



MILLENNIUM ENGINEERING, INC.
Land Surveyors and Civil Engineers

August 27, 2020

Newburyport Planning Department
City Hall
60 Pleasant Street
Newburyport, MA. 01950

Attn: Katelyn Sullivan
City Planner

Re: Site Plan Application for
177 State Street (3 Newburyport Turnpike Newbury, MA)

Members of the Board,

On behalf of the Bavaro Family Realty Two, LLC (Applicant and Owner), we are pleased to submit the following information for the Board's review concerning proposed improvements at 177 State Street (3 Newburyport Turnpike Newbury, MA)

This submittal includes 2 copies of the following:


- Site Plan Review Application
- Site Plan Application Check List
- Administrative Fee (\$200)
- Consultant Review Fee (\$500)
- Project Narrative
- Traffic Memorandum
- Project Site Plans and Building Elevation Plans
- Stormwater Management Report (2 copies)

The Applicant proposes to create four parking spaces, install curbing, install a sewer forcemain, and associated grading on the parcel of 177 State Street. This work is part of a larger project located at 3 Newburyport Turnpike in Newbury, MA. The proposed project on the abutting property is to construct a three-story, mixed-use building that will include retail and residential use. Related improvements such as parking, utilities, landscaping and stormwater management facilities have been incorporated into the Site Plans included in this submittal. Stormwater runoff from this parcel is being directed towards the Stormwater Management System on 3 Newburyport Turnpike. We are proposing to disturb less than 10,000 s.f. in Newburyport and therefore will not be filing a Stormwater Permit with the City.

If you have any questions on this submittal please contact our office at 978-463-8980

Sincerely,

Millennium Engineering, Inc.


James Melvin, P.E.
Project Manager

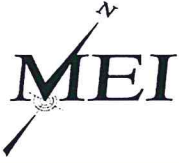
Cc: J. Barvaro

Massachusetts: 62 Elm Street-Salisbury, MA 01952
New Hampshire: 13 Hampton Road- Exeter, NH 03833

Phone: 978-463-8980 Fax: 978-499-0029
603-778-0528 603-772-0689

www.Mei-MA.com

www.Mei-NH.com



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Re: Site Plan Application for
177 State Street (3 Newburyport Turnpike Newbury, MA)

Members of the Board,

On behalf of the Bavaro Family Realty Two, LLC (Applicant and Owner), we hereby request the following waiver for the above-mentioned property:

- XV-G a. Community Character
- XV-H e. Land Use Planning
- XV-H b. Site Plan and Architectural Design
- XV-H e. Stormwater Runoff
- XV-H f. Water Quality

If you have any questions on this submittal, please contact our office at 978-463-8980

Sincerely,

Millennium Engineering, Inc.



James Melvin, P.E.
Project Manager

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603-778-0528 603-772-0689

City of Newburyport Planning Board Instructions for a SITE PLAN REVIEW Application

Zoning Review: Upon application for a Zoning Determination the petitioner will receive a form completed by the Zoning Administrator indicating the need for *major* or *minor* Site Plan Review from the Planning Board.

Technical Review Meeting: It is highly recommended that the petitioner has a pre-application conference with the City's Tech. Review Committee to obtain departmental feedback prior to applying to the Planning Board. Please contact Planning staff to set up a meeting.

Submission Requirements: Please review the Site Plan Review Checklist prior to submission. Failure to submit the required information within the time period prescribed may result in a dismissal of an application as incomplete. Upon receipt of the following items, the application will be scheduled for a public hearing:

- Two (2) collated copies of the following compiled the following order:
 - Completed Site Plan Review application on the following page
 - Zoning Determination form indicating the need for Site Plan Review
 - 11"x17" plans
 - narratives and any other supporting information
- One (1) full sized copy of the plan set.
- Stormwater Management Report (.pdf preferred)
- All applications, plans, narratives, and any supporting materials must be provided in .pdf format via disk, file transfer, or email to planning@cityofnewburyport.com.
- A copy of the CAD plans must be filed according to the Planning Board's "Digital Submission Requirements."
- For major projects or amendments, an application fee of \$500 and a publication/abutters fee of \$350 is required. For minor projects, only an application fee of \$200.00 is required.
- A Project Review fee pursuant to Section 4.3 of the Newburyport Planning Board Regulations Governing Fees and Fee Schedules.

Any advice, opinion, or information given by any board member or any other official or employee of the City of Newburyport shall not be binding on the Planning Board. Every application for a Planning Board Site Plan Review must be made on this form, which is the official form of the Planning Board. It shall be the responsibility of the petitioner to furnish all supporting documentation with this application. The dated copy of this application received by the City Clerk or Planning Office does not absolve the petitioner from this responsibility. The petitioner shall be responsible for all expenses for the filing, publication, and legal notification. Failure to comply with the application requirements as cited herein and in the Planning Board Rules and Regulations may result in the Planning Board dismissing the application as incomplete.

**City of Newburyport Planning Board
Application for SITE PLAN REVIEW**

Applicant: Bavaro Family realty two, LLC
Mailing Address: 18 Graf Road, Unit #31
Newburyport, MA 01950
Phone: (791) 389-3159 Email: Joe@brotherselectricalcorp.com

Property Address: 177 State Street
Assessor's Map and Lot(s): 34-1 Zoning District: B-1
Book and Page(s) or Cert.#: Book 37234, Page 197

Type of Project: Major Minor Amendment (attach previous decision)

Project Description: The work involves the creation of four parking spaces within an area which is currently paved, minor grading within lawn areas, and the installation of a sewer forcemain. This work is part of a larger project located at 3 Newburyport Turnpike in Newbury, MA.

Engineer: Millennium Engineering, INc.
Phone: (978) 463-8980 Email: EBotterman@MEI-MA.com
Owner: Bavaro Family Realty Two, LLC
Address: 18 Graf Road, Unit #31
Phone: (781) 389-3159 Email: Joe@brotherselectricalcorp.com

Petitioner and land owner's signatures:

By checking this box and typing my name below, I am electronically signing this application.

Petitioner

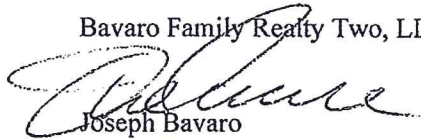
By checking this box and typing my name below, I am electronically signing this application.

Owner (if different)

I, Joseph Bavaro, Principal of Bavaro Family Realty Two, LLC, authorize Millennium Engineering, Inc. to act as my representative concerning the proposed project at 3 Newburyport Turnpike. If you have any questions or comments on this matter, please contact me at 781-389-3159

Sincerely,

Bavaro Family Realty Two, LLC

A handwritten signature in cursive script, appearing to read 'Joseph Bavaro', is written over the printed name.

Joseph Bavaro
Principal

CITY OF NEWBURYPORT, MA
ZONING DETERMINATION

APR# 2020-063

Name: Bavaro Family Realty Two, LLC c/o Mark Griffin Esq

Address: 177 State Street Zoning District(s): B-1/Smart Growth

Request: Construct 4 parking spaces and egress associated with new building on parcel in adjacent town of Newbury. No building construction in NBPT.

ZONING BOARD REVIEW REQUIRED

Variance

- Dimensional Controls (VI)
 - Lot Area
 - Lot Frontage
 - Lot Coverage
 - Parking (VII)
 - Modification
- Open Space
- Height
- Lot Width

Sign Variance

- Signs (VIII)
 - Type
 - Lighting
- Size
- Location

Other

Special Permit

- Table of Use Regulations (V.D) #: _____
- Spacing (VI.D)
- In-Law Apartment (XIIA)
- Bonus for Multifamily Developments (XVI)
- Personal Wireless Communication Services (XX)
- Demolition Control Overlay District (XXVIII)*
- Wind Energy Conversion Facilities (XXVI)
- Other _____

Special Permit for Non-Conformities

- Extension or Alteration (IX.B.2)
 - Parking
 - Upward Extension
 - Open Space
 - Height
 - Lot Area
 - Use
 - Rear Yard
 - Lot Coverage
 - Side Yard
 - Lot Frontage
 - Front Yard
- Over 500 sf. increase (IX.B.3.c)
 - Plum Island Overlay District (XXI-G)
 - FAR
 - Lot Coverage
 - Height
 - Setbacks
 - Open Space

PLANNING BOARD REVIEW REQUIRED

Special Permit

- Table of Use Regulations (V-D) # _____
- One residential structure per lot (VI.C)
- Open Space Residential Development (XIV)
- Water Resource Protection District (XIX)
- Federal Street Overlay District (XXII)
- Courts and Lanes (XXIII)
- Waterfront West Overlay District (XXIV)
- Towle Complex Redev. Overlay District (XXV)
- Downtown Overlay District (XXVII)*
- Other _____

Special Permit for Non-Conformities

- Extension or Alteration (IX.B.2)
 - Parking
 - Upward Extension
 - Open Space
 - Height
 - Lot Area
 - Use
 - Rear Yard
 - Lot Coverage
 - Side Yard
 - Lot Frontage
 - Front Yard
- Over 500 sf. increase (IX.B.3.c)

Site Plan Review (XV)

- Major
- Minor

Smart Growth District (XXIX)

- Plan Approval

HISTORICAL COMMISSION REVIEW REQUIRED

- Demo. Delay
- *Advisory Review

CONSERVATION COMMISSION REVIEW REQUIRED

>10,000sf disturb. req. storm water permit

The name typed below represents the intent to sign the foregoing document:

Jennifer Blanchet

8/20/2020

Newburyport Zoning Administrator

Date



CITY OF NEWBURYPORT

OFFICE OF THE
ASSESSOR

SEPTEMBER 1, 2020

JILL BRENNAN
CITY ASSESSOR

NEWBURYPORT CITY HALL

60 PLEASANT STREET

NEWBURYPORT, MA 01950

TEL: 978-465-4403
FAX: 978-462-8495

WWW.CITYOFNEWBURYPORT.COM

.....
TO: PLANNING BOARD

FROM: BOARD OF ASSESSORS

RE: 177 STATE STREET

THE ATTACHED ARE THE ABUTTERS OF THE ABOVE MENTIONED PROPERTY:

Jill Brennan

THE ASSESSORS OFFICE IS CERTIFYING THAT THE PERSONS LISTED IN THE FOREGOING LIST OF ABUTTERS ARE THE OWNERS OF RECORD OF THE FOREGOING PROPERTIES AS OF JANUARY 1ST, 2020.

34/ 1/ / /
BAVARO FAMILY REALTY TWO LLC
18 GRAF RD UNIT 31
NEWBURYPORT, MA 01950

34/ 2/ / /
NEWBURYDOM LIMITED PARTNERSHIP
100 CONIFER HILL DR STE 402
DANVERS, MA 01923

34/ 3/ / /
CLIPPER CITY CAR WASH INC
C/O ARMAND SANCARTIER
104B STATE ST
NEWBURYPORT, MA 01950

34/ 4/ / /
SARDINHA MANUEL & HELENA TRS
MELISSA REALTY TRUST
PO BOX 725
WEST NEWBURY, MA 01985

36/ 2/ / /
LUNT RICHARD A
7 PINE STREET
AMESBURY, MA 01913

36/ 3/ / /
THEODOROU LEONIDAS
LAMBRO T/C
24 KISHMAN LANE
TOPSFIELD, MA 01983

PROJECT NARRATIVE

for

SITE PLAN APPLICATION 3 NEWBURYPORT TURNPIKE (Map R-47 Lot 39) NEWBURY, MA

August 27, 2020

GENERAL

The Applicant and Owner, Bavaro Family Realty Two LLC, proposes to construct a 15,000 sf., 3-story mixed-use building and associated site improvements at 3 Newburyport Turnpike. The building will include 3,000 sf. of retail space located on the first floor with 12,000 sf. of residential space on the 2nd and 3rd floor.

Currently, the lot is unoccupied with deteriorated asphalt pavement present throughout the uplands. Previously, the lot was occupied by Circle Finishing Inc., a metal plating facility. A fire occurred on the lot in 1993, destroying the building. From 2002- 2004, all damaged building materials and underground storage tanks were removed from the lot. Hazardous materials cleanup operations were conducted on the site and a condition of "No Substantial hazard" exists.

The property is approximately 1.65 acres in size with 0.15 acres located in Newburyport and the remaining 1.5 acres located in Newbury. Submittals to both municipalities are anticipated to address the proposed improvements. The property is in the Newbury Business/Light Industry zoning district (BLI) and the Water Supply Protection Overlay District. In addition, the property falls within the Adult Entertainment and Wireless Communications Service Overlay Districts for Newbury.

In general, the property is triangular in shape and fronts the Newburyport Turnpike (Route 1). Its southern property line borders a MBTA right-of-way while its northern property line abuts the Domino's / Subway facility in Newburyport, a Town of Newbury parcel and the Town line. A large wetland resource area with surface water is present in the eastern portion of the property with upland dominating the western portion of the property. Current grades for the upland range from elevation 17 to elevation 20, resulting in a relatively flat site. No buildings are present on the property, although impervious surfaces are present from previous development on the site.

The property is not located within the 100-yr flood plain. Proposed improvements fall outside the 200- ft Riverfront zone.

PROPOSED IMPROVEMENTS

Building

The Applicant proposes to construct a three-story building with retail use (3,000 sf) on the first floor and twelve residential units (12,000 sf) located on the second and third floors. The second and third floors will be cantilevered over six parking spaces resulting in podium parking for those six spaces. Reference is made to the building elevations included in the Site Plans.

Site Grading

The project has been designed to minimize excavation of existing soils. In general, the site will be raised 1-2 feet to support the infrastructure and improve runoff of stormwater during weather events.

All proposed improvements will occur on the uplands bordering the Newburyport Turnpike. No direct impacts to wetland resource areas are proposed.

Parking

A total of 34 parking spaces are provided including nine parking spaces for retail use (3 per 1000 sf), twenty-four parking spaces for the twelve residential units (2 per dwelling) and one additional parking space.

Access Vehicular and Pedestrian

Access to the property will be via a one-way driveway entrance off the northbound Newbury Turnpike. A second driveway opening, dedicated to exit only, is provided in the northern portion of the property that also connects to the northbound Newburyport Turnpike. Millennium Engineering, Inc. has held preliminary discussions and preliminary plan review with the Massachusetts Department of Transportation - District 4 Office. The Department has indicated their preliminary support for the entrance / exit driveway layout included in this submittal.

Pedestrian accommodations are included within the proposed development to address safety for retail customers and dwelling occupants. A 5-ft sidewalk is proposed along the face of the building that will include handicap ramps to support access to and from the building. Given the absence of public walkways along the property frontage and abutting properties, no connections to public facilities are available.

Traffic

Vanasse & Associates, Inc. (VAI) conducted a Traffic Assessment for the proposed mixed-use development. This assessment identifies existing and propose conditions and reviews access requirements, traffic volumes, circulation and safety considerations. Since the project abuts a state highway, a Massachusetts Department of Transportation (Mass DOT) curb-cut permit application will be required. The Traffic Assessment is included in this submittal.

Utilities

Discussions with the Newburyport Department of Public Services (NDPS) are ongoing to determine the presence of sewer and water services along the property frontage. Previous plan information for the property suggests the former occupant, Circle Finishing Inc., accessed the water and sewer facilities in Newburyport. Further analysis of the record plan information, field investigations and coordination with Newburyport DPS Officials will be required to finalize water and sewer service connections.

The development will require two water services to address domestic use and fire protection. A 2-inch water service will supply the retail and residential units. A second water service will be required to support a fire suppression sprinkler system.

The Applicant is investigating natural gas service for the development. Currently, the discussions are on-going and if provided, the gas service will be incorporated into the Site Plans.

Electrical and communication services for the development will be required with final layout size and locations determined by the private companies.

Stormwater Management

In order to address the increase in impervious surface associated with the proposed development, a stormwater management system has been designed in conformance with the 2008 Massachusetts Stormwater Management Standards. The system includes sediment forebays, erosion controls and an infiltration basin. A Stormwater Management Report is included in this submittal detailing pre- and post-development conditions, system design and sizing, as well as, an Operation and Maintenance Manual for the system components.

Landscaping

A landscaping plan has been prepared by KD Turner Design to identify vegetated surfaces and plantings. The landscaping focuses on screening from the Newburyport Turnpike and providing a visually pleasing experience for customers and residents.

Environment

A Method 3 Risk Characterization of harm to human health, public welfare, safety and the environment was conducted for the hazardous release (RTN 3-0392 and 3-10321) and a report prepared for the site in accordance with the requirements of 310CMR 40.000 Subpart I of the Massachusetts Contingency Plan. The results of the evaluation of risk of harm to safety and public welfare indicated that no unsafe or nuisance conditions exist at the Site. A condition of “No Significant Risk” of harm to safety and public welfare has also been demonstrated for the Site.

Proposed improvements to the site will address current untreated stormwater runoff from the site. As part of the Site Plan design review process, the Town will have the opportunity to review proposed stormwater management improvements addressing runoff conditions.

Master Plan

The project appears to support several goals of the 2006 Newbury Master Plan. Specifically, the project will preserve and protect the Town’s water supply by improving stormwater runoff conditions. Currently, untreated runoff flows from the property upland into abutting wetlands. Proposed stormwater facilities will provide treatment and infiltration of runoff thereby improving current conditions.

The Master Plan also supports mixed use development with a residential component along portions of the Route 1 corridor as shown on the Master Plan Map titled “Economic Development Recommendations – Town of Newbury.

OTHER PERMITS

The project property is in both Newburyport and Newbury, with much of the site located in Newbury. Expected permitting for the development includes:

- Newbury Board of Selectmen – Special Permit (Water Supply Protection District)
- Newbury Planning Board – Site Plan
- Newbury Conservation Commission / MA. DEP – Notice of Intent
- Massachusetts Department of Transportation, District 4 – Highway Access Permit

It is also expected filings with the Newburyport Conservation Commission, Planning Board and the Department of Public Services (utility connections) will be required.

END

MEMORANDUM

TO: Mr. Eric Botterman
Millennium Engineering, Inc.
62 Elm Street
Salisbury, MA 01952

FROM: Mr. F. Giles Ham, P.E.
Vanasse & Associates, Inc.
35 New England Business Center Drive
Suite 140
Andover, MA 01810-1066
(978) 474-8800

DATE: June 16, 2020

RE: 8653

SUBJECT: Traffic Assessment
Mixed-Use Development
Newbury, Massachusetts

Vanasse & Associates, Inc. (VAI) has conducted a Traffic Assessment for the proposed mixed-use development located at 3 Newburyport Turnpike in Newbury, Massachusetts. This assessment identifies existing conditions and reviews access requirements, circulation, and safety considerations. Since the project site abuts a state highway, a Massachusetts Department of Transportation (MassDOT) curbcut permit application will be required.

PROJECT DESCRIPTION

The proposed project will consist of a three-story, 15,000 sf building with approximately 34 parking spaces. The building will accommodate 3,000 sf of retail space and 12 residential units. Access and egress will be provided via separated entering and exiting curb-cuts onto Route 1 with right turns only.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions was conducted in June 2020. The field investigation consisted of an inventory of existing roadway geometrics, operating characteristics, as well as safety data.

Roadways

Newburyport Turnpike (Route 1)

Within the study area, Route 1 is a four-lane roadway under state jurisdiction that traverses the study area in a general north-south direction. Route 1 provides two 12-foot travel lane per direction separated by a jersey barrier median. The posted speed limit along Route 1 is 25 miles per hour (mph) on the approach to the Newburyport traffic circle.



SPOT SPEED MEASUREMENTS

Vehicle travel speed measurements were performed on Route 1. Table 1 summarizes the vehicle travel speed measurements.

Table 1
VEHICLE TRAVEL SPEED MEASUREMENTS

	Route 1
	Northbound
Mean Travel Speed (mph)	32
85 th Percentile Speed (mph)	36
Posted Speed Limit (mph)	25

mph = miles per hour.

As can be seen in Table 1, the mean (average) vehicle travel speed along Route 1 northbound direction in the vicinity of the project site was found to be approximately 32 mph. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be approximately 36 mph, or 11 mph above the posted speed limit of 25 mph. The 85th percentile speed is used as the basis of engineering design and in the evaluation of sight distances, and is often used in establishing posted speed limits.

Sight Distance Evaluation

Sight distance measurements were performed at the proposed driveway with the Route 1 in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)¹ standards. In brief, stopping sight distance (SSD) is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. In accordance with AASHTO and MassDOT standards, at a minimum, sufficient stopping sight distances must be provided at an intersection. Table 2 presents the measured sight distances at the proposed site driveways intersecting with the Route 1.

¹ *A Policy on Geometric Design of Highway and Streets*, 6th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011.



Table 2
SIGHT DISTANCE MEASUREMENTS

Stopping Sight Distance Measurement	Required Minimum (Feet) ^a		Measured (Feet)
	35 mph	40 mph	
<i>Newburyport Turnpike Site Driveway:</i>			
Looking to the south from the driveway	250	305	650

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, Fifth Edition; American Association of State Highway and Transportation Officials (AASHTO); 2011.

As shown, the proposed driveway meets the required sight distance for over 40 mph.

Project-Generated Traffic

In order to develop the anticipated traffic characteristics of the project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)² were reviewed. The ITE provides trip-generation information for various types of land uses, developed as a result of scientific studies that have been conducted. ITE Land Use Code (LUC) 221 *Multi-family Housing* and LUC 820 *Shopping Center* were utilized. Table 3 summarizes the expected traffic generation.

Table 3
TRIP-GENERATION SUMMARY

Time Period	12 Residential Units	3,000 sf Retail	Total
Weekday Daily	66	114	180
<i>Weekday Morning Peak Hour:</i>			
Entering	1	2	3
<u>Exiting</u>	<u>3</u>	<u>1</u>	<u>4</u>
Total	4	3	7
<i>Weekday Evening Peak Hour:</i>			
Entering	3	5	8
<u>Exiting</u>	<u>2</u>	<u>6</u>	<u>8</u>
Total	5	11	16

²*Trip Generation*, Tenth Edition; Institute of Transportation Engineers; Washington, DC; 2017.



Table 3 summarizes the vehicle trip-generation estimates. As shown in Table 3, the site will generate 180 daily trips (90 in/90 out), 7 vehicle trips (3 in/4 out) during the morning peak hour, and 16 vehicle trips (8 in/8 out) during the weekday evening peak hour.

RECOMMENDATIONS

Based upon our review of existing conditions, VAI has made a number of recommendations in order to provide safe access and egress. These improvements are outlined below.

Project Access

As previously stated, access and egress to the site will be provided via separate entering and exiting driveways. The entering driveway should have DO NOT ENTER signs facing into the site and the exiting driveway should be placed under STOP-sign control with a painted STOP bar. A ONE WAY sign should be placed in the median facing the exiting driveway. In addition, the following is recommended:

- All signs and pavement markings to be installed within the project site shall conform to the applicable standards of the Manual on Uniform Traffic Devices (MUTCD).³
- Signs and landscaping adjacent to the project site driveway intersections will be designed and maintained so as not to restrict lines of sight.
- A MassDOT curbcut application will be required for the new driveway.

The above recommendations will insure safe access and egress to the project as planned.

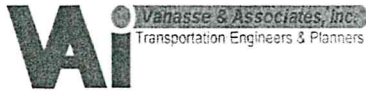
³*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, DC; 2009.



APPENDIX

VEHICLE SPEEDS
TRIP GENERATION

VEHICLE SPEEDS



Job Newbury, MA
Location At Site
Calculated By: S.R.F.
Checked By: _____

Job # 8653
Date 6/15/2020

Street: Newburyport Turnpike
Direction: Northbound

Speed Limit: 25
Time of Day 11:30 a.m.
Observations 50

Speed	# of Observation	CUM. # Of OBS	% OF TOTAL OBS	CUM %
55				
54				
53				
52				
51				
50				
49				
48				
47				
46				
45				
44				
43				
42				
41				
40	1	1	2	100
39	0	1	0	98
38	0	1	0	98
37	5	6	10	98
36	5	11	10	88
35	2	13	4	78
34	6	19	12	74
33	3	22	6	62
32	5	27	10	56
31	4	31	8	46
30	3	34	6	38
29	4	38	8	32
28	4	42	8	24
27	6	48	12	16
26	1	49	2	4
25	1	50	2	2
24				
23				
22				
21				
20				

Average: 31.86
Comments: 85% = 35.7 m.p.h.

TRIP GENERATION

Institute of Transportation Engineers (ITE)
Trip Generation, 10th Edition
Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise)

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 12

AVERAGE WEEKDAY DAILY

$T = 5.44 * (X)$
 $T = 5.44 * 12$
 $T = 65.28$
 $T = 66.00$
 $T = 66$ vehicle trips
with 50% (33 vpd) entering and 50% (33 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.36 * (X)$
 $T = 0.36 * 12$
 $T = 4.32$
 $T = 4$ vehicle trips
with 26% (1 vph) entering and 74% (3 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$T = 0.44 * (X)$
 $T = 0.44 * 12$
 $T = 5.28$
 $T = 5.00$
 $T = 5$ vehicle trips
with 61% (3 vph) entering and 39% (2 vph) exiting.

AVERAGE SATURDAY

$T = 4.91 * (X)$
 $T = 4.91 * 12$
 $T = 58.92$
 $T = 58.00$
 $T = 58$ vehicle trips
with 50% (29 vpd) entering and 50% (29 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$T = 0.44 * (X)$
 $T = 0.44 * 12$
 $T = 5.28$
 $T = 5$ vehicle trips
with 49% (2 vph) entering and 51% (3 vph) exiting.

Institute of Transportation Engineers (ITE)
Trip Generation, 10th Edition
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Square Feet Gross Leasable Area
Independent Variable (X): 3.000

AVERAGE WEEKDAY DAILY

$$T = 37.75 * X$$

$$T = 37.75 * 3.000$$

$$T = 113.25$$

$$T = 114 \text{ vehicle trips}$$

with 50% (57 vpd) entering and 50% (57 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.94 * (X)$$

$$T = 0.94 * 3.000$$

$$T = 2.82$$

$$T = 3 \text{ vehicle trips}$$

with 62% (2 vph) entering and 38% (1 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 3.81 * X$$

$$T = 3.81 * 3.000$$

$$T = 11.43$$

$$T = 11 \text{ vehicle trips}$$

with 48% (5 vph) entering and 52% (6 vph) exiting.

SATURDAY DAILY

$$T = 46.12 * X$$

$$T = 46.12 * 3.000$$

$$T = 138.36$$

$$T = 138 \text{ vehicle trips}$$

with 50% (69 vph) entering and 50% (69 vph) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 4.50 * X$$

$$T = 4.50 * 3.000$$

$$T = 13.50$$

$$T = 14 \text{ vehicle trips}$$

with 52% (7 vph) entering and 48% (7 vph) exiting.