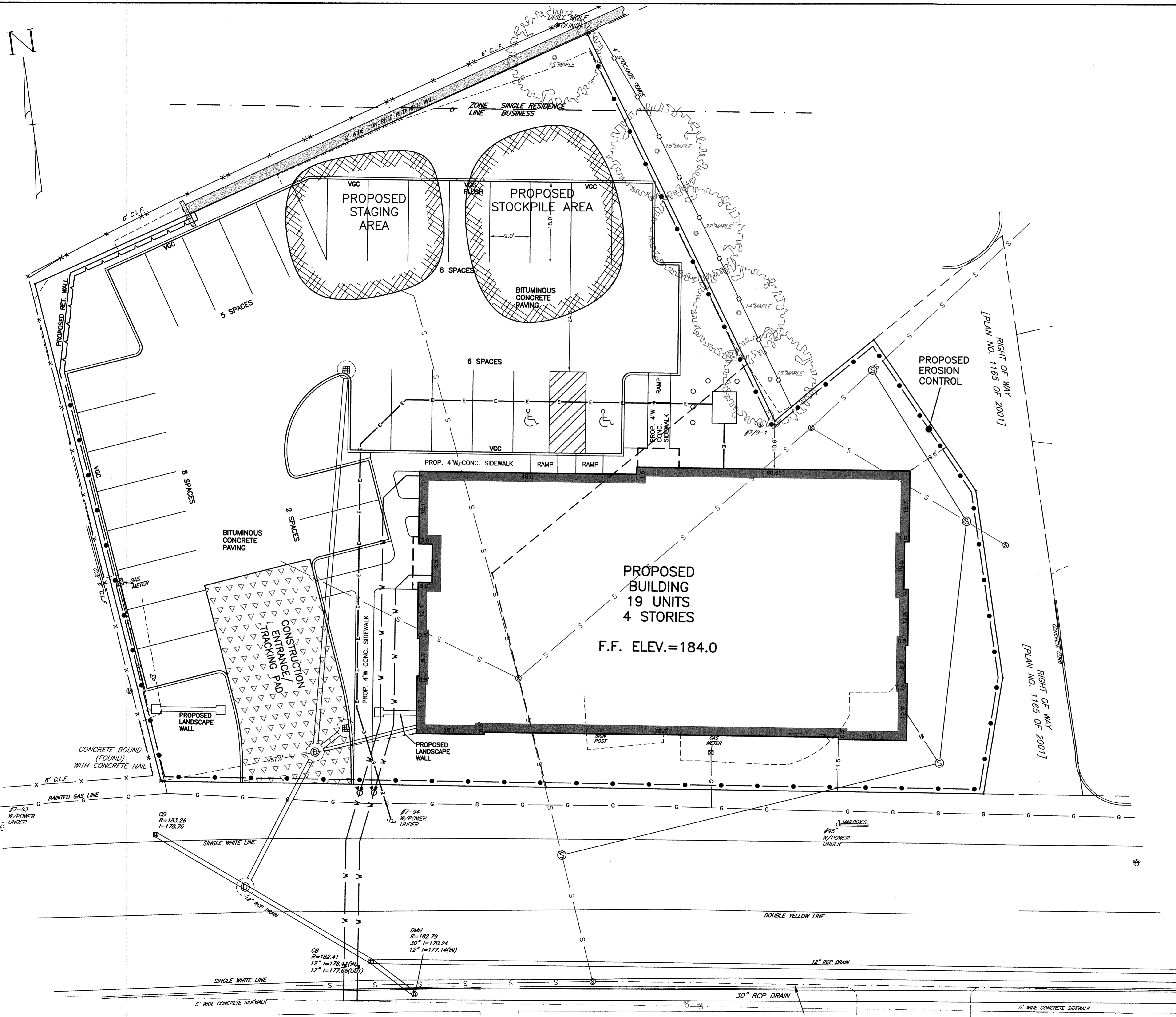
Drawing Title:

**UTILITIES PLAN**  
**#581-583R & #581-583**  
**SALEM STREET**  
**WAKEFIELD, MASS.**

Drawing No.:

C4  
SHEET 4 OF 7





Prepared For:  
 Applicant:  
 Ocean City Development LLC  
 200 Dalcrombie Street  
 Wakefield, MA 01880

Prepared By:  
 Hayes Engineering, Inc.  
 603 Salem Street  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

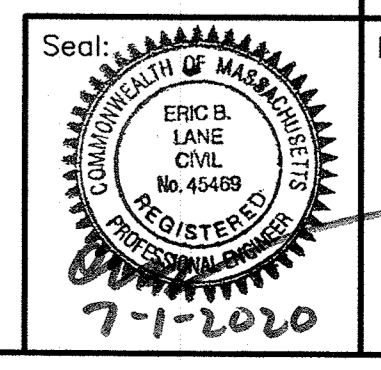
Design By: JO  
 Drawn By:  
 Checked By:  
 Project File: WAK-0593A  
 Comp. No: WAK256  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Scale: 1" = 10'  
 0' 5' 10' 20'  
 Date: June 30, 2020

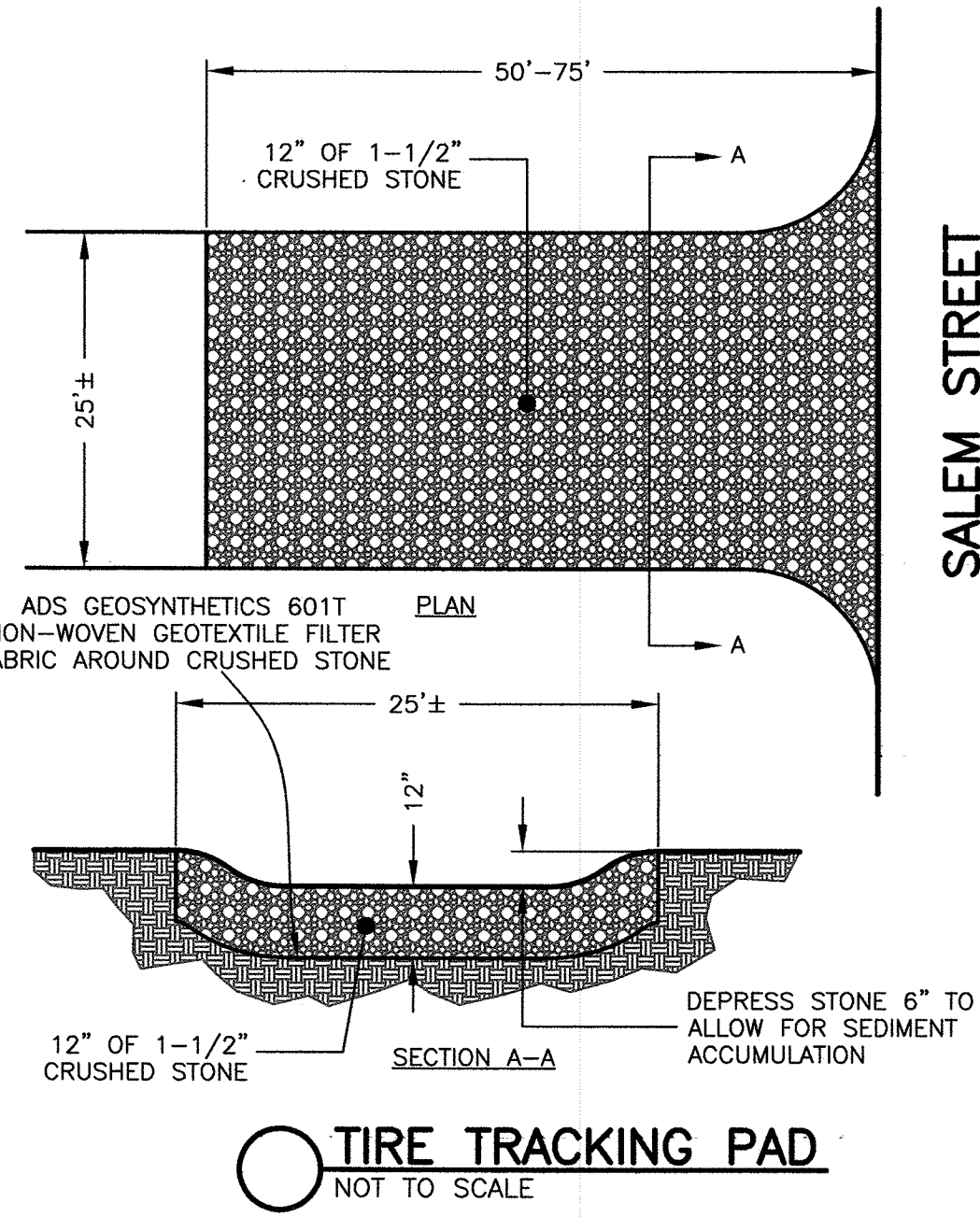
Drawing Title:  
**LAYOUT & MATERIALS PLAN**  
**#581-583R & #581-583**  
**SALEM STREET**  
**WAKEFIELD, MASS.**

Drawing No.:  
**C5**  
 SHEET 5 OF 7

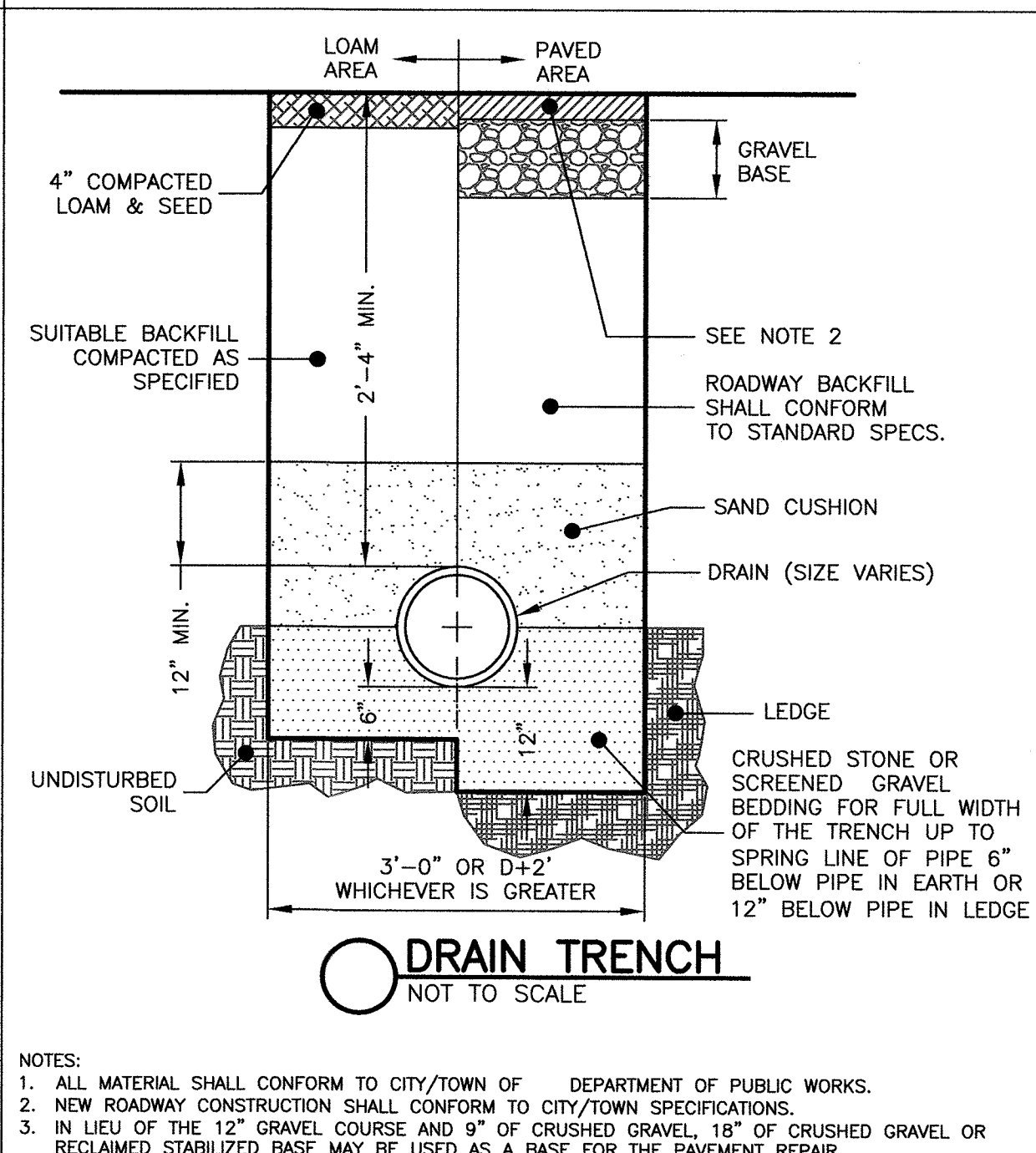
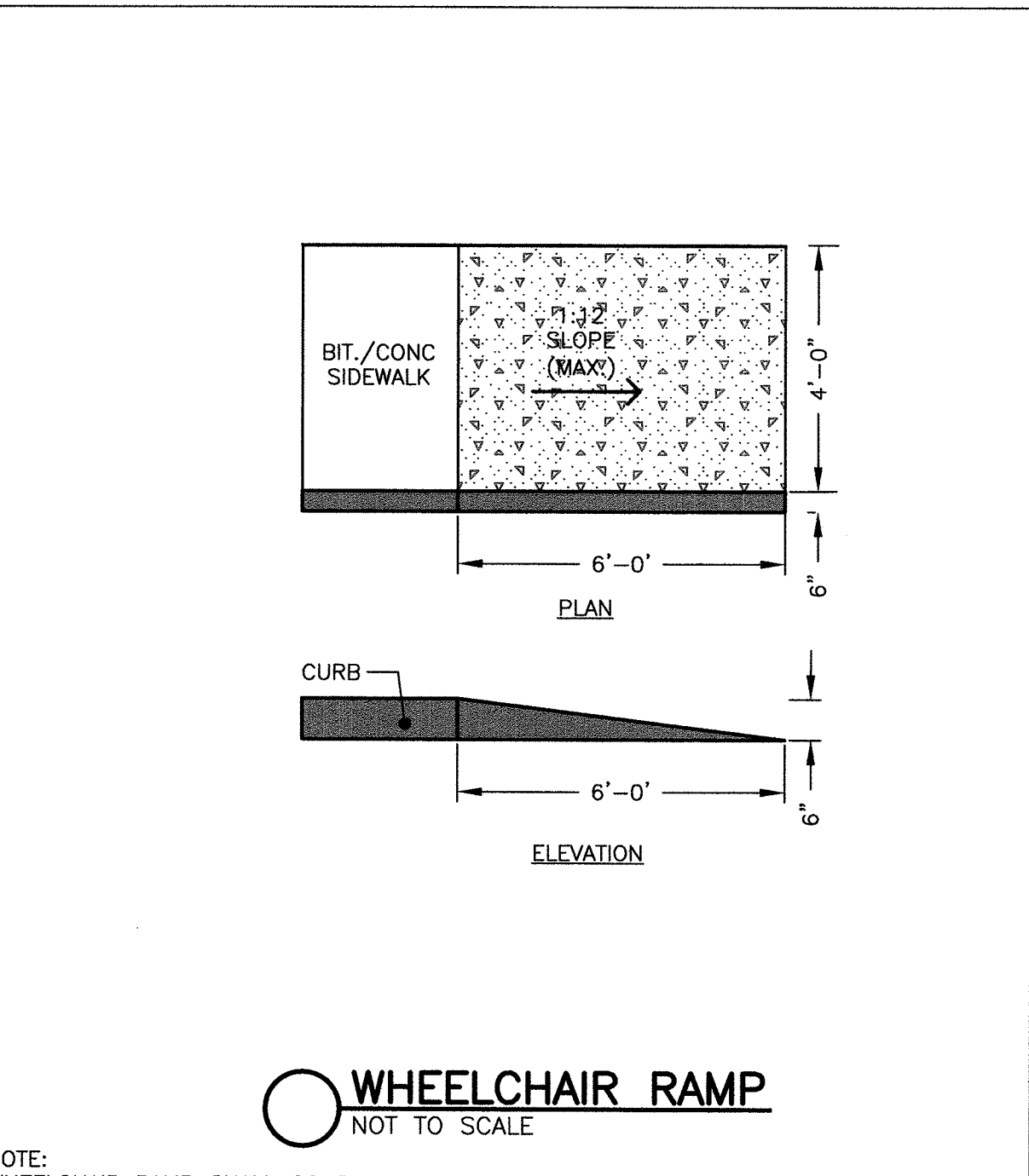
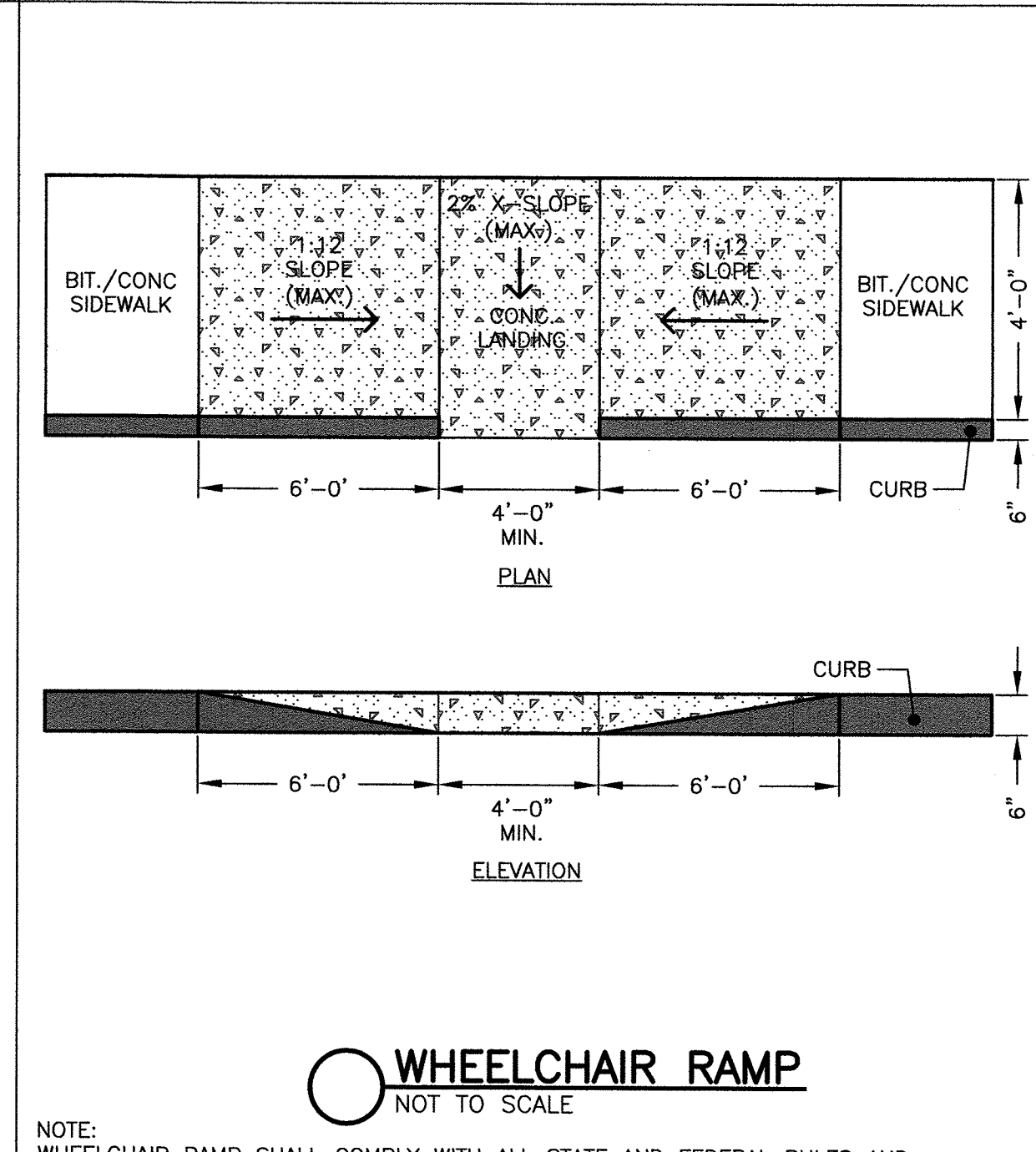
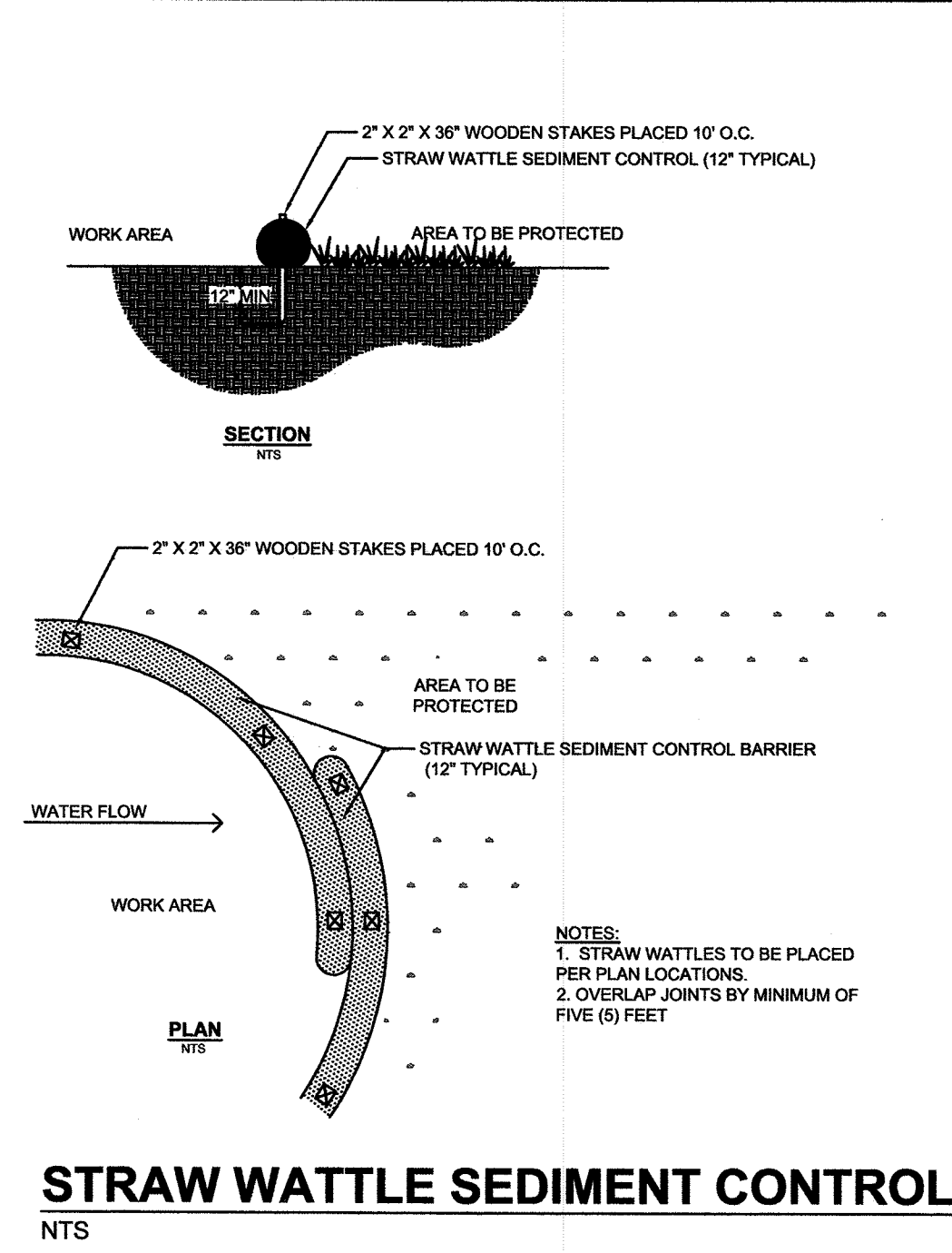
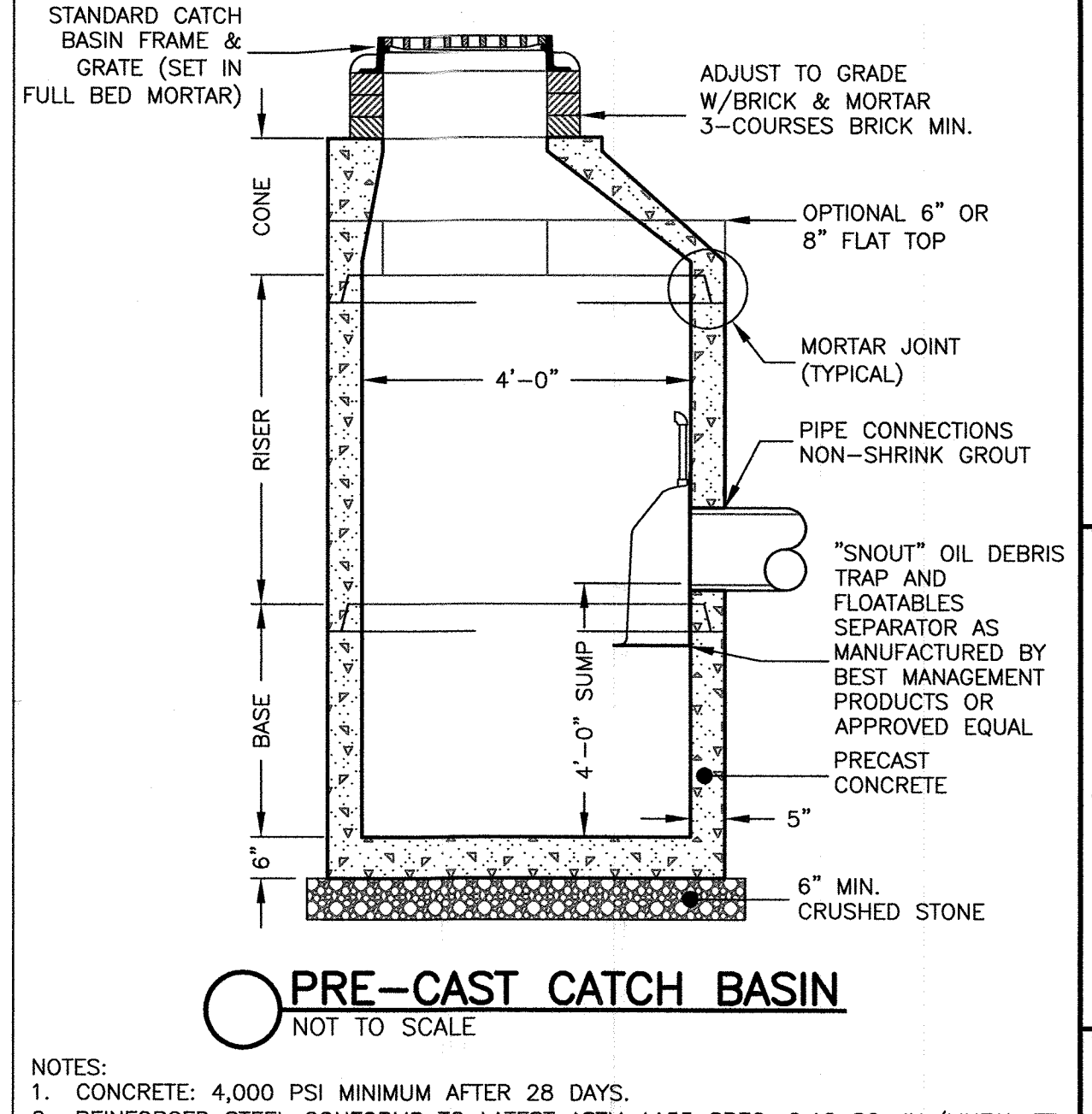
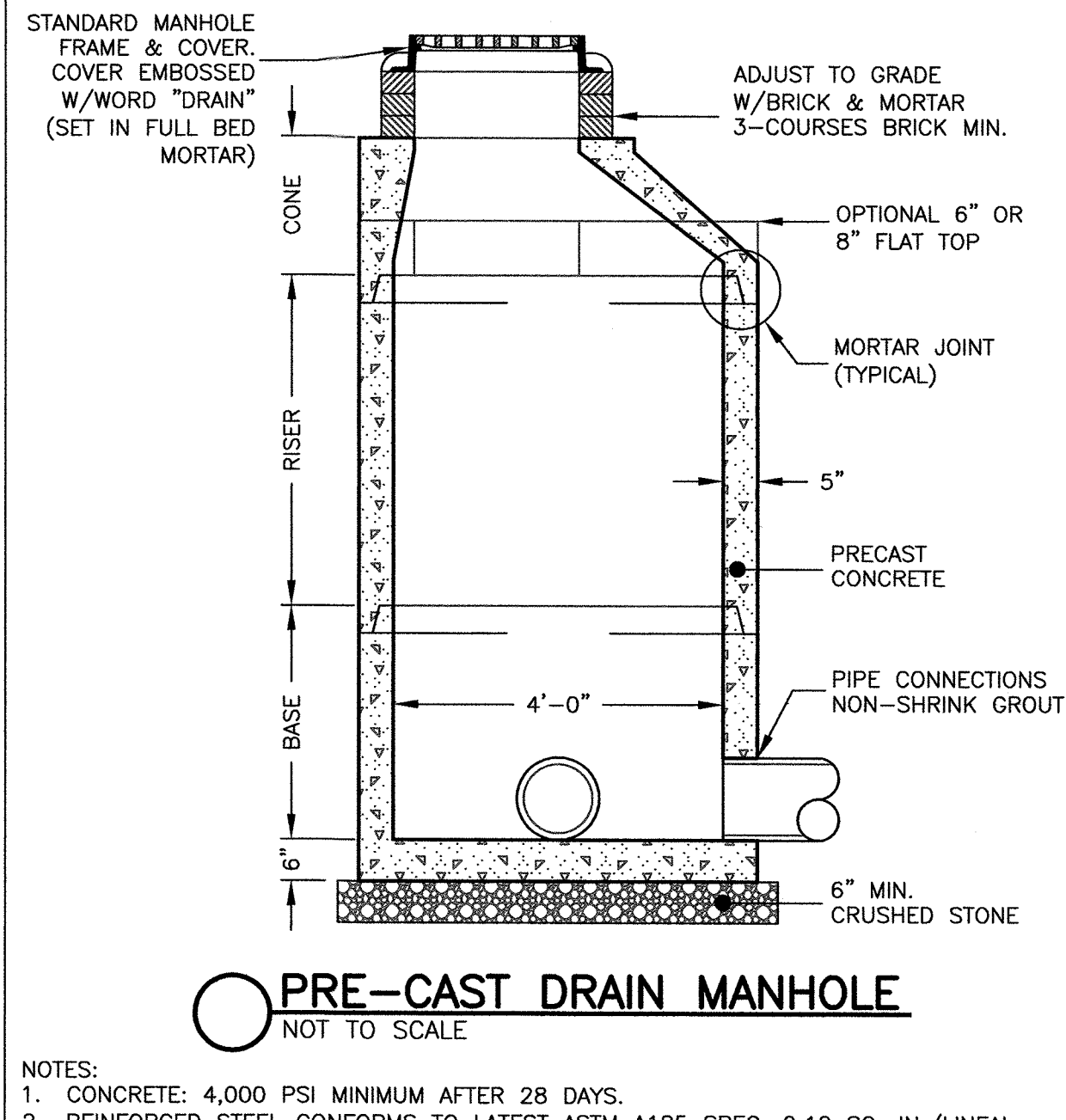
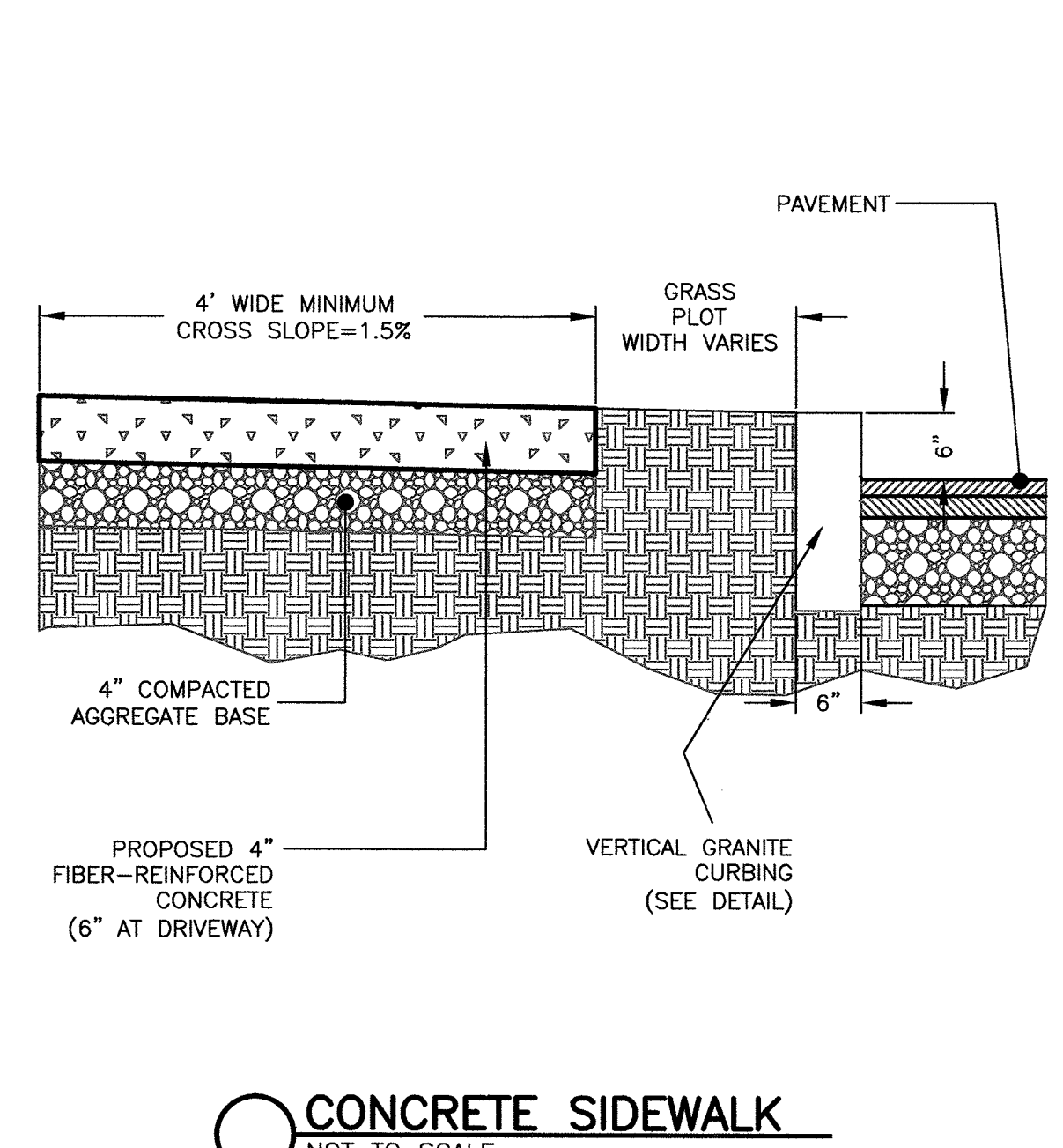
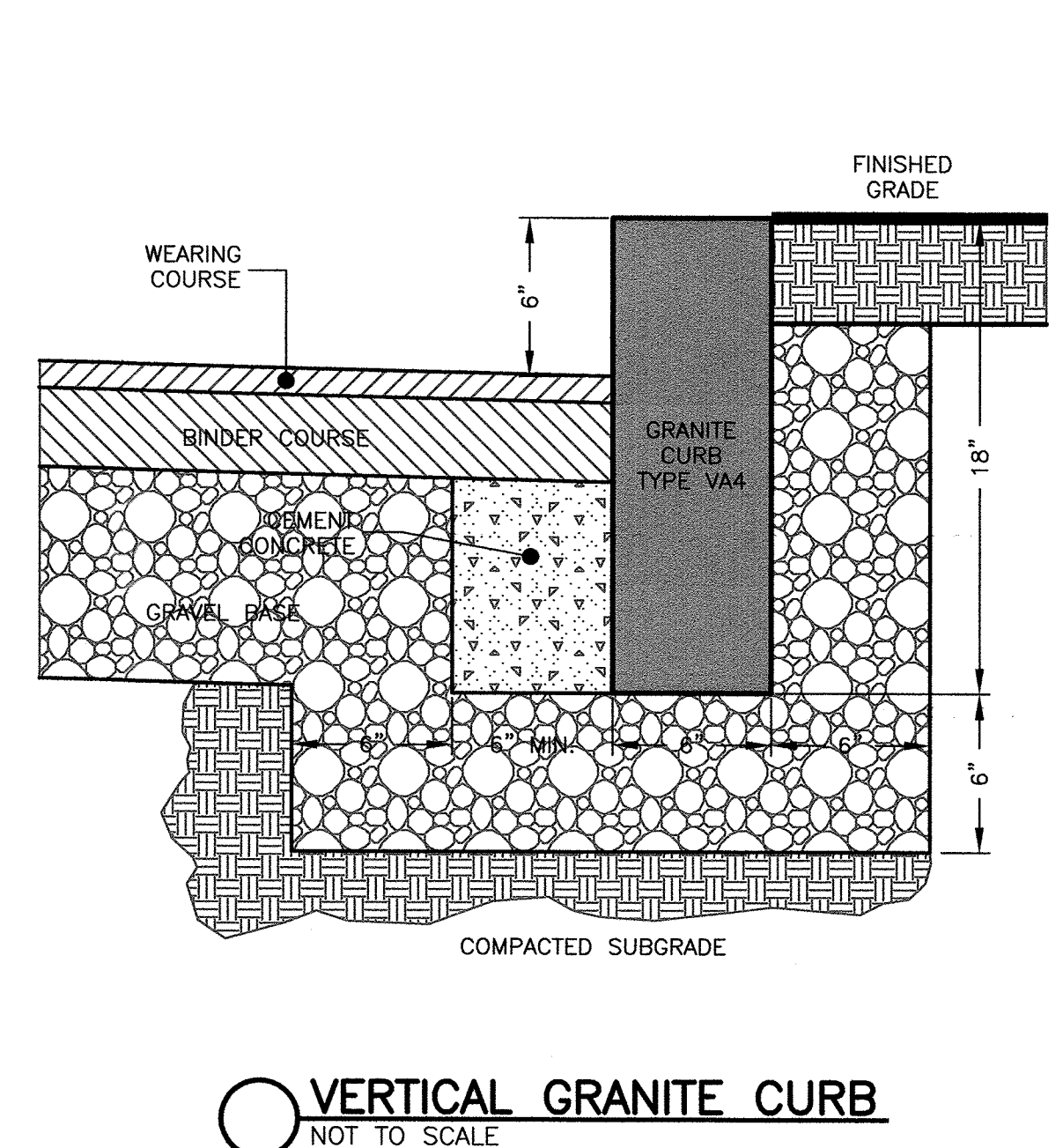


N:\WAK256\SP581-583salem.dwg, 7/1/2020 1:44:48 PM, EBL





SALEM STREET



Prepared For:  
Ocean City Development LLC  
100 Partridge Street  
Wakefield, MA 01880

Applicant:  
Hayes Engineering, Inc.  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

Prepared By:  
*Hayes*

Design By: JO  
Drawn By:  
Checked By:  
Project File: WAK-0593A  
Comp. No: WAK256

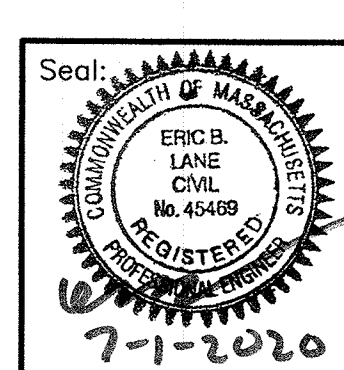
<input checked="" type="checkbox"/>	Issued For Permit
<input type="checkbox"/>	Issued For Review
<input type="checkbox"/>	Issued For Bid
<input type="checkbox"/>	Issued For Construction
<input checked="" type="checkbox"/>	Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

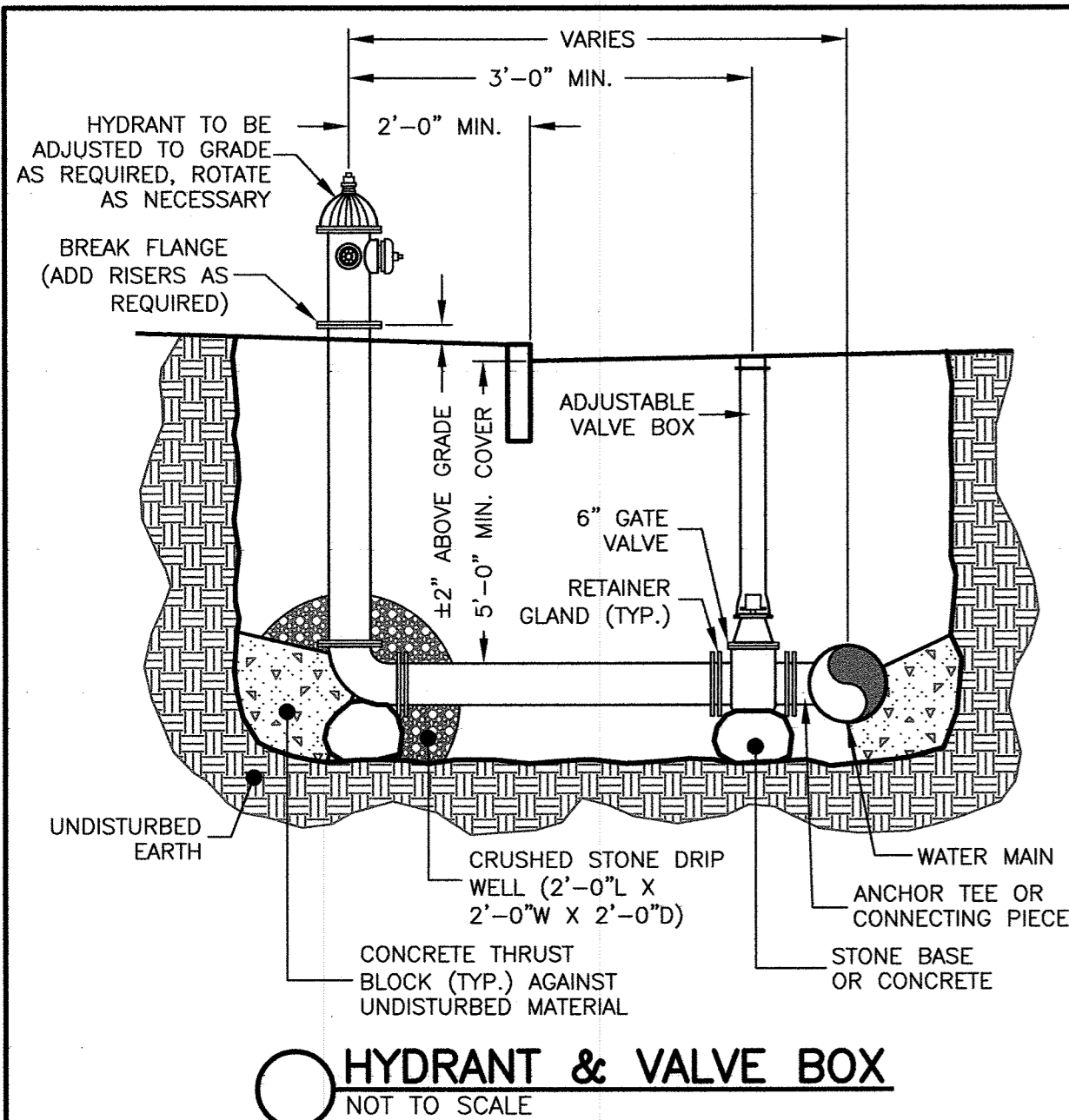
Scale: 1" = N.T.S.  
Date: June 30, 2020

Drawing Title:  
**DETAIL SHEET  
#581-583R & #581-583  
SALEM STREET  
WAKEFIELD, MASS.**

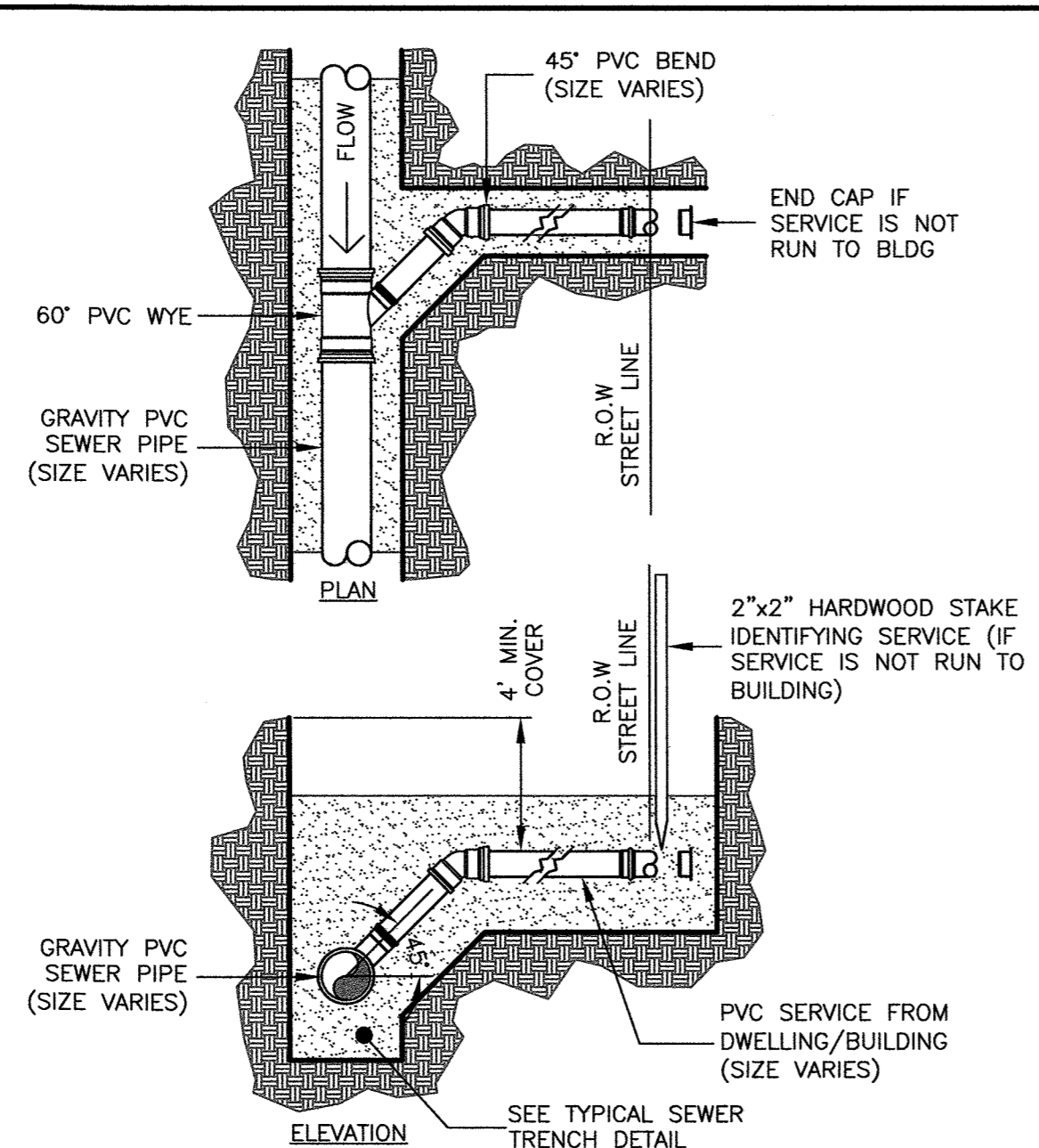
Drawing No.:  
00



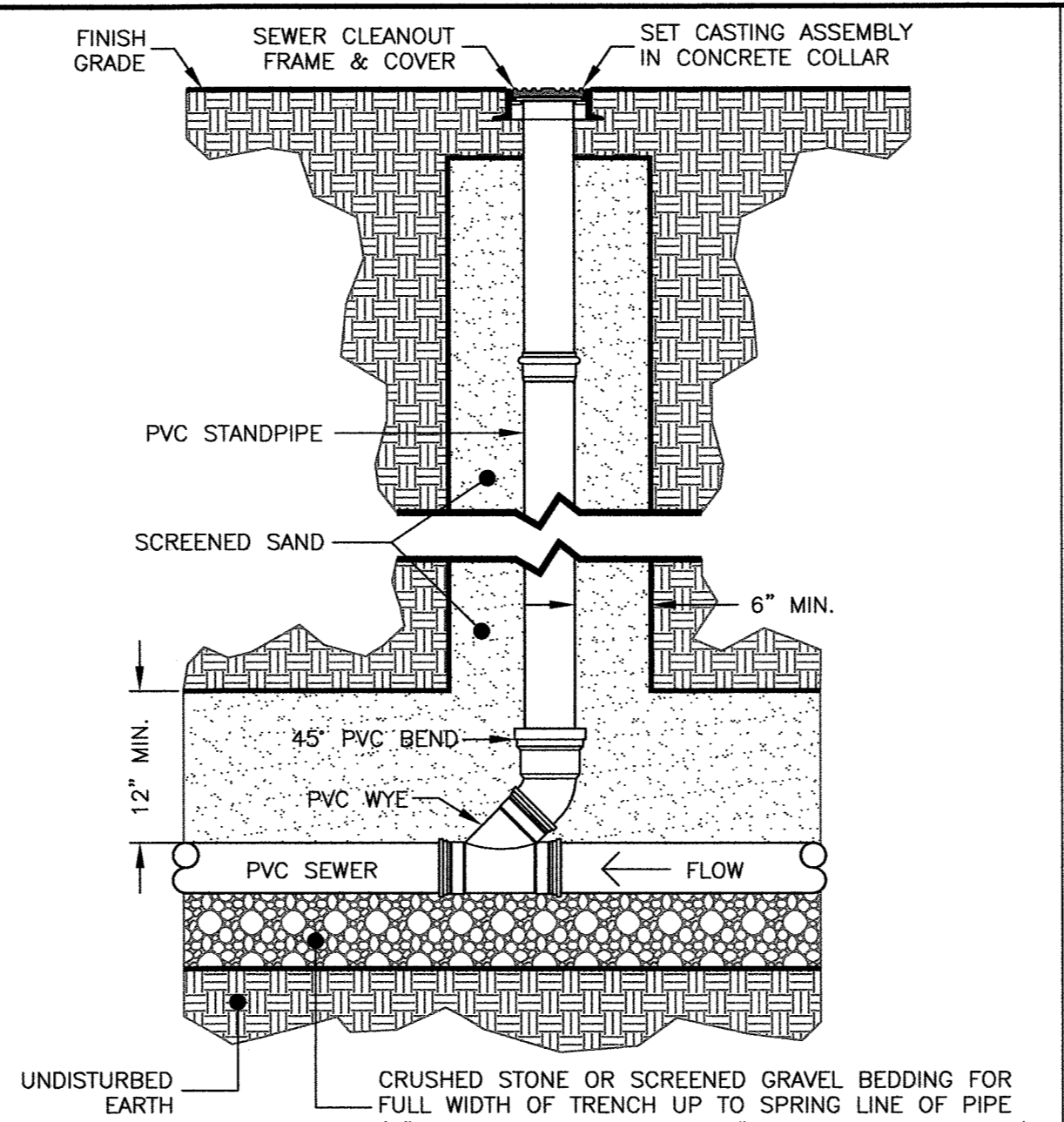




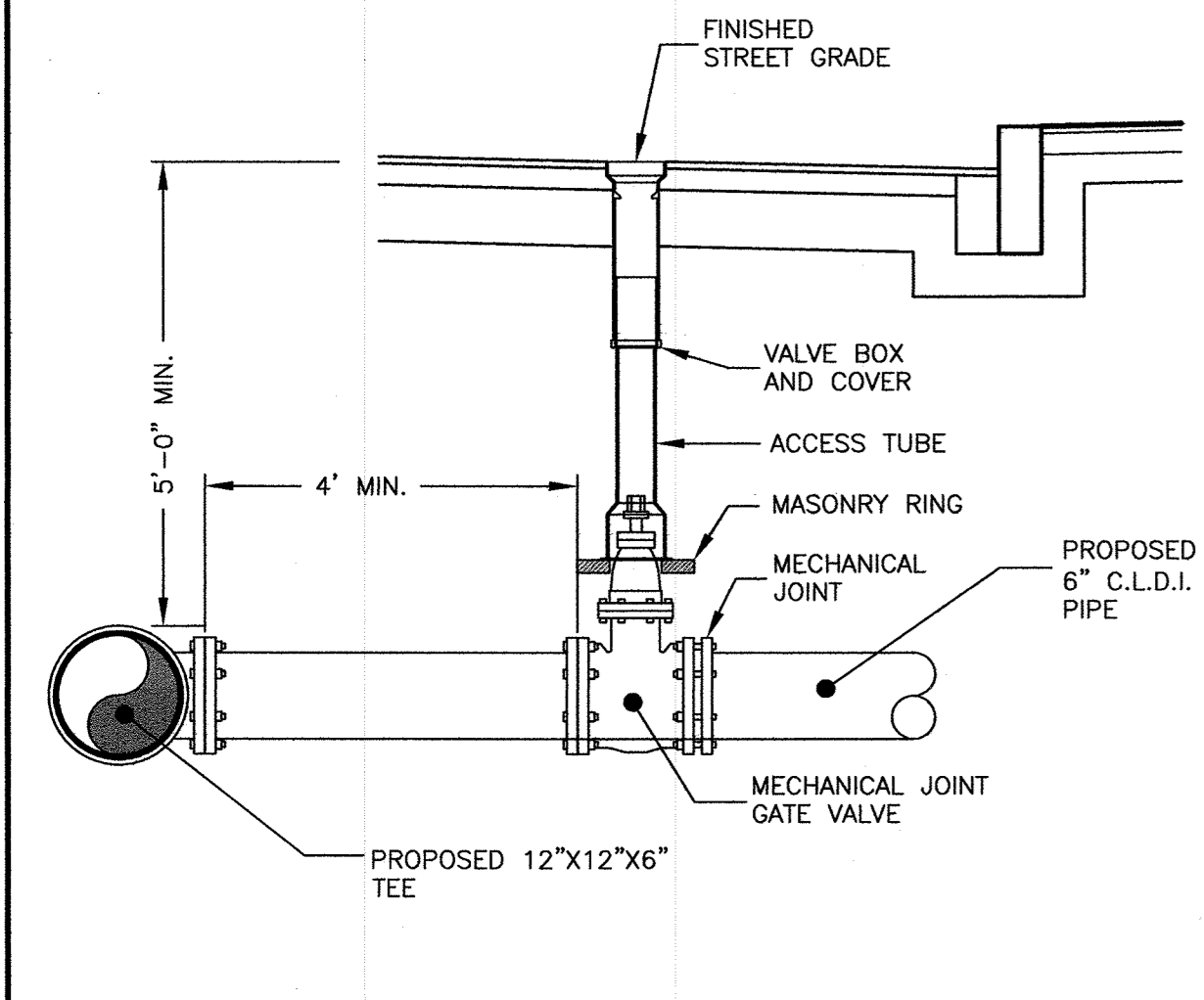
NOTES:  
 1. ALL MATERIALS SHALL CONFORM TO CITY/TOWN OF DEPARTMENT OF PUBLIC WORKS.  
 2. WATER MAIN SHALL HAVE A MINIMUM PIPE DEPTH OF 5'-0".  
 3. VALVES AND HYDRANTS TO OPEN COUNTER CLOCKWISE.  
 4. PROVIDE 4 CUBIC FEET OF SCREENED GRAVEL OR GRAVEL BACKFILL TO AT LEAST 6 INCHES ABOVE DRAIN HOLES.



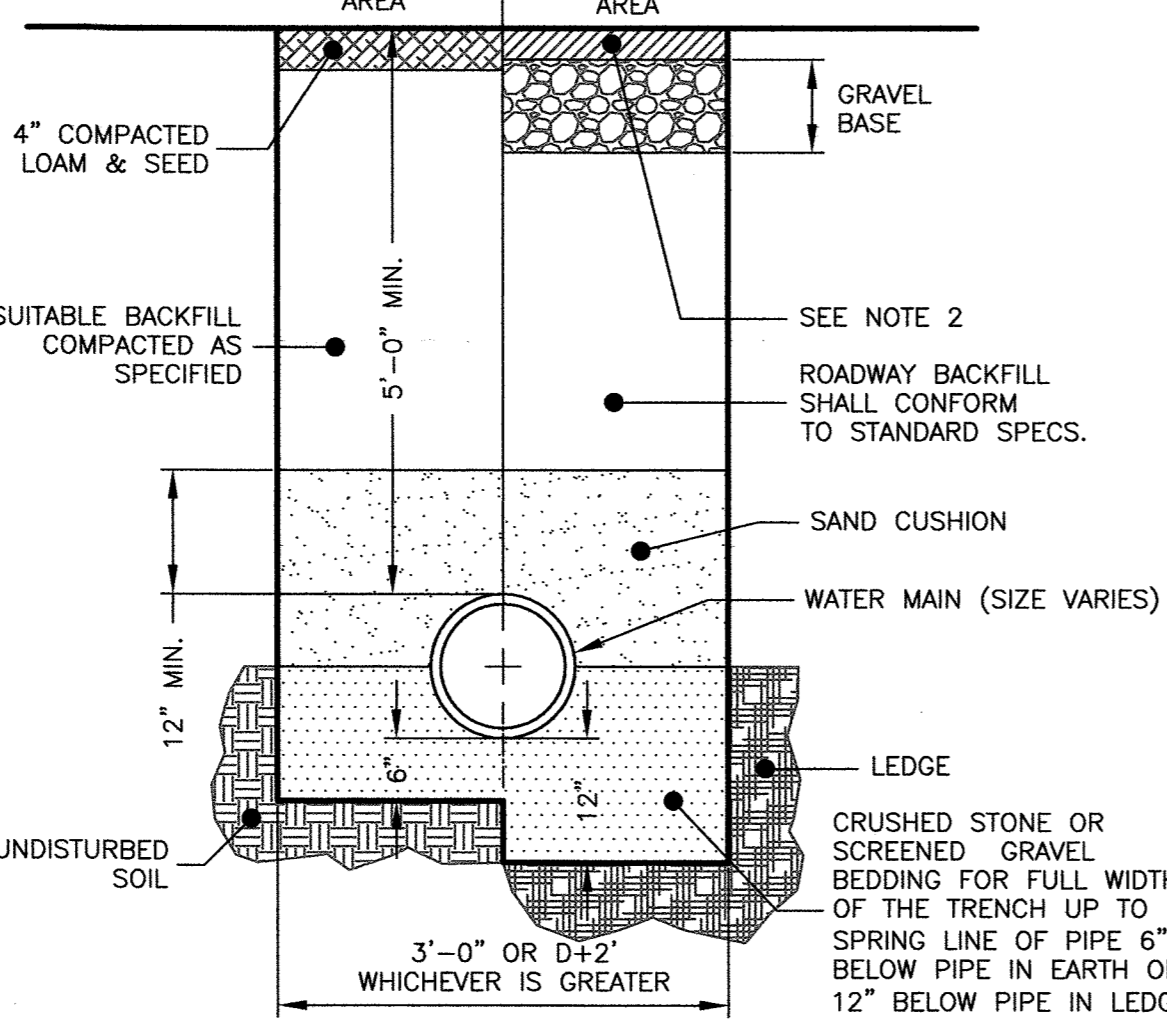
NOTES:  
 1. ALL MATERIALS SHALL CONFORM TO CITY/TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS.  
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO CITY/TOWN SPECIFICATIONS.  
 3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" OF CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.  
 4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.  
 5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.



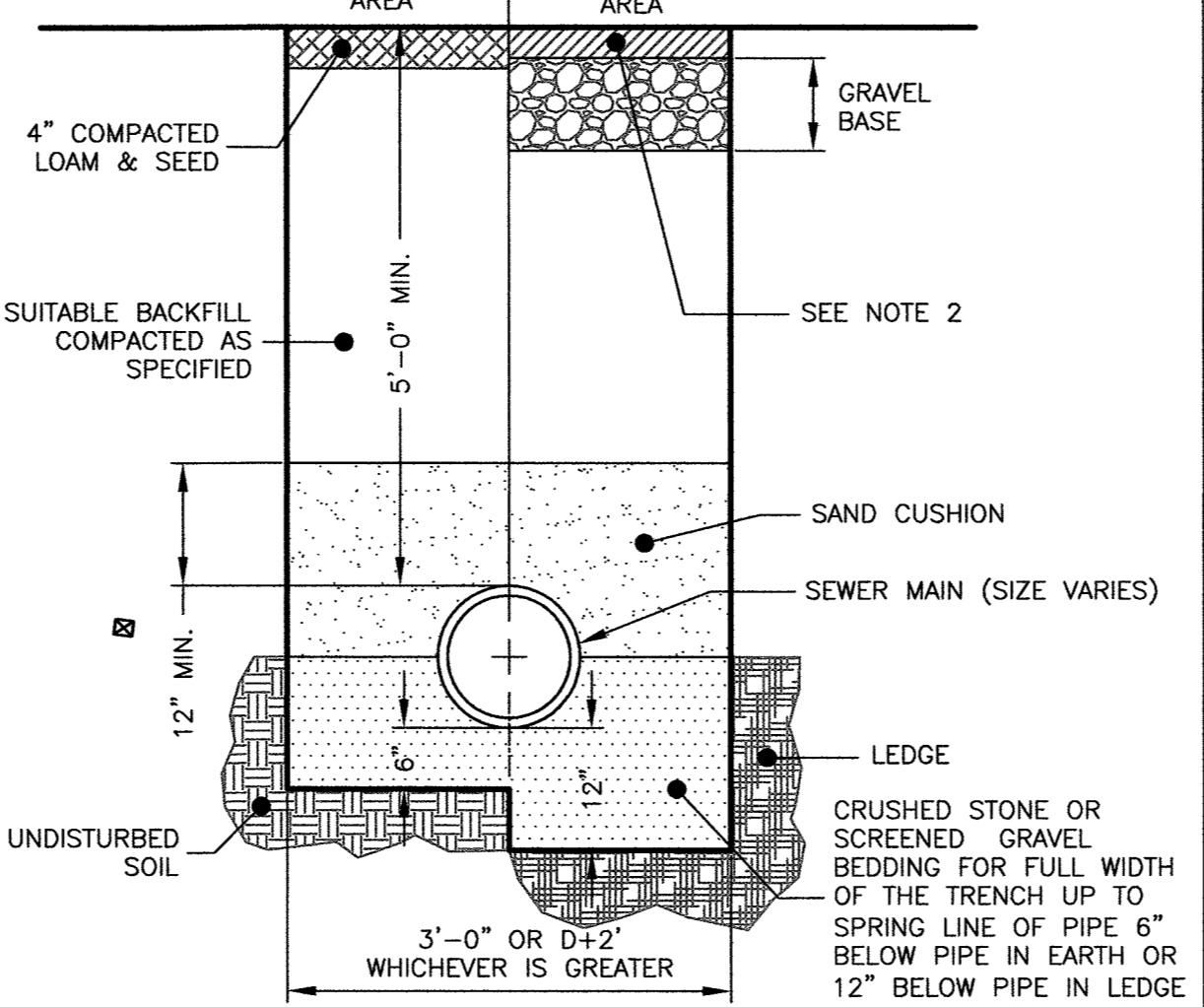
NOTES:  
 1. ALL MATERIAL SHALL CONFORM TO CITY/TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS.  
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO CITY/TOWN SPECIFICATIONS.  
 3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" OF CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.  
 4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.  
 5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.



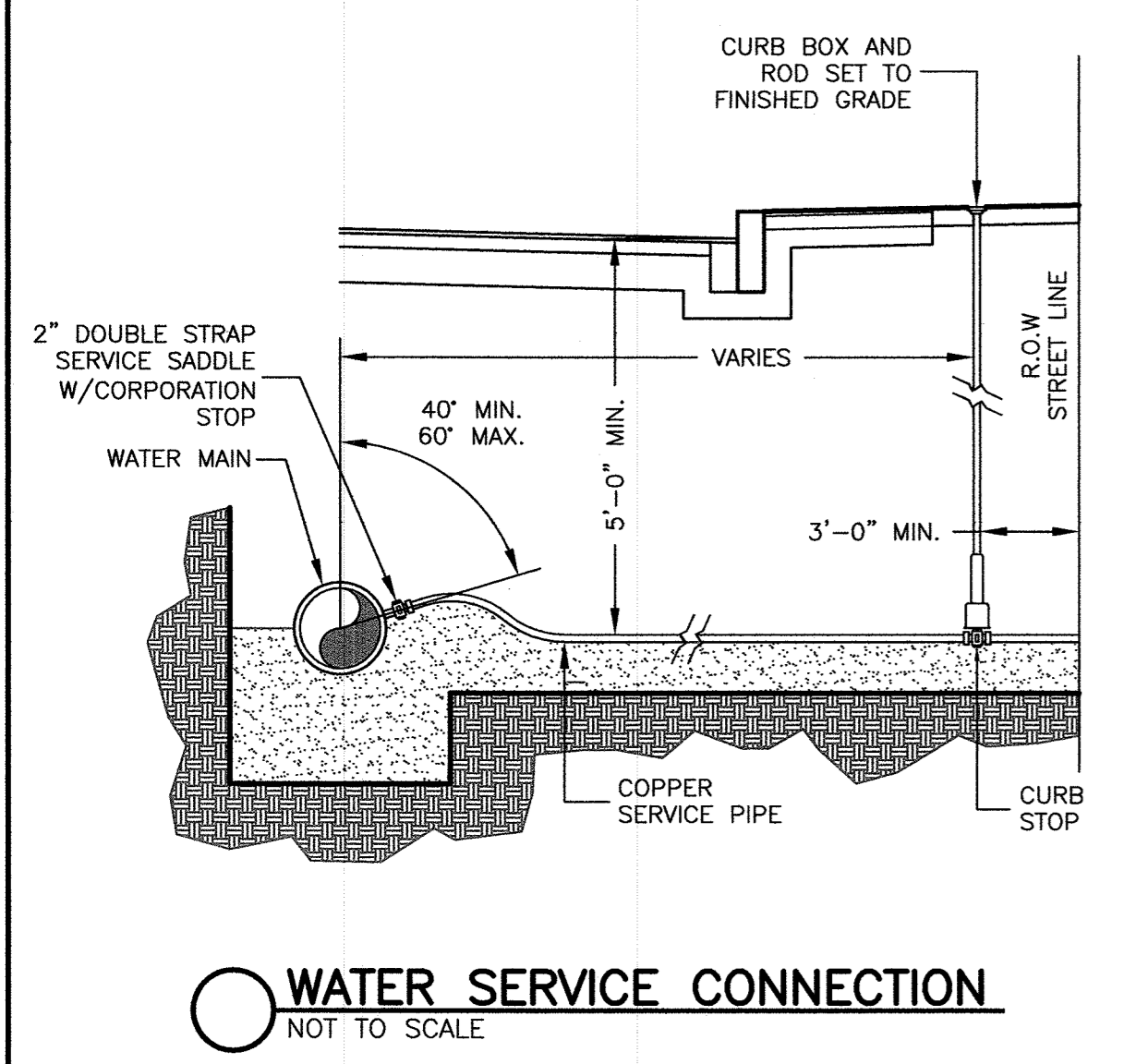
NOTES:  
 1. CONCRETE THRUST BLOCK TO BE USED ONLY WHERE IT WILL BEAR ON UNDISTURBED EARTH.  
 2. USE RESTRAINED JOINT FITTINGS OR TIE RODS WHERE CONCRETE THRUST BLOCK IS UNACCEPTABLE.  
 3. SIZE OF BLOCK OR MEGALUG TO BE DESIGNED FOR SPECIFIC CONDITIONS.



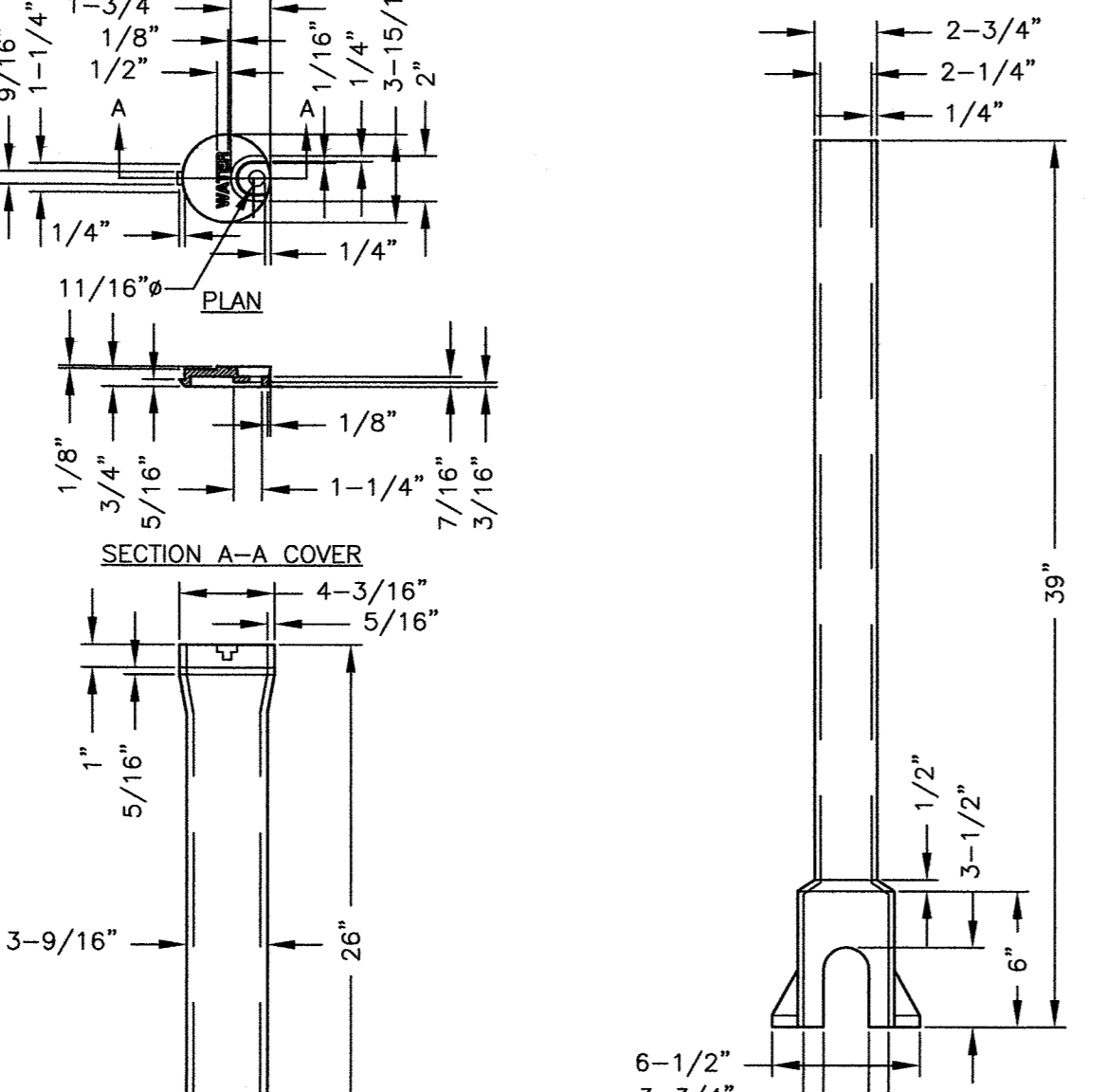
NOTES:  
 1. ALL MATERIAL SHALL CONFORM TO CITY/TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS.  
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO CITY/TOWN SPECIFICATIONS.  
 3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" OF CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.  
 4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.  
 5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.



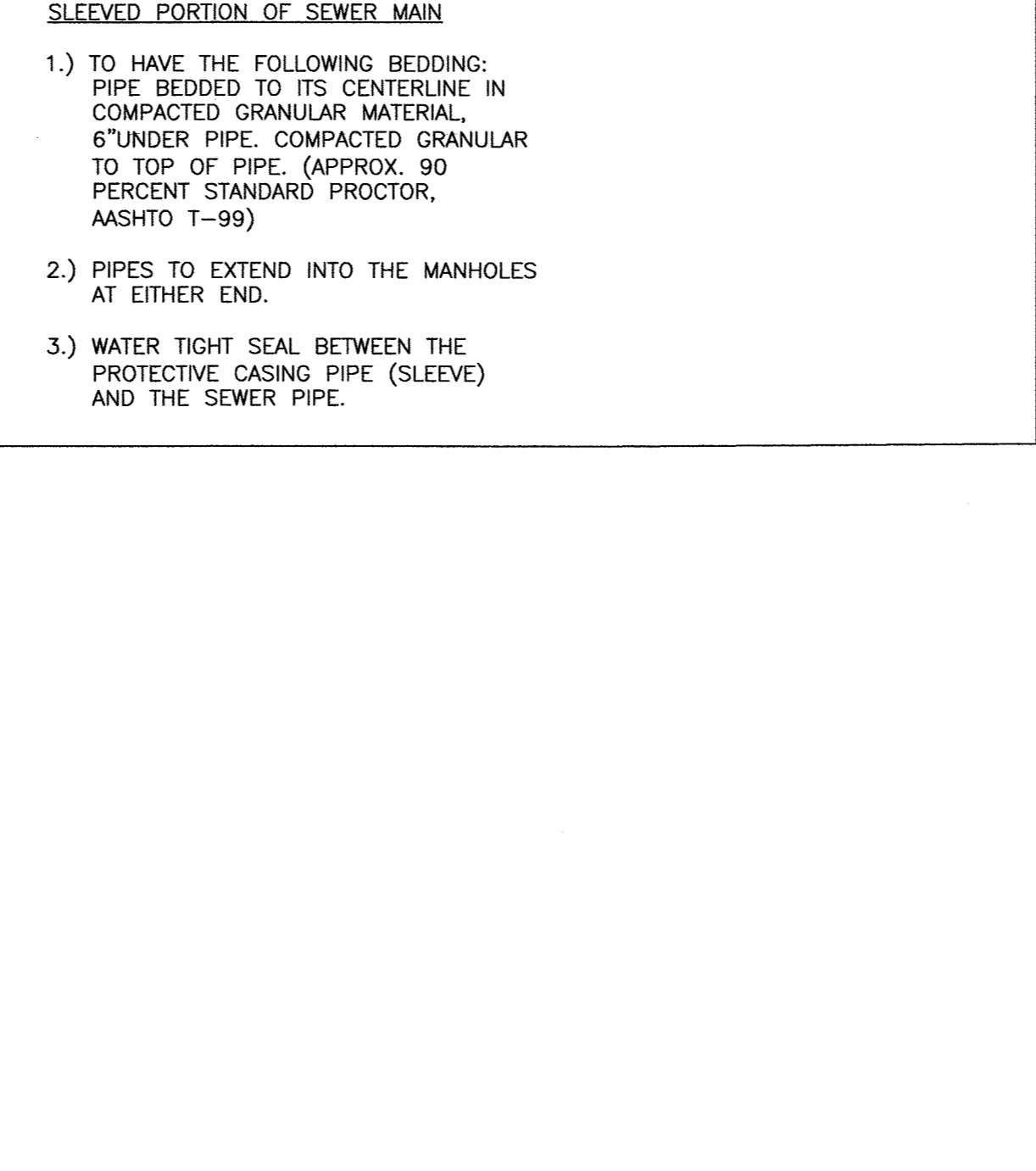
NOTES:  
 1. ALL MATERIAL SHALL CONFORM TO CITY/TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS.  
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO CITY/TOWN SPECIFICATIONS.  
 3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" OF CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.  
 4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.  
 5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.



NOTES:  
 1. CORPORATIONS 1-1/2" DIA. AND GREATER SHALL BE INSTALLED USING A TAPPING SADDLE AND SHELL CUTTER.  
 2. WHERE WATER SERVICE MUST CROSS SEWER MAIN, MAINTAIN A MINIMUM 18" CLEARANCE ABOVE THE SEWER MAIN WHILE MAINTAINING A DEPTH OF 5'-0" BELOW SURFACE. TO MAINTAIN 18" OF CLEARANCE FROM SEWER, THE 5'-0" DEPTH MAY BE REDUCED BY INSTALLING A 2" LAYER OF RIGID FOAM INSULATION ABOVE THE WATER SERVICE FOR EVERY FOOT THE DEPTH IS REDUCED.  
 3. ACTUAL SERVICE LOCATIONS WILL BE DETERMINED IN FIELD TO SAVE SPECIMEN TREES.



NOTES:  
 1. ALL MATERIAL SHALL CONFORM TO CITY/TOWN OF WAKEFIELD DEPARTMENT OF PUBLIC WORKS.  
 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO CITY/TOWN SPECIFICATIONS.  
 3. IN LIEU OF THE 12" GRAVEL COURSE AND 9" OF CRUSHED GRAVEL, 18" OF CRUSHED GRAVEL OR RECLAIMED STABILIZED BASE MAY BE USED AS A BASE FOR THE PAVEMENT REPAIR.  
 4. MATERIAL SHALL BE REPLACED IN KIND WHENEVER POSSIBLE.  
 5. A MINIMUM 2' CUTBACK IS REQUIRED AT THE TOP OF THE TRENCH WALL OVER UNDISTURBED MATERIAL.



Prepared For:  
 Applicant  
 Ocean City Development LLC  
 20C Delcorinne Street  
 Wakefield, MA 01880

Prepared By:  
 Hayes Engineering, Inc.  
 Hayes Engineering, Inc.  
 603 South Street  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

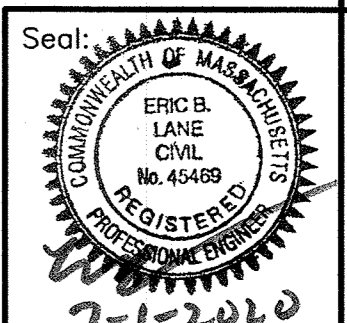
Design By: JO  
 Drawn By:  
 Checked By:  
 Project File: WAK-0593A  
 Comp. No: WAK256  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Scale: 1"=N.T.S.  
 Date: June 30, 2020

Drawing Title:  
**DETAIL SHEET**  
**#581-583R & #581-583**  
**SALEM STREET**  
**WAKEFIELD, MASS.**

Drawing No.:  
**C7**  
 SHEET 7 OF 7



7-1-2020



**TRAFFIC IMPACT ASSESSMENT**  
for  
**#610 Salem Street**

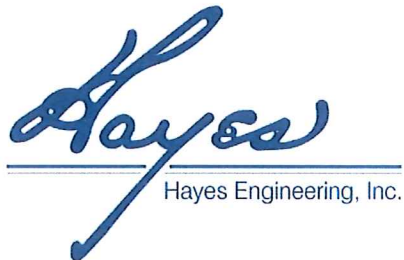
**Wakefield, Massachusetts**

**Date: July 20, 2020**

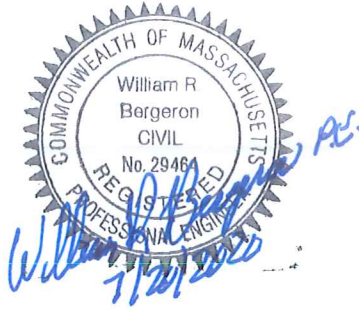
**By: SBAB Capital, Trust**  
**6 Victoria Street, Everett, Ma. 02149**

**HAYES ENGINEERING, INC,**  
603 Salem Street

Wakefield, MA 01880



Tel: (781) 246-2800  
Fax :( 781) 246-7596



WAK-0444C

**TRAFFIC IMPACT ASSESSMENT  
#610 Salem Street  
Wakefield, Massachusetts**

July 20, 2020

**INTRODUCTION**

The purpose of this report is to identify the potential traffic impacts of the proposed replacement of the existing Taylor Rental site. The proposed plan will remove the existing 5,000 square foot structure on site and replace it with the new four-story, 30-unit apartment structure. The site locus is shown on the existing and proposed site plans. The existing site has a paved access across the entire lot frontage. The proposed access drive will be restricted to the proposed location and excess paved driveway aprons which includes a flush concrete sidewalk will be replaced with a new concrete sidewalk with vertical granite curb and new tree lawn. The structure will be constructed on the 44,500 square foot parcel.

This Traffic Assessment provides information relative to the traffic generation from the proposed change in use of the site, as well as a review of the new site access to the new apartment building on Salem Street.

**VEHICLE SPEEDS**

Speed observations were observed on Wednesday, July 15, 2020, around 10:15 AM. There were no abnormal activities related to traffic in either direction during the observations. The observations made consisted of free-flowing vehicle speeds by traffic not encumbered by peak hour traffic and/or platooning effect that can occur. The posted speed limit is 30 MPH for both directions in the vicinity of the new driveway and there were no obvious vehicles noticed exceeding this by a significant amount.

The sight distances available for this site significantly exceed any reasonable speed that could be expected therefore a speed study was not warranted for this location.

**PROJECT-RELATED TRAFFIC**

The traffic estimated to be generated by the proposed 30 multi-family housing units at the present location of #601 Salem Street was obtained by utilizing the technical information available in "Trip Generation", by the Institute of Transportation Engineers, (ITE), 10<sup>th</sup> Edition, 2010. The existing traffic was based upon, Land Use Code: 816 – Hardware/Paint Store as the most appropriate land use. The proposed traffic generated by the new use was based upon Land Use Code: 221 (Mid-rise). The ITE data is summarized in **TABLE I**.

The net change in traffic for the site options will result in an increase of 117 trips on the average weekday daily traffic, with an increase of 6 vehicle trips during the AM peak hour and no change in vehicle trips during the PM peak hour for the multi-family housing

option. **TABLE I** outlines the specific changes with the two development options for this site.

**TABLE I**

ITE Land Use Code	AM (peak hour)			PM (peak hour)			ADT*
	IN	OUT	TOTAL	IN	OUT	TOTAL	
816 - Hardware/Paint Store Building (5,000 square feet)	3	2	5	6	7	13	46
221 – Multi-Family Housing (Mid-rise / 30 units)	3	8	11	8	5	13	163
Net Change	0	+6	+6	+2	-2	0	+117

\* Average Daily Traffic

### **STOPPING SIGHT DISTANCE**

Sight distance considerations are divided into two criteria: (1) Stopping Sight Distance (SSD) and (2) Intersection Sight Distance (ISD). Approach SSD is the distance required for an approaching vehicle to perceive and react accordingly to a driveway exiting vehicle or object. Stopping sight distances used for design is the sum of two distances: (A) the distance a vehicle travels after the driver sees an object and begins breaking, and (B) the distance it travels during breaking, as calculated for wet level pavement. When the main roadway is either on an upgrade or downgrade, grade correction factors are applied. The section of Salem Street is basically level, so no corrections were applied.

ISD is based upon a perception and reaction time, and time required to complete the desired exiting maneuver after the decision to do so have been made. Values for exiting ISD represent time required to turn left or right from a stop condition, to accelerate to the operating speed of the street without causing approaching vehicles to reduce speed by more than 70% of their initial/design speed and, upon turning left, to clear the near half of the street without conflicting with vehicles approaching from the left having to reduce their speed by more than 70% of their initial/design speed. The ISD, therefore, is considered to enhance the operation of the adjacent street traffic over and above the actual needs of the stopping sight distance that is needed for the safe operation of the intersection.

Approach SSD is far more important, as it represents the minimum distance required for safe stopping, while exiting ISD criteria is based only upon acceptable speed reductions

to the approaching traffic streams. As noted in ASSHTO, "If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions". This would be, basically, the minimum criteria for the safe operation of an unsignalized intersection.

A site inspection was conducted to identify the potential traffic safety problems that may be associated with the proposed new site driveway relative to available sight distances, as well as review of the existing roadway conditions. The stopping sight distances measured in the field, at Salem Street and the proposed site drive intersection are summarized in **TABLE II** as shown on the attached photos.

**TABLE II**  
**Stopping Sight Distance**  
**(Wet Pavement)**

<u>Location</u>	<u>Posted Design Speed</u>	<u>Recommended SSD for 30 MPH</u> *	<u>Available Stopping Sight Distance</u>
Salem Street @ Site Driveway Eastbound approach	30 mph	200 ft.	800 ft. +/-
Westbound @ Site Driveway	30 mph	200 ft.	800 ft. +/-*

\*Source: A Policy on Geometric Design of Highways and Streets, 2004, Fifth Edition (attached) includes brush trimming along the right of way to the easterly property line.

**CONCLUSIONS**

The multi-family housing use has been designed to provide on-site parking and pedestrian movements, as well as a driveway access. This will eliminate the existing full access along the lot frontage and flush concrete sidewalk that currently exists and will install a new concrete sidewalk with vertical curb and a new tree lawn with the new controlled access driveway which will improve control of the site access significantly as well as provide improved pedestrian safety. The site will also allow emergency vehicles access from Salem Street and the adjacent driveway along the westerly side of the site.

The proposed new use will result in an increase of 6 vehicle trips in the AM peak hour and no increase in the PM peak hour traffic based upon utilizing the technical information available in "Trip Generation", by the Institute of Transportation Engineers,

(ITE), 10<sup>th</sup> Edition, 2010. Therefore, minimal impacts will result with the proposed construction for the adjacent roadways.

The proposed site driveway to #610 Salem Street will be used as full-access, un-signalized driveway movements in and out of the site. Any delays will be restricted to the site drive.

The available stopping sight distances exceed the required amount of distance needed on the adjacent roadway for speeds more than 60 miles per hour for each direction. The proposed site drive at the new intersection will provide ample site visibility and will provide safe stopping sight distances. It will also significantly exceed the geometric design standards required by the American Association of State Highway and Transportation Officials (AASHTO) for the 85<sup>th</sup> Percentile observed speeds.

Therefore, based upon the minimal impact for the proposed apartment build condition, it is expected that the adjacent roadways will not experience any significant change. The proposed multi-family housing use will result in no perceptible change within the community.

# Land Use: 816

## Hardware/Paint Store

### Description

A hardware/paint store is a free-standing building that sells hardware and paint supplies. Building materials and lumber store (Land Use 812) and home improvement superstore (Land Use 862) are related uses.

### Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the five general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 10:15 and 11:15 a.m. and 1:00 and 2:00 p.m., respectively.

The sites were surveyed in the 1990s and the 2010s in California, Oregon, South Dakota, Texas, and Wisconsin.

### Source Numbers

358, 531, 880, 959, 966



ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**

Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

816

**LAND USE GROUP:**

(800-899) Retail

**LAND USE :**

816 - Hardware/Paint Store

**LAND USE SUBCATEGORY:**

All Sites

**INDEPENDENT VARIABLE (IV):**

1000 Sq. Ft. GFA

**TIME PERIOD:**

Weekday

**SETTING/LOCATION:**

General Urban/Suburban

**TRIP TYPE:**

Vehicle

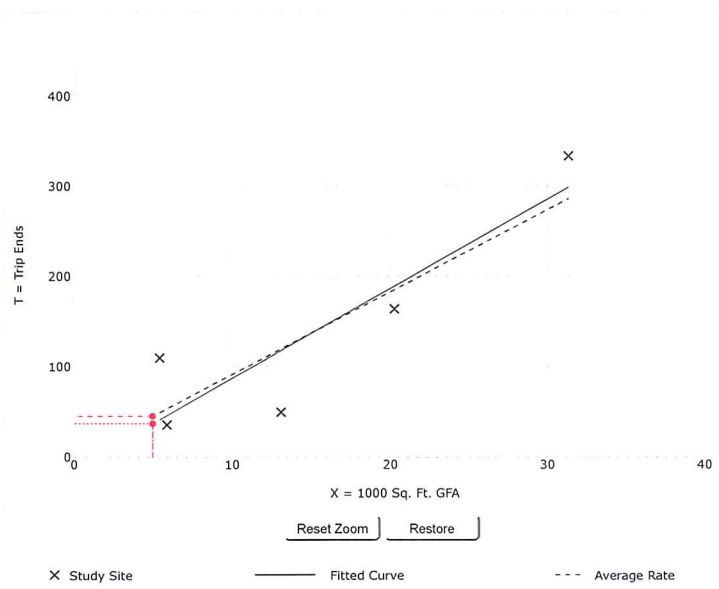
**ENTER IV VALUE TO CALCULATE TRIPS:**

5 Calculate

**Data Plot and Equation**

Caution - Small Sample Size

**DATA STATISTICS**



**Land Use:**  
Hardware/Paint Store (816) [Click for more details](#)

**Independent Variable:**  
1000 Sq. Ft. GFA

**Time Period:**  
Weekday

**Setting/Location:**  
General Urban/Suburban

**Trip Type:**  
Vehicle

**Number of Studies:**  
5

**Avg. 1000 Sq. Ft. GFA:**  
15

**Average Rate:**  
9.14

**Range of Rates:**  
3.82 - 20.33

**Standard Deviation:**  
4.43

**Fitted Curve Equation:**  
 $T = 9.94(X) - 12.22$

**R<sup>2</sup>:**  
0.81

**Directional Distribution:**  
50% entering, 50% exiting

**Calculated Trip Ends:**  
Average Rate: 46 (Total), 23 (Entry), 23 (Exit)  
Fitted Curve: 37 (Total), 18 (Entry), 19 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

ADD-ONS

Try OTISS Pro





ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**

Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

816

**LAND USE GROUP:**

(800-899) Retail

**LAND USE :**

816 - Hardware/Paint Store

**LAND USE SUBCATEGORY:**

All Sites

**INDEPENDENT VARIABLE (IV):**

1000 Sq. Ft. GFA

**TIME PERIOD:**

Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**

General Urban/Suburban

**TRIP TYPE:**

Vehicle

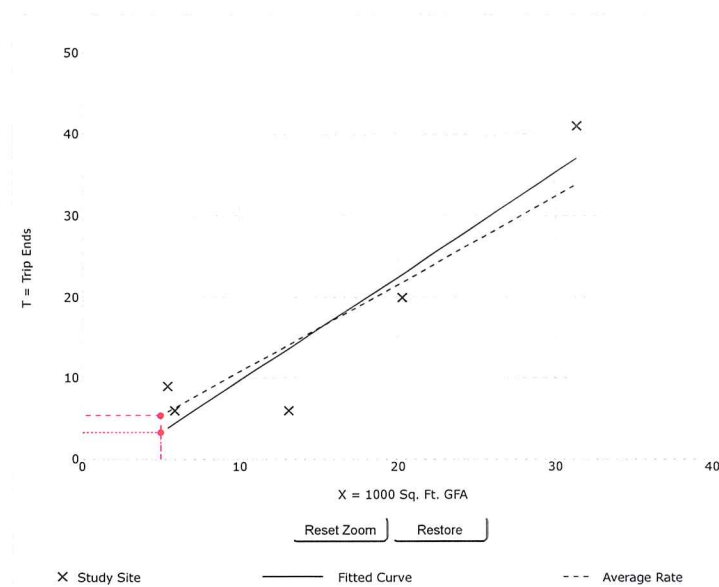
**ENTER IV VALUE TO CALCULATE TRIPS:**

5 Calculate

**Data Plot and Equation**

Caution – Small Sample Size

**DATA STATISTICS**



Land Use:  
Hardware/Paint Store (816) [Click for more details](#)

Independent Variable:  
1000 Sq. Ft. GFA

Time Period:  
Weekday  
Peak Hour of Adjacent Street Traffic  
One Hour Between 7 and 9 a.m.

Setting/Location:  
General Urban/Suburban

Trip Type:  
Vehicle

Number of Studies:  
5

Avg. 1000 Sq. Ft. GFA:  
15

Average Rate:  
1.08

Range of Rates:  
0.46 - 1.66

Standard Deviation:  
0.38

Fitted Curve Equation:  
 $T = 1.28(X) - 3.07$

R<sup>2</sup>:  
0.67

Directional Distribution:  
54% entering, 46% exiting

Calculated Trip Ends:  
Average Rate: 5 (Total), 3 (Entry), 2 (Exit)  
Fitted Curve: 3 (Total), 1 (Entry), 2 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

ADD-ONS

Try OTISS Pro





ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

DATA SOURCE:  
Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

SEARCH BY LAND USE CODE:

816

LAND USE GROUP:

(800-899) Retail

LAND USE:

816 - Hardware/Paint Store

LAND USE SUBCATEGORY:

All Sites

INDEPENDENT VARIABLE (IV):

1000 Sq. Ft. GFA

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

SETTING/LOCATION:

General Urban/Suburban

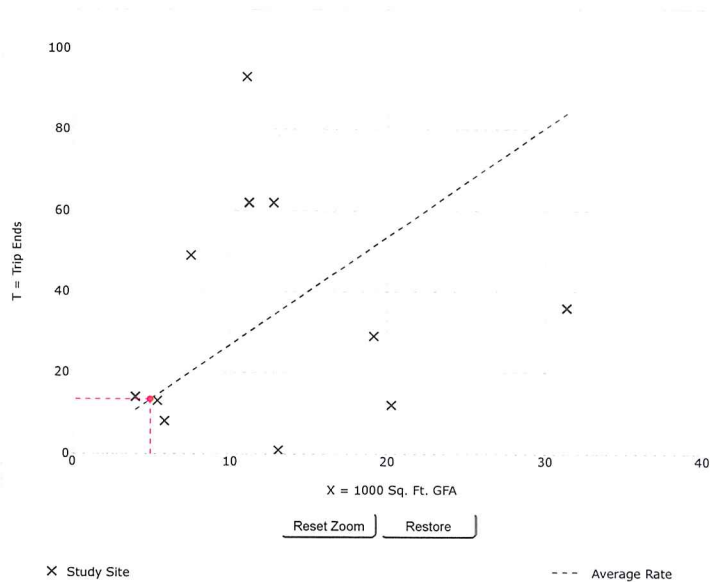
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

5 Calculate

Data Plot and Equation



DATA STATISTICS

Land Use:  
Hardware/Paint Store (816) [Click for more details](#)

Independent Variable:  
1000 Sq. Ft. GFA

Time Period:  
Weekday  
Peak Hour of Adjacent Street Traffic  
One Hour Between 4 and 6 p.m.

Setting/Location:  
General Urban/Suburban

Trip Type:  
Vehicle

Number of Studies:  
11

Avg. 1000 Sq. Ft. GFA:  
13

Average Rate:  
2.68

Range of Rates:  
0.08 - 8.45

Standard Deviation:  
2.68

Fitted Curve Equation:  
Not Given

R<sup>2</sup>:  
\*\*\*\*

Directional Distribution:  
47% entering, 53% exiting

Calculated Trip Ends:  
Average Rate: 13 (Total), 6 (Entry), 7 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

ADD-ONS

Try OTISS Pro

# Land Use: 221

## Multifamily Housing (Mid-Rise)

### Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

### Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count 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 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

### **Source Numbers**

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970



ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**

Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

221

**LAND USE GROUP:**

(200-299) Residential

**LAND USE:**

221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**

All Sites

**INDEPENDENT VARIABLE (IV):**

Dwelling Units

**TIME PERIOD:**

Weekday

**SETTING/LOCATION:**

General Urban/Suburban

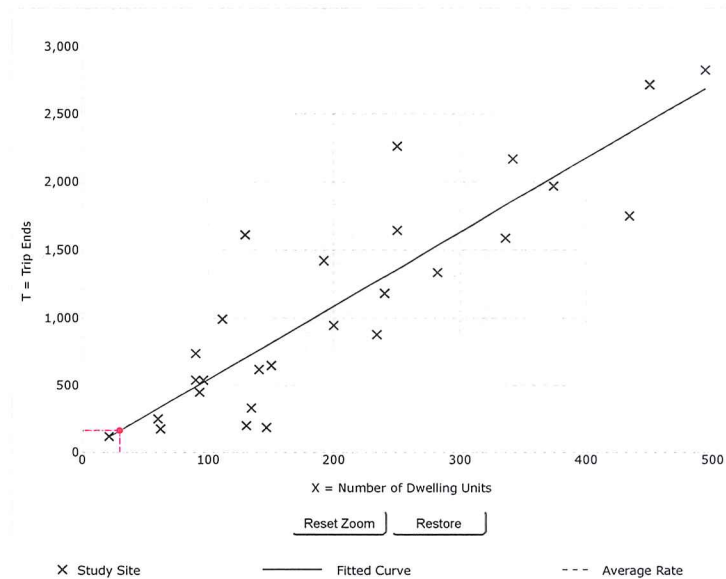
**TRIP TYPE:**

Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**

30

**Data Plot and Equation**



**DATA STATISTICS**

**Land Use:**  
Multifamily Housing (Mid-Rise) (221) [Click for more details](#)

**Independent Variable:**  
Dwelling Units

**Time Period:**  
Weekday

**Setting/Location:**  
General Urban/Suburban

**Trip Type:**  
Vehicle

**Number of Studies:**  
27

**Avg. Num. of Dwelling Units:**  
205

**Average Rate:**  
5.44

**Range of Rates:**  
1.27 - 12.50

**Standard Deviation:**  
2.03

**Fitted Curve Equation:**  
 $T = 5.45(X) - 1.75$

**R<sup>2</sup>:**  
0.77

**Directional Distribution:**  
50% entering, 50% exiting

**Calculated Trip Ends:**  
Average Rate: 163 (Total), 81 (Entry), 82 (Exit)  
Fitted Curve: 162 (Total), 81 (Entry), 81 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

ADD-ONS

Try OTISS Pro





ITETripGen Web-based App

Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**  
 Trip Gen Manual, 10th Ed  
New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**  
 221

**LAND USE GROUP:**  
 (200-299) Residential

**LAND USE :**  
 221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**  
 All Sites

**INDEPENDENT VARIABLE (IV):**  
 Dwelling Units

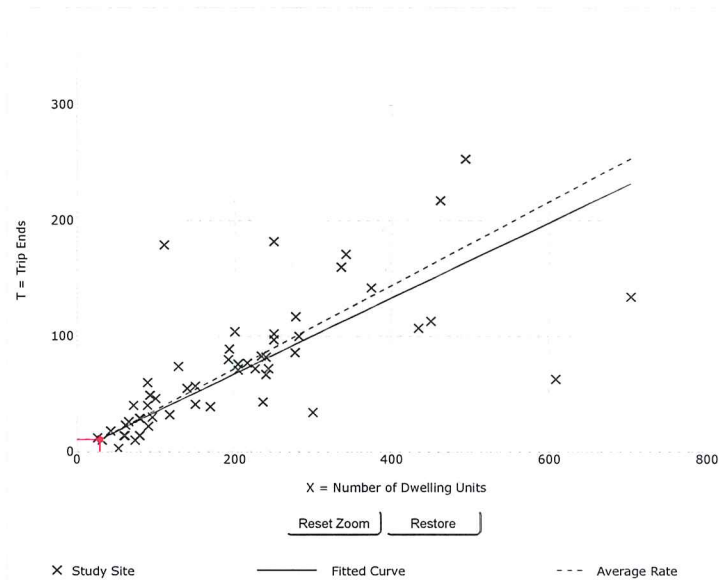
**TIME PERIOD:**  
 Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**  
 General Urban/Suburban

**TRIP TYPE:**  
 Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**  
 30

Data Plot and Equation



DATA STATISTICS

**Land Use:**  
 Multifamily Housing (Mid-Rise) (221) [Click for more details](#)

**Independent Variable:**  
 Dwelling Units

**Time Period:**  
 Weekday  
 Peak Hour of Adjacent Street Traffic  
 One Hour Between 7 and 9 a.m.

**Setting/Location:**  
 General Urban/Suburban

**Trip Type:**  
 Vehicle

**Number of Studies:**  
 53

**Avg. Num. of Dwelling Units:**  
 207

**Average Rate:**  
 0.36

**Range of Rates:**  
 0.06 - 1.61

**Standard Deviation:**  
 0.19

**Fitted Curve Equation:**  
 $\ln(T) = 0.98 \ln(X) - 0.98$

**R<sup>2</sup>:**  
 0.67

**Directional Distribution:**  
 26% entering, 74% exiting

**Calculated Trip Ends:**  
 Average Rate: 11 (Total), 3 (Entry), 8 (Exit)  
 Fitted Curve: 11 (Total), 3 (Entry), 8 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
 Hover the mouse pointer on data points to view X and T values.

ADD-ONS

Try OTISS Pro



Graph Look Up

Technical Support

Add Users

Comments

Query Filter

**DATA SOURCE:**

Trip Gen Manual, 10th Ed

New data edition is available. [Click here to upgrade.](#)

**SEARCH BY LAND USE CODE:**

221

**LAND USE GROUP:**

(200-299) Residential

**LAND USE:**

221 - Multifamily Housing (Mid-Rise)

**LAND USE SUBCATEGORY:**

All Sites

**INDEPENDENT VARIABLE (IV):**

Dwelling Units

**TIME PERIOD:**

Weekday, Peak Hour of Adjacent Street Traffic

**SETTING/LOCATION:**

General Urban/Suburban

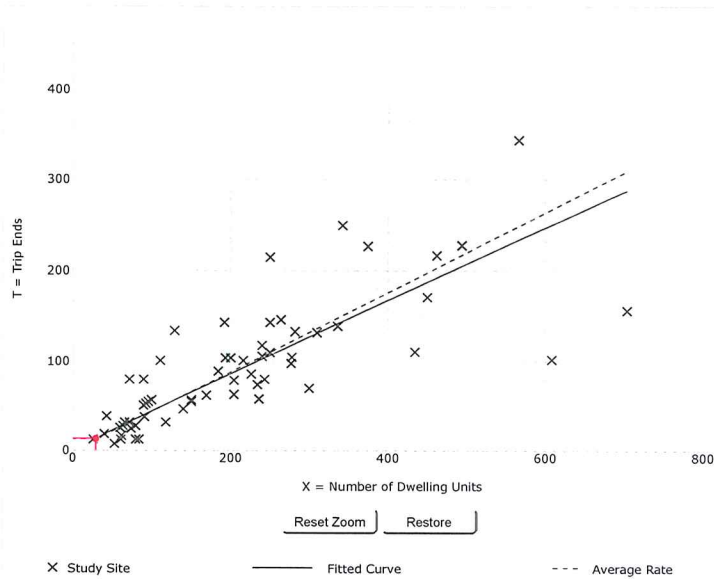
**TRIP TYPE:**

Vehicle

**ENTER IV VALUE TO CALCULATE TRIPS:**

30

**Data Plot and Equation**



**DATA STATISTICS**

**Land Use:**  
Multifamily Housing (Mid-Rise) (221) [Click for more details](#)

**Independent Variable:**  
Dwelling Units

**Time Period:**  
Weekday  
Peak Hour of Adjacent Street Traffic  
One Hour Between 4 and 6 p.m.

**Setting/Location:**  
General Urban/Suburban

**Trip Type:**  
Vehicle

**Number of Studies:**  
60

**Avg. Num. of Dwelling Units:**  
208

**Average Rate:**  
0.44

**Range of Rates:**  
0.15 - 1.11

**Standard Deviation:**  
0.19

**Fitted Curve Equation:**  
 $\ln(T) = 0.96 \ln(X) - 0.63$

$R^2$   
0.72

**Directional Distribution:**  
61% entering, 39% exiting

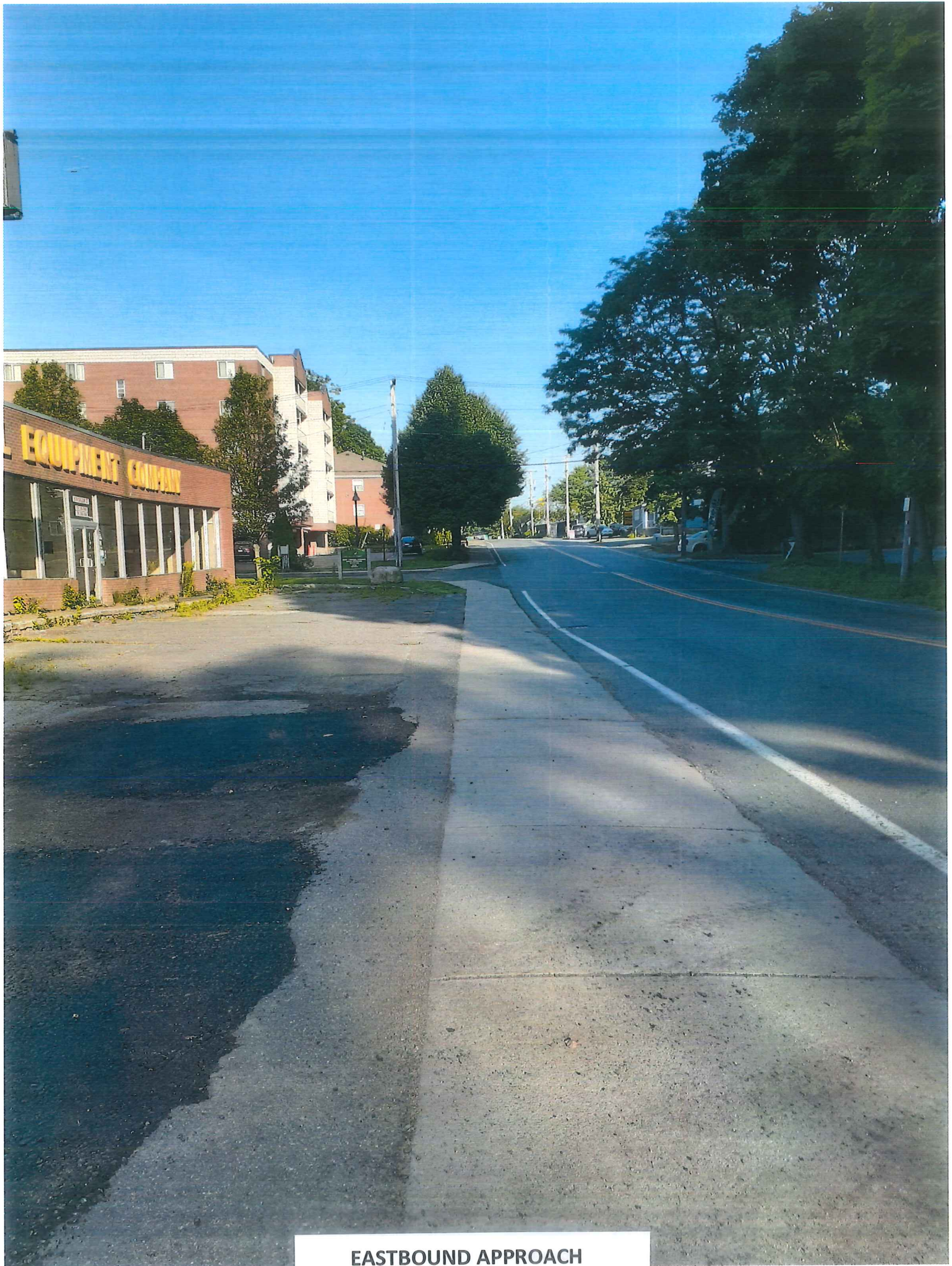
**Calculated Trip Ends:**  
Average Rate: 13 (Total), 8 (Entry), 5 (Exit)  
Fitted Curve: 14 (Total), 9 (Entry), 5 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.  
Hover the mouse pointer on data points to view X and T values.

ADD-ONS

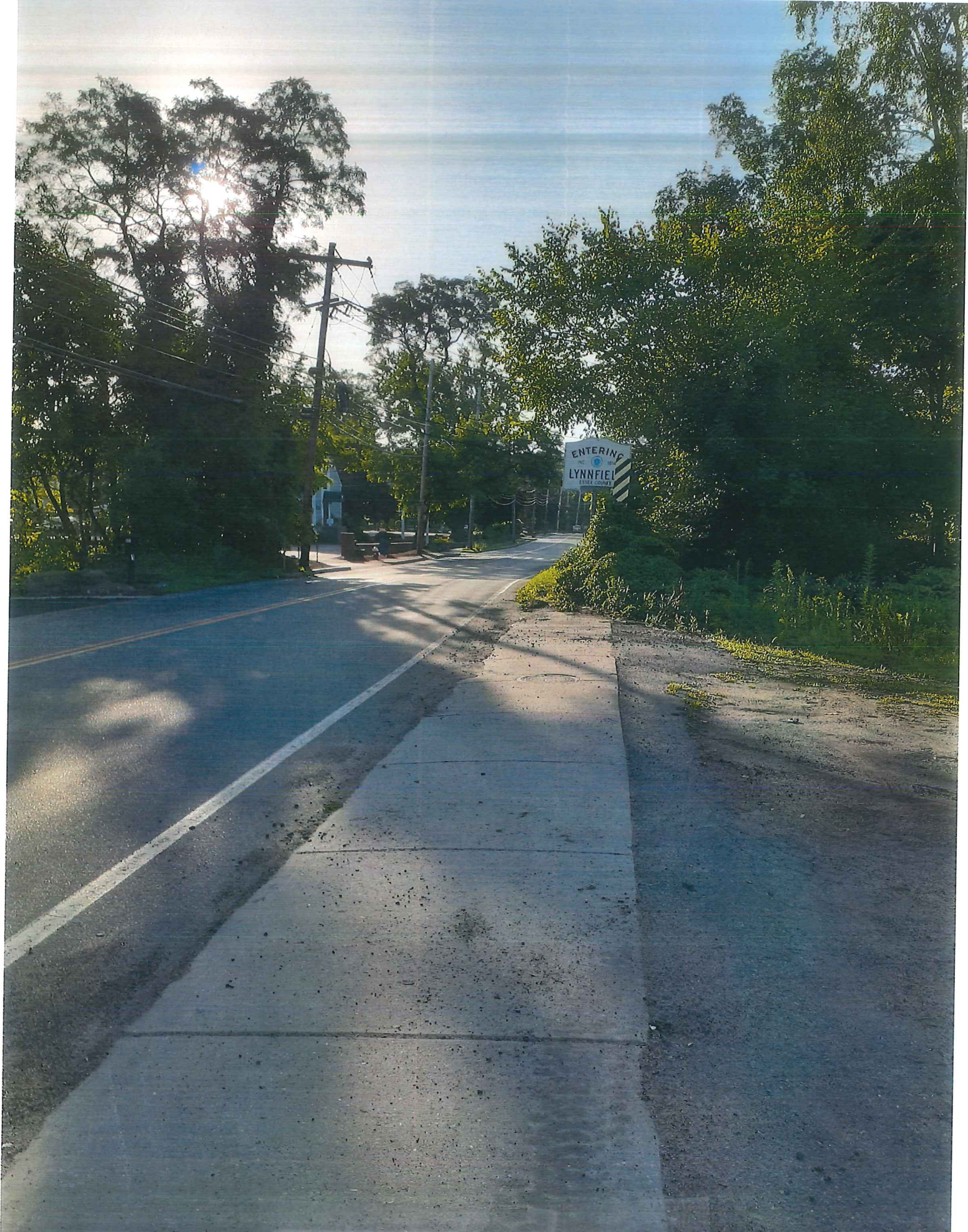
Try OTISS Pro





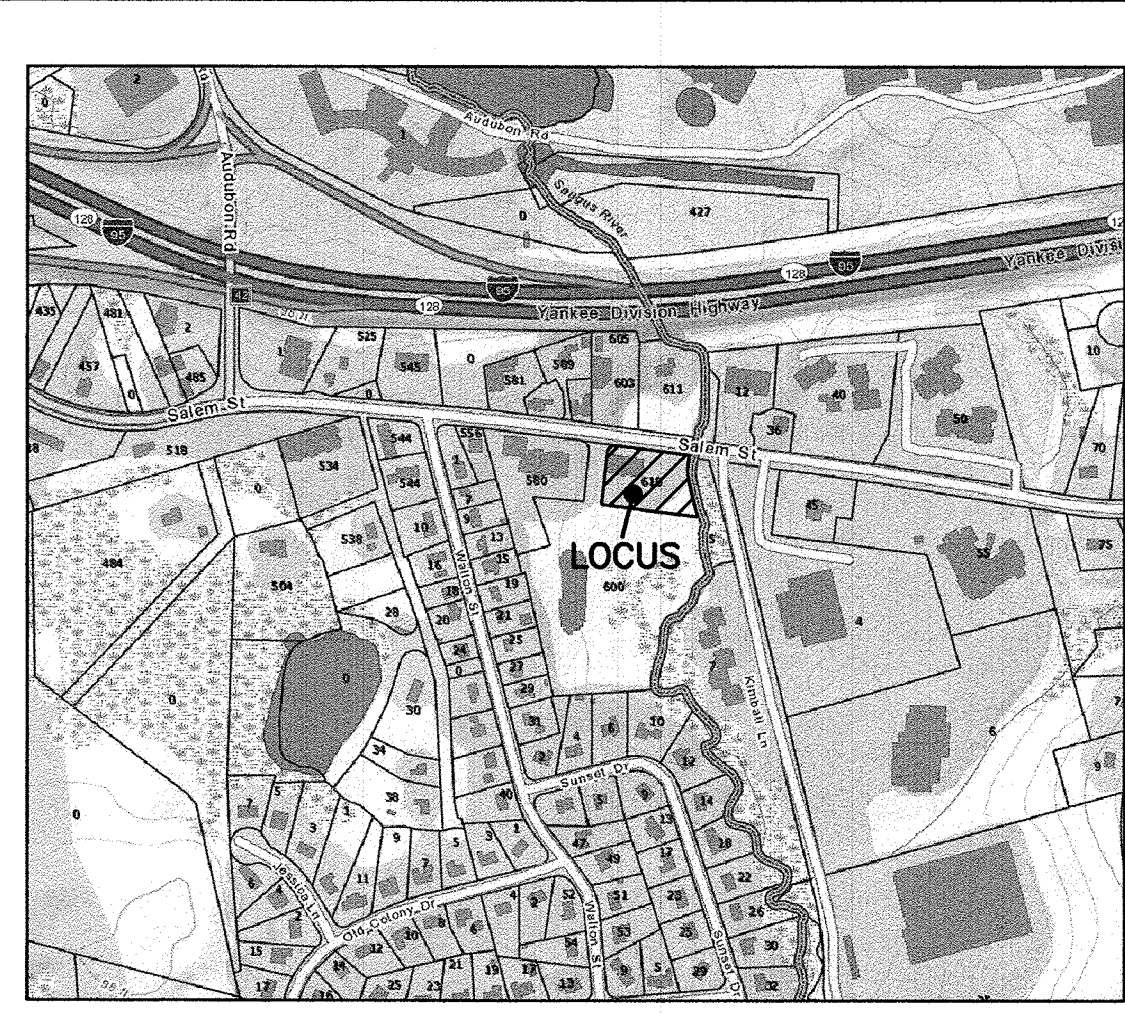
**EASTBOUND APPROACH**





**WESTBOUND APPROACH**





LOCUS MAP  
SCALE: 1"=500'±  
SOURCE: MASSGIS

PARKING CALCULATIONS	
REQUIRED	PROVIDED
MULTIFAMILY DWELLINGS: 1.5 spaces per dwelling unit (2 bedrooms or fewer) X (30 units) = 45 spaces	45 spaces
	PROVIDED
Total Parking Proposed— Three spaces to be handicapped accessible	56 spaces (39 spaces in building) (17 spaces outside building)

- SPACES 9'x18' TYP.
- H.P. VAN SPACES 8'x18' WITH 8'x18' LOADING AREA
- H.P. SPACES 8'x18' WITH 5'x18' LOADING AREA

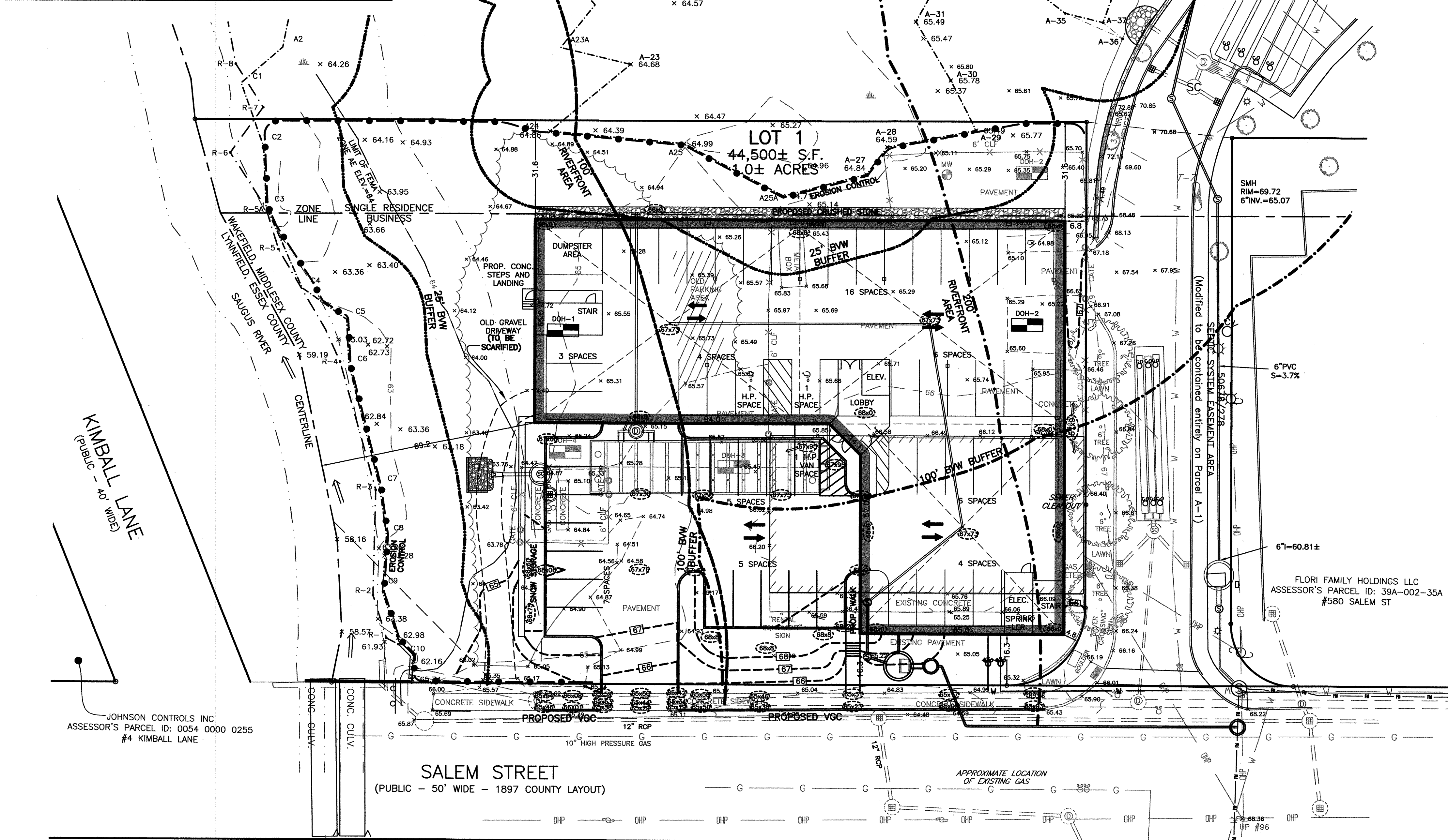
SHEET INDEX	
PLAN TITLE	SHEET DESIGNATION
SITE PLAN	C1
UTILITY PLAN	C2
EXISTING CONDITIONS PLAN	C3
EROSION CONTROL PLAN	C4
DETAIL PLAN	C5

ZONING TABLE			
ZONE	MID-RISE APARTMENT COMPLEX (190-32)	TABLE 2 DIMENSIONAL REGULATIONS (BUSINESS)	
DIMENSIONAL CONTROLS	REQUIRED/ALLOWED	REQUIRED/ALLOWED	PROVIDED
MIN. LOT AREA	4,000 s.f.	---	44,500± s.f.
LOT AREA PER DWELLING UNIT	1,200 S.F. (37 Units)	---	(7) One Bedroom Units (23) Two Bedroom Units 30 Total Units
LOT FRONTAGE	180 ft.	40 ft.	215.35 ft.
LOT WIDTH	180 ft.	40 ft.	180.0 ft.
FLOOR AREA RATIO	---	1.5	0.96
FRONT YARD	30 ft. or Height of Building, Whichever is Greater	---	16.3 ft.
SIDE	30 ft. or Height of Building, Whichever is Greater	---	4.8 ft.
REAR	30 ft. or Height of Building, Whichever is Greater	---	31.6 ft.
MAXIMUM NUMBER OF STORIES	4	---	4
MAXIMUM HEIGHT	50 ft.	60 ft.*	43ft.
MAX. BUILDING COVERAGE	35%	80%	34.6±%
MIN. OPEN AREA	30%	10%	50%

Prepared For:  
SBAB Capital, Trust  
Victoria S. Seft  
Everett, MA 02149

Prepared By:  
Hayes Engineering, Inc.  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

Design By: JO  
Drawn By: EBL  
Checked By: PJO  
Project File: WAK-0444C  
Comp. No: WAK282  
 Issued For Permit  
 Issued For Bid  
 Issued For Construction  
 Not For Construction



\* - BUILDINGS OVER 50 FEET SHALL PROVIDE A FRONT YARD SETBACK OF FIVE FEET PLUS ONE FOOT OF HEIGHT IN EXCESS OF 50 FEET (ZONING TABLE 2 - NOTE 8)

SOIL LOGS									
DEPTH (in.)	SOIL HORIZON/LAYER	SOIL MATRIX: COLOR-MOIST (MUNSELL)	REDUOXIMORPHIC FEATURES (MOTTLES)			SOIL TEXTURE (USDA)	COARSE FRAGMENTS % BY VOLUME	SOIL STRUCTURE	SOIL CONSISTENCE (MOIST)
			DEPTH	COLOR	PERCENT				
DEEP HOLE NUMBER: DOH-1 ELEVATION=65.00±									
0'-50"	FILL	BRCK. WDR BRNCHES	50"	-	-	-	-	-	-
50'-112'+	C	2.5R 4/2	72"	-	-	Ca	-	-	-
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE DOWN >72" AT ELEVATION > 59.00±									
DEEP HOLE NUMBER: DOH-2 ELEVATION=65.41±									
0'-72"	FILL	CRUSHED STONE	-	-	-	-	-	-	-
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE IS INACCURATE DUE TO WATER TRAPPED IN LEDGE FILL									
DEEP HOLE NUMBER: DOH-3 ELEVATION=65.40±									
0'-82"	HTM	BLASTED LEDGE	82"	-	-	-	-	-	-
82'-100'+	C	10YR 6/6	18"	-	-	GrCa	50	0/0	sg
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE IS INACCURATE DUE TO SNOW MELT CONDITIONS									
DEEP HOLE NUMBER: DOH-4 ELEVATION=65.55±									
0'-72"	HTM	BLASTED LEDGE	72"	-	-	-	-	-	-
72'-96"	C	10YR 4/4	24"	-	-	GrCa	50	0/0	sg
ESTIMATED SEASONAL HIGH GROUNDWATER TABLE IS INACCURATE DUE TO SNOW MELT CONDITIONS									

DESCRIPTION OF HORIZONS							
	TEXTURE	STRUCTURE	CONSISTENCE				
gravel	g	gravely sandy loam	gst				
very coarse sand	vcs	loam	l				
coarse sand	cs	gravely loam	gl				
sand	s	stony loam	stl				
fine sand	fs	silt	sl				
very fine sand	vfs	silt loam	sl				
loamy coarse sand	lcs	clay loam	cl				
loamy sand	ls	silty clay loam	scl				
loamy fine sand	lfs	sony clay loam	scl				
sandy loam	sl	stony clay loam	stcl				
fine sandy loam	fat	silty clay	sic				
very fine sand loam	vfat	clay	c				
STRUCTURE							
Grade:	Size:	Form or Type:					
structureless	0	very fine	vf	platy	pl		
weak	1	fine	f	prismatic	pr		
moderate	2	medium	m	columnar	cp		
strong	3	coarse	c	blocky	bk		
		very coarse	vc	angular blocky	abk		
				subangular blocky	sbk		
				granular	gr		
				single grain	sg		
				massive	m		
				loose	l		
CONSISTENCE							
Wet Soil:	Moist Soil:	Dry Soil:					
nonsticky	wso	loose	ml	loose	dl		
slightly sticky	sss	very friable	mvfr	soft	ds		
sticky	ws	friable	mfr	slightly hard	dsh		
very sticky	vws	firm	mfi	hard	dh		
nonplastic	wpo	very firm	mvfi	very hard	dvh		
slightly plastic	wps	extremely firm	mefi	extremely hard	desh		
plastic	wp						
very plastic	wvp						
MOTTLING							
Abundance:	f	(0-2%)	ml	fine	1	faint	f
	c	(2-20%)	mvfr	medium	2	distinct	d
	m	(20-100%)	mfr	coarse	3	prominent	p

SOIL LOGS:  
DATE OF TESTING: 9/5/18 & 12/5/19  
SOIL EVALUATOR: GORDON ROGERSON SE 2074  
BOARD OF HEALTH:

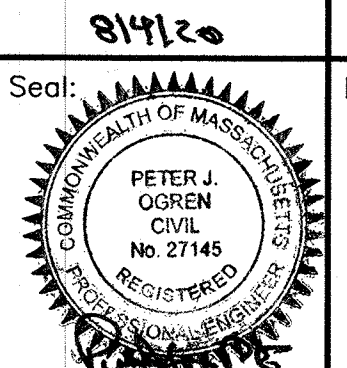
NOTES:  
TOPOGRAPHIC INFORMATION FROM AN ON THE GROUND SURVEY BY HAYES ENGINEERING, INC. PERFORMED AUGUST 2017 AND FROM A PLAN ENTITLED "AS BUILT RIVER CROSSING" BY HAYES ENGINEERING, INC. DATED APRIL 21, 2011.

FEMA INFORMATION IS FROM THE NEW STUDY NOT YET PUBLISHED.  
VERTICAL DATUM IS NAVD88.

Scale: 1"=20'  
0' 10' 20' 40'

Drawing Title:

SITE PLAN  
610 SALEM STREET  
WAKEFIELD, MASS.



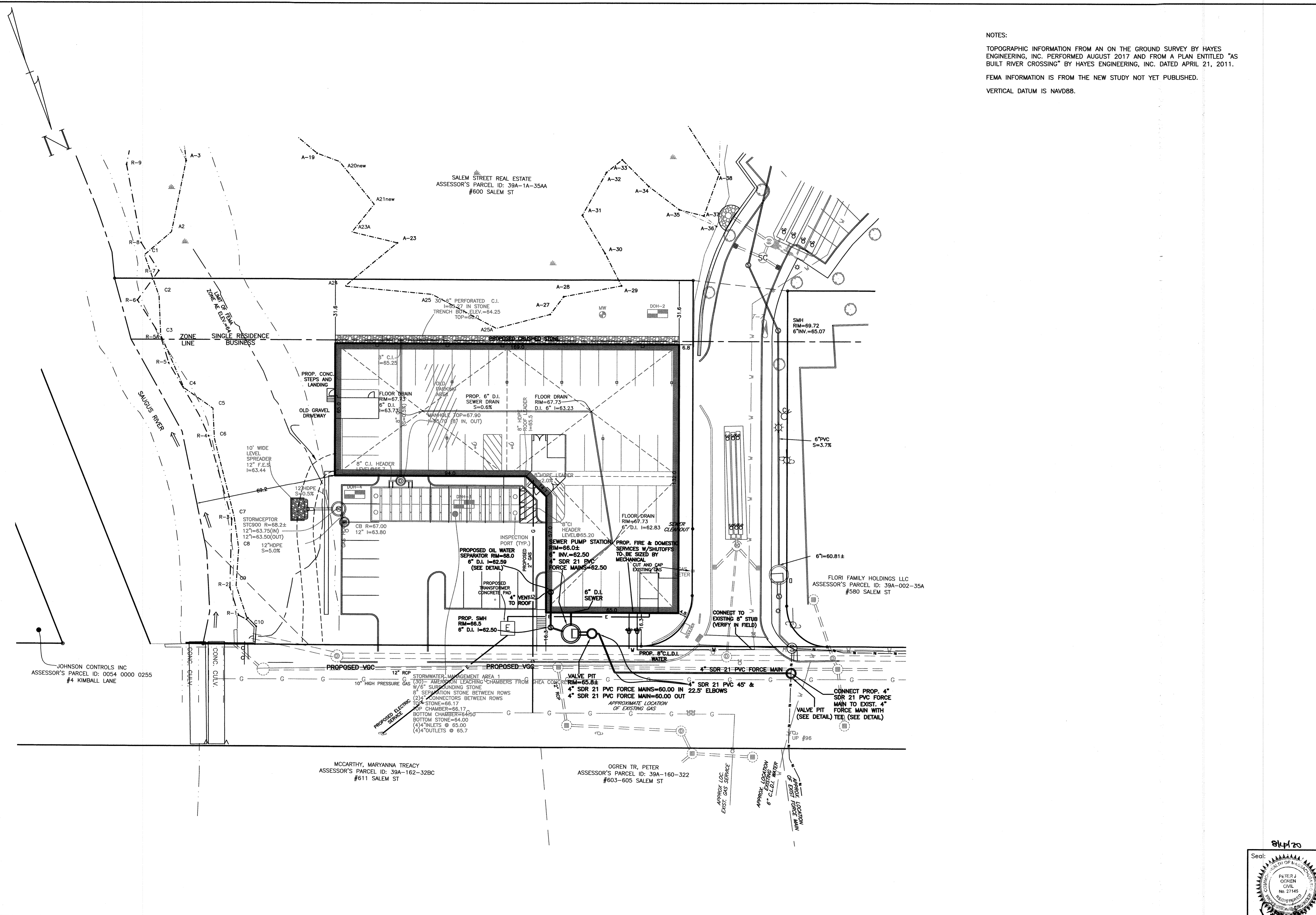
Drawing No.:

C1

SITE PLAN  
SHEET 1 OF 5



NOTES:  
 TOPOGRAPHIC INFORMATION FROM AN ON THE GROUND SURVEY BY HAYES ENGINEERING, INC. PERFORMED AUGUST 2017 AND FROM A PLAN ENTITLED "AS BUILT RIVER CROSSING" BY HAYES ENGINEERING, INC. DATED APRIL 21, 2011.  
 FEMA INFORMATION IS FROM THE NEW STUDY NOT YET PUBLISHED.  
 VERTICAL DATUM IS NAVD88.



Prepared For:  
 Owner / Applicant  
 EBL Capital Trust  
 8 Victoria St  
 Everett, MA 02149

Prepared By:  
  
 Hayes Engineering, Inc.  
 603 Salem Street  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

Design By: JO  
 Drawn By: EBL  
 Checked By: PJO  
 Project File: WAK-0444C  
 Comp. No: WAK282  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5	No Change	7/16/20
4	DPW Comments	4/30/20
3	Revised mini manhole and detail	3/25/2020
2	Added Oil Water Separator	2/26/20
1		

Scale: 1" = 20'  
 0' 10' 20' 40'  
 Date: December 11, 2019

Drawing Title:  
 UTILITY PLAN  
 610 SALEM STREET  
 WAKEFIELD, MASS.

Seal:  
  
 PETER J. OGDEN  
 CIVIL  
 No. 27145

Drawing No.:  
 C2  
 UTILITY PLAN  
 SHEET 2 OF 5

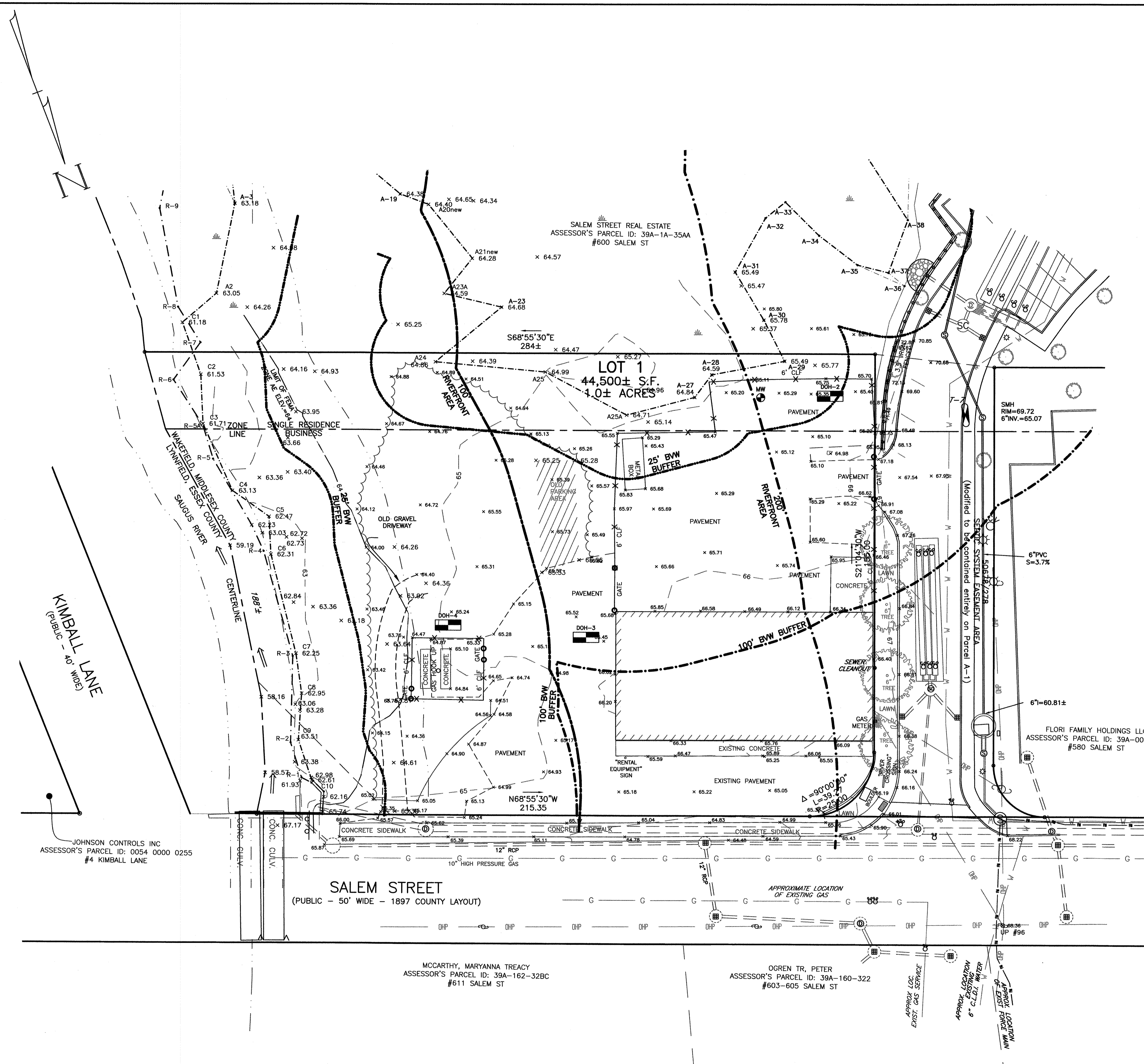
N:\WAK282\NO1610salem9.dwg, 8/4/2020 10:38:20 AM, PM

NOTES:

TOPOGRAPHIC INFORMATION FROM AN ON THE GROUND SURVEY BY HAYES ENGINEERING, INC. PERFORMED AUGUST 2017 AND FROM A PLAN ENTITLED "AS BUILT RIVER CROSSING" BY HAYES ENGINEERING, INC. DATED APRIL 21, 2011.

FEMA INFORMATION IS FROM THE NEW STUDY NOT YET PUBLISHED.

VERTICAL DATUM IS NAVD88.



Prepared For:

Owner / Applicant  
SBAB Capital, Trust  
6 Victoria Street  
Everett, MA 02149

Prepared By:

Hayes Engineering, Inc.  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

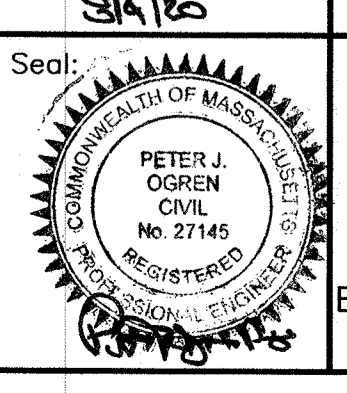
Design By: JO  
Drawn By: EBL  
Checked By: PJO  
Project File: WAK-0444C  
Comp. No: WAK282  
 Issued For Permit  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Date	Revision
10	7/16/20	No Change
9	4/30/20	DPW Comments
8	3/5/2020	no changes this sheet
7	2/26/20	No changes this sheet
6		
5		
4		
3		
2		
1		

Scale: 1" = 20'  
0' 10' 20' 40'  
Date: December 11, 2019

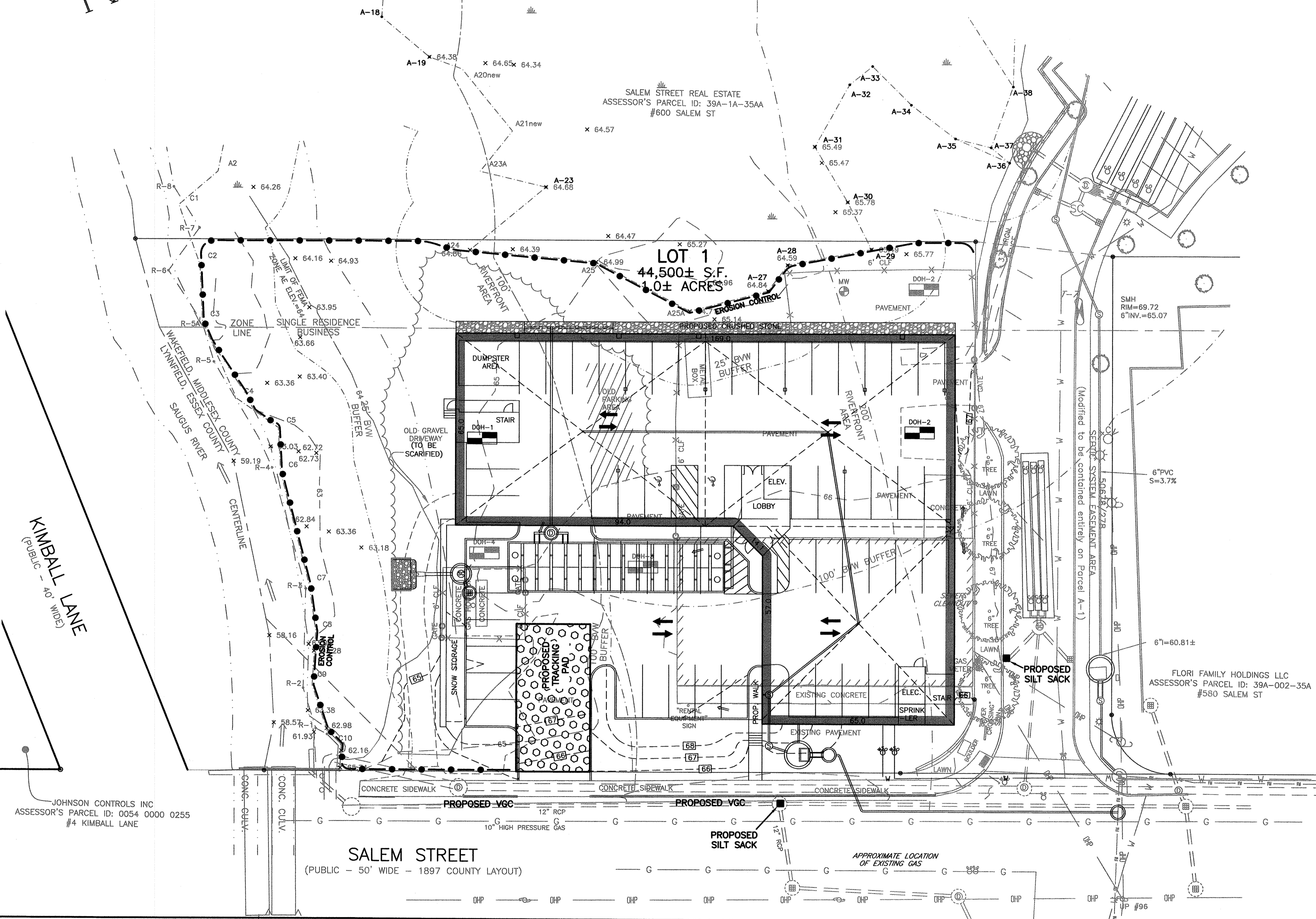
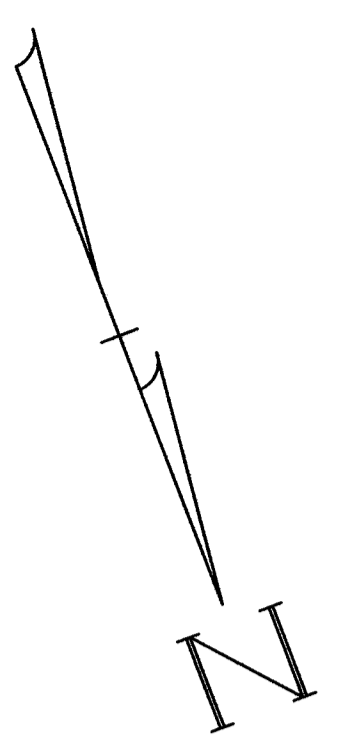
Drawing Title:

EXISTING CONDITIONS PLAN  
610 SALEM STREET  
WAKEFIELD, MASS.

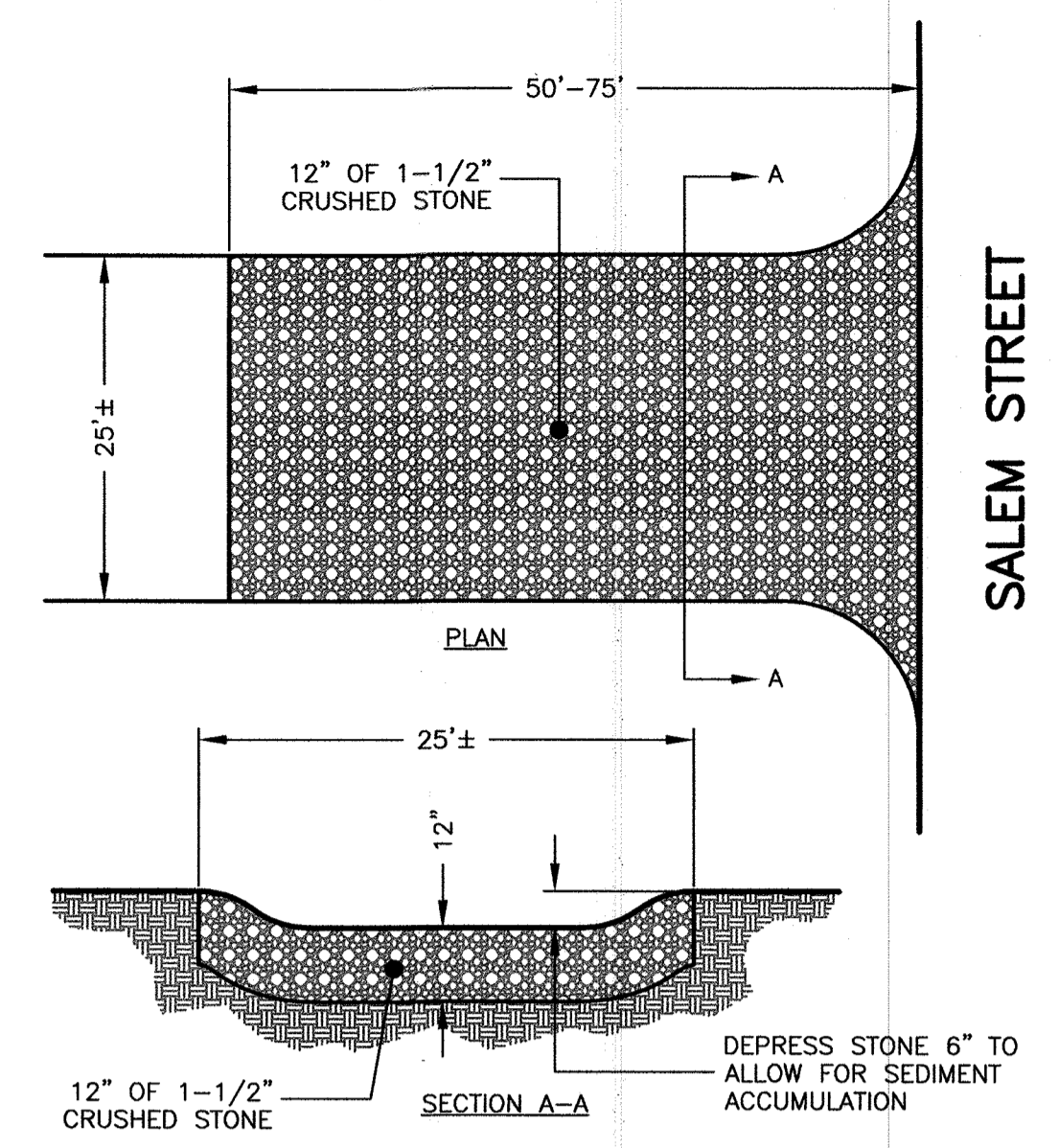


Drawing No.:  
C3  
EXISTING CONDITIONS  
SHEET 3 OF 5



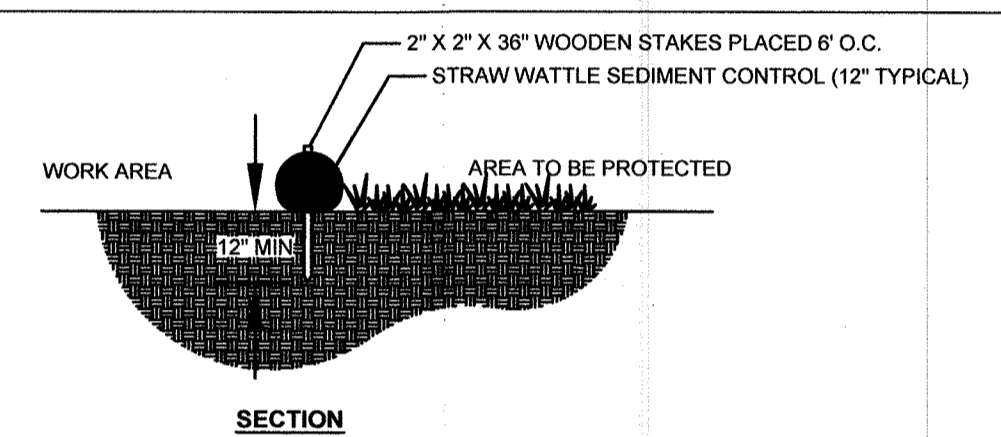


NOTES:  
 TOPOGRAPHIC INFORMATION FROM AN ON THE GROUND SURVEY BY HAYES ENGINEERING, INC. PERFORMED AUGUST 2017 AND FROM A PLAN ENTITLED "AS BUILT RIVER CROSSING" BY HAYES ENGINEERING, INC. DATED APRIL 21, 2011.  
 FEMA INFORMATION IS FROM THE NEW STUDY NOT YET PUBLISHED.  
 VERTICAL DATUM IS NAVD88.

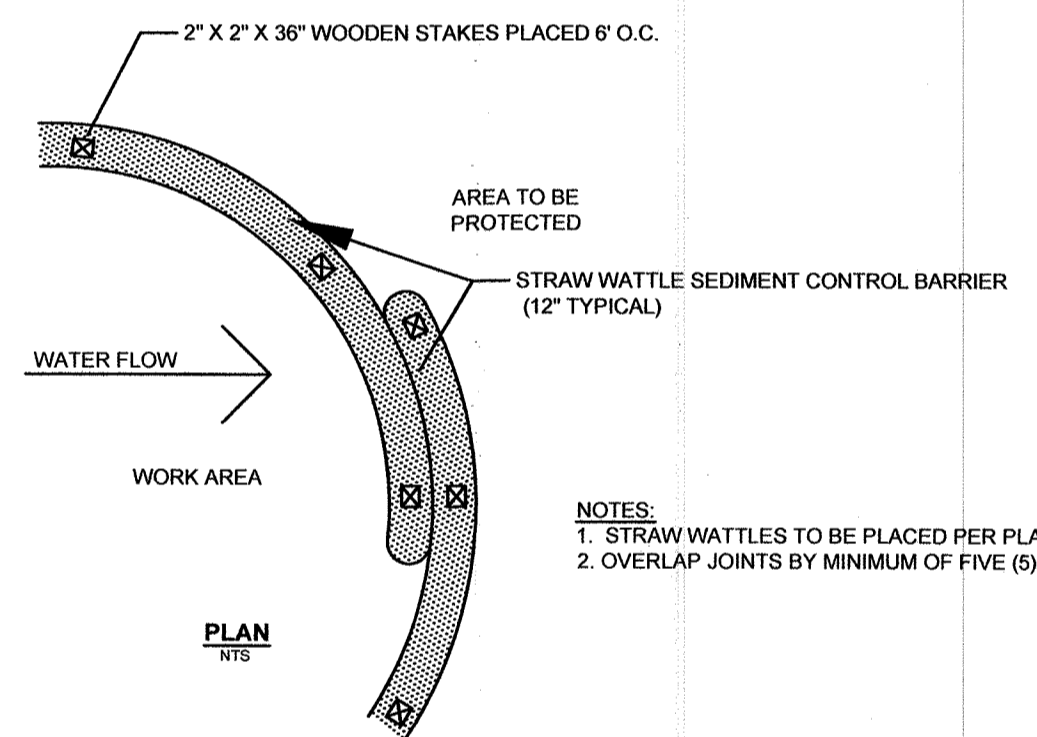


**TIRE TRACKING PAD**  
 NOT TO SCALE

NOTE: PROVIDE TRANSITION BETWEEN CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OF SEDIMENT INTO PUBLIC RIGHT-OF-WAY

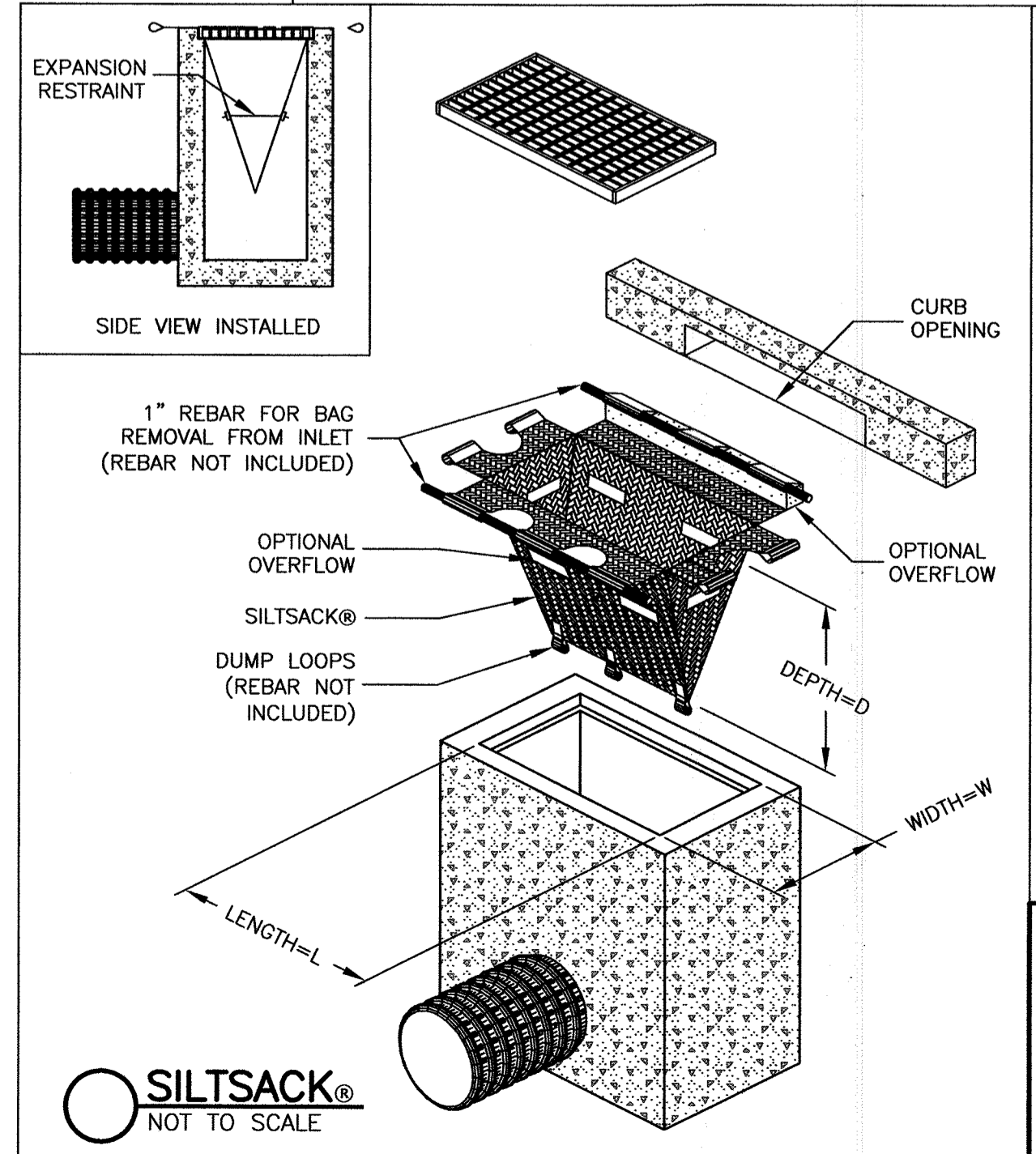


**SECTION**  
 NTS



**STRAW WATTLE SEDIMENT CONTROL**  
 NOT TO SCALE

NOTES:  
 1. STRAW WATTLES TO BE PLACED PER PLAN LOCATIONS.  
 2. OVERLAP JOINTS BY MINIMUM OF FIVE (5) FEET



**SILTSACK®**  
 NOT TO SCALE

Prepared For:  
 Owner / Applicant  
 SBAB Capital, Trust  
 6 Victoria Street  
 Everett, MA 02149

Prepared By:  
 Hayes Engineering, Inc.  
 603 Salem Street  
 Wakefield, MA 01880  
 Ph: 781.246.2800  
 Fax: 781.246.7596  
 www.hayeseng.com

Design By: JO  
 Drawn By: EBL  
 Checked By: PJO  
 Project File: WAK-0444C  
 Comp. No: WAK282  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5	No Change	7/16/20
4	DPW Comments	4/30/20
3	Revised mini manhole and detail	3/5/2020
2	Added Oil Water Separator	2/26/20
1		

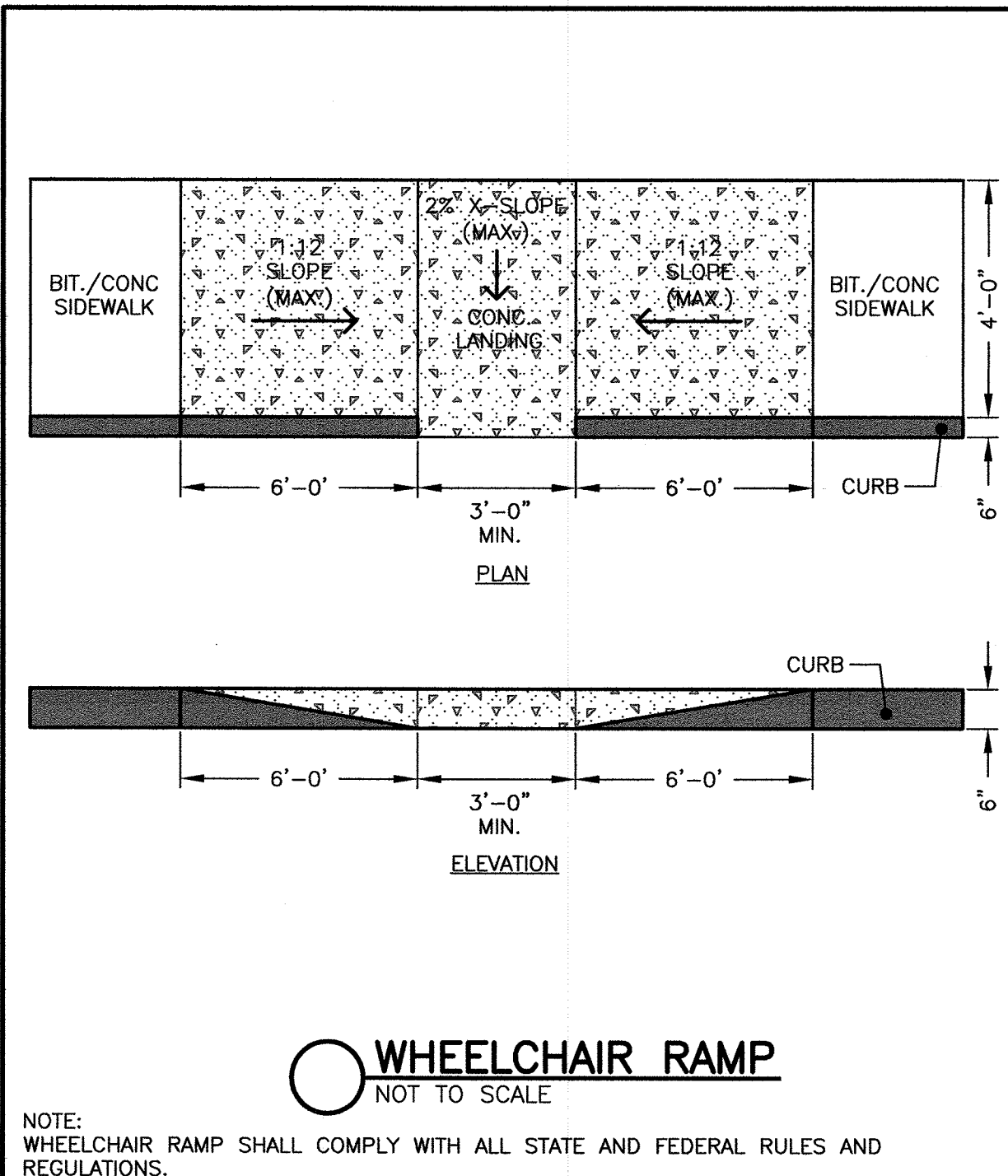
Scale: 1"=20'  
 0' 10' 20' 40'  
 Date: December 11, 2019

Drawing Title:  
**EROSION CONTROL PLAN**  
**610 SALEM STREET**  
**WAKEFIELD, MASS.**

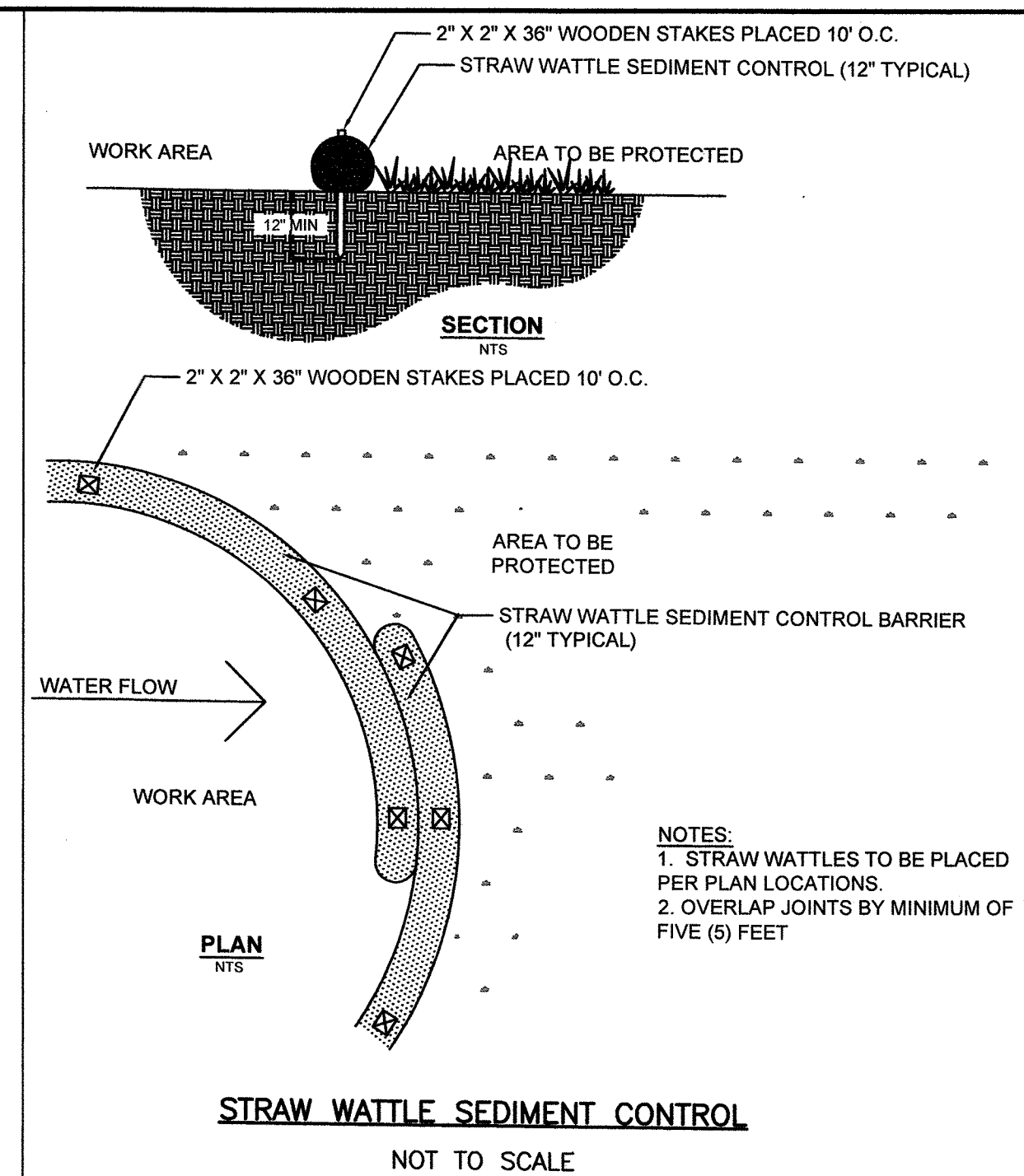
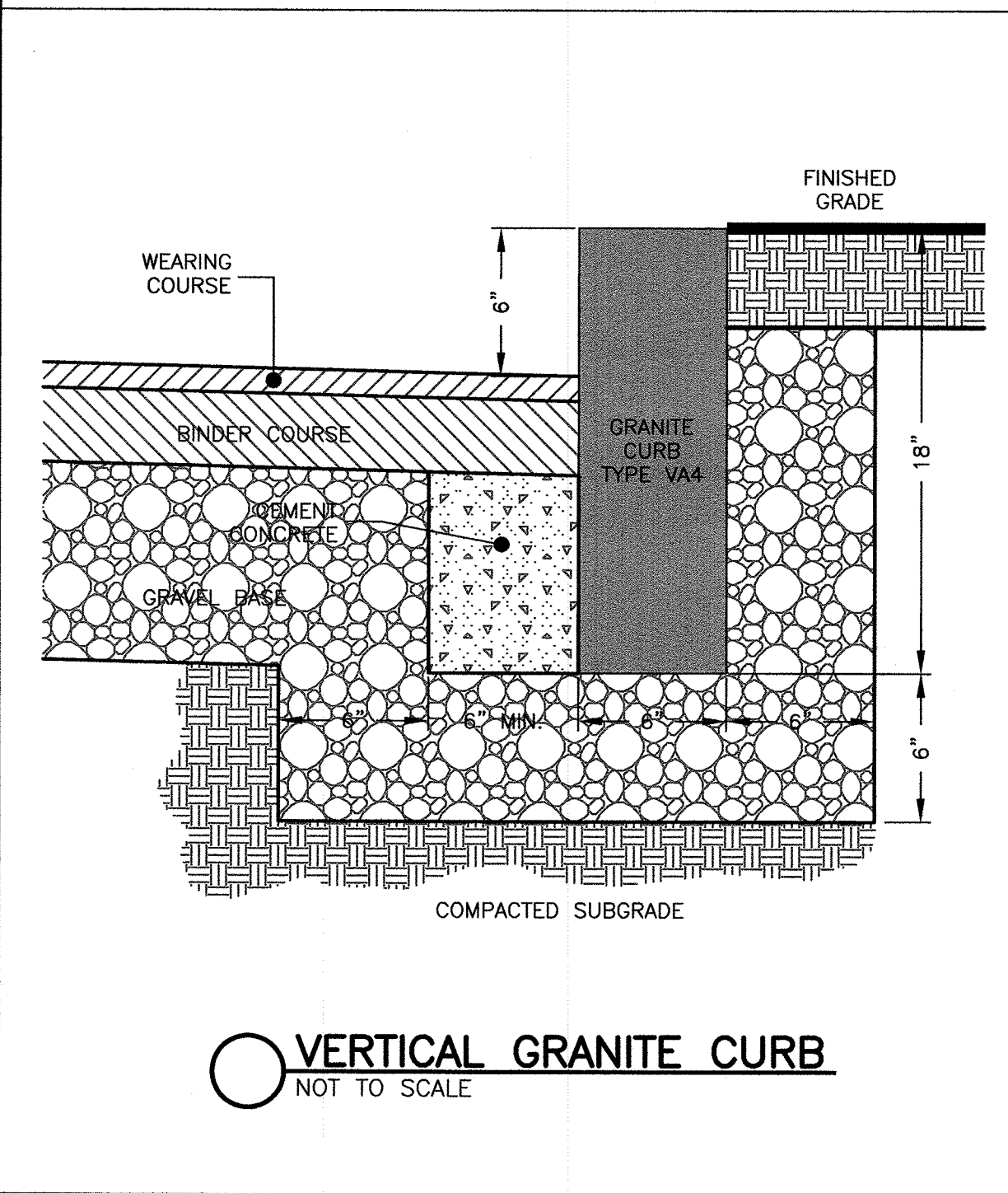
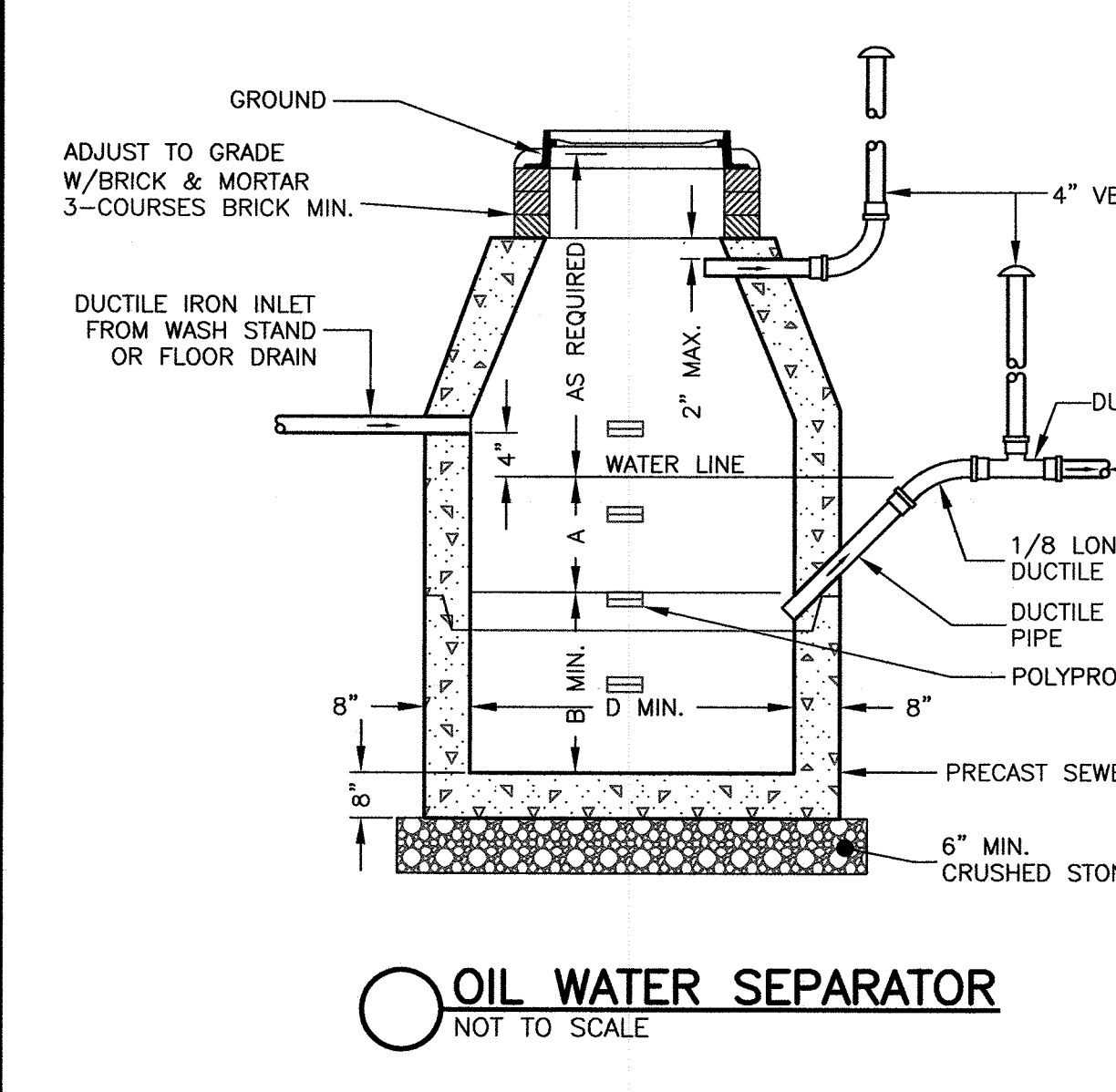
Seal:  
 COMMONWEALTH OF MASSACHUSETTS  
 REGISTERED PROFESSIONAL ENGINEER  
 PETER J. OGREN  
 CIVIL  
 No. 27145

Drawing No.:  
**C4**  
 EROSION CONTROL  
 SHEET 4 OF 5



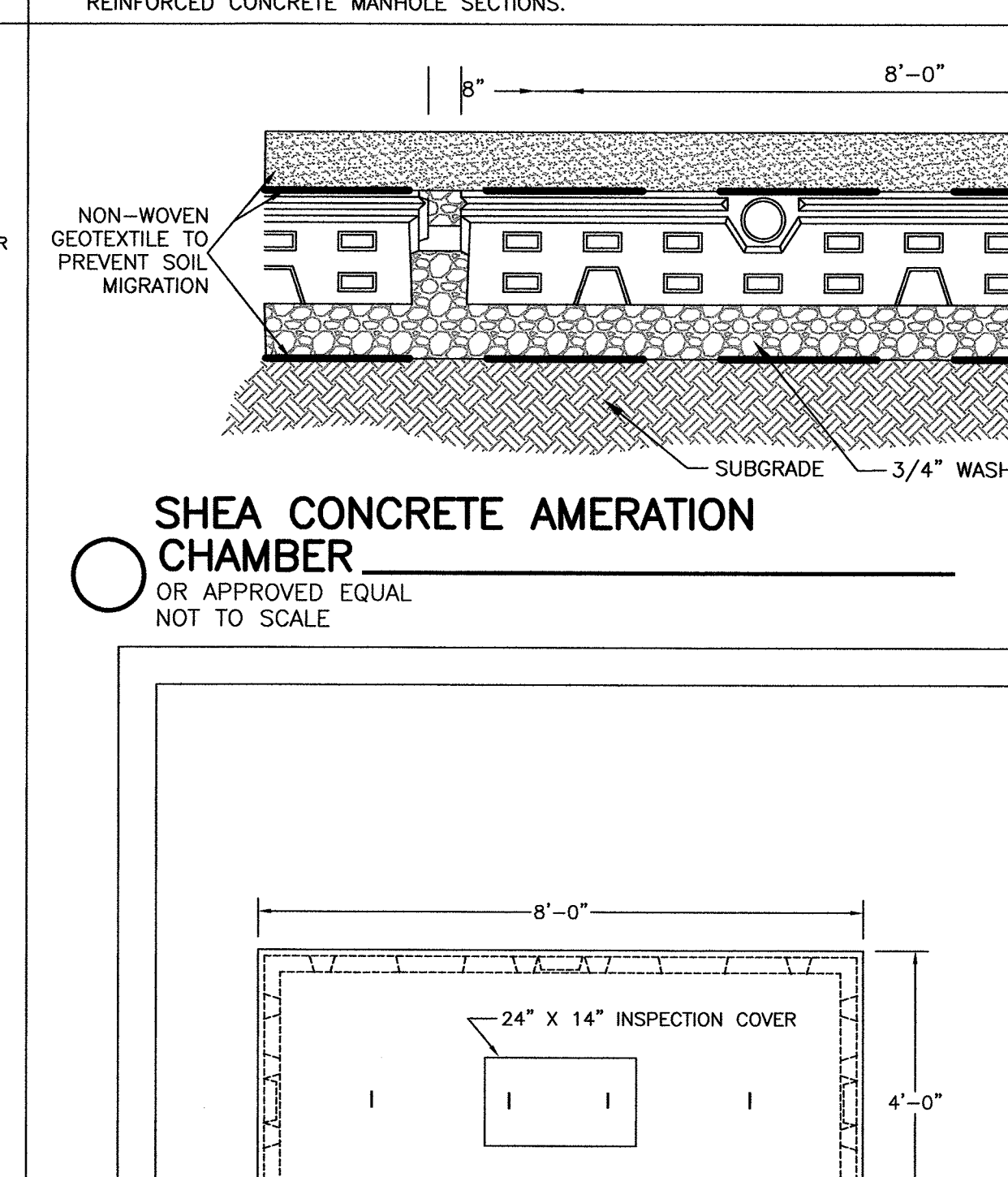
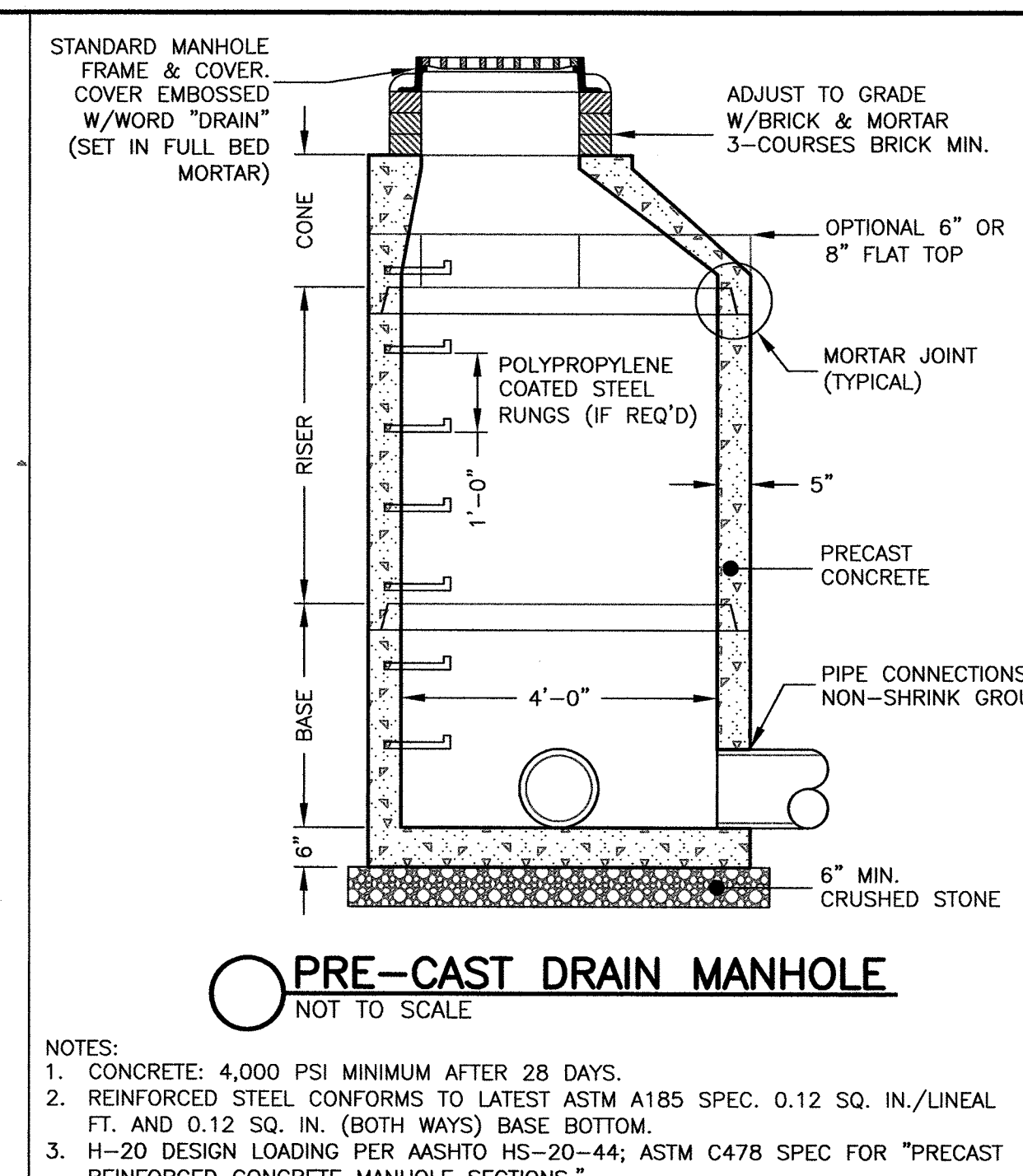
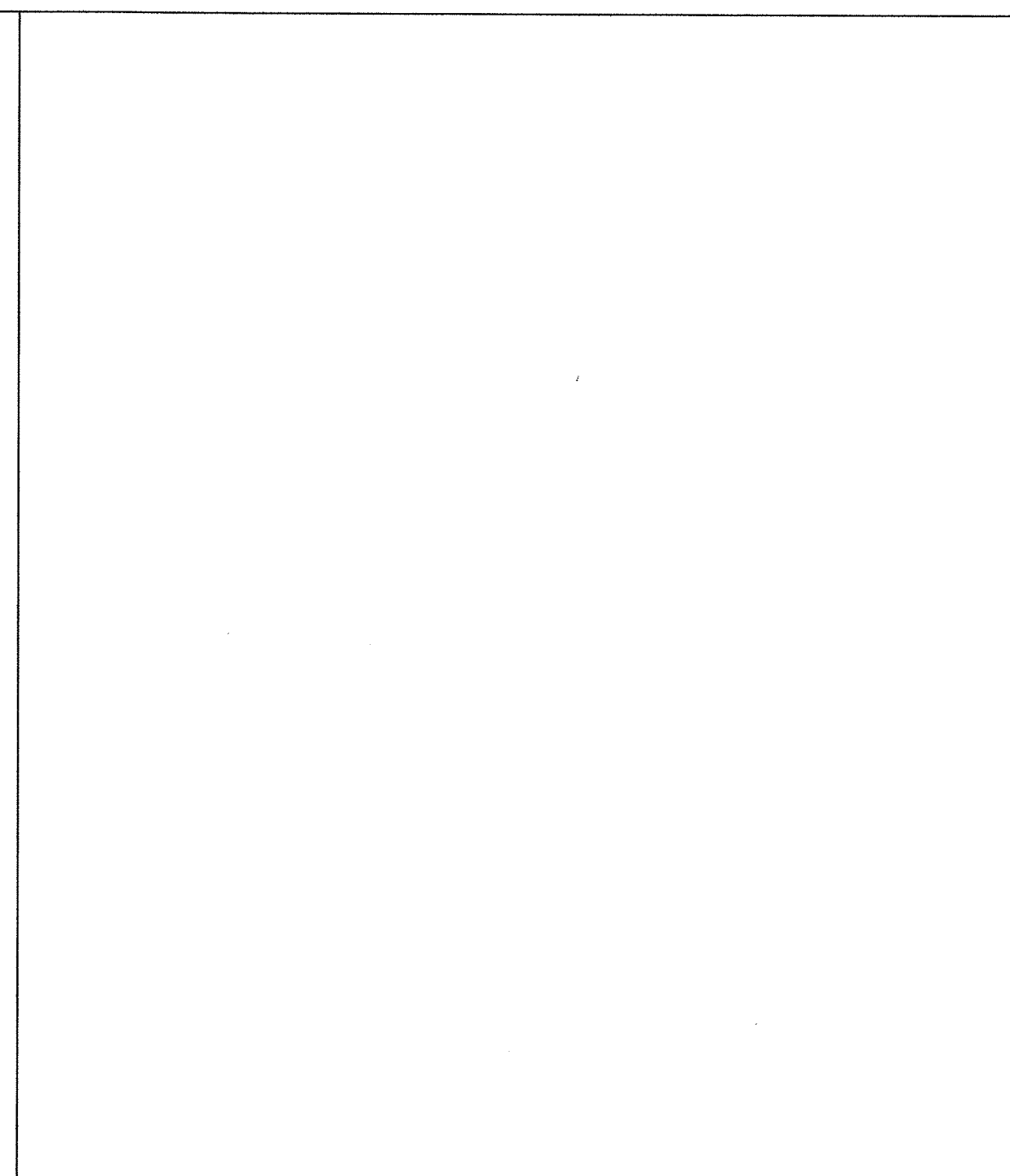


INLET	A	B	D	INLET	A	B	D	INLET	A	B	D
3'-0"	2'-6"	3'-6"	3'-6"	5'-0"	4'-6"	4'-0"	5'-0"	6'-0"	5'-0"	5'-0"	5'-0"
4'-0"	3'-0"	3'-6"	3'-6"	4'-0"	3'-6"	4'-0"	4'-0"	4'-6"	4'-0"	5'-6"	6'-0"
3'-0"	3'-0"	3'-6"	4'-0"	3'-6"	3'-0"	4'-6"	4'-6"	3'-0"	2'-6"	6'-0"	6'-0"
3'-0"	2'-6"	4'-0"	4'-0"	3'-6"	3'-0"	4'-6"	4'-6"	3'-6"	3'-0"	6'-0"	6'-0"
3'-0"	2'-6"	4'-0"	4'-0"	3'-0"	2'-6"	5'-0"	5'-0"	3'-0"	2'-6"	6'-6"	6'-6"



**GENERAL CONSTRUCTION NOTES**

- MANHOLE TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE, COVER TO HAVE A CENTER HOLE.
- A TIGHT COVER MUST BE USED IF MANHOLE IS LOCATED INSIDE OF BUILDING.
- OPENING SHALL BE NOT LESS THAN 24" DIA.
- THE MANHOLE SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED.
- INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.
- WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.
- THE NEW MANHOLE MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.
- ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE MANHOLE, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FIXTURES.
- SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS, SHALL BE APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE COMMONWEALTH OF MASSACHUSETTS.
- POLYPROPYLENE STEPS SHALL BE SPACED ABOUT 18" APART.
- BOTH VENTS SHALL BE EXTENDED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE COMMONWEALTH OF MASSACHUSETTS.

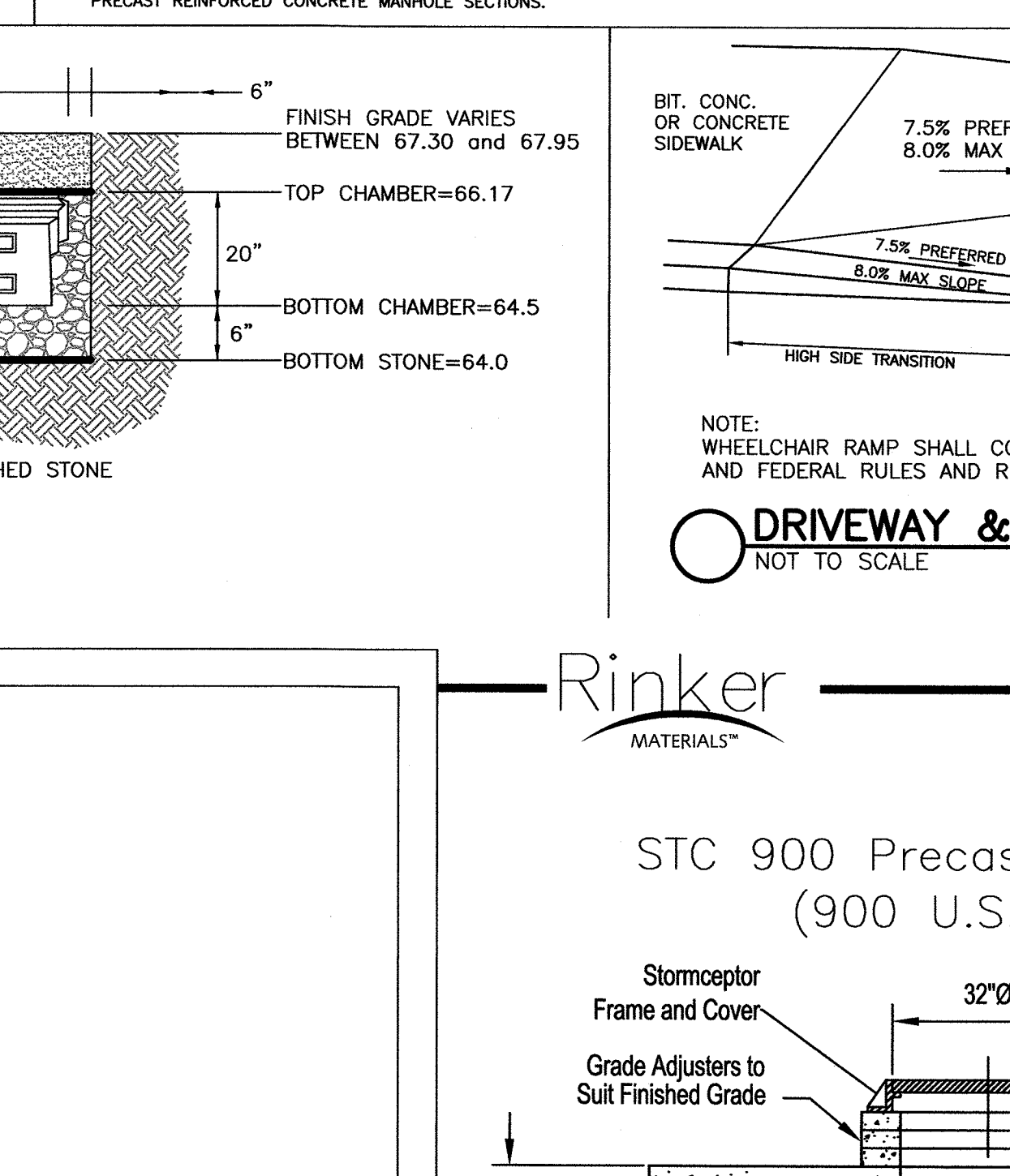
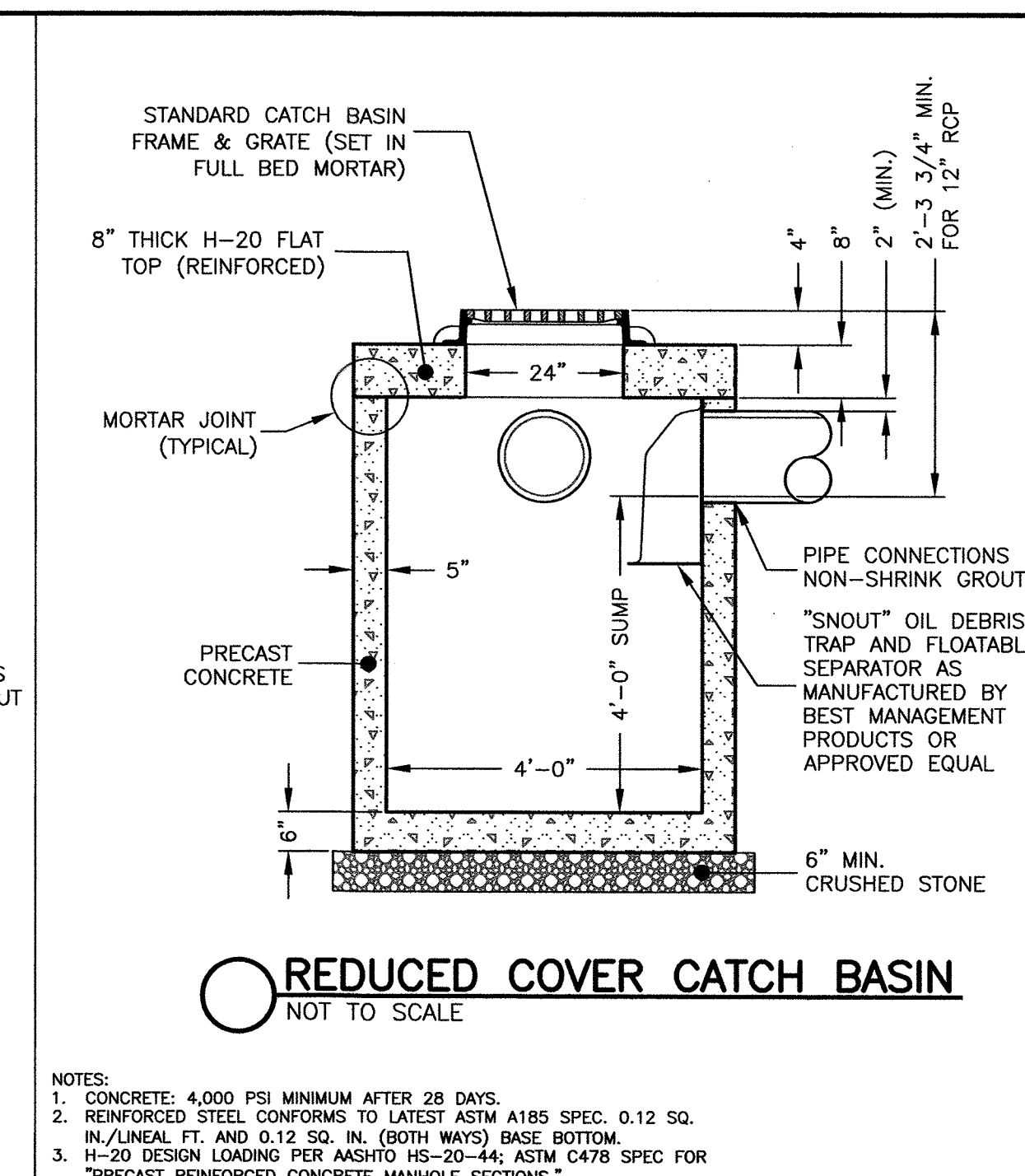


**STC 900 Precast Concrete Stormceptor**  
(900 U.S. Gallon Capacity)

**Section Thru Chamber**

**Plan View**

NOTES:  
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.  
2. The Cover Should be Positioned Over The Outlet Drop Pipe and The Oil Port.  
3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.  
4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.



**DETAIL PLAN**  
610 SALEM STREET  
WAKEFIELD, MASS.

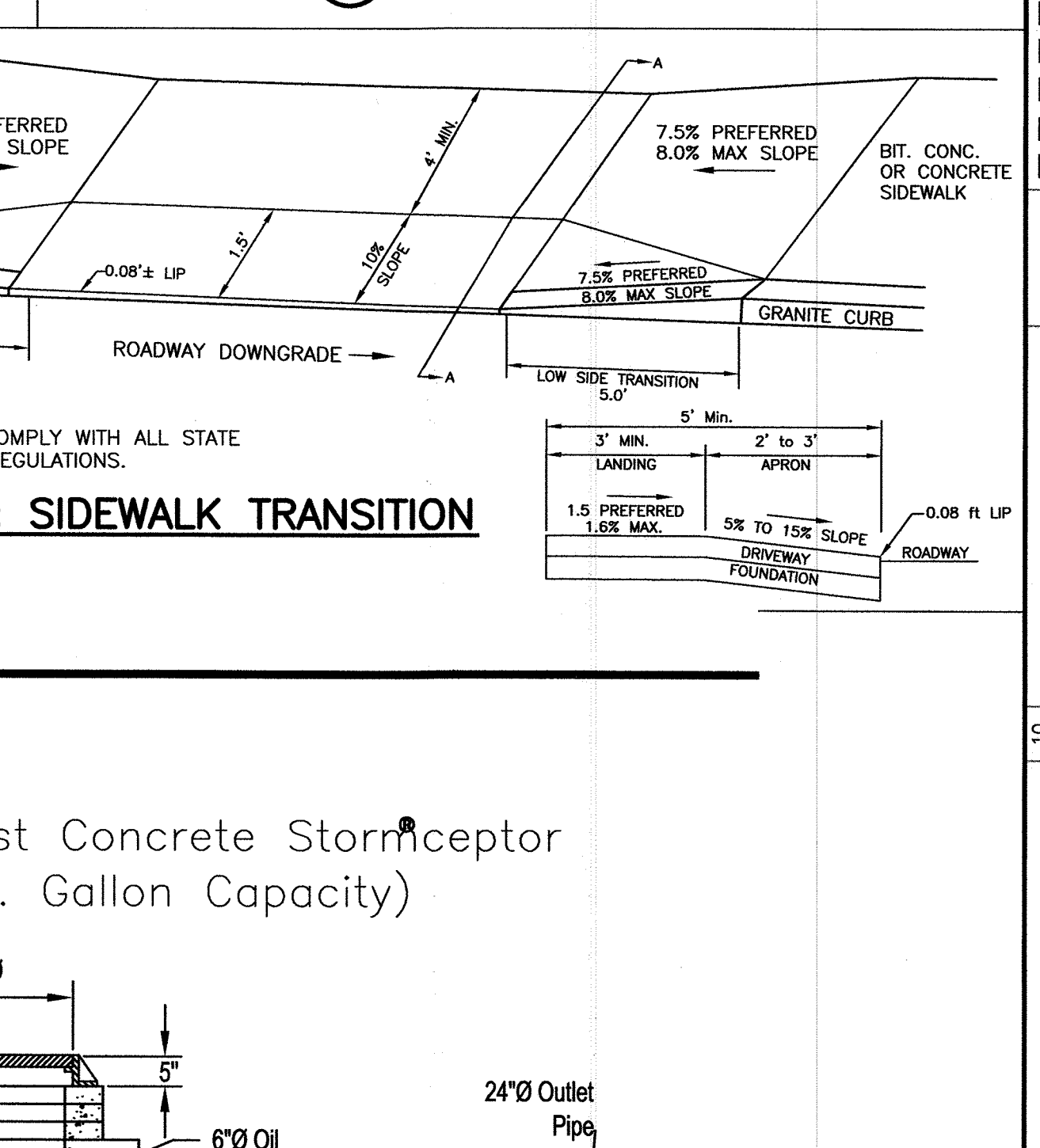
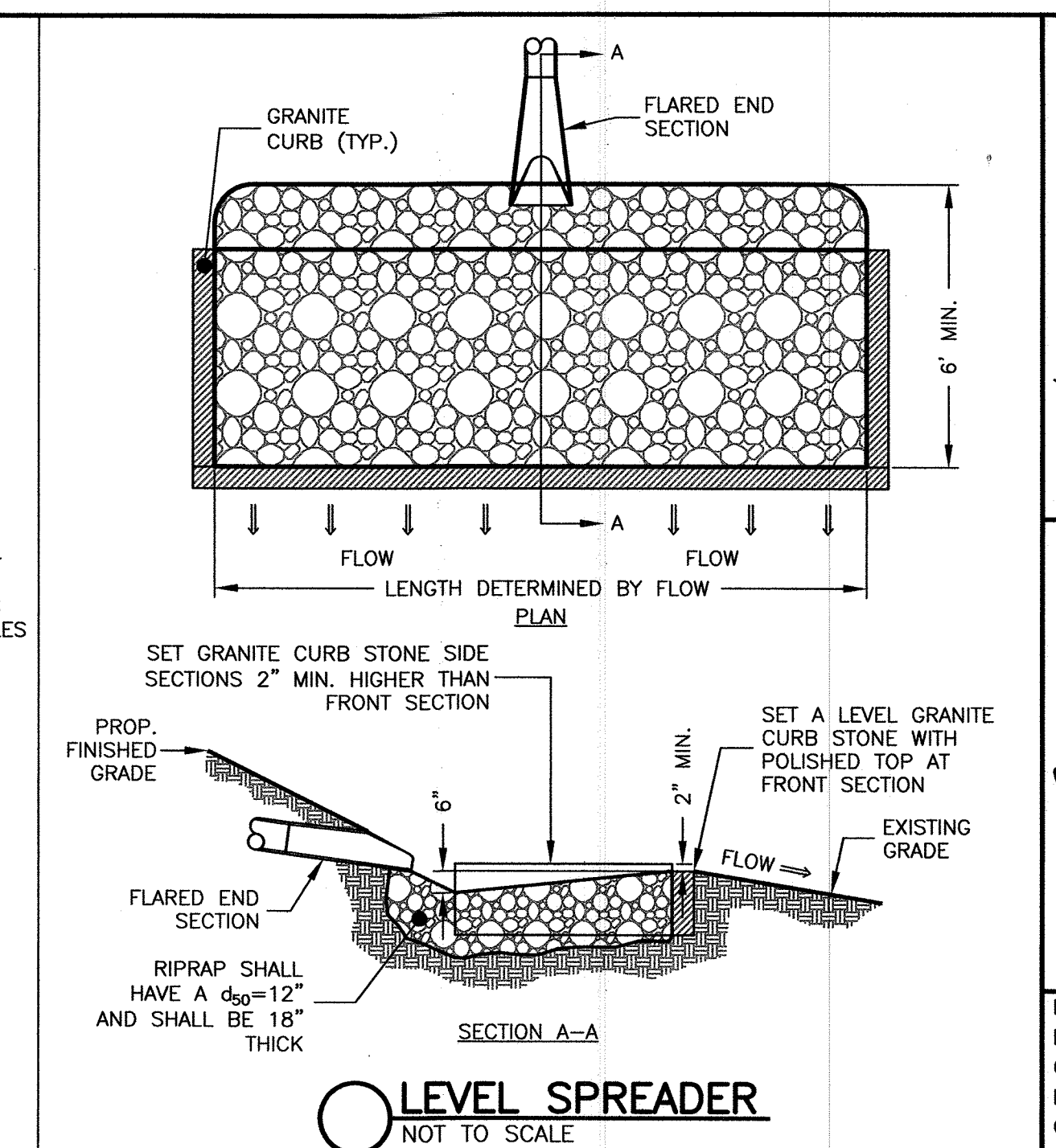
Scale: NOT TO SCALE

Date: December 11, 2019

Drawing Title: 610 SALEM STREET WAKEFIELD, MASS.

Drawing No.: C5

DETAILS SHEET 5 OF 5



**DETAIL PLAN**  
610 SALEM STREET  
WAKEFIELD, MASS.

Scale: NOT TO SCALE

Date: December 11, 2019

Drawing Title: 610 SALEM STREET WAKEFIELD, MASS.

Drawing No.: C5

DETAILS SHEET 5 OF 5

Prepared For: **State Capital Trust**  
Everett, MA 02149

Prepared By: **Hayes Engineering, Inc.**  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

Design By: JO  
Drawn By: EBL  
Checked By: PUJ  
Project File: WAK-0444C  
Comp. No: WAK282

Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

NO.	REVISION	DATE
1	Added Oil Water Separator	2/26/20
2	Revised mini manhole and detail	3/5/2020
3	DPW Comments	4/30/20
4	Updated Ameration Detail Elev.	5/11/2020
5	Driveway & Sidewalk Detail Added	7/16/20

Scale: NOT TO SCALE

Date: December 11, 2019

Drawing Title: 610 SALEM STREET WAKEFIELD, MASS.

Drawing No.: C5

DETAILS SHEET 5 OF 5





**LOCUS MAP**  
SCALE: 1"=500'±  
SOURCE: MASSGIS

**AREA A - RIVERFRONT HABITAT RESTORATION PLAN MAINTENANCE NOTES:**

- VEGETATIVE UNDERSTORY IS NOT TO BE DISTURBED FOR A DISTANCE OF 25' IN FROM TOP OF SLOPE.
  - TRIM-BACK ALL VOLUNTEER SCRUB AND INVASIVE GROWTH WITHIN THIS AREA TO A HEIGHT OF 2' TO ALLOW FOR GROWTH OF SECONDARY SHRUBS.
  - ARBORIST TO REMOVE ALL VINES AND HAZARDOUS LIMBS FROM TREE CANOPIES.
  - MANAGEMENT PLAN TO INCLUDE ERADICATION OF INVASIVE PLANTS INCLUDING JAPANESE KNOTWEED AND BITTERSWEET VINES.
- REMOVALS**
- REMOVE EXISTING LITTER, DEBRIS AND DEADWOOD FROM WOODLAND FLOOR.
  - FLUSH-CUT 3 HAZARD TREE GROUPING 1 MAPLE, 1 ELM AND 1 ASH. GROUPING LOCATED 75'± IN FROM ROADWAY EDGE.
- PLANTING**
- INSTALL 2 WHITE OAK TREES 2" CALIPER TO IN-FILL AREA WHERE MAPLE GROUPING WAS REMOVED.
  - INSTALL 3 CRANBERRY VIBURNUM AND 2 SAMBUCUS CANADENSIS IN OPEN AREA NEAR RIVERS EDGE TO PROVIDE VEGETATIVE COVER AND SERVE AS WILDLIFE ATTRACTORS.
  - NOTE: ALL NEW PLANTINGS TO BE WATERED DURING FIRST SEASON AND SEASONALLY MAINTAINED AND GUARANTEED FOR REPLACEMENT AS NEEDED THEREAFTER.

**AREA B - GRAVEL DRIVE RESTORATION PLAN**

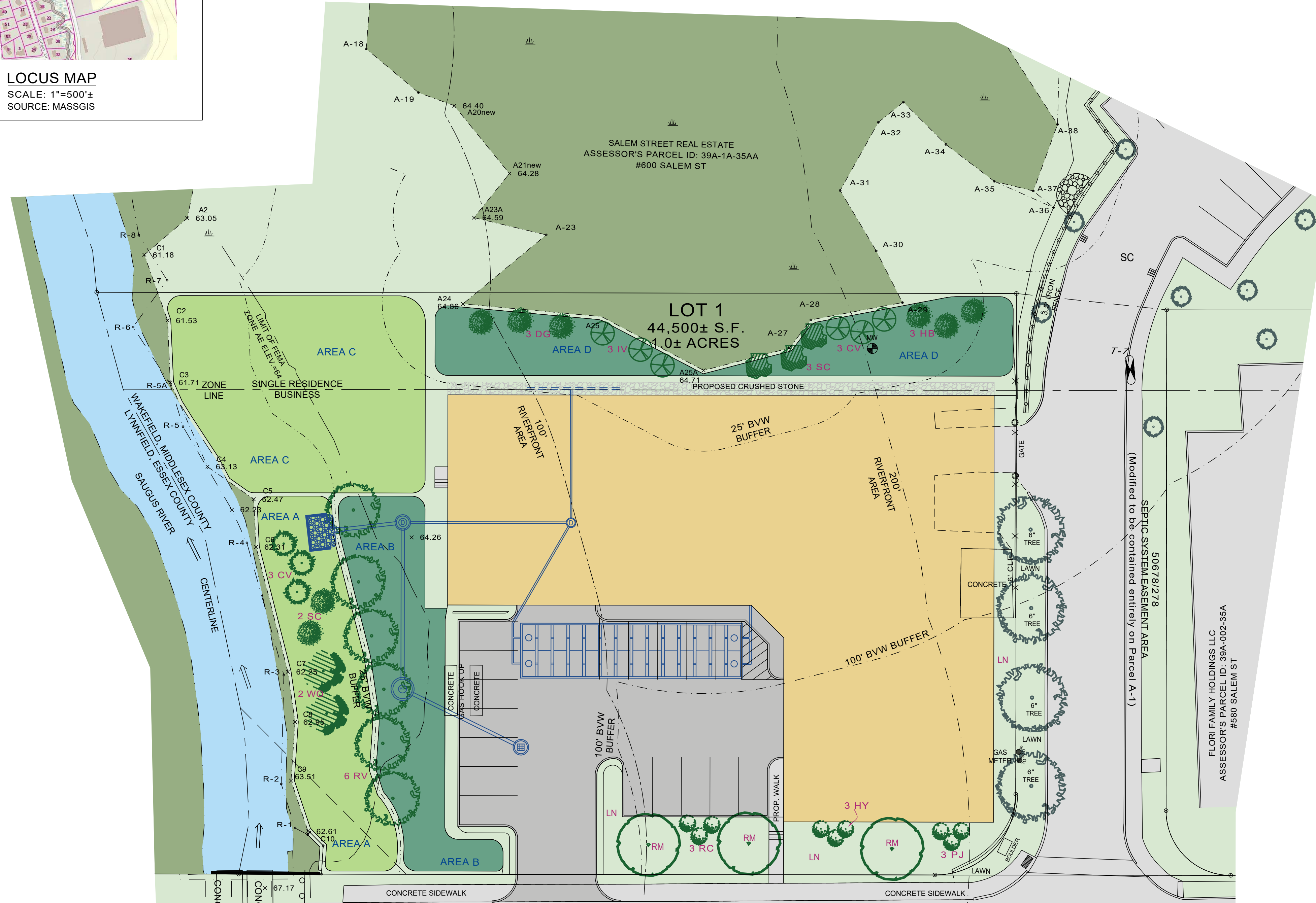
- MAINTENANCE NOTES:**
- REMOVE AND CLEANUP ALL DEBRIS AND LOOSE MATERIAL WITHIN AREA. ADD LOAM TO MAINTAIN ESTABLISHED GRADE.
  - CONSERVATION SEED MIX MAINTENANCE - MOW AREA ONCE PER YEAR TO ENCOURAGE AND MAINTAIN FLOWERING ANNUALS AND PERENNIALS.
- COMPACTED GRAVEL DRIVE**
- LOOSEN SOIL TO A DEPTH OF 9" ALONG ENTIRE ROADWAY, SCARIFY SOIL AND ADD LOAM AS NEEDED TO PROVIDE FOR MEADOW GRASS OVER-SEEDING.
- PLANTING**
- INSTALL 6 CLUMP RIVER BIRCH ALONG 25' BVW BUFFER LINE.
  - INSTALL NEW ENGLAND CONSERVATION/WILDLIFE MIX IN OPEN AREAS. (25 LBS. PER ACRE)
  - NOTE: ALL NEW SEED MIX AREAS TO BE WATERED DURING FIRST SEASON AND SEASONALLY MAINTAINED AND GUARANTEED FOR REPLACEMENT AS NEEDED THEREAFTER.

**AREA C - RIVERFRONT MEADOW HABITAT PLAN**

- MAINTENANCE NOTES:**
- REMOVE AND CLEANUP ALL DEBRIS AND LOOSE MATERIAL WITHIN AREA. ADD LOAM TO MAINTAIN ESTABLISHED GRADE.
  - MANAGEMENT PLAN TO INCLUDE ERADICATION OF INVASIVE PLANTS INCLUDING BUT NOT LIMITED TO JAPANESE KNOTWEED AND BITTERSWEET VINES.
  - CONSERVATION SEED MIX MAINTENANCE - MOW AREA ONCE PER YEAR TO ENCOURAGE AND MAINTAIN FLOWERING ANNUALS AND PERENNIALS.
- PLANTING**
- INSTALL NEW ENGLAND CONSERVATION/WILDLIFE MIX IN OPEN AREA. (25 LBS. PER ACRE)
- OTHER**
- INSTALL 6' WIDE GRAVEL STONE DUST WALKWAY AND 20' CIRCULAR STONE DUST WILDLIFE VIEWING AREA. INCLUDE 3 WOODEN BENCHES.
  - BUILDING EDGE - INSTALL 6' WIDE STONE DUST MAINTENANCE ACCESS PATHWAY.
  - TREES TO BE SAVED SHALL BE IDENTIFIED PRIOR TO ANY WORK IN THIS AREA

**AREA D - BUFFER ZONE HABITAT RESTORATION PLAN MAINTENANCE NOTES:**

- MAINTENANCE NOTES:**
- REMOVE AND CLEANUP ALL DEBRIS AND LOOSE MATERIAL WITHIN AREA. ADD LOAM TO MAINTAIN ESTABLISHED GRADE
  - MANAGEMENT PLAN TO INCLUDE ERADICATION OF INVASIVE PLANTS INCLUDING JAPANESE KNOTWEED AND BITTERSWEET VINES.
  - CONSERVATION SEED MIX MAINTENANCE - MOW AREA ONCE PER YEAR TO ENCOURAGE AND MAINTAIN FLOWERING ANNUAL AND PERENNIALS.
- PLANTING**
- INSTALL NEW ENGLAND CONSERVATION/WILDLIFE MIX IN OPEN AREA. (25 LBS. PER ACRE)
  - INSTALL 3 RED-OSIER DOGWOOD, 3 ILEX VERTICILLATA 3 SAMBUCUS CANADENSIS, 3 CRANBERRY VIBURNUM 3 Highbush BLUEBERRY. ALL INCLUDED AS VALUED WILDLIFE AND BIRD FOOD SOURCES WITHIN BUFFER ZONE PLANTING AREA.
- OTHER**
- INSTALL 6' WIDE STONE DUST MAINTENANCE ACCESS PATHWAY ALONG BUILDING REAR.



**SALEM STREET**  
(PUBLIC - 50' WIDE - 1897 COUNTY LAYOUT)

**GENERAL NOTES:**  
LANDSCAPE DESIGN AND NOTES BY STEPHEN CEFALO  
TOPOGRAPHIC INFORMATION FROM AN ON THE GROUND SURVEY BY HAYES ENGINEERING, INC. PERFORMED AUGUST 2017 AND FROM A PLAN ENTITLED "AS BUILT RIVER CROSSING" BY HAYES ENGINEERING, INC. DATED APRIL 21, 2011.  
FEMA INFORMATION FROM FLOOD INSURANCE RATE MAP NUMBER 25017C0318E EFFECTIVE DATE JUNE 4, 2010.  
VERTICAL DATUM IS NAVD88.

MCCARTHY, MARYANNA TREACY  
ASSESSOR'S PARCEL ID: 39A-162-32BC  
#611 SALEM ST

OGREN TR, PETER  
ASSESSOR'S PARCEL ID: 39A-160-322  
#603-605 SALEM ST

PLANT SCHEDULE				
QTY.	KEY	SCIENTIFIC NAME	COMMON NAME	SIZE
<b>BUILDING PLANTINGS:</b>				
3	RM	ACER RUBRUM	RED MAPLE	2 1/2'-3' Ø
3	RC	RHODODENDRON ATLANTICUM	DWARF RHODODENDRON	3' HT.
3	HY	HYDRANGEA MACROPHYLLA	BLUE HYDRANGEA	3' HT.
3	PJ	RHODODENDRON PJM	PJM RHODODENDRON	3' HT.
-	LN	--	LAWN	--
<b>AREA A - RIVERFRONT HABITAT RESTORATION</b>				
2	WO	QUERCUS ALBA	WHITE OAK	2' Ø
3	CV	VIBURNUM TRILOBUM	CRANBERRY VIBURNUM	3' HT.
2	SC	SAMBUCUS CANADENSIS	AMERICAN ELDER	3' HT.
<b>AREA B - GRAVEL DRIVE RESTORATION</b>				
6	RV	BETULA NIGRA	CLUMP RIVER BIRCH	7' HT.
-	-	-	"NEW ENGLAND CONSERVATION/WILDLIFE" SEED PRODUCT FROM NEW ENGLAND WETLAND PLANTS, INC. AMHERST, MA	25 LBS PER ACRE
<b>AREA C - RIVERFRONT MEADOW HABITAT</b>				
-	-	-	"NEW ENGLAND CONSERVATION/WILDLIFE" SEED PRODUCT FROM NEW ENGLAND WETLAND PLANTS, INC. AMHERST, MA	25 LBS PER ACRE
<b>AREA D - BUFFER ZONE HABITAT RESTORATION</b>				
3	DG	CORNUS SERICEA	RED-OSIER DOGWOOD	3' HT.
3	IV	ILEX VERTICILLATA	ILEX SPARKLEBERRY	3' HT.
3	SC	SAMBUCUS CANADENSIS	AMERICAN ELDER	3' HT.
3	CV	VIBURNUM TRILOBUM	CRANBERRY VIBURNUM	3' HT.
3	HB	VACCINIUM CORYMBOSUM	HIGH BUSH BLUEBERRY	3' HT.
-	-	-	"NEW ENGLAND CONSERVATION/WILDLIFE" SEED PRODUCT FROM NEW ENGLAND WETLAND PLANTS, INC. AMHERST, MA	25 LBS PER ACRE

**OTHER NOTES:**

IRRIGATION: ALL BUILDING PLANT MATERIAL INCLUDING LAWN, SHRUBS AND TREES SHALL BE IRRIGATED  
ALL TREE AND SHRUBS SHALL MEET THE SPECIFICATIONS OF THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN STANDARD FOR NURSERY STOCK

Seal:

Prepared For:

Owner / Applicant  
SBAB Capital Trust  
6 Victoria Street  
Everett, MA 02149

Prepared By:

Hayes Engineering, Inc.  
603 Salem Street  
Wakefield, MA 01880  
Ph: 781.246.2800  
Fax: 781.246.7596  
www.hayeseng.com

Design By: JO  
Drawn By: EBL  
Checked By: PJO  
Project File: WAK-0444C  
Comp. No: WAK282  
 Issued For Permit  
 Issued For Review  
 Issued For Bid  
 Issued For Construction  
 Not For Construction

No.	Revision	Date
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

Scale: 1"=20'  
0' 10' 20' 40'  
Date: December 4, 2019

Drawing Title:

**LANDSCAPE AND RIVERFRONT RESTORATION PLAN**  
**610 SALEM STREET**  
**WAKEFIELD, MASS.**

Drawing No.:

**LA**



Ref: 8542

August 31, 2020

Lieutenant Joseph Anderson  
Wakefield Police Department  
1 Union Street  
Wakefield, MA 01880-2026

Re: Proposed Mixed-use Development  
Transportation Scoping Request  
Wakefield, Massachusetts

Dear Lieutenant Anderson,

Vanasse & Associates, Inc. (VAI) is requesting a scoping determination on behalf of Cabot, Cabot & Forbes, for the proposed mixed-use development to be located at 200 Quannapowitt Parkway in Wakefield, Massachusetts (hereafter referred to as the “Project”). This letter provides: i) review of the existing conditions context of the transportation infrastructure serving the Project site; and ii) trip-generation calculations for the Project for peak-hour conditions in order to quantify the potential increase in traffic that may result from the Project.

### **PROJECT HISTORY DESCRIPTION**

The Project site was developed in 1957 with 224,067 square feet (sf) of office space and approximately 612 parking spaces. The development remained unchanged until 2010. In 2010, the existing 224,067 sf office space was modified to include a 28,782 sf Data Center. In 2019, a proposed change was approved by the Wakefield Planning Board to include 82,250 sf of office space, 141,817 sf of research and development space, and 8,800 sf of mechanical space for a total of 232, 867 sf.

The new program will entail the construction of a mixed-use development to include 485 multifamily residential units, and 10,000 sf flex space which was assumed to include 5,000 sf retail space, and a 5,000 sf of restaurant. The Project site is bounded by Interstate 95 (I-95) to the north; Lake Quannapowitt to the south; areas of open and wooded space to the east; and commercial properties to the west. The existing buildings will be razed to accommodate the Project. The location of the project site, relative to the surrounding roadway network is displayed in Figure 1. On-site parking will be provided for 795 vehicles including 665 covered parking spaces and 130 surface parking spaces to serve both the residential and commercial uses.



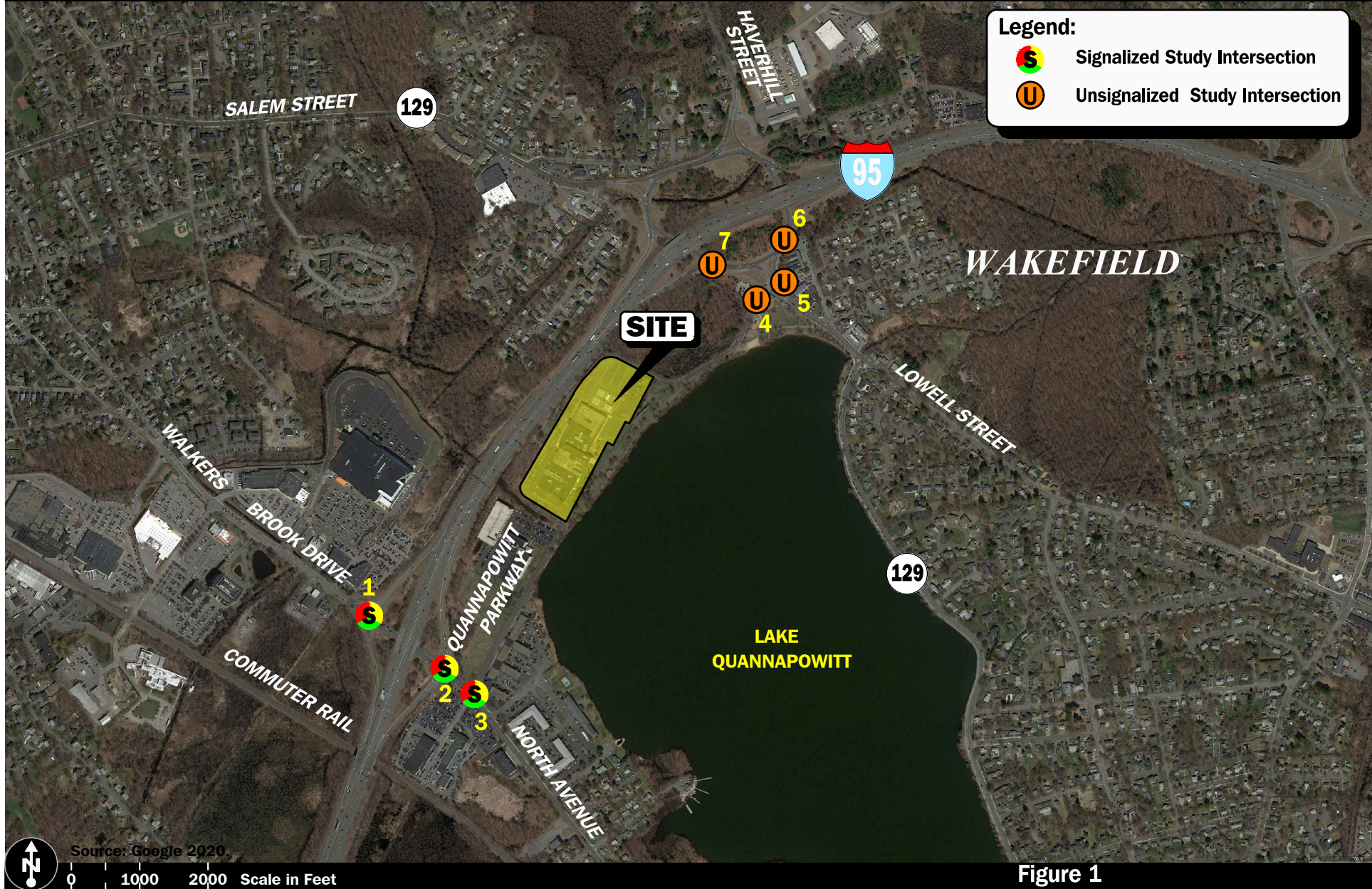


Figure 1

Site Location and Study Area Map



## **STUDY AREA**

Figure 1 also summarizes the study area which Project-related traffic will travel:

1. North Avenue at I-95 SB Ramps
2. North Avenue at I-95 NB Ramps
3. North Avenue at Quannapowitt Parkway
4. Quannapowitt Parkway at Parking Lot and channelized right-turn lane to Lowell Street
5. Quannapowitt Parkway at Lowell Street
6. Rotary at off ramp Lowell Street / on ramp I-95 NB
7. Rotary at off ramp I-95 NB/ on Lowell street

## **Project Trip Generation**

As proposed, the Project will entail the construction of a mixed-use development that will contain 485 multifamily residential units, 5,000± sf of retail space and a 5,000± sf restaurant. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)<sup>1</sup> for similar land uses as those proposed were used. ITE Land Use Codes (LUCs) 221, *Multifamily Housing (Mid-Rise)*; 820, *Shopping Center*; and 932, *High Turn-Over (Sit-Down) Restaurant*; were used to establish the base traffic characteristics of the Project.

## **Internal Trips**

A portion of the trips expected to be generated by the Project will consist of internal or dual-purpose trips. An internal trip consists of a resident, customer and/or employee that patronizes more than one of the uses planned within a development and is common in mixed-use projects with appropriate accommodations to facilitate trips between uses. By way of example, a resident of the Project may also patronize the retail space that is to be located within the Project site. These “internal” trips are not accounted for when the trip-generation calculations are performed on an individual land use basis, resulting in higher traffic volumes for the overall Project than will actually be generated. In order to account for this interaction, the multi-use trip-generation calculation methodology promulgated by the ITE<sup>2</sup> was applied to the base ITE trip-generation calculations.

## **Transit Use**

Given the availability of public transportation services to the Project site (MBTA fixed-route bus service along North Avenue and Lowell Street, and commuter rail service) and the interconnected network of sidewalks, it is expected that a portion of the residents of the Project will use public transportation services, thereby reducing the volume of traffic that may be associated with the Project. In order to determine the proportion of residents of the Project that may use public transportation as their primary mode of transportation, travel mode data obtained from the 2014-2018 American Community Survey

---

<sup>1</sup>*Trip Generation*, 10<sup>th</sup> Edition; Institute of Transportation Engineers; Washington, DC; 2017.

<sup>2</sup>*Trip Generation Handbook*, 3<sup>rd</sup> Edition, A Recommended Practice of the Institute of Transportation Engineers; Institute of Transportation Engineers; Washington, D.C.; September 2017.



(ACS) for the Town of Wakefield was reviewed. Based on a review of this data, the following commuting modes were identified for workers age 16 or older that reside within the Town:

- Single-Occupant Vehicle: 78.3%
- Car/Vanpool/Taxi: 5.7%
- Public Transportation: 8.1%
- Walk: 2.2%
- Bicycle/Other Means: 1.7%
- Worked at Home: 3.9%

According to the ACS, approximately 22 percent of workers that reside in the Census Tract reported that they used an alternative mode of transportation to single-occupancy vehicles (SOVs) to travel to/from work, with approximately 6.0 percent participating in a car or vanpool, 8.0 percent using public transportation, 4.0 percent walking/bicycling and approximately 4 percent indicating that they work from home. That being said, in order to provide conservative (high) traffic volumes from which to assess the potential impact of the Project on the transportation infrastructure, a reduction to the ITE base trip-generation calculations was not applied to account for transit use or the use of alternative modes of transportation to single-occupant vehicles (SOVs).

A summary of the expected vehicle trip generation for the Project is Summarized in Table 1.



**Table 1**  
**TRIP GENERATION SUMMARY**

Time Period/Direction	Proposed Retail/Restaurant Space			Net Trips	Proposed Multifamily Residential Community	Total Trips
	Retail (5,000 sf) <sup>a</sup>	Restaurant (5,000 sf) <sup>b</sup>	Internal Trips <sup>c</sup>		Multifamily Housing (485 units) <sup>d</sup>	
<i>Average Weekday Daily</i>						
Entering	392	281	34	639	1,321	1,960
Exiting	<u>392</u>	<u>281</u>	<u>34</u>	<u>639</u>	<u>1,321</u>	<u>1,960</u>
Total	784	562	68	1,278	2,642	3,920
<i>Weekday Morning Peak Hour</i>						
Entering	3	27	2	28	45	73
Exiting	<u>2</u>	<u>23</u>	<u>2</u>	<u>23</u>	<u>130</u>	<u>153</u>
Total	5	50	4	51	175	226
<i>Weekday Evening Peak Hour</i>						
Entering	28	30	3	55	130	185
Exiting	<u>31</u>	<u>19</u>	<u>3</u>	<u>47</u>	<u>83</u>	<u>130</u>
Total	59	49	6	102	213	315

<sup>a</sup>Based on ITE LUC 820, *Shopping Center*.

<sup>b</sup>Based on ITE LUC 932, *High-Turnover (Sit-Down) Restaurant*.

<sup>c</sup>Internal trips: weekday daily, weekday morning peak-hour; weekday evening peak-hour – 5.0 percent

**Project-Generated Traffic Volume Summary**

As can be seen in Table 1, after adjustment (reduction) to account for internal trips, the Project is expected to generate approximately 3,920 primary (new) vehicle trips on an average weekday (two-way volume, 24-hour volume), with 226 new vehicle trips (73 vehicles entering and 153 exiting) expected during the weekday morning peak-hour, and 315 new vehicle trips (185 vehicles entering and 130 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 Wakefield and then refined based on existing traffic patterns within the study area during the commuter peak periods. This methodology is consistent with the residential and commercial nature of the Project and commuter traffic patterns during the peak hours. The anticipated distribution is shown in Table 3.

**Table 3**  
**TRIP-DISTRIBUTION SUMMARY**

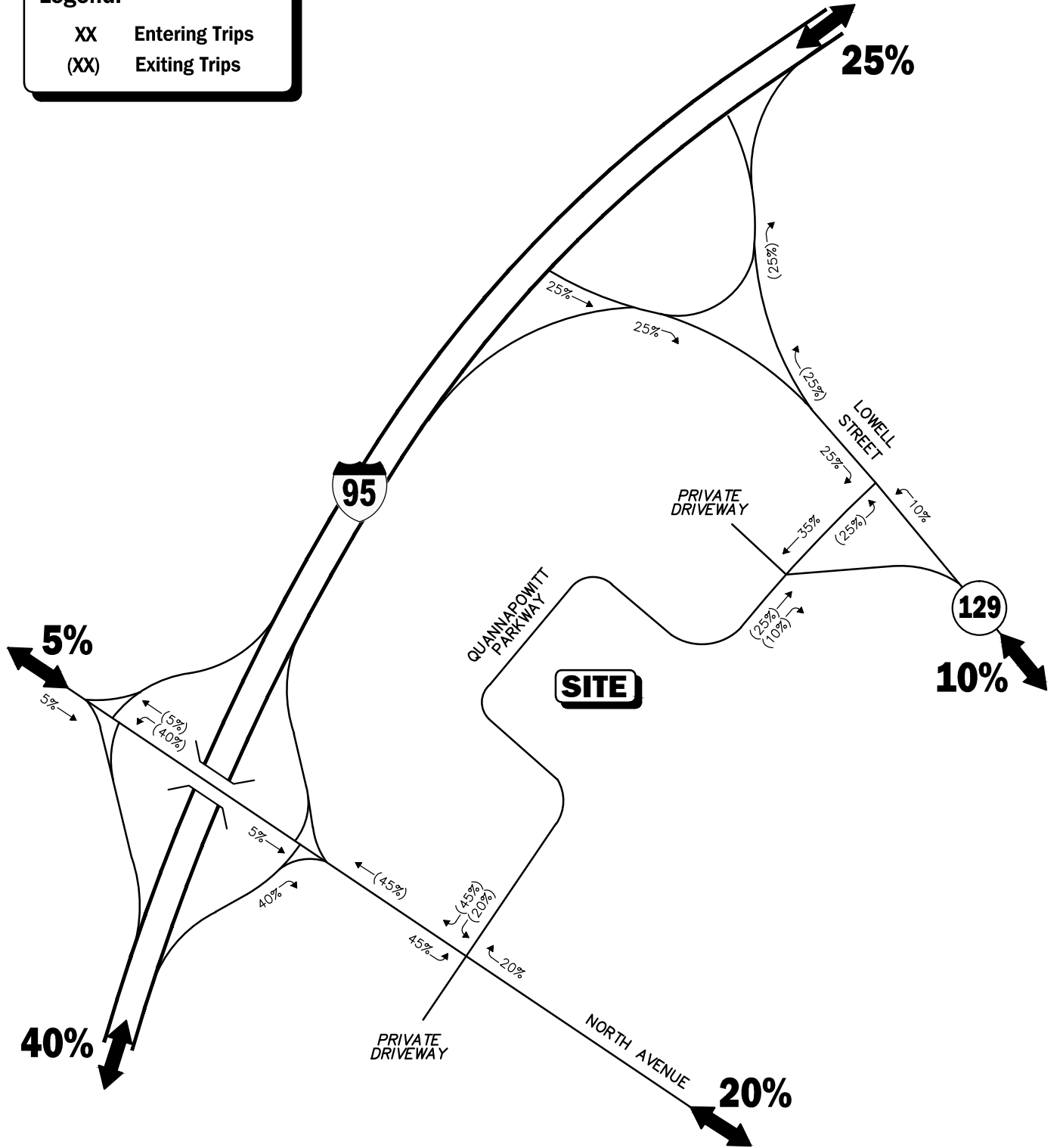
Route (To/From)	Trip Distribution
Route 95, from West	40%
Route 95, from East	25%
North Avenue, North of Quannapowitt Parkway	5%
North Avenue, South of Quannapowitt Parkway	20%
Lowell Street, South of Quannapowitt Parkway	<u>10%</u>
TOTAL	100%

The general trip distribution for the Project is graphically depicted on Figure 2. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figures 3 and 4.



**Legend:**

- XX** Entering Trips
- (XX)** Exiting Trips



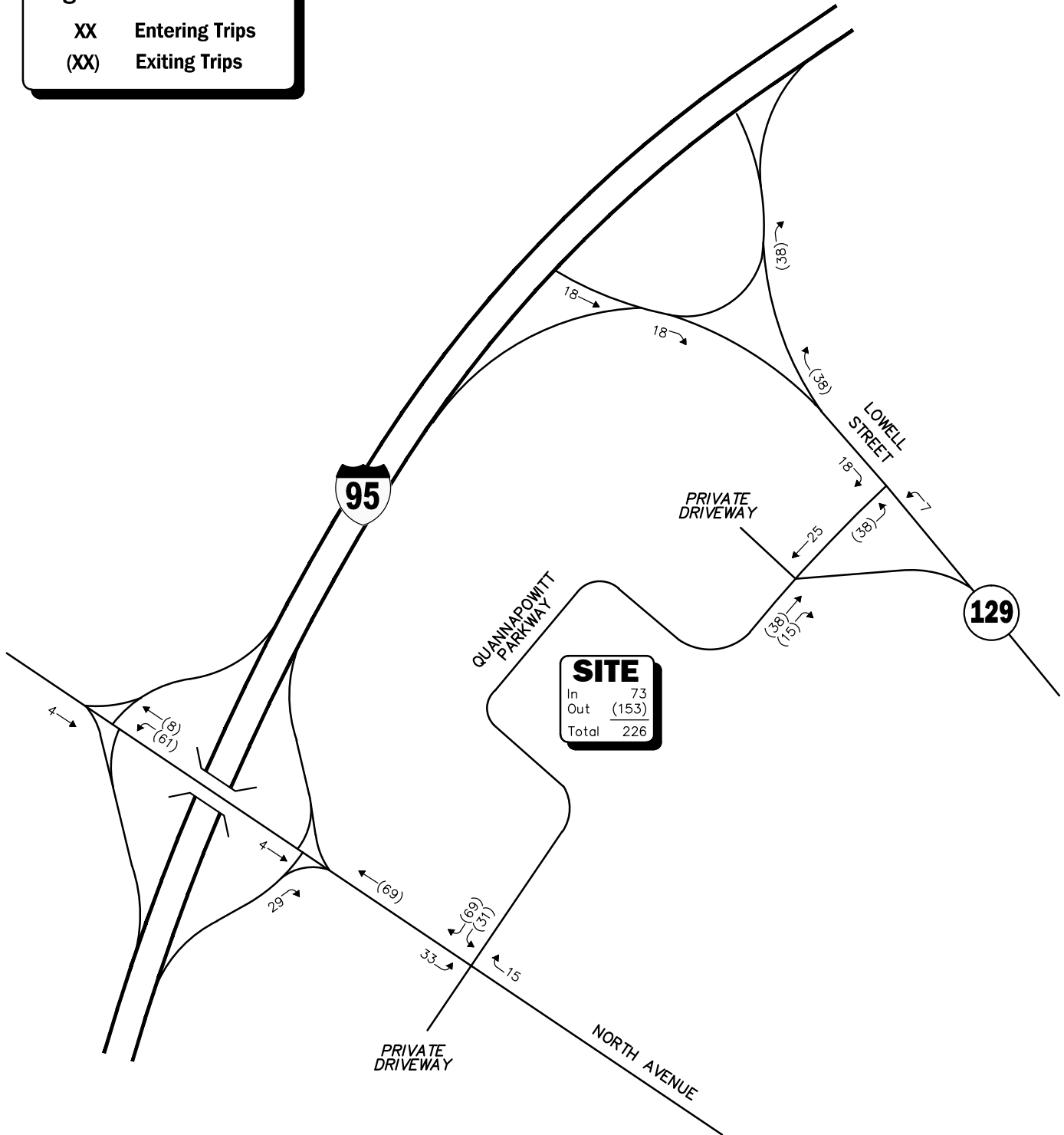
Not To Scale

**Figure 2**  
Trip Distribution Map



**Legend:**

- XX Entering Trips
- (XX) Exiting Trips



<b>SITE</b>	
In	73
Out	(153)
Total	226

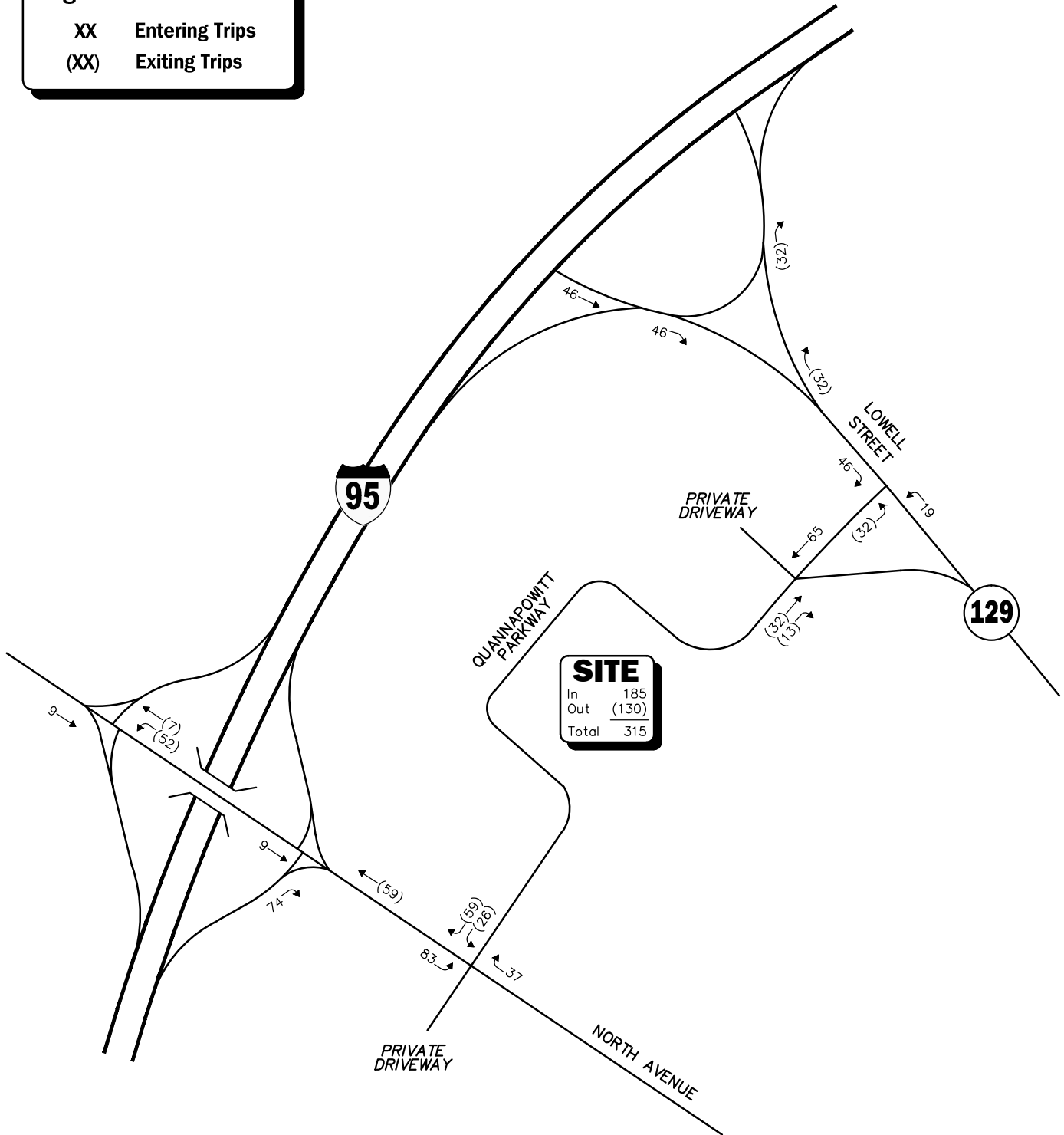
Not To Scale



**Figure 3**  
**Project Generated**  
**Weekday Morning**  
**Peak Hour Traffic Volumes**

**Legend:**

- XX Entering Trips
- (XX) Exiting Trips



SITE	
In	185
Out	(130)
Total	315

Not To Scale



**Figure 4**

**Project Generated  
Weekday Evening  
Peak Hour Traffic Volumes**

Lieutenant Joseph Anderson  
August 25, 2020  
Page 6

We look forward to meeting with you to discuss the project and scope of the study. If you should have any questions or require additional information, please feel free to contact me.

Sincerely,

VANASSE & ASSOCIATES, INC.

F. Giles Ham, P.E.  
Managing Partner

Attachments

cc: File





## APPENDIX

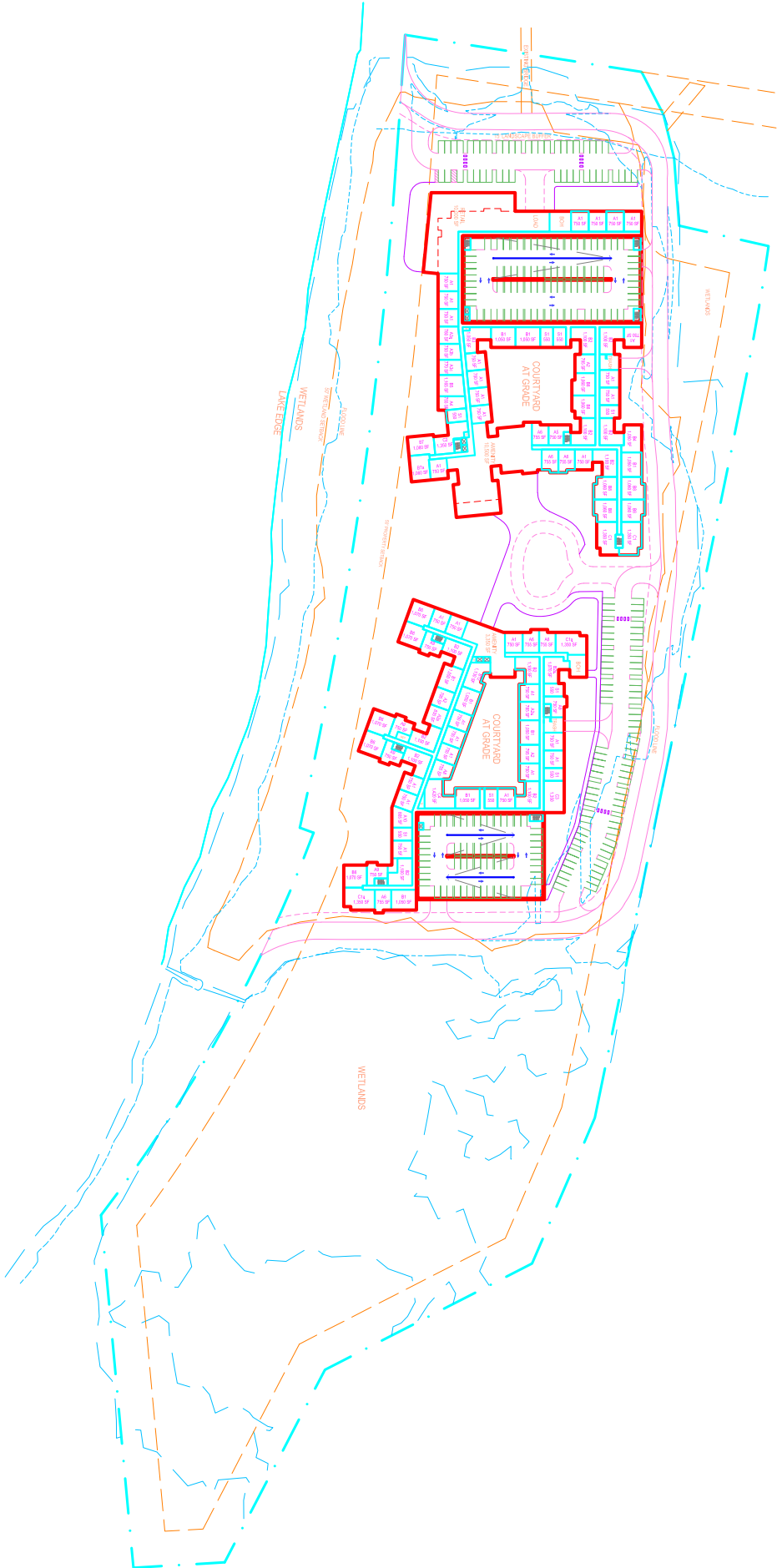
---

PROJECT SITE PLAN  
TRIP-GENERATION CALCULATIONS  
INTERNAL TRIP CALCULATIONS  
TRIP-DISTRIBUTION CALCULATIONS

**PROJECT SITE PLAN**

---

# Ground Floor



## TRIP-GENERATION CALCULATIONS

---



## Multifamily Housing (Mid-Rise) (221)

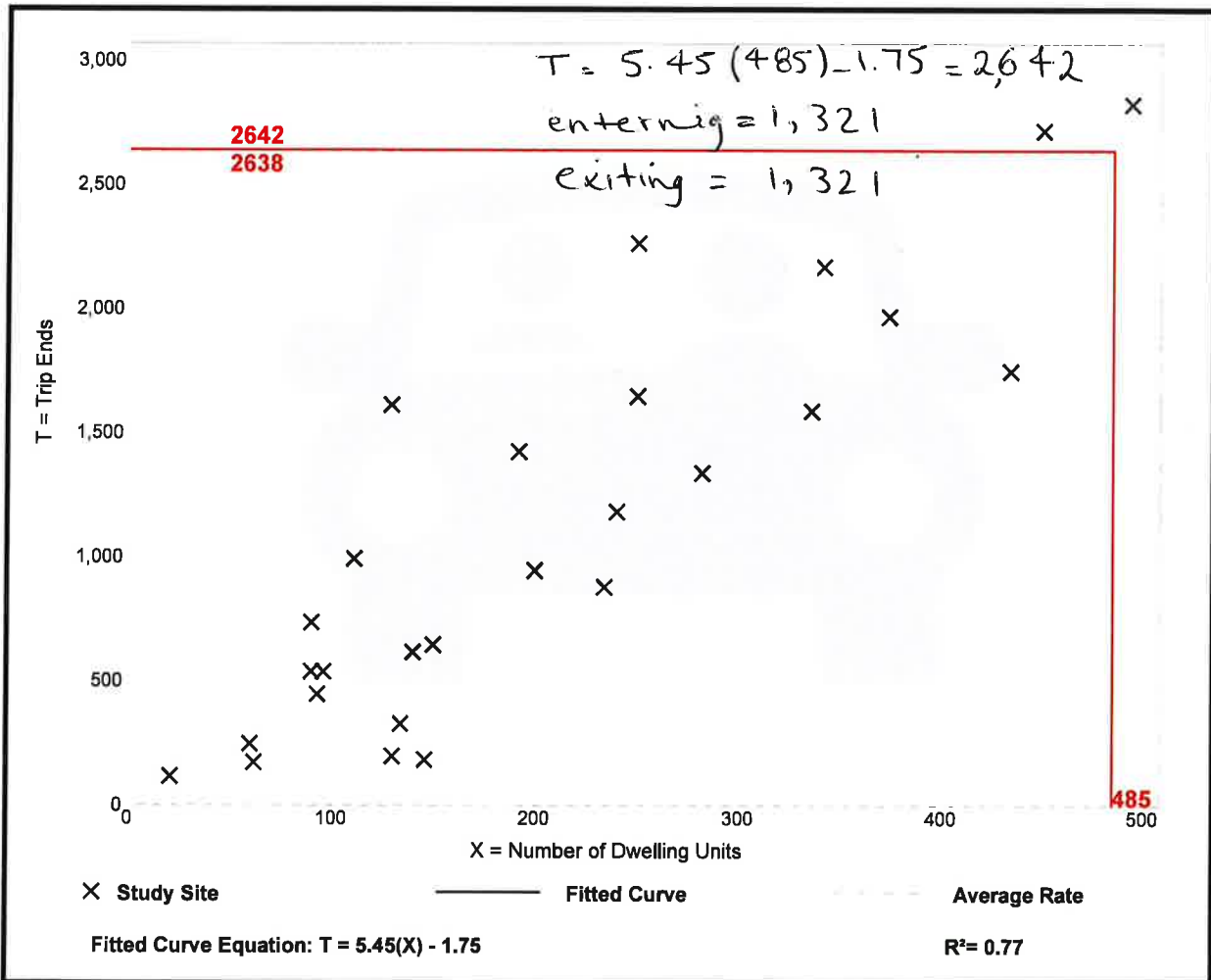
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 27  
Avg. Num. of Dwelling Units: 205  
Directional Distribution: 50% entering, 50% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

### Data Plot and Equation



*Trip Gen Manual, 10th Ed + Supplement* • Institute of Transportation Engineers

## Multifamily Housing (Mid-Rise) (221)

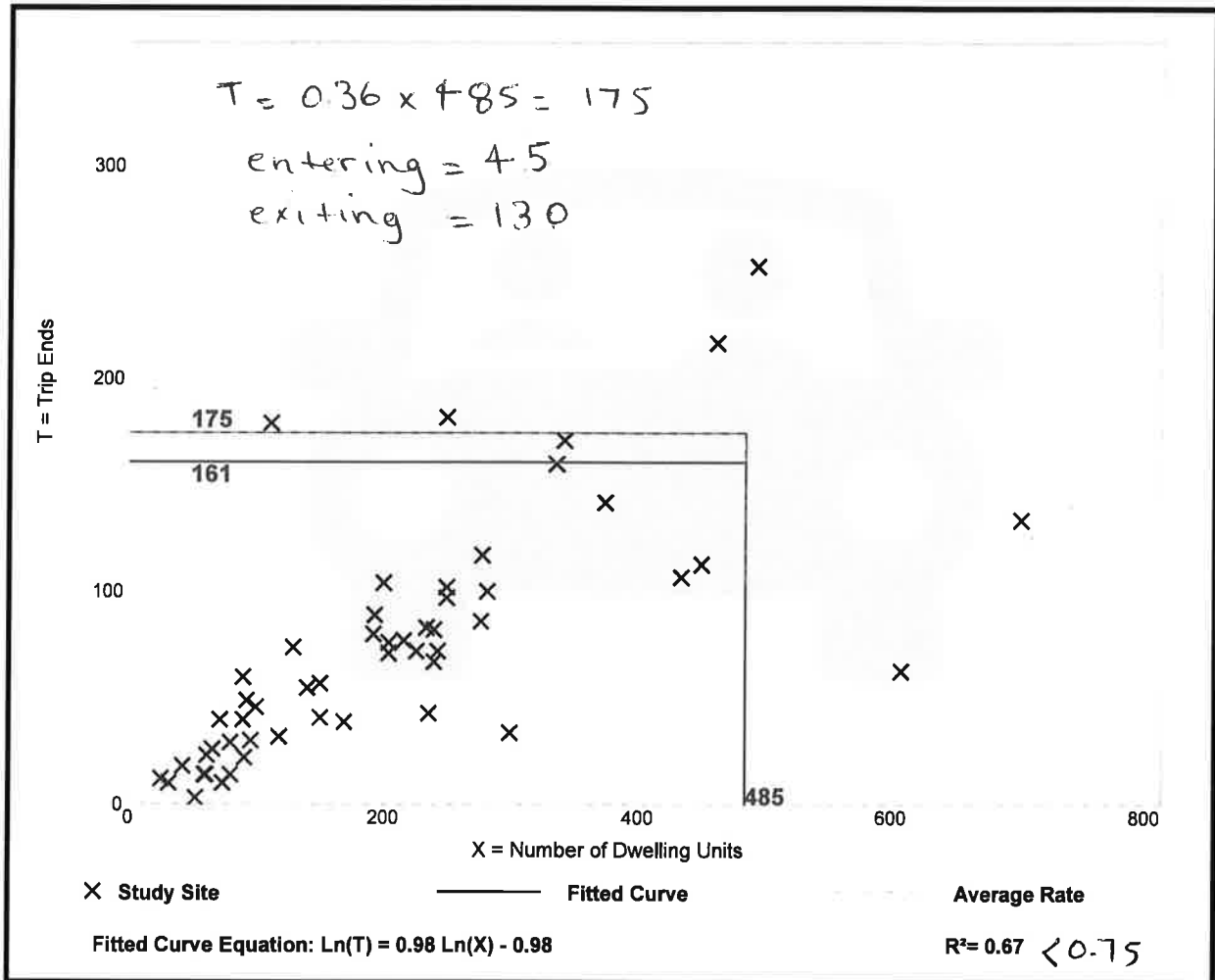
**Vehicle Trip Ends vs: Dwelling Units**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 7 and 9 a.m.**

**Setting/Location: General Urban/Suburban**  
 Number of Studies: 53  
 Avg. Num. of Dwelling Units: 207  
 Directional Distribution: 26% entering, 74% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

### Data Plot and Equation



## Multifamily Housing (Mid-Rise) (221)

**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: 60

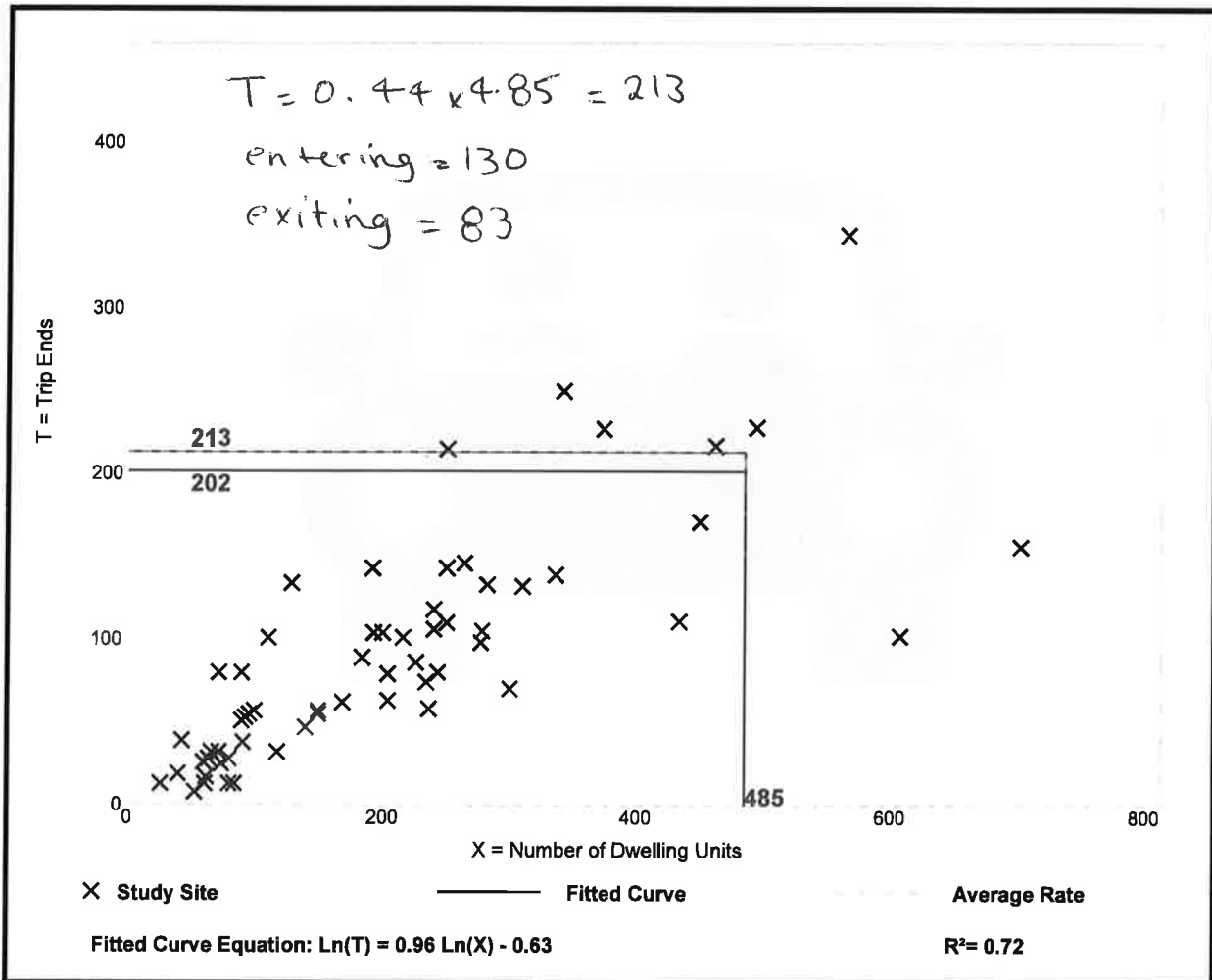
Avg. Num. of Dwelling Units: 208

Directional Distribution: 61% entering, 39% exiting

### Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

### Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

# High-Turnover (Sit-Down) Restaurant (932)

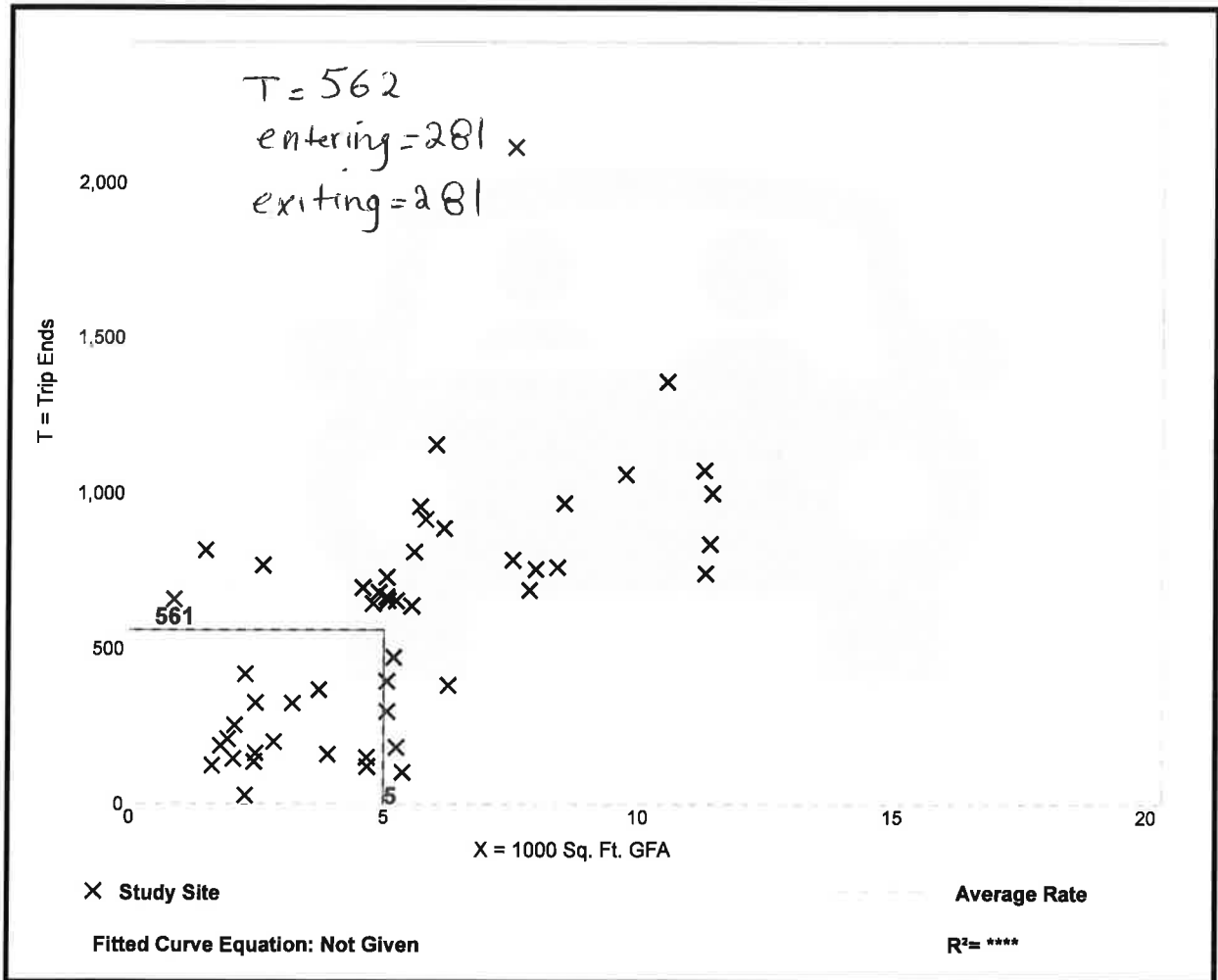
**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 50  
Avg. 1000 Sq. Ft. GFA: 5  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
112.18	13.04 - 742.41	72.51

## Data Plot and Equation



*Trip Gen Manual, 10th Ed + Supplement* • Institute of Transportation Engineers

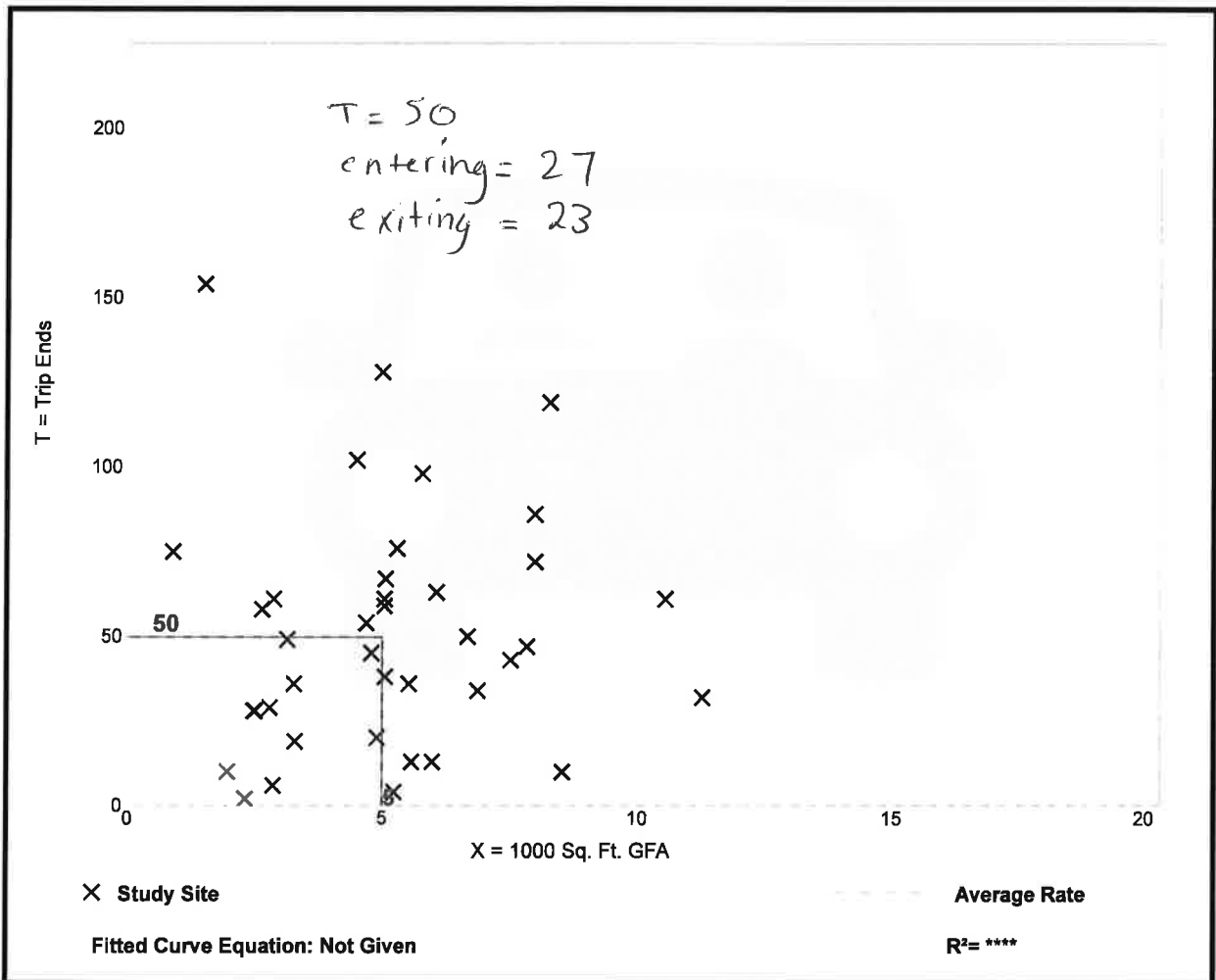
## High-Turnover (Sit-Down) Restaurant (932)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**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: 39  
 Avg. 1000 Sq. Ft. GFA: 5  
 Directional Distribution: 55% entering, 45% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.94	0.76 - 102.39	11.33

### Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers



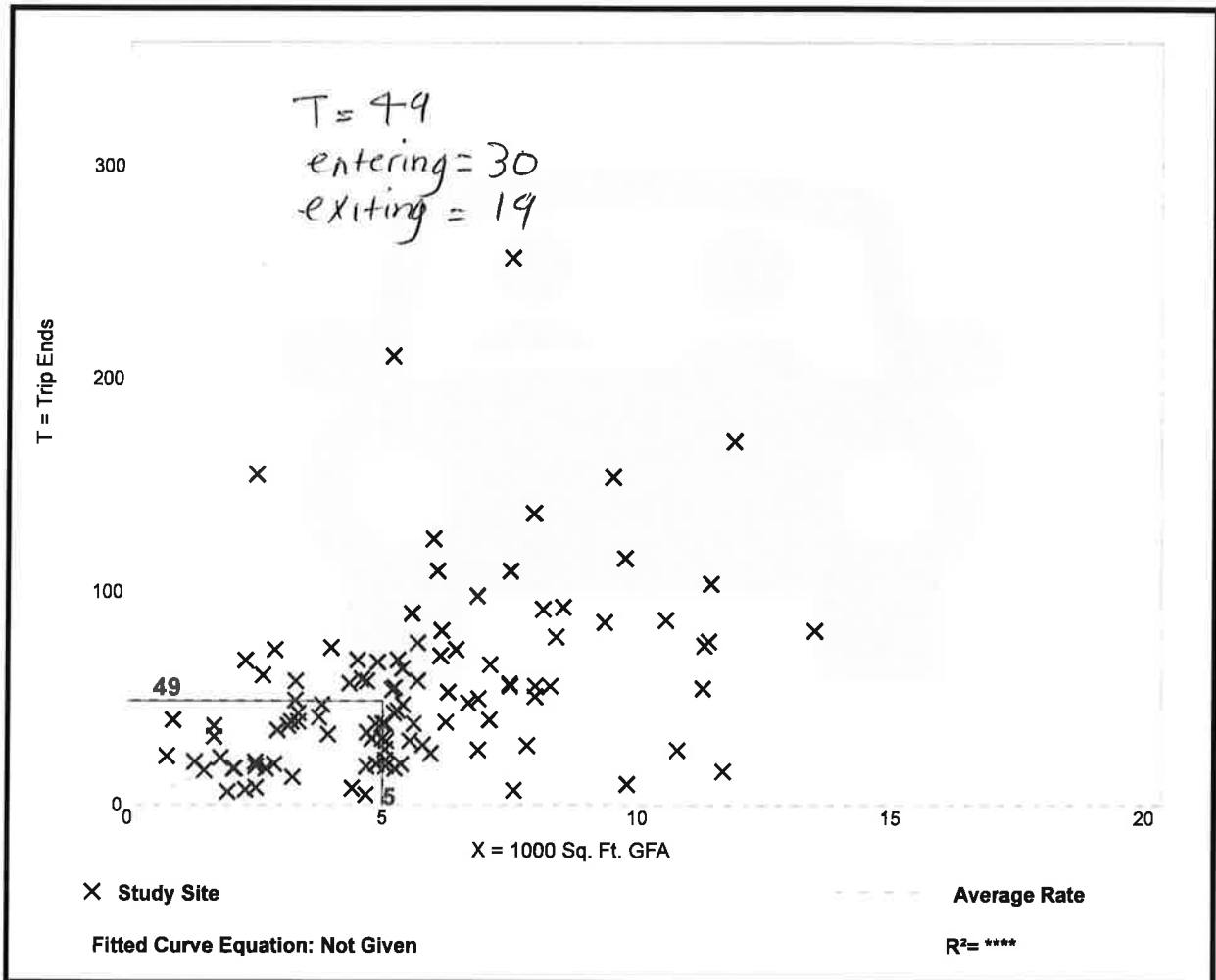
## High-Turnover (Sit-Down) Restaurant (932)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GFA**  
**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: 107  
 Avg. 1000 Sq. Ft. GFA: 6  
 Directional Distribution: 62% entering, 38% exiting

### Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.77	0.92 - 62.00	7.37

### Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

# Shopping Center (820)

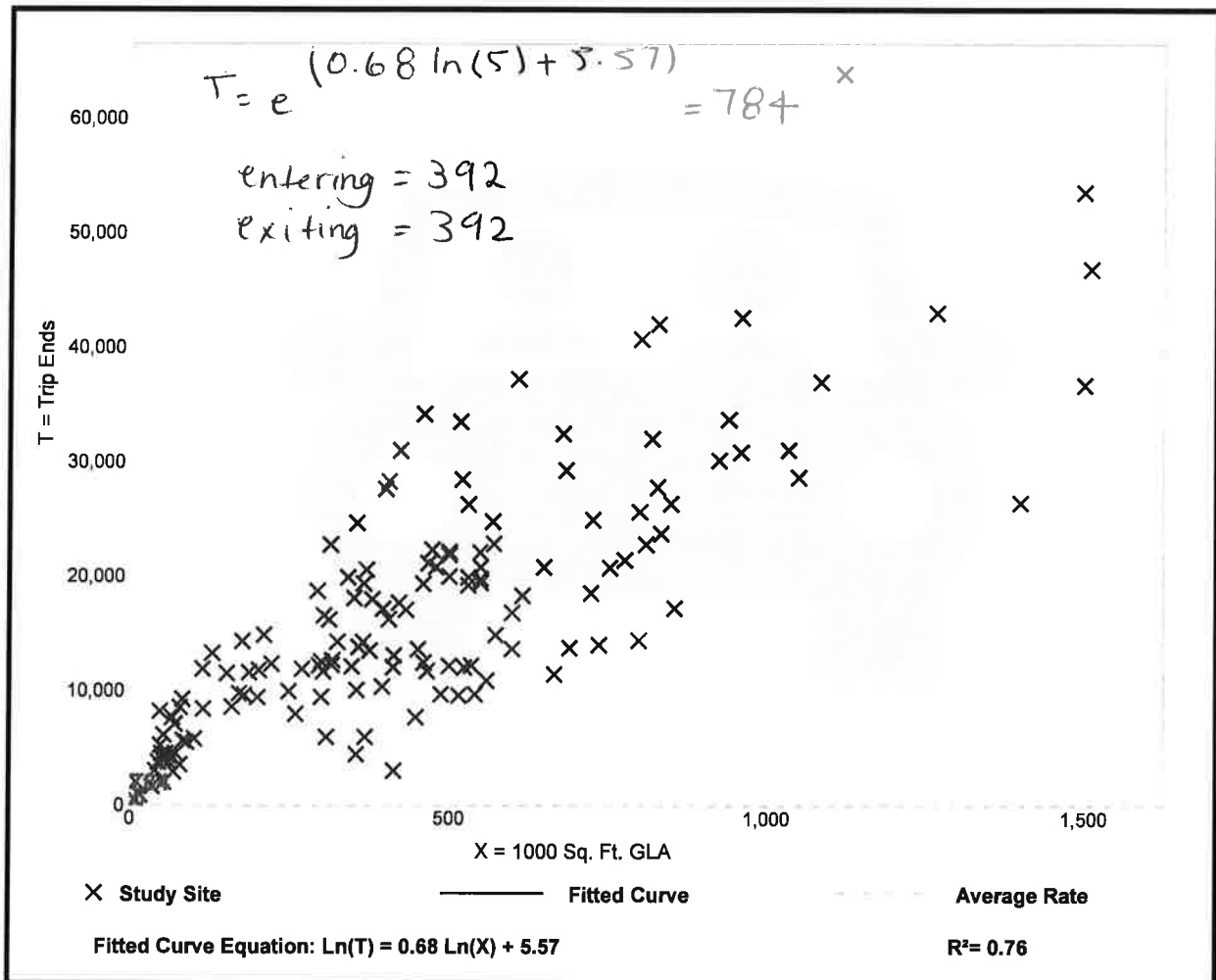
**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**On a: Weekday**

**Setting/Location: General Urban/Suburban**  
Number of Studies: 147  
Avg. 1000 Sq. Ft. GLA: 453  
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

## Data Plot and Equation



*Trip Gen Manual, 10th Ed + Supplement* • Institute of Transportation Engineers

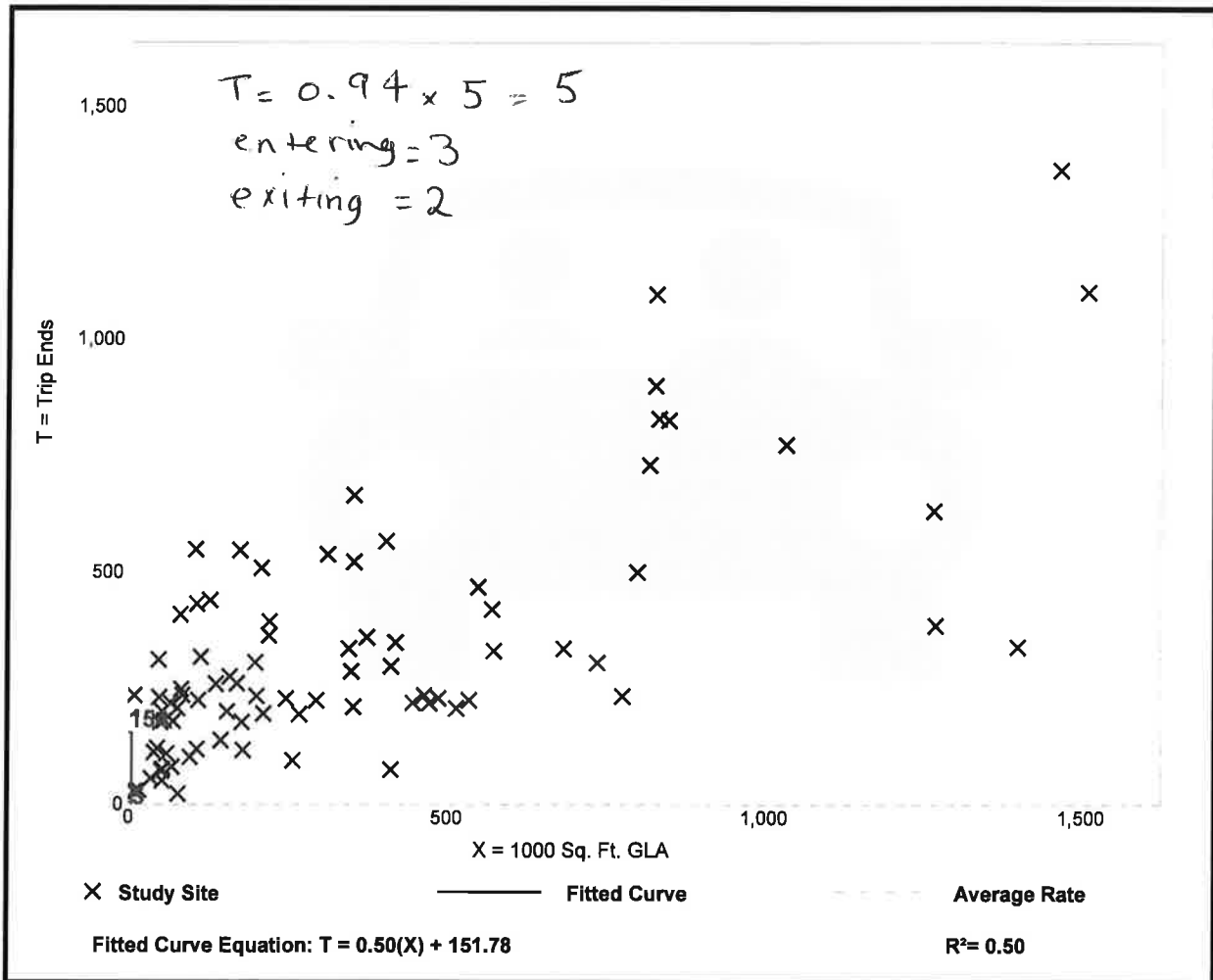
# Shopping Center (820)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**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: 84  
 Avg. 1000 Sq. Ft. GLA: 351  
 Directional Distribution: 62% entering, 38% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

## Data Plot and Equation



Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers

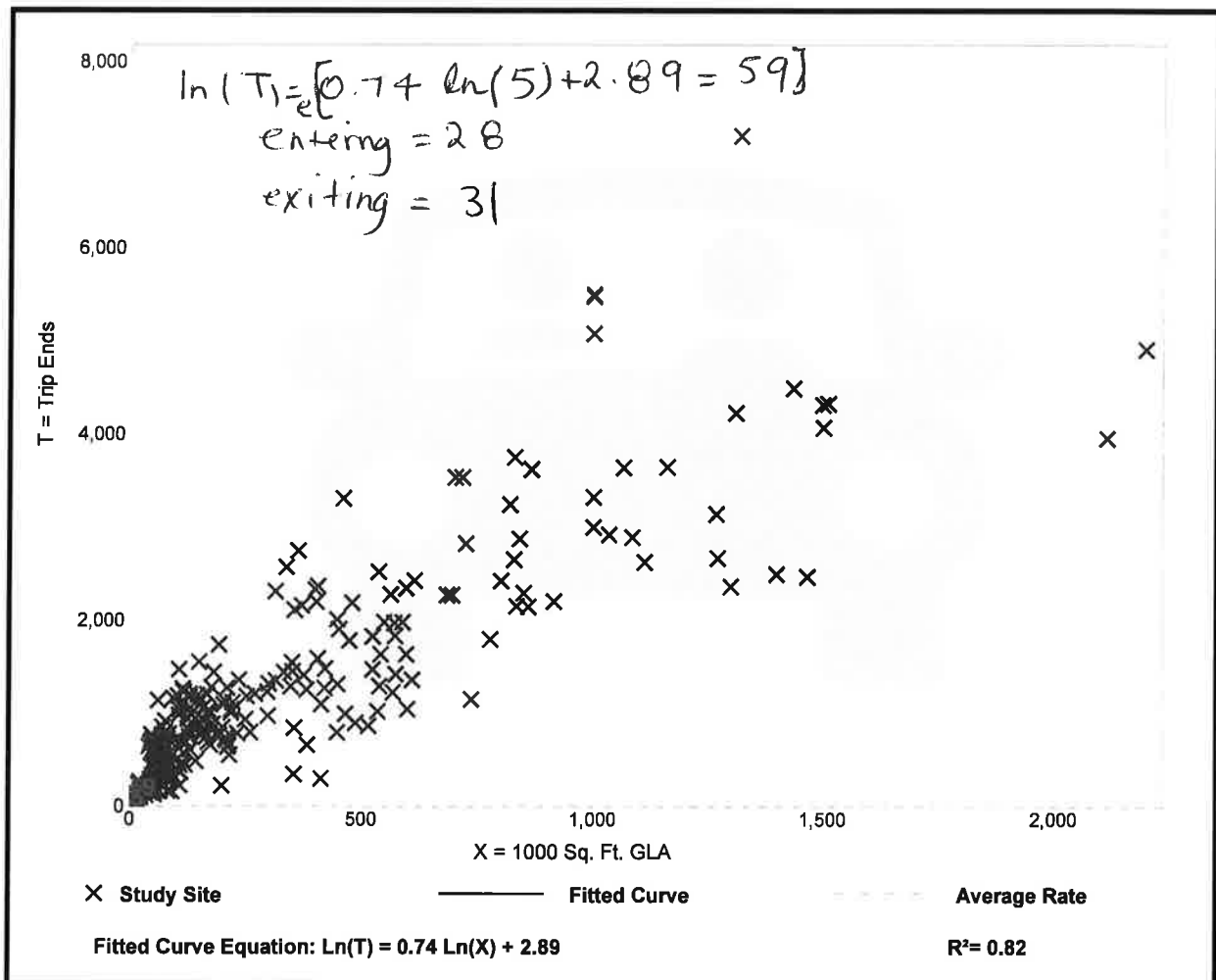
# Shopping Center (820)

**Vehicle Trip Ends vs: 1000 Sq. Ft. GLA**  
**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: 261  
 Avg. 1000 Sq. Ft. GLA: 327  
 Directional Distribution: 48% entering, 52% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

## Data Plot and Equation



*Trip Gen Manual, 10th Ed + Supplement* • Institute of Transportation Engineers



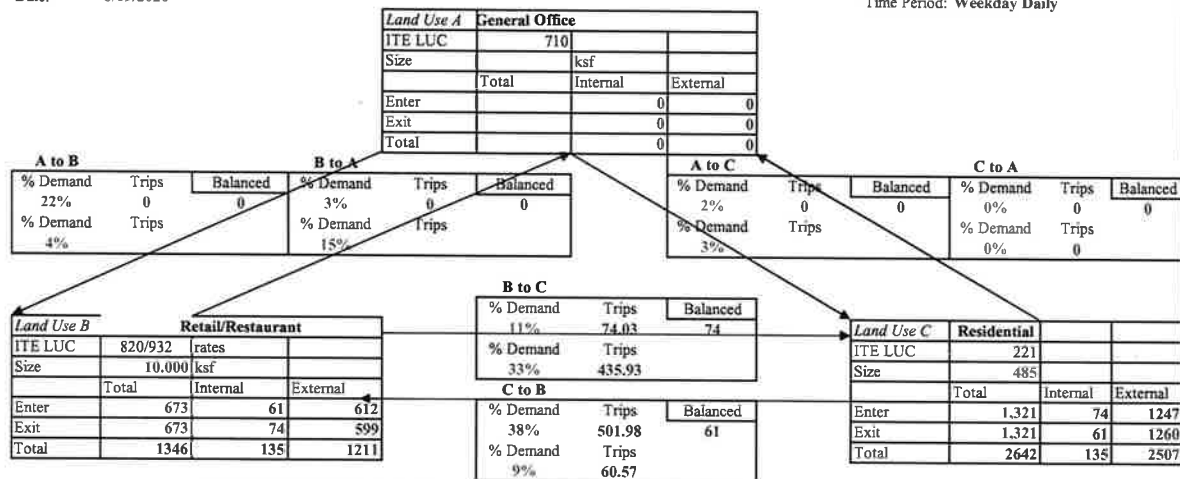
## INTERNAL TRIP CALCULATIONS

---

### Proposed Mixed-Use Development - Wakefield, MA

Analyst: RE  
Date: 8/19/2020

Job No. 8542  
Time Period: Weekday Daily



**Trip Origins**

		AM Peak Hour	PM Peak Hour	Daily
From Office	to Office	n/a	n/a	2%
	to Retail to Residential	28% 1%	20% 2%	22% 2%
From Retail	to Office to Retail to Residential	29% n/a 14%	2% n/a 26%	3% 30% 11%
	From Residential	2% 1% n/a	4% 42% n/a	n/a 38% n/a

**Trip Destinations**

		AM Peak Hour	PM Peak Hour	Daily
To Office	from Office	n/a	n/a	2%
	From Retail	4%	31%	15%
	From Residential	3%	57%	n/a
to Retail	From Office	32%	8%	4%
	From Retail	n/a	n/a	28%
	From Residential	17%	10%	9%
to Residential	From Office	0%	4%	3%
	From Retail	2%	46%	33%
	From Residential	n/a	n/a	n/a

\* from ITE Trip Generation Handbook, 3rd Edition, 2014.

**Net External Trips for Multi-Use Development**

	Land Use A	Land Use B	Land Use C	Total	
Enter	0	612	1247	1859	
Exit	0	599	1260	1859	
Total	0	1211	2507	3718	Internal Capture Rate
Single-Use Trip Gen Est.	0	1346	2642	3988	7%

\* from ITE Trip Generation Handbook, 3rd Edition, 2017.

## Proposed Mixed-Use Development - Wakefield, MA

Analyst: RE  
Date: 8/19/2020

Job No. 8542  
Time Period: Weekday Morning Pk Hr

Trip Origins

		AM Peak Hour	PM Peak Hour	Daily
From Office	to Office	n/a	n/a	2%
	to Retail to Residential	28% 1%	20% 2%	22% 2%
From Retail	to Office to Retail to Residential	29% n/a 14%	2% n/a 26%	3% 30% 11%
	From Residential	2% 1% n/a	4% 42% n/a	n/a 38% n/a

Trip Destinations

		AM Peak Hour	PM Peak Hour	Daily
To Office	from Office	n/a	n/a	2%
	From Retail From Residential	4% 3%	31% 57%	15% n/a
	to Retail	32% n/a 17%	8% n/a 10%	4% 28% 9%
to Residential	From Office From Retail From Residential	0% 2% n/a	4% 46% n/a	3% 33% n/a

Land Use A	General Office Building		
ITE LUC	710		
Size		ksf	
	Total	Internal	External
Enter			0
Exit			0
Total	0	0	0

A to B			B to A		
% Demand	Trips	Balanced	% Demand	Trips	Balanced
28%	0	0	29%	0	0
4%	1.2		32%	8	

A to C			C to A		
% Demand	Trips	Balanced	% Demand	Trips	Balanced
1%	0	0	0%	0	0
3%	1.35		0%	0	

Land Use B	Retail/Restaurant		
ITE LUC	820/932	rates	
Size	10,000	ksf	
	Total	Internal	External
Enter	30	1	29
Exit	25	1	24
Total	55	2	53

B to C		
% Demand	Trips	Balanced
14%	3.5	1
% Demand	Trips	
2%	0.9	

C to B		
% Demand	Trips	Balanced
1%	1.3	1
% Demand	Trips	
17%	5.1	

Land Use C	Residential		
ITE LUC	221		
Size	485		
	Total	Internal	External
Enter	45	1	44
Exit	130	1	129
Total	175	2	173

**Net External Trips for Multi-Use Development**

	Land Use A	Land Use B	Land Use C	Total	Internal Capture Rate
Enter	0	29	44	73	
Exit	0	24	129	153	
Total	0	53	173	226	
Single-Use Trip Gen Est.	0	55	175	230	2%

\* from ITE Trip Generation Handbook, 3rd Edition, 2014.

\* from ITE Trip Generation Handbook, 3rd Edition, 2017.



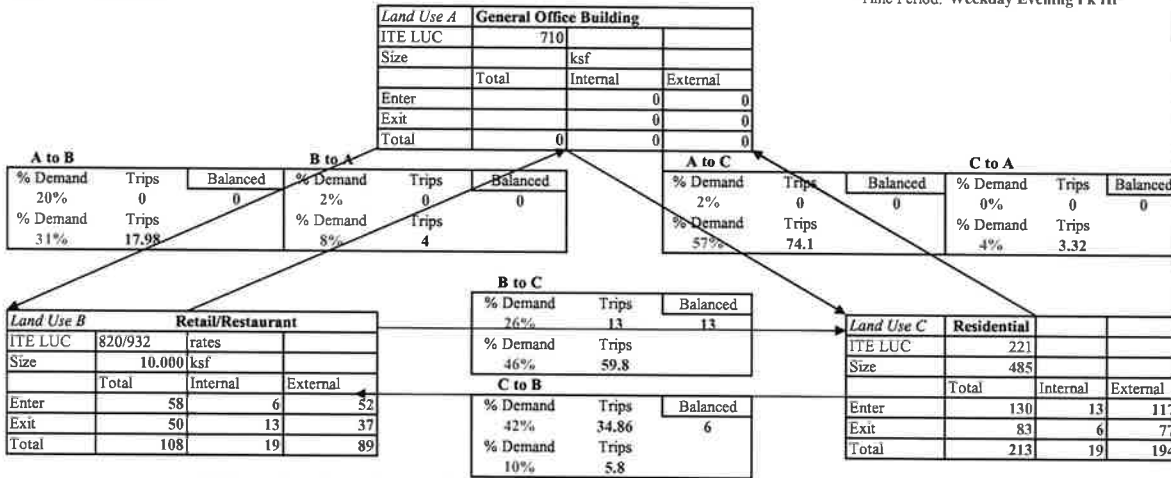
**Proposed Mixed-Use Development - Wakefield, MA**

Analyst: RE  
Date: 8/19/2020

Job No. 8542  
Time Period: Weekday Evening Pk Hr

Trip Origins

		AM Peak Hour	PM Peak Hour	Daily
From Office	to Office	n/a	n/a	2%
	to Retail	28%	20%	22%
	to Residential	1%	2%	2%
From Retail	to Office	29%	2%	3%
	to Retail	n/a	n/a	30%
	to Residential	14%	26%	11%
From Residential	to Office	2%	4%	n/a
	to Retail	1%	42%	38%
	to Residential	n/a	n/a	n/a



Trip Destinations

		AM Peak Hour	PM Peak Hour	Daily
To Office	from Office	n/a	n/a	2%
	From Retail	4%	31%	15%
	From Residential	3%	57%	n/a
to Retail	From Office	32%	8%	4%
	From Retail	n/a	n/a	28%
	From Residential	17%	10%	9%
to Residential	From Office	0%	4%	3%
	From Retail	2%	46%	33%
	From Residential	n/a	n/a	n/a

**Net External Trips for Multi-Use Development**

	Land Use A	Land Use B	Land Use C	Total	Internal Capture Rate
Enter	0	52	117	169	
Exit	0	37	77	114	
Total	0	89	194	283	
Single-Use Trip Gen Est.	0	108	213	321	12%

\* from ITE Trip Generation Handbook, 3rd Edition, 2014.

\* from ITE Trip Generation Handbook, 3rd Edition, 2017.

## TRIP-DISTRIBUTION CALCULATIONS

---

**Table 3. Residence MCD/County to Workplace MCD/County Commuting Flows for the**  
 For more information on sampling and estimation methods, confidentiality protection, and sampling  
 Universe: Workers 16 years and over.

Commuting flows are sorted by residence state, residence county, and residence minor civil division.

Residence				Place of Work				Commuting Flow
State FIPS Code	State Name	County Name	Minor Civil Division Name	State FIPS Code	State Name	County Name	Minor Civil Division Name	Workers in Commuting Flow
25	Massachu	Middlese	Wakefield	025	Massachu	Suffolk	Boston city	2,756
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Wakefield	2,443
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Woburn city	816
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Cambridge	683
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Reading	624
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Burlington	458
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Waltham	362
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Melrose city	357
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Beverly city	251
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Danvers	247
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Wilmington	244
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Medford	240
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Saugus	225
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Andover	217
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Peabody	215
								14,244

14,244

10,138

Exiting					Entering				
Matrix %					Matrix %				
Rte. 95 (East) OR Roundabout SB on Lowell	Lowell Street	Rte. 95 (West)	North Avenue (North)	North Avenue (South)	Rte. 95 (East)	Lowell Street	Rte. 95 (West)	North Avenue (North)	North Avenue (South)
0.3		0.7			0.3		0.7		
	0.3			0.6		0.3			0.6
		1					1		
			1					1	
0.4			0.6		0.4			0.6	
		1					1		
			1					1	
	0.2			0.8		0.2			0.8
1					1				
1					1				
0.1		0.7	0.2		0.1		0.7	0.2	
		1					1		
0.7	0.1			0.2	0.7	0.1			0.2
0.5			0.5		0.5			0.5	
1					1				

%

%



**Table 3. Residence MCD/County to Workplace MCD/County Commuting Flows for the**

For more information on sampling and estimation methods, confidentiality protection, and sampling Universe: Workers 16 years and over.

Commuting flows are sorted by residence state, residence county, and residence minor civil division.

Residence				Place of Work				Commuting Flow
State FIPS Code	State Name	County Name	Minor Civil Division Name	State FIPS Code	State Name	County Name	Minor Civil Division Name	Workers in Commuting Flow
25	Massachu	Middlese	Wakefield	025	Massachu	Suffolk	Boston city	2,756
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Wakefield	2,443
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Woburn city	816
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Cambridge	683
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Reading	624
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Burlington	458
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Waltham	362
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Melrose city	357
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Beverly city	251
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Danvers	247
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Wilmington	244
25	Massachu	Middlese	Wakefield	025	Massachu	Middlese	Medford	240
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Saugus	225
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Andover	217
25	Massachu	Middlese	Wakefield	025	Massachu	Essex	Peabody	215
								14,244
								10,138

19.3% 27.2%  
17.2% 24.1%  
5.7% 8.0%  
4.8% 6.7%  
4.4% 6.2%  
3.2% 4.5%  
2.5% 3.6%  
2.5% 3.5%  
1.8% 2.5%  
1.7% 2.4%  
1.7% 2.4%  
1.7% 2.4%  
1.6% 2.2%  
1.5% 2.1%  
1.5% 2.1%

USE

Exiting					Entering					%
Trip Distribution					Trip Distribution					
Rta. 95 (East)	Lowell Street	Rta. 95 (West)	North Avenue (North)	North Avenue (South)	Rta. 95 (East)	Lowell Street	Rta. 95 (West)	North Avenue (North)	North Avenue (South)	
826.8	0	1929.2	0	0	826.8	0	1929.2	0	0	2756
0	732.9	0	0	1465.8	0	732.9	0	0	1465.8	2198.7
0	0	816	0	0	0	0	816	0	0	816
0	0	683	0	0	0	0	683	0	0	683
249.6	0	0	374.4	0	249.6	0	0	374.4	0	624
0	0	458	0	0	0	0	458	0	0	458
0	0	362	0	0	0	0	362	0	0	362
0	71.4	0	0	285.6	0	71.4	0	0	285.6	357
251	0	0	0	0	251	0	0	0	0	251
247	0	0	0	0	247	0	0	0	0	247
24.4	0	170.8	48.8	0	24.4	0	170.8	48.8	0	244
0	0	240	0	0	0	0	240	0	0	240
157.5	22.5	0	0	45	157.5	22.5	0	0	45	225
108.5	0	0	108.5	0	108.5	0	0	108.5	0	217
215	0	0	0	0	215	0	0	0	0	215
2079.8	826.8	4659	531.7	1796.4	2079.8	826.8	4659	531.7	1796.4	9893.7
21%	8%	47%	5%	18%	21%	8%	46%	8%	18%	
25%	10%	40%	5%	20%	25%	10%	45%	5%	20%	

%

2756  
2198.7  
816  
683  
624  
458  
362  
357  
251  
247  
244  
240  
225  
217  
215

9893.7



September 16<sup>th</sup>, 2020

Traffic Advisory Committee  
One Lafayette Street  
Wakefield, MA 01880

Waterstone Wakefield, LLC  
C/O Attorney Brian D. McGrail  
Lakeside Office Park  
5999 North Avenue  
Suite Seven, Second Floor  
Wakefield, MA 01880

And

Jay Doherty  
CC&F  
185 Dartmouth Street  
Suite 402  
Boston, MA 02116

**RE: September 18<sup>th</sup>, 2020 Traffic Advisory Committee Meeting - . 200 Quannapowitt Parkway – proposed mixed use development. 485 residential units, 10,000 sf of mixed-use (5,000 sf retail & 5,000 sf restaurant). Transportation scoping request from Vanasse & Associates, Inc.OBO Cabot, Cabot & Forbes.**

Dear Members of the Committee and attorney McGrail,

This office manages the abutting property located at 100 Quannapowitt Parkway (100Q) adjacent to the above referenced project at 200 Quannapowitt (200Q). R.J. Kelly Co., Inc. executives hold ownership interest in 100 Q Owner LLC, the ownership entity of 100Q. We are in receipt of the abutters notice of this proposed project . 100Q is a fully occupied 4 story 168,000 square foot Class A Office building with 683 parking spaces of which 452 spaces are contained in a 4-level structured parking garage.

As you may or may not know, Quannapowitt parkway is a private road with easement rights for three properties, 200Q, 100Q and 50Q. It effectively serves as a public way for the owners and Tenants and visitors of these properties to access from both ends of the parkway via North Ave or Lowell Street. It is also used by Wakefield and residents of the general public who are accessing the lake or moving between those streets and the accompanying interchanges on I-95.

Previously, CC&F made an informal presentation in the spring to the Zoning Board of Appeals introducing concept plans for a 600 Unit Residential development with accompanying retail space. As

**R.J. Kelly Co., Inc.**  
55 Cambridge Street Burlington, MA 01803 781 272 2899 781 273 2075, fax  
www.rjkellycompany.com



owners and managers of 100Q, we took the position that we would welcome a well thought out project that does not negatively impact our property, our access and Quannopowitt Parkway. We maintain that position.

HOWEVER, since October of 2018, we have been diligently attempting to get the Owner of 200Q to abide by their obligation set forth in the attached Easement Agreement and the 1999 Easement Agreement referenced in the Easement Agreement to maintain Quannapowitt Parkway. It is in horrible shape and is now actually a dangerous road to travel on. It is littered with potholes, broken up asphalt and curbing and is in such a state of disrepair it has become difficult to navigate safely. In May of 2020, we sent a letter to both the current owner, Waterstone and the developer for this project (CC&F who now has it under agreement) that they must maintain the property. We, in turn, must pay our applicable percentage of the responsibility. In CC&F's presentation made by Jay Doherty, he indicated a project here would include major improvements to the Parkway both for vehicles and pedestrian traffic and those improvements would take up to 5 years from approval from the Town, should they receive it, to complete the work. The current state of the Parkway is unacceptable and needs to be repaired immediately and cannot wait until a project is approved and constructed.

To date we have had discussions with the current owner including their assurance these repairs would be made over the summer of 2020 prior to the fall. No work has been accomplished and repeated attempts to have a further conversation about their obligations have not been responded to. It is beyond our understanding why an owner who has an agreement with a developer who needs town approvals for the project for the deal to consummate would ignore an abutter who generally would like to see the 200Q property improved. Furthermore it is equally beyond our understanding, and quite disturbing, that an owner and developer would shirk responsibilities to maintain a road that the general public and people of Wakefield use regularly while at the same time seek to convince Town Boards and Committees that they are and would be responsible stewards of a project in town.

Furthermore, per the Easement Agreement(s), the 200Q owner cannot increase budget costs for maintaining their obligations more than \$10,000 without the approval of 100Q. Effectively, this means any improvements to the road to satisfy the needs to handle traffic and the new development would in fact, likely increase maintenance costs more than that number. So, 200Q would need approval from 100Q to improve the road beyond the current form it is in. It is equally beyond our understanding why we have not been approached by CC&F for input into their proposed plans they are presenting to your committee. We do know CC&F has had previous outreach to neighborhood groups and Mr. Doherty made certain in his presentation to the ZBA to make mention of this. However, no outreach has been made to us as we will become his direct abutter at 100Q should this project move forward.

We have many concerns about the current management of the property and proposed plans by CC&F which have not been shared with us. Additionally, we have a structured parking garage and field parking at 100Q that cannot be negatively impacted by occupants or visitors of the proposed project and we have seen no effort to communicate plans to make sure that does not happen. Furthermore, we have concerns as to how our building would be affected by new traffic patterns or levels of service and pedestrian access that may be necessary to accommodate this proposed project.

In summary, we do not believe the Town should consider any project from an owner or developer who has consistently ignored his/her responsibility to maintain the Parkway that legally serves 2 other





owners and also serves as a public way to the residents of Wakefield and the general public as a whole until they set an example that they can fulfill existing obligations and include an out-reach to their most direct abutter, 100Q, who will bear the brunt of the project both during and after construction.

Two exhibits are attached for reference. Exhibit A is a letter sent back in May of 2020 regarding our attempts to encourage the current 200Q owner to meet its obligations. CC&F was copied on that communication. Exhibit B includes some pictures of the existing condition of the Parkway taken today, September 16<sup>th</sup>, 2020. Also included is a copy of the Easement Agreement referenced herein for your review and understanding of the obligations and rights of 200Q and the 100Q and 50Q abutters.

We hope this letter expresses the frustration we have as abutters to 200Q and owners of a property with high value Tenants who serve the Town of Wakefield and Beyond. Clearly the owners of 200Q should first seek to fulfill their maintenance obligations of the parkway before coming to the town with a plan for a large scale project, and per the Easement Agreement they must seek approval of the 100Q Owner, LLC abutter to move forward with improvements of the scale necessary for the proposed project to accommodate the future traffic it will generate.

We thank you for your efforts in taking this communication into consideration as you move forward in your review of the referenced project at 200Q.

Best Regards,

Brandon Kelly and Scott Kelly – 100Q Owner LLC – R.J. Kelly Co., Inc.

EXHIBIT A

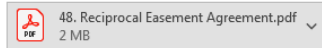
Letter to Waterstone and CC&F on May 19<sup>th</sup>, 2020

200Q Residential Concept and Access Road Repair Issues



Scott Kelly  
To: nshalom@waterstoneinc.net; Jay Doherty  
Cc: Brandon Kelly

You replied to this message on 6/1/2020 8:28 AM.



Reply Reply All Forward

Tue 5/19/2020 12:20 PM

Dear Neal and Jay,

Jay, that was a well thought out presentation the other night in front of the Town of Wakefield. As your direct potential abutter at 100Q, should you succeed in acquiring approvals and the property, we are excited to see a major improvement next door. We have some design concerns that I think can be addressed, but we would love to see a high quality project next door.

We need to bring to attention to both of you right now our biggest concern being the condition of the Parkway. **IT MUST BE ADDRESSED NOW BY OWNERSHIP.** Also, we wanted to make sure Jay is aware that the Parkway is not a Town road, but a shared access drive subject to the attached Easement agreement as well as previous versions still in effect. Jay was correct to point out the terrible condition the existing Parkway is in, particularly as it crosses the 200Q property.

Neal, our Property Manager has been having conversations with Keypoint, your property manager for 200Q, dating as far back as October 2018 regarding the dire condition of the main access road. Subsequent follow-ups have informed us that Keypoint has passed on the concerns to your executives, but no action has been authorized to be taken. We need to make you aware of this now if you are not. The reality is the roadway condition is unacceptable and a major safety concern for our tenants at 100 Quannapowitt Parkway as well as the residents of Wakefield who use it regularly. It also is so broken down in many areas and that it is adversely affecting the drainage and causing particulates to flow into the wetlands at various locations. The Conservation Commission and the Friends of the Lake have jurisdiction and particular interest in this issue.

In addition, we have sent documentation developed by our consultants to Keypoint that reveal severe drainage/curbing issues as a result of pure neglect. This neglect goes back to the ownership by Digital Realty, but it has continued while you have entertained various redevelopment proposals of your own and now by Jay.

Per the easement agreement attached, the agreement states that 200 Owner shall perform all maintenance, repair, and replacement of any improvements within the Parkway. 100 Owner shall reimburse 200 Owner for its Proportionate Share of such costs. Both 200 Owner and 100 Owner may also pursue a claim for reimbursement against 50 Owner. In addition, the following section deals with the failure of 200Q to perform its obligations to this effect:

- (d) If 200 Owner fails to perform its obligations under Section 3.01 above, 100 Owner shall have the right to cure such default and perform same consistent with the provisions of Section 2(a)(ii) and Section 6(c) of the 1999 Easement Agreement, which provisions are not amended or superseded hereby.

We need to understand exactly what has been holding up a response and the obligation of repair of the Parkway. We anticipate to fulfill all of our obligations per the easement agreement and work with 200 Owner to resolve the roadway and reimburse our pro rata share. However, if 200 Owner fails to perform its obligations, we will be forced to make the needed repairs and bill-back 200 Owner for its pro rata share. Jay mentioned a timeline of 2-5 years for Construction beginning to completion, assuming he gets permitted. The Parkway cannot be left to neglect until then. **It must be repaired immediately.**

We would be more than happy to set up a time to discuss and share findings from our paving consultant, along with scheduling an onsite with an engineering firm to generate drawings/plans to rectify the drainage issues and adequately price out the needed repairs. This work needs to be on the forefront of all parties and addressed ASAP and **PRIOR** to any further presentations to the town regarding Jay's plans. This needs to be completed in 2020 and prior to November 15<sup>th</sup> when traditionally paving becomes an issue due to weather and lack of plant availability.

We look forward to hearing from you both and seeing your future plans for the site as they develop.

Best Regards,

*Scott Kelly*

Executive VP  
R.J. Kelly Companies  
55 Cambridge Street  
Burlington, MA 01803

Phone: (781) 272-2899 ext 120  
Fax: (781) 273-2075  
Mobile: (617) 529-5326  
Email: [scott@rjkellycompany.com](mailto:scott@rjkellycompany.com)

+++++CONFIDENTIALITY NOTICE+++++

The information in this email may be confidential and/or privileged. This email is intended to be reviewed by only the individual or organization named above. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein

R.J. Kelly Co., Inc.  
55 Cambridge Street Burlington, MA 01803 781 272 2899 781 273 2075, fax  
[www.rjkellycompany.com](http://www.rjkellycompany.com)



**is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system.**



EXHIBIT B

September 16, 2020 Parkway PHOTOS



Parkway Potholes and broken pavement in front of 200Q



Dangerous condition of Parkway approaching 100Q





Typical Potholes and broken up pavement of Parkway against curb at 200Q



Parkway curb and pavement condition at 200Q





Potholes and disrepair in Parkway at 200Q

OK as  
amended  
02/13/15

Ld Reg  
only



2015 01691907  
Bk: 1487 Pg: 38 Cert#: 258707  
Doc: AGR 02/13/2015 02:56 PM

### RECIPROCAL EASEMENT AGREEMENT AND AMENDMENT OF EASEMENT AGREEMENT

(100 and 200 Quannapowitt Parkway, Wakefield, Massachusetts)

This Easement Agreement (this "Agreement") is entered into as of the 5<sup>th</sup> day of February, 2015, by and between **100 Q OWNER LLC**, a Massachusetts limited liability company, in its capacity as the owner of the 100 Property (as hereinafter defined), having an address at 55 Cambridge Street, Burlington, Massachusetts 01803 ("100 Owner"), and **GIP WAKEFIELD, LLC**, a Delaware limited liability company, in its capacity as the owner of the 200 Property (as hereinafter defined), having an address at 200 Quannapowitt Parkway, Wakefield, MA 01880 ("200 Owner" and together with 100 Owner, the "Owners").

**WHEREAS**, 100 Owner is the owner of that certain parcel of land, together with the buildings, improvements and facilities located thereon and all the rights appurtenant thereto, situated in the Town of Wakefield, Middlesex County, Commonwealth of Massachusetts, commonly known as 100 Quannapowitt Parkway and more particularly described on Exhibit A attached hereto (the "100 Property").

**WHEREAS**, 200 Owner is the owner of that certain parcel of land, together with the buildings, improvements and facilities located thereon and all the rights appurtenant thereto, situated in the Town of Wakefield, Middlesex County, Commonwealth of Massachusetts, commonly known as 200 Quannapowitt Parkway and more particularly described on Exhibit B attached hereto (the "200 Property" and together with the 100 Property, the "Properties").

**WHEREAS**, vehicular and pedestrian access and egress from the Properties to the nearest public ways are provided by a certain private roadway commonly known as Quannapowitt Parkway (the "Parkway") and an adjacent pedestrian and bicycle path (the "Lake Path").

**WHEREAS**, the Properties' rights of access to the Parkway and Lake Path, and the Owners' obligations with respect to maintenance of the same, are governed by (x) access rights contained in that certain Deed dated July 13, 1955 and given by the Town of Wakefield to Calvin P. Bartlett, filed as Document No. 296368 in the South Registry District for Middlesex County (the "Land Registration Office"), and recorded with the Middlesex South District Registry of Deeds (the "Registry") in Book 5819, Page 444 (the "Access Rights"); (y) those certain lease agreements between the Town of Wakefield and American Mutual Liability Insurance Company: (i) dated July 13, 1955 and filed with the Land Registration Office as Document No. 296371, and (ii) dated September 10, 1957 and filed with the Land Registration Office as Document No. 325687, as both were affected by (iii) that certain Lease Agreement dated August 9, 1999 by and among the Town of Wakefield, SC Wakefield 100, Inc., SC Wakefield 200, Inc., WBAM Limited Partnership, and Wakefield 200 LLC, filed with the Land Registration Office as Document No. 1130730 and recorded with the Registry in Book 31119, Page 416 (clauses (x) and (y) collectively, the "Town Leases" and together with the Access Rights, the "Town Easements and Leases"); and (z) that certain Easement Agreement dated May 27, 1999 by and among Wakefield 100 LLC, Wakefield 200 LLC, and Wakefield 300 LLC, filed with the Land

OK Boston  
as to 150  
owners  
no signor →

11 - 100 Quannapowitt PKWY - Lot 10 - 100 Q OWNER LLC  
231186 - 200 Quannapowitt PKWY - Lot 11 - GIP WAKEFIELD LLC  
215277 - Lot 5 - 1/2 WBAM Limited Partnership  
Quannapowitt Parkway 1/2 Wakefield 200 LLC

Registration Office as Document No. 1109526 and recorded with the Registry as Instrument No. 427 (the "1999 Easement Agreement").

WHEREAS, the 1999 Easement Agreement (i) sets forth certain terms and provisions governing maintenance of the Parkway and Lake Path and the allocation of costs thereof among 100 Owner, 200 Owner, and the owner of that certain unimproved parcel adjacent to and southwest of the 100 Property commonly known as 50 Quannapowitt Parkway (the "50 Property") and the owner thereof the "50 Owner"), (ii) provides that 50 Owner, 100 Owner and 200 Owner shall each be responsible for their proportionate shares of the costs of such maintenance based on the rentable square feet of space on each of the 50 Property, the 100 Property and the 200 Property, but that until such time as the Town of Wakefield issues a certificate of occupancy for a new building on the 50 Property (the "50 Opening"), the 50 Property shall be deemed to contain 30,000 rentable square feet of space, and (iii) may be amended by only two owners to the extent such amendment does not adversely affect any rights or obligations of the third owner in any manner whatsoever.

WHEREAS, the Owners wish to establish certain easements, rights, and obligations with respect to the Properties, and to amend certain provisions of the 1999 Easement Agreement governing allocation of Parkway and Lake Path maintenance obligations between 100 Owner and 200 Owner in a manner which does not adversely affect the rights or obligations of 50 Owner, all in order to ensure that the Owners and their successors and assigns shall conduct the future development, maintenance, and operation of the Properties in a harmonious manner.

NOW THEREFORE, in consideration of the mutual rights and obligations set forth herein, the Owners hereby agree as follows:

Article I EASEMENTS

Section 1.01 Utilities

(a) Existing Utilities

- (i) Easement for Use and Access to 200 Owner. 100 Owner hereby grants, subject to the terms and provisions of this Section 1.01, to 200 Owner, its tenants, occupants, successors and assigns, a perpetual non-exclusive easement, for the benefit of and appurtenant to the 200 Property, with respect to the "Utility Easement Area" as shown on that certain "Easement Exhibit Plan, 100 and 200 Quannapowitt Parkway, Wakefield, MA" attached hereto as Exhibit C and recorded herewith (the "Easement Plan"): (A) to use, operate, maintain, repair and replace those certain Underground Tel/Data Conduits that serve the 200 Property (the "the 200 Owner Tel/Data Conduits") and that certain Underground Electric Line shown on the Easement Plan (the "Underground Electric Line"), (B) to expand the capacity or connectivity of the 200 Owner Tel/Data Conduits or Underground Electric Line, and (C) to relocate, within the Utility Easement Area

(but only underground), any portion of the 200 Owner Tel/Data Conduits or Underground Electric Line. Notwithstanding the foregoing, prior to expanding or relocating the 200 Owner Tel/Data Conduits or Underground Electric Line, (I) 200 Owner shall provide reasonably detailed plans describing such expansion or relocation, (II) 100 Owner shall bear no out-of-pocket cost with respect to such expansion or relocation, aside from the costs of reviewing same (including, for example, the costs of any professional advisors retained by 100 Owner to advise with respect to such review), (III) such proposed expansion or relocation shall not materially affect (a) the 100 Property Tel/Data Conduits, the Underground Electric Line or any 100 Property New Utilities (as defined below) which have been installed prior thereto, or (b) the use of the building and other improvements then (i.e., at the time of such proposal) located on the 100 Property, and (IV) the relocated 200 Owner Tel/Data Conduits or Underground Electric Line shall be entirely within the Utility Easement Area.

- (ii) Use by 100 Owner. Subject to the terms and provisions of this Section 1.01, 100 Owner reserves the right, for itself and its tenants, occupants, successors and assigns, to (A) use, operate, maintain, repair and replace any of the Tel/Data Conduits within the Utility Easement Area that serve the 100 Property (the "the 100 Owner Tel/Data Conduits") and together with the 200 Owner Tel/Data Conduits, the "Tel/Data Conduits") or the Underground Electric Line, and (B) to relocate any portion of the 100 Owner Tel/Data Conduits or the Underground Electric Line, or to expand the capacity or connectivity of the 100 Owner Tel/Data Conduits or Underground Electric Line, provided that, solely if such relocation shall be within the Utility Easement Area, (I) 100 Owner provides reasonably detailed plans describing such relocation, (II) 200 Owner shall bear no out-of-pocket cost with respect to the proposed relocation, aside from the costs of reviewing such proposed relocation (including, for example, the costs of any professional advisors retained by 200 Owner to advise with respect to such review), and (III) such proposed relocation shall not materially affect the 200 Property Tel/Data Conduits, any 200 Property New Utilities (as defined below) which have been installed prior thereto, or the Underground Electric Line.
- (iii) No Disruption. 100 Owner covenants and agrees, for itself, its successors and assigns, not to intentionally disrupt or interfere with 200 Owner's use of the 200 Owner Tel/Data Conduits, any 200 Owner New Utilities (as defined below) or the Underground Electric Line, or the exercise of any of 200 Owner's rights under this Agreement. 200 Owner covenants and agrees, for itself, its successors and assigns, not to intentionally disrupt or interfere with



100 Owner's use of the 100 Owner Tel/Data Conduits, and 100 Owner New Utilities (as defined below) or the Underground Electric Line, or the exercise of any of 100 Owner's rights under this Agreement.

- (iv) Maintenance of Tel/Data Conduits and Underground Electric Line. 200 Owner shall be obligated to maintain and repair the 200 Owner Tel/Data Conduits. 100 Owner shall be obligated to maintain and repair the 100 Owner Tel/Data Conduits. If repair or maintenance of the Underground Electric Line or any Tel/Data Conduits that serve both the 100 Property and 200 Property is necessary and not to be performed by a third-party communications provider (e.g., Verizon or Comcast) or a utility company, either of 100 Owner and 200 Owner may conduct such repair and maintenance work at its sole cost and expense provided that the Owner conducting the Work shall provide reasonably detailed plans describing the proposed work no less than ten (10) business days prior to commencing such work (except in the event of an emergency). In the event a third-party communications provider is conducting such work and coordinates same through one Owner, such Owner will provide the other Owner with prior notice thereof.

(b) New Utilities.

- (i) 100 Owner covenants for itself, its successors and assigns that it shall provide its consent to and cooperate with 200 Owner in the event 200 Owner wishes to install other underground utilities servicing the 200 Property ("200 Property New Utilities") within the Utility Easement Area, and shall grant 200 Owner a perpetual non-exclusive easement through the Utility Easement Area to use, operate, maintain, repair, and replace the same, provided that (a) 200 Owner provides reasonably detailed plans showing such proposed 200 Property New Utilities, (b) 100 Owner shall bear no out-of-pocket cost with respect to the proposed 200 Property New Utilities, aside from the costs of reviewing such proposed 200 Property New Utilities (including, for example, the costs of any professional advisors retained by 100 Owner to advise with respect to such review), (c) such proposed 200 Property New Utilities shall not materially affect (I) the 100 Property Tel/Data Conduits, the Underground Electric Line or any 100 Property New Utilities (as defined below) which have been installed prior thereto, or (II) the use of the building and other improvements then (i.e., at the time of such proposal) located on the 100 Property, and (d) any such 200 Property New Utilities installed within the 100 Property shall be entirely within the Utility Easement Area and entirely underground.

- (ii) 100 Owner reserves the right to install, use, operate, maintain, repair, replace and relocate other underground utilities servicing the 100 Property or other parcels of land ("**100 Property New Utilities**" and together with the 200 Property New Utilities, the "**New Utilities**") within the Utility Easement Area, provided that (a) 100 Owner provides reasonably detailed plans showing such proposed 100 Property New Utilities to 200 Owner, (b) 200 Owner shall bear no out-of-pocket cost with respect to the proposed 100 Property New Utilities, aside from the costs of reviewing such proposed 100 Property New Utilities (including, for example, the costs of any professional advisors retained by 200 Owner to advise with respect to such review), and (c) such proposed 100 Property New Utilities shall not materially affect the 200 Property Tel/Data Conduits, any 200 Property New Utilities which have been installed prior thereto, or the Underground Electric Line.
- (c) Conduct of Work. If an Owner conducts any maintenance, repair or installation work pursuant to this Section 1.01 (the "**Working Owner**"), it shall be done in a manner that does not negatively affect the Tel/Data Conduits or any New Utilities then-existing within the Utility Easement Area that service the Property owned by the other Owner (the "**Non-Working Owner**"). For non-emergency repairs, the Working Owner shall provide the Non-Working Owner with a minimum of ten (10) business days notice of its proposed schedule and scope of work for its maintenance or repair in order to allow the Non-Working Owner to review the Working Owner's proposed work and to determine that such work will not interfere or disrupt any of the Tel/Data Conduits or New Utilities servicing the Property owned by the Non-Working Owner. In the event of emergency repairs or maintenance, the Working Owner shall provide the Non-Working Owner with notice as soon as reasonably possible. The Working Owner shall perform (or cause to be performed) any such work in a commercially reasonable manner, in compliance with all applicable laws, and seek to minimize any disruption to the Property of the Non-Working Owner resulting therefrom, and shall pay all costs associated with such Work (which costs shall not be subject to partial reimbursement pursuant to Section 3.01 or the 1999 Easement Agreement). The Non-Working Owner (and/or its designated representative) shall have the right to be present during and oversee/inspect the maintenance, repair or installation work performed (or caused to be performed) by Working Owner. With respect to any request by 200 Owner under this Section 1.01 for 100 Owner's consent, 100 Owner shall have ten (10) business days to review the plans provided by 200 Owner and the absence of any response within the ten (10) business day period shall constitute a deemed approval.
- (d) Easements for Existing Utility Encroachments. In the event that, after the date of this Agreement, any facilities providing utility services to one Property are discovered to have been encroaching onto the other Property as of the date of this Agreement, the Owners hereby agree on behalf of

themselves and their respective successors and assigns that this Agreement shall be deemed modified to the extent required to grant an easement to the Owner benefited by such utility services for the use thereof.

Section 1.02 **Pedestrian Bridge**

- (a) *Easement for Use.* Each Owner hereby grants to the other Owner, and their respective tenants, successors, assigns, invitees and designees, the mutual and non-exclusive right and easement to use for pedestrian purposes that certain footbridge crossing from one Property to the other (the "**Footbridge**") and shown within the "Footbridge Easement Area" on the Easement Plan.
- (b) *Easement for Maintenance.* 200 Owner shall perform such maintenance, repairs and replacements of the Footbridge as are necessary to maintain the Footbridge in good condition. 100 Owner hereby grants to 200 Owner, its successors, assigns, and designees a perpetual easement over, across and through the Footbridge Easement Area for purposes of accessing, maintaining, repairing, and replacing the Footbridge. 200 Owner shall be solely responsible for the costs of (i) ordinary maintenance and repairs, extraordinary or capital repairs or replacement of the Footbridge, and (ii) insurance of the Footbridge as required by **Article III** below.

Article II. **INSURANCE**

Section 2.01 **Required Coverage for Easement Areas.** Each of 100 Owner and 200 Owner covenants and agrees to maintain or cause to be maintained at all times during the term of this Agreement the following insurance:

- (a) *Property.* Each Owner shall maintain casualty and physical damage insurance for its Property, including so-called Builder's Risk coverage during any construction, insuring all facilities and equipment subject to an easement pursuant to this Agreement, and other service machinery, apparatus, equipment and installations located within such area subject to an easement hereunder, and all other portions of such areas as are for insurance purposes normally deemed to constitute part of the real property within such areas (provided, however, that 200 Owner shall maintain such insurance for the entirety of the Footbridge). Such insurance (i) shall be maintained in an amount equal to not less than one hundred percent (100%) of the full replacement value of the insured property (exclusive of land and other items normally excluded from such coverage), as determined in good faith by the insuring Owner, who shall review such value not less frequently than on the renewal date of the policy; (ii) shall contain an "agreed amount" endorsement or its equivalent; (iii) shall insure against (a) loss or damage by fire and other hazards covered by the standard "special perils coverage" (or the then successor equivalent)

endorsement, and (b) such other hazards or risks as are in kinds and amounts commonly and reasonably required by private institutional mortgage lenders for projects similar in construction, location and use (including any available "all-risk", "open perils" or like coverage which is distinct from, and more comprehensive than, coverage otherwise required), or as the insuring Owner from time to time in its discretion shall determine to be appropriate, including, but not limited to, machinery and equipment coverage, terrorism, vandalism, malicious mischief, windstorm, water damage, flood and earthquake and machinery and equipment coverage; (iv) if any area subject to an easement hereunder and owned by the insuring Owner is located in an area identified by the Secretary of Housing and Urban Development as an area having special flood hazards, coverage shall include flood insurance on such areas in the amount of the aggregate of the outstanding principal balances of the mortgage loans on the areas subject to an easement hereunder, (v) shall include the standard mortgagee clause commonly accepted by private institutional mortgage lenders for projects similar in construction, location and use; and (vi) shall include such other coverage, endorsements and waivers, if any, reasonably available in the form of standard so-called "inflation guard" endorsements. Each party mutually waives its rights of recovery and subrogation against each other as they relate to property insurance and shall have their property insurance policies so endorsed. Such insurance may provide for reasonable deductible amounts, as determined by the insuring Owner in its reasonable discretion.

- (b) Liability. Each Owner shall maintain, with respect to its Property subject to an easement hereunder, commercial general liability insurance written on an occurrence basis with a broad form commercial liability endorsement under which the other Owner is named as an additional insured party, and under which the insurer agrees to indemnify and hold harmless the Owners from and against all cost, expense and/or liability arising out of or based upon any and all claims, accidents, injuries and damages brought by any person and relating to the matters insured thereby (provided, however, that 200 Owner shall maintain such insurance for the entirety of the Footbridge). The minimum limits of liability of such insurance shall be not less than Five Million Dollars (\$5,000,000) combined single limit per occurrence and on a per location basis. Such insurance limits may be satisfied by a combination of a base commercial general liability insurance with a limit of not less than One Million Dollars (\$1,000,000.00) and an umbrella policy for the balance of such limits. Such insurance shall be provided by insurance companies that (A) are duly licensed or authorized to do business in the Commonwealth of Massachusetts, and (B) carry an A.M. Best Company, Inc. policy holder rating of A- or better and an A.M. Best Company, Inc. financial category rating of Class VIII or better. In the event A.M. Best Company, Inc. ceases to provide such ratings, the Owners shall agree upon a reasonable replacement rating service. Such policies shall be primary and non-



contributory as respect to other insurance that may be available to additional insureds.

- (c) Such policies shall be contributory and non-contributory as respects other insurance that may be available to the additional insureds thereunder.

Section 2.02 **Indemnity**. Each Owner (an "**Indemnifying Owner**") hereby indemnifies and holds harmless the other Owner (an "**Indemnified Owner**") from any and all costs, loss, expenses, claims or liability arising out of (A) any accident, injury or damage whatsoever caused to any person, or to the property of any person, occurring in or about (i) the Property of the Indemnified Owner and/or (ii) within the area of an easement benefitting the Indemnified Owner, but only to the extent such accident, injury, damage, loss, claim, demand, suit, cost, expense or liability is caused by the negligence or willful misconduct of the Indemnifying Owner or its agents, employees, or contractors, and (B) any default by the Indemnifying Owner under this Agreement.

### **Article III. MAINTENANCE**

Section 3.01 **Parkway and Lake Path**. Notwithstanding anything to the contrary in the 1999 Easement Agreement and subject to the provisions hereof, the parties agree that, until such time as the 50 Opening occurs, 200 Owner shall perform all maintenance, repair, and replacement of any improvements within the Parkway and Lake Path, and any landscaping as required by the Town Easements and Leases. Such maintenance shall include the cost of snow and ice removal from the Parkway and Lake Path and the cost of any other illumination of the Parkway and Lake Path. 100 Owner shall reimburse 200 Owner for its Proportionate Share (as defined in the 1999 Easement Agreement) of the costs of such maintenance, repair, and replacement within thirty (30) days of receiving an itemized statement of such costs supported by reasonable evidence of such costs. However, to the extent that 50 Owner does not timely contribute to the costs of maintenance, repair and replacement, 100 Owner shall reimburse 200 Owner for 43.48% of such costs. Nothing in the foregoing shall be deemed a waiver of any obligation 50 Owner has under the 1999 Easement Agreement or of any right 100 Owner and/or 200 Owner have to enforce 50 Owner's obligations thereunder. Either Owner may pursue a claim for reimbursement against 50 Owner (regardless of which Owner performed the repair, maintenance or other work for which reimbursement is sought), and the other Owner shall reasonably cooperate with any such claim. In the event that either Owner ultimately receives reimbursement from 50 Owner of its Proportionate Share of these expenses, such Owner shall pay a portion of such funds to the other Owner such that each Owner has paid its Proportionate Share.

#### Section 3.02 **Budget**.

- (a) No less than thirty (30) days prior to the commencement of each calendar year, 200 Owner shall furnish to 100 Owner for its approval a proposed

budget (each, a "**Budget**") for all maintenance, repair and replacement costs for which 100 Owner will partially reimburse 200 Owner pursuant to Section 3.01 above (the "**Common Expenses**") (except that, as to calendar year 2015, such budget has already been agreed to). The parties shall negotiate in good faith to agree on the Budget for each calendar year prior to the commencement thereof. The proposed Budget shall be detailed and shall show the amounts budgeted by accounts and expense classifications. The Owners shall act reasonably, diligently and in good faith in reviewing the budget and if appropriate, suggesting modifications thereto. The Owners shall endeavor to resolve any disagreements with respect to any proposed budget as soon as reasonably possible. In the event the Budget has not been agreed to prior to the commencement of the applicable year, the portions of the proposed budget that have been approved shall become effective on the effective date. The portions of the prior Budget that cover substantially the same matter as the portions of the proposed budget that were not approved shall remain in effect and shall be carried over into the period for which the proposed budget is intended to be effective, unless and until the Owners reach agreement on such portions of the Budget.

- (b) 200 Owner shall secure the prior written approval of 100 Owner before expending, or entering into any obligation for or approving any Common Expenses that would result in a Budget line item or category being exceeded ("**Cost Overrun**") by the greater of (A) \$10,000.00 or (B) fifteen percent (10%) or more in that line item or category of the Budget, except to the extent such Cost Overrun is caused by or results from Emergency Costs.
- (c) Where emergency action is necessary to prevent imminent risk to health and safety to persons on or about the Parkway or the Lake Path, imminent property damage, or imminent imposition of criminal or civil sanctions against the Owners, then any Owner shall have the right, but not the obligation, to make, or cause to be made, expenditures not contemplated by the Budget if any expenditure made without the approval of the Owners is, in such Owner's good faith judgment, reasonable and necessary under the circumstances set forth above (all such costs being collectively referred to herein as "**Emergency Costs**"), provided that such Owner provides notice to the other Owner within a reasonable period of time (not to exceed forty eight (48) hours) after authorizing the emergency action.
- (d) If 200 Owner fails to perform its obligations under Section 3.01 above, 100 Owner shall have the right to cure such default and perform same consistent with the provisions of Section 2(a)(ii) and Section 6(c) of the 1999 Easement Agreement, which provisions are not amended or superseded hereby.

Section 3.03 **Separate Obligations.** Except for such maintenance obligations that are specifically allocated between the Owners pursuant to this Agreement or another

agreement of record affecting the Properties, each Owner shall be solely responsible for maintaining the exterior of its respective Property in keeping with the standards of (i) in the case of the 100 Property, a first class office campus in the greater Boston, Massachusetts area, and (ii) in the case of the 200 Property, a first class data center facility in the greater Boston, Massachusetts area. Each Owner shall bear the costs of such maintenance without right to charge the other Owner therefor. Such maintenance will include, but not be limited to, landscaping on the respective Properties, snow and ice removal from any paved areas located on the respective Properties, and general building maintenance and upkeep of the building and structures located on the respective Properties. Until the 50 Opening, each Owner shall also solely bear the costs associated with street and access-way lighting on the Parkway and the Lake Path currently running through such Owner's electricity meter.

Section 3.04 **1999 Easement Agreement**. Except as expressly provided in this Article III, the terms of the 1999 Easement Agreement shall remain in full force and effect. Upon the 50 Opening, the provisions of Section 3.01 shall be void and of no further force and effect.

Article IV. **FUTURE COOPERATION BETWEEN OWNERS**

Section 4.01 **Permitting**. The Owners hereby agree and acknowledge that the Properties were permitted and developed as parts of a common scheme, and that future permitting efforts might require cooperation and/or coordination between the Owners. The Owners hereby agree to reasonably cooperate and coordinate with respect to future permitting efforts affecting one or both Properties as either Owner may reasonably request of the other Owner.

Section 4.02 **Shared Interests**. The Owners hereby agree to reasonably cooperate and coordinate with respect to shared interests not governed by this Agreement or existing agreements of record as either Owner may reasonably request of the other Owner, including but not limited to issues relating to wetlands.

Article V. **MISCELLANEOUS**

Section 5.01 **Compliance with Law**. In connection with the exercise of their respective rights and obligations under this Agreement, each Owner shall fully comply with all applicable laws, rules, regulations and ordinances, including but not limited to all applicable environmental laws, rules, regulations and ordinances of all federal, state and local governments.

Section 5.02 **Notices**. All notices and other communications authorized or required hereunder shall be in writing and shall be given (i) by hand delivery, (ii) by mailing the same by certified mail or registered mail, return receipt requested, postage prepaid, or (iii) by overnight air courier or express delivery service with proof of delivery acknowledged, and any such notice or other communication shall be deemed to have been given (x) when received by the party to whom such

notice or other communication shall be addressed, or (y) on the date noted that the addressee has refused delivery, or (z) on the date that the notice is returned to sender due to the inability of the postal authorities to deliver. Any party hereto may change the address to which notices to it shall be sent by a notice sent in accordance with the requirements of this Section. Notice shall be given to the following:

**If to 100 Owner:**

100 Q Owner LLC  
c/o R.J. Kelly Co., Inc.  
55 Cambridge Street  
Burlington, MA 01803  
Attention: Brandon Kelly & Richard Griffin

With a copy to:

Saul Ewing LLP  
131 Dartmouth Street, Suite 501  
Boston, MA 02110  
Attention: Donald G. Lussier & James H. Shulman

**If to 200 Owner:**

c/o Digital Realty Trust, L.P.  
4 Embarcadero Center  
Suite 3200  
San Francisco, CA 94111

With a copy to:

c/o Digital Realty Trust, L.P.  
200 Quannapowitt Parkway  
Wakefield, MA 01880  
Attn: Property Manager

With a copy to:

Digital Realty Trust, L.P.  
451 D Street, Suite 912  
Boston, MA 02110  
Attn: Asset Manager

Section 5.03 **Governing Law/Severability.** This Agreement shall be governed by the laws of the Commonwealth of Massachusetts. In the event that any term or



provision of this Agreement or the application thereof to any person or circumstance shall, to any extent, be declared to be invalid or unenforceable, then the remainder of this Agreement or the application of such term or provision to other persons or circumstances, other than those as to which it would become invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

Section 5.04 **Limitation of Liability.** No partner, member, shareholder, trustee, beneficiary, director, officer, manager, or employee of any Owner, or any affiliate of such Owner, shall have any personal liability under this Agreement. In addition, no Owner shall have personal liability under this Agreement and, in the event any person obtains a judgment against any party in connection with this Agreement, such person's sole recourse shall be to such party's interest in the applicable Property; provided, however, that the foregoing limitation of liability shall not apply in the event of any fraud, intentional misrepresentation, or intentional misconduct by such Owner. In no event shall any Owner or other party referenced in this section be liable for consequential, incidental or indirect damages or for the lost profits or lost income of the other Owner or any other party.

Section 5.05 **Counterparts.** This Agreement may be executed in two (2) counterparts, each of which shall be an original but all of which shall constitute one and the same instrument. Facsimiles or copies of this Agreement shall be deemed originals for all purposes.

Section 5.06 **Amendment and Termination.** This Agreement may be amended, modified, or terminated at any time by a declaration in writing mutually agreed to, executed and acknowledged by each of the Owners, and thereafter duly filed in the Land Registration Office and recorded with the Registry.

Section 5.07 **Easements: Non-Exclusive, Irrevocable, and Perpetual.** Except as otherwise provided herein, all easements, rights and obligations granted herein shall be non-exclusive, irrevocable and in perpetuity. The Owners intend that the provisions of this Agreement shall not be subject to the Statutory Rule Against Perpetuities or any rule of law with respect to restriction on the alienation of property or remoteness of vesting of property interests, and each of the Owners hereby agrees that such Owner will not make any contrary assertion or seek the benefit of the Statutory Rule Against Perpetuities or other such rule of law, in any dispute arising under this Declaration. In the event, however, that the Statutory Rule Against Perpetuities, or similar rule of law shall limit the time within which any restriction in this Agreement may be valid or enforceable, such restriction is imposed for a period of ninety (90) years from the date of recording of this Agreement in the Registry and filing in the Land Registration Office, and it is intended that the enforceability of any such restriction be extended beyond thirty (30) years from the date of recording of this Declaration in the Registry and filing in the Land Registration Office. As provided under Massachusetts General Laws,

Chapter 184, Section 27, as amended, the term of the restrictions under this Agreement may be extended, for additional periods not exceeding twenty (20) years each, by the recording in the Registry and the filing in the Land Registration Office before the expiration of thirty (30) years and before the expiration of any subsequent twenty (20) year extension period, as applicable, of an instrument of extension executed by any of the Owners benefitting from such restriction(s) at the time such instrument of extension is recorded and filed.

Section 5.08 **Estoppel Certificates.** Upon fifteen (15) days' prior written notice, given in connection with the transfer, financing and/or refinancing of either the 100 Property or the 200 Property and otherwise no more than once a year, 100 Owner or 200 Owner, as applicable, shall provide to the other, the other party's purchaser or lender, as the case may be, an estoppel certificate stating, to their actual knowledge: (a) whether the party knows of any defaults under this Agreement and, if so, the nature thereof; (b) whether this Agreement has been assigned, modified or amended in any way and, if so, the nature thereof; and (c) that this Agreement is in full force and effect as of the date of such estoppel certificate.

Section 5.09 **Binding Obligations/Successors and Assigns; No Merger.** All easements, rights and obligations under this Agreement shall run with the land and shall be binding upon, enforceable by and against, and inure to the benefit of the Owners and their respective successors and assigns in title. It is the intention of the Owners that this Agreement and the rights granted hereunder shall survive, and shall not be merged or extinguished, in the event that there is a merger of title in whole or in part of the 100 Property and the 200 Property, unless and to the extent that the Owners expressly agree otherwise by an instrument recorded with the Registry and filed in the Land Registration Office subsequent to the recording and filing hereof.

Section 5.10 **Lien Rights.** In the event of a default in the payment by an Owner of any amounts due to another Owner under this Agreement and after ten (10) days written notice by the non-defaulting Owner to the defaulting Owner, the indebtedness due hereunder together with all reasonable costs of collection, including without limitation attorneys' fees, whether suit be brought or not, with interest on such indebtedness and costs of collection (at a rate of interest pursuant to the succeeding sentence) shall constitute a lien against the Property of the defaulting Owner in order to secure the payment of such indebtedness. The interest rate described above shall be that rate of interest which is three percent (3%) per annum higher than the rate of interest from time to time announced as the prime, base or reference rate by Bank of America or any successor bank or, if said bank no longer exists or publishes such rate, any other national bank selected by the non-defaulting Owner. The existence of said lien shall be evidenced upon filing or recording a notice or statement thereof in the applicable Land Registration Office and/or recorder's office of the South Registry District of Middlesex County, Massachusetts. Such lien shall relate back to the date of this Agreement and shall be prior and superior to all liens and encumbrances of record against such Property on or after the date hereof; provided, however, any lien

against a Property arising pursuant to this Agreement shall be subject and subordinate to the lien of any mortgage on the subject Property now or hereafter held or serviced by any bank, insurance company or other financial institution that is placed of record prior to the recording of any lien notice or statement as provided in this Section 5.10.

Section 5.11 **No Waiver.** Failure on the part of one Owner to complain of any action or non-action on the part of the other Owner, no matter how long the same may continue, shall never be a waiver by such Owner of any of its rights hereunder. Further, no waiver at any time of any of the provisions hereof by one Owner shall be construed as a waiver of any of the other provisions hereof, and a waiver at any time of any of the provisions hereof shall not be construed as a waiver of the same provisions at any subsequent time. The consent or approval of one Owner to or of any action by the other Owner requiring such consent or approval shall not be construed to waive or render unnecessary such Owner's consent or approval to or of any subsequent similar act by such other Owner.

Section 5.12 **Prevailing Party's Expenses.** The prevailing Owner in any arbitration, litigation or other legal action or proceeding arising out of or related to this Agreement shall be entitled to recover from the losing Owner all reasonable fees, costs and expenses incurred by the prevailing Owner in connection with such arbitration, litigation or other legal action or proceeding (including any appeals and actions to enforce any arbitration awards and court judgments), including reasonable fees, expenses and disbursements for attorneys, experts and other third parties engaged in connection therewith and its share of mediation service and arbitration tribunal fees and costs. If an Owner prevails on some, but not all, of its claims, such Owner shall be entitled to recover an equitable amount of such fees, expenses and disbursements, as determined by the applicable arbitrator(s) or court. All amounts recovered by the prevailing Owner under this Section 5.12 shall be separate from, and in addition to, any other amount included in any arbitration award or judgment rendered in favor of such Owner.

*[signatures commence on the following page]*

**100 OWNER:**

100 Q Owner LLC,  
a Massachusetts limited liability company

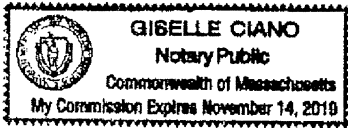
By: \_\_\_\_\_  
Name: Brandon D. Kelly  
Title: Authorized Signatory

COMMONWEALTH OF MASSACHUSETTS )

) ss

COUNTY OF SUFFOLK )

On this 3<sup>rd</sup> day of February, 2015, before me, the undersigned notary public, personally appeared Brandon D. Kelly, as Authorized Signatory of 100 Q Owner LLC, and proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose as Authorized Signatory of 100 Q Owner LLC.



Gibelle Ciano  
Notary Public  
My Commission Expires:  
[AFFIX NOTARIAL SEAL]

[signatures continue on following page]



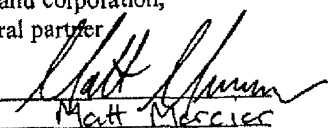
**200 OWNER:**

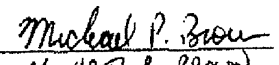
GIP Wakefield, LLC,  
a Delaware limited liability company

By: GIP Wakefield Holding Company, LLC,  
a Delaware limited liability company,  
its Manager

By: Digital Realty Trust, L.P.,  
a Maryland limited partnership,  
its Manager

By: Digital Realty Trust, Inc.,  
a Maryland corporation,  
its general partner


By:   
Name: Matt Mascies  
Title: VP, Finance

By:   
Name: MICHAEL P. BROWN  
Title: VP, TREASURY  
and Treasurer

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF SAN FRANCISCO )

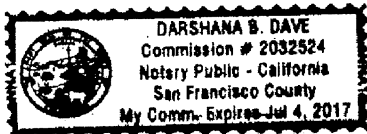
On this 4 day of FEBRUARY, 2014, before me, the undersigned notary public, personally appeared MATT MERCIER as VP, FINANCE of Digital Realty Trust, Inc., the general partner of Digital Realty Trust, L.P., the Manger of GIP Wakefield Holding Company, LLC, the Manager of GIP Wakefield, LLC, and proved to me through satisfactory evidence of identification, which was CA DMV DRIVER LICENSE to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose as VP, FINANCE of Digital Realty Trust, Inc., the general partner of Digital Realty Trust, L.P., the Manger of GIP Wakefield Holding Company, LLC, the Manager of GIP Wakefield, LLC.

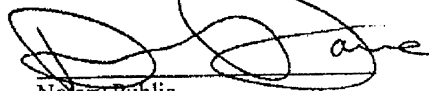


  
Notary Public  
My Commission Expires: July, 4<sup>TH</sup>, 2017  
[AFFIX NOTARIAL SEAL]

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF SAN FRANCISCO )

On this 4 day of FEBRUARY, 2014, before me, the undersigned notary public, personally appeared MICHAEL P. BROWN as VP, TREASURY of Digital Realty Trust, Inc., the general partner of Digital Realty Trust, L.P., the Manger of GIP Wakefield Holding Company, LLC, the Manager of GIP Wakefield, LLC, and proved to me through satisfactory evidence of identification, which was CA DMV DRIVER LICENSE to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose as VP, TREASURY of Digital Realty Trust, Inc., the general partner of Digital Realty Trust, L.P., the Manger of GIP Wakefield Holding Company, LLC, the Manager of GIP Wakefield, LLC.



  
Notary Public  
My Commission Expires: July, 4<sup>TH</sup>, 2017  
[AFFIX NOTARIAL SEAL]

**Exhibit A**

Legal Description of 100 Property

A certain parcel of land with the buildings and improvements thereon, situate in Wakefield, Middlesex County, Massachusetts, being shown as Lot 10 on a plan entitled "Plan of Land in Wakefield, MA (Middlesex county) Being a Subdivision of Lot 8 & 9 on LC 25969-E, Scale: 1 inch = 120 feet, Date: December 16, 1997, prepared by Beals & Thomas, Inc.", which plan is numbered 25969F, as modified and approved by the Court, filed with the Land Registration Office of the County of Middlesex.

Together with the benefit of the real property rights and easements as set forth in the following instruments:

- a. The right to use the "Traveled Way", approximately shown on Land Court Plan No. 25969A, and other land, as set forth and described in deed given by the Town of Wakefield to Calvin P. Bartlett dated July 13, 1955 and filed as Document No. 296368 and recorded in Book 8519, Page 444.
- b. Easement Agreement dated June 14, 1999, filed as Document No. 1109526 and recorded in Book 30286, Page 273.

**Exhibit B**

**Legal Description of 200 Property**

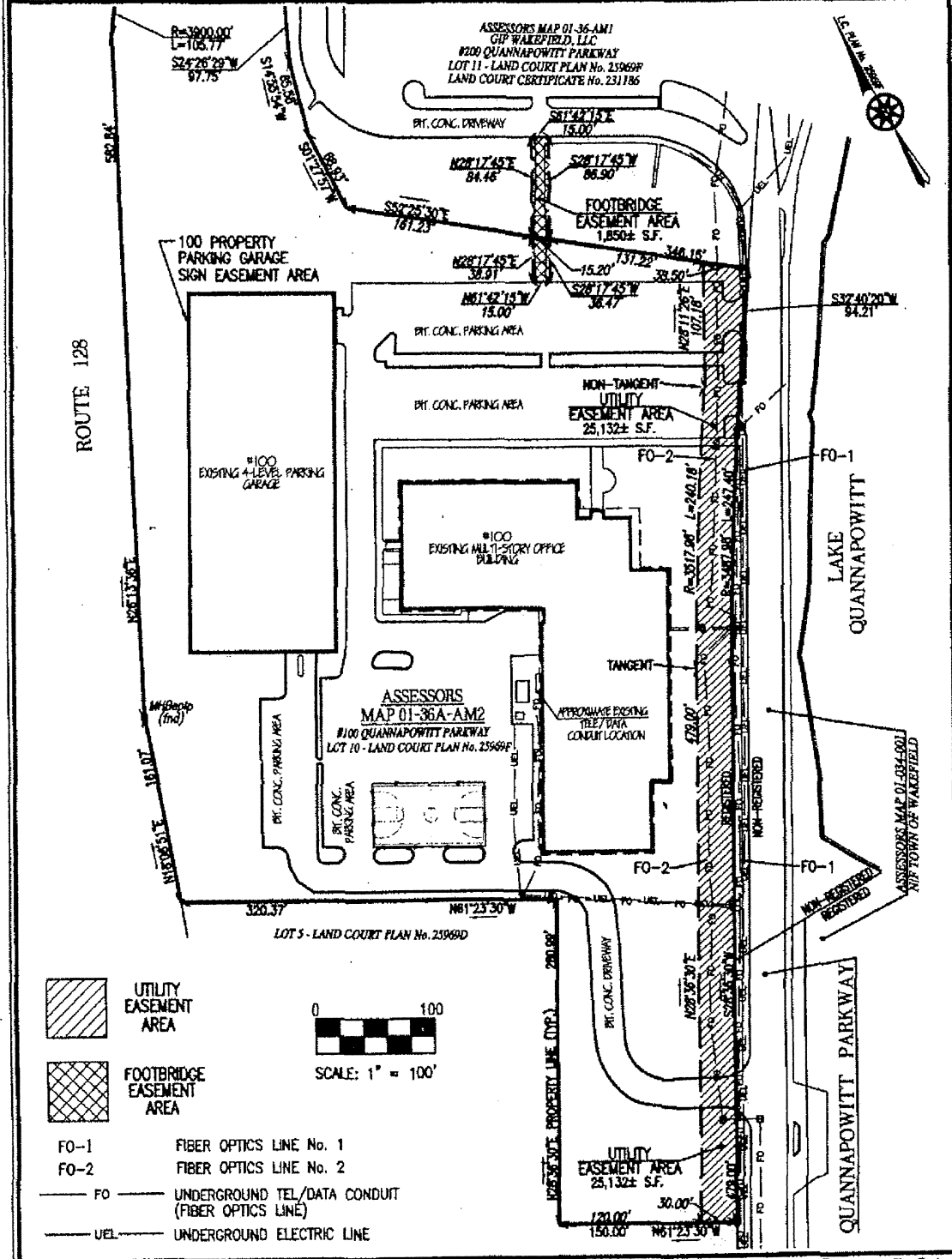
A certain parcel of land with the buildings and improvements thereon, situate in Wakefield, Middlesex County, Massachusetts, being shown as Lot 11 on a plan entitled "Plan of Land in Wakefield, MA (Middlesex County) being a subdivision of Lot 8 & 9 on LC 25969-E, Scale: 1 inch = 120 feet, Date: December 16, 1997, prepared by Beals & Thomas, Inc." which plan is numbered 25969F, as modified and approved by the Court, filed with the Land Registration Office of the County of Middlesex.

Together with the benefit of the real property rights and easements as set forth in the following instruments:

- a. The right to use the "Traveled Way", approximately shown on Land Court Plan No. 25969A, and other land, as set forth and described in deed given by the Town of Wakefield to Calvin P. Bartlett dated July 13, 1955 and filed as Document No. 296368 and recorded in Book 8519, Page 444.
- b. Easement Agreement dated June 14, 1999, filed as Document No. 1109526 and recorded in Book 30286, Page 273.



# EASEMENT EXHIBIT PLAN



100 & 200 QUANNAPOWITT PARKWAY, WAKEFIELD, MA

DATE: 10/21/15 SCALE: 1"=100' SHEET 1 OF 1

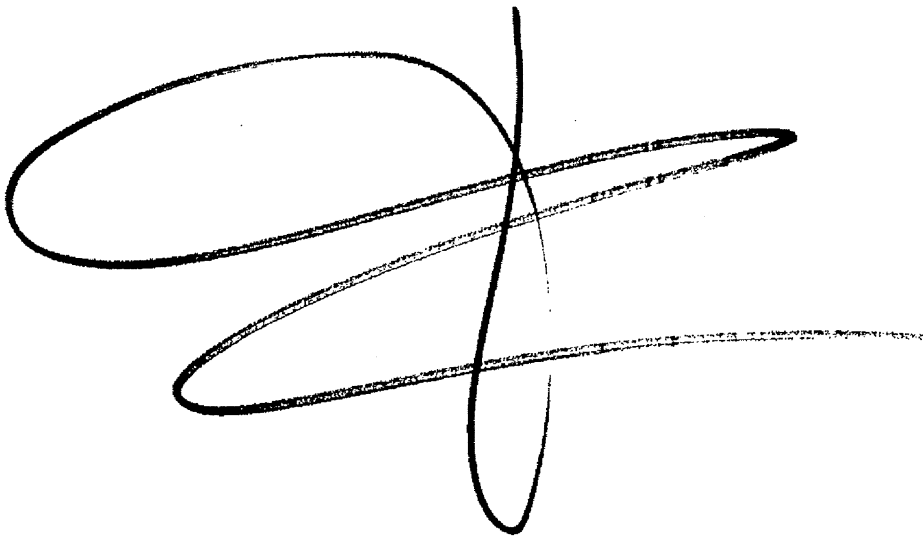
**Merrill**  
 Engineers and Land Surveyors  
 427 Columbia Road, Hanover, MA 02339

COMMONWEALTH OF MASSACHUSETTS  
 SHANE M. BRENNER  
 No. 45917  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 10/29/15

Exhibit C

Easement Plan

(Attached)



Doc 01691907

Southern Middlesex Land Court  
Registry District

RECEIVED FOR REGISTRATION

On: Feb 13, 2015 at 02:56P

Document Fee 75.00

Receipt Total: \$142,703.00

NOTED ON: CERT 258707 BK 01467 PG 36

ALSO NOTED ON:

Bk: 01288 Pg: 88 Cert#: 281188

Doc: AGR 02/13/2015 02:58 PM

Bk: 01206 Pg: 127 Cert#: 218277

Doc: AGR 02/13/2015 02:58 PM