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PUBLIC HEARING MEMORANDUM

Public Hearing Date:	July 9, 2013
Land Use Action Date:	September 17, 2013
Board of Aldermen Action Date:	September 23, 2013
90-Day Expiration Date:	October 7, 2013

DATE: July 5, 2013

TO: Board of Aldermen

FROM: Candace Havens, Director of Planning and Development
Alexandra Ananth, Chief Planner Current Planning

SUBJECT: Petition **#**325-06(3)**,** Russian School Of Mathematics/RJ Wells Management, LLC., to AMEND Special Permit/Site Plan Approval #325-06, granted on 12/18/06 for a for-profit education use, a waiver of parking provisions, and two free-standing signs, in order to increase the class size from 10 to 15 students; increase the number of classes at a time from 10 to 17; allow up to 28 employees on-site at a time; allow a revised parking, drop-off, and pick-up plan with a new driveway; and a revised lighting plan and a revised directional and signage package at **200 Wells Avenue**, Ward 8. Ref: Sec 30-24, 30-23 of the City of Newton Rev Zoning Ord, 2012.

The purpose of this memorandum is to provide the Board of Aldermen and the public with technical information and planning analysis which may be useful in the special permit decision making process of the Board of Aldermen. The Planning Department's intention is to provide a balanced view of the issues with the information it has at the time of the public hearing. There may be other information presented at or after the public hearing that the Land Use Committee of the Board of Aldermen will want to consider in its discussion at a subsequent Working Session.

200 Wells Avenue

EXECUTIVE SUMMARY

The site, situated at 200 Wells Avenue, is located in the Wells Avenue Office Park, a mature commercial and limited manufacturing office park dating back to the late 1960s. The site is subject to a number of special permits including Board Order #188-79, which allowed for the construction of the existing commercial office building and parking areas. Properties in the Wells Avenue Office Park are also subject to a 99-year deed restriction (exercised by the City, in June of 1969) that imposes a number of conditions on the development and use of these properties.

The Russian School of Mathematics (RSM) specializes in the teaching of mathematics after-school for grades K-12. RSM is a private for-profit educational use that has operated on-site since receiving a special permit in 2006 via Board Order #325-06. RSM received a special permit for the location of a for-profit educational use in the Limited Manufacturing District, to waive various parking requirements including the number of parking stalls, and for two freestanding signs. Conditions to Board Order #325-06 limited the petitioner's operations at the site including the number of students per class, the number of employees on-site at any time, the maximum number of students on-site at any time, the hours of operations, and drop-off and pick-up operations.

The Inspectional Services Department cited RSM in January 2013 for two sheds that had been constructed illegally on site, as well as for various operational issues; the school has been very successful and is operating beyond the scope of many of the limiting conditions of Board Order #325-06.

To accommodate current operations and to allow for some limited future growth the petitioner is seeking modifications to many of the condition of Board Order #325-06 as follows:

- To allow up to 200 students in the school at any given time
- To allow for up to 15 students per class
- To allow for up to 17 classes to occur at any one time
- To allow for up to 28 employees on-site at any one time

To accommodate the proposed intensity of the use the petitioner is proposing to amend the current site plan to connect the two separate parking areas with a driveway in order to facilitate parking operations. RSM is also proposing to construct a new fenced-in play area and to legalize the existing noncompliant storage sheds on-site.

The proposed new driveway will enable additional live drop-off of students and remove any queuing from occurring on Wells Avenue, and the Planning Department has no concerns with this proposed change. The Planning Department has no major concerns with either the sheds or the proposed play area. The petitioner submitted a Traffic Assessment Memorandum

(**ATTACHMENT A**) and a Parking Assessment (**ATTACHMENT B**) which appear to support the petitioner's request for modifications to the existing Board Order and site plan.

The expansion of a business in this location is consistent with the 2007 *Newton Comprehensive Plan*, which supports strengthening viable businesses that contribute to the vitality of Newton. RSM has been very successful at this location and offers a service that is valued by many in the City. The Planning Department suggests the petitioner seek ways to incentivize students and staff to reduce driving and parking demand so as to minimize any traffic and parking impacts on the surrounding businesses.

I. SIGNIFICANT ISSUES FOR CONSIDERATION

When considering the special permits requested in this application, the Board should decide whether the following findings apply:

1) There will be no nuisance or serious hazard to vehicles or pedestrians.
2) Access to the site is appropriate for the number(s) of vehicles involved.
3) Amending the existing site plan and Board Order #325-06 will not adversely affect the neighborhood.

II. CHARACTERISTICS OF THE SITE AND NEIGHBORHOOD

A. Neighborhood and Zoning

The subject property is located within the Wells Avenue Office Park, which is a Limited Manufacturing zoning district, containing a mix of commercial uses including general office, warehouse and distribution. As the office park has matured there has been a transition of school and sports-related uses in the area (i.e. Solomon Schechter Day School, Exxcel Gymnastics Academy, Boston Sports Club, Massachusetts School of Psychiatry, etc.).

B. Site

The site contains approximately 87,131 square feet of land and is generally characterized as a flat, triangular parcel. The site is improved with a two-story ~19,000 sq. ft. brick building previously used as office space.

The site is served by two parking areas on each side of the building. Parking Lot A contains 50 parking stalls, including three handicap stalls. Parking Lot B contains 14 stalls. Although the main entrance to the building is located on the south side of the building close to the center of Parking Lot A, both parking areas have a pedestrian walkway leading from the parking areas to building entrances.

III. PRIMARY PROJECT DESCRIPTION AND ANALYSIS

A. Land Use

The building is a multi-tenant office building currently shared by four tenants. RSM occupies the bulk of the building with 7,568 square feet on the first and second floors. Dance Fever, Inc. (DFI) is a for-profit dance studio serving students ages four through adult. DFI occupies 6,672 square feet of the easterly wing of the first and second floors via Board Order #324-06, which includes conditions similar to RSM. Two commercial office tenants occupy 1,211 square feet on the second floor. All four tenants will continue to operate on-site.

RSM is proposing to increase the intensity of the use of the site by amending Board Order #325-06, (**ATTACHMENT C**) including increasing the limit of students per class from 10 to 15; increasing the allowed number of classes on-site at one time from 10 to 17; increasing the number of staff on-site from 10 to 28; amending the hours of operation from 3:30 to 2:30 on Tuesdays; staggering the class schedule such that no more than three weekday classes shall begin concurrently and there shall be a break of 10 minutes before any additional classes start; increasing the maximum number of students on-site at any given time from 100 to 200.

B. Building and Site Design

The petitioner is not proposing any external alterations to the building at this time with the exception of adding a playground and legalizing two existing sheds.

If the proposed sheds were new, the Planning Department would recommend that they be located towards the back of the site or behind the existing parking areas. However, the structures are located out of the front setback and are somewhat screened by existing mature trees, so the Planning Department has no major concerns with either the sheds or the proposed play area.

C. Parking and Circulation

There are two parking lots on-site: Lot A with 50 stalls and Lot B with 14 stalls. The petitioner also has 24 dedicated off-site school parking spaces located on the adjacent lot to the south.

Adequate queuing, circulation, parking, and safe pedestrian access through the parking lot are important issues central to this petition. In order to reduce traffic queuing and parking conflicts the petitioner is proposing to connect the two parking areas on-site with a one-way driveway in front of the existing building. The proposed new driveway will enable additional live drop-off of students and remove any queuing from occurring on Wells Avenue and the Planning Department has no

concerns with this proposed change. Connecting the lots would result in the loss of two parking stalls. No other changes are proposed to the existing parking area.

The petitioner received a parking waiver of 12 stalls in 2006. However, due to the reduction of office space between then and now, a parking waiver is no longer required as RSM (serving students under 14) has a lower parking requirement than the office use. The petitioner also received a number of parking waivers for the existing parking facilities in 2006:

- to reduce the minimum required aisle width from 24 ft. to 19.8 ft. in Parking Lot A;
- to install guardrail instead of curbing in Parking Lot A;
- to reduce the minimum required aisle width from 24 ft. to 23.6 ft. for Parking Lot B;
- to reduce the front setback from 25 ft. to 23.6 ft. for Parking Lot B;
- to reduce the required end stall turn-out depth from 5 ft. to 3.5 ft. for Parking Lot B;
- to continue existing perimeter and interior landscaping for Parking Lots A & B; and
- to continue existing lighting installation, to allow reduced illumination below 1 ft. candle to the extent necessary for Parking Lots A & B.

The Planning Department recommends that the petitioner submit a directional sign package to address the change in traffic flow at the entrance of both lots indicating drop-off and parking for different uses. Parents also should be advised of parking and drop-off and pick-up policies in writing on a regular basis.

The petitioner submitted a Traffic Assessment Memorandum and a Parking Assessment, which appear to support the petitioner's request for modifications to the existing Board Order and site plan. The Traffic Assessment Memorandum recommends trimming existing trees along the site frontage, relocating the stop sign approximately two to four feet behind the sidewalk, relocating the freestanding sign, and restricting parking along the south side of Well Avenue in the area of the site frontage would improve sight lines for vehicles exiting the site.

Traffic and parking management practices have also recently been improved with the addition of a police detail at peak hours and employing a parking lot attendant to facilitate pick-up and drop-off. Proposed modifications to accommodate a one-way prop-off and pick-up lane along the front of the existing building will also facilitate operations on-site.

The Parking Assessment shows that there is sufficient parking on site to

accommodate the proposed number of students and teachers. The majority of students in RSM are under 14 and are driven by car to the school, dropped off and picked up when the sessions are over. This study also notes that the peak hour for RSM is form 5-6 p.m., which does not conflict with the peak hours of DFI which are after 6 p.m. RSM and DFI should seek ways to incentivize students and staff to carpool in order minimize any traffic and parking impacts on the surrounding businesses.

IV. COMPREHENSIVE PLAN

The *2007 Comprehensive Plan* asserts that Newton's economic development success depends upon the City succeeding as both an attractive residential living environment and as a desirable location for business. The expansion of this successful educational use appears to further the goals of the *Newton Comprehensive Plan*, by providing useful services that are desired by the community, as long as all parking and queuing issues can be contained on-site.

V. TECHNICAL REVIEW

A. Technical Considerations. The Zoning Review Memorandum, dated May 21, 2013 (**ATTACHMENT D**), provides an analysis of the proposal with regard to zoning.

B. Engineering Division Review. The Associate City Engineer's Review Memorandum is attached (**ATTACHMENT E**). All issues can be addressed prior to the issuance of a building permit.

VI. ZONING RELIEF SOUGHT

Based on the completed Zoning Review Memorandum the petitioners are seeking approval through or relief from:

- Section 30-23 to amend the existing site plan of record
- Section 30-24 to amend Board Order #325-06.

VII. PETITIONERS' RESPONSBILITIES

Prior to being scheduled for a working session the petitioner should submit a directional signage package and RSM and DFI should seek ways to incentivize students and staff to carpool in order minimize any traffic and parking impacts on the surrounding businesses.

ATTACHMENTS

ATTACHMENT A: Traffic Assessment Memorandum
ATTACHMENT B: Parking Assessment MEMORANDUM
ATTACHMENT C: BOARD ORDER #325-06
ATTACHMENT D: ZONING REVIEW MEMORANDUM
ATTACHMENT E: ENGINEERING DIVISION REVIEW MEMORANDUM
ATTACHMENT F: ZONING MAP
ATTACHMENT G: LAND USE MAP

ATTACHMENT A

Planning | Transportation | Land Development | Environmental

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Memorandum

To: Inessa Rifkin
Russian School of Mathematics
200 Wells Avenue
Newton, MA 02459

Date: June 25, 2013

Project No.: 12350.00

From: Randall C. Hart
Director of Transportation Planning & Engineering, LD

Re: Traffic Assessment Memorandum
Russian Mathematics School
200 Wells Avenue
Newton, Massachusetts

Introduction

This memo has been prepared to provide a review of existing traffic conditions at the Russian School of Mathematics (RSM) and Dance Fever site located at 200 Wells Avenue, as well as future conditions evaluation with the proposed site modifications and operational protocols in place. Currently the school portion of the facility is permitted for up to 10 students per class room. Based on information provided by the Proponent, current enrollment is beyond the permitted levels. To accommodate the current operations of the school and to allow for some limited future growth, the applicant is seeking modification to its special permit to allow:

- up to 200 students in the school at any given time
- up to a maximum of 15 students per class
- up to 17 classes to occur at any one time
- up to 28 employees on site at any one time

As part of the permitting necessary to continue operations at this location and support the request that is being made, modifications to the existing site plan and the introduction of a traffic circulation and parking management plan, including protocols for afternoon drop-off/pick-up and general site circulation has become necessary and is being proposed. The focus of this document is to assess the traffic access and operational conditions only. It should be noted that a separate and distinct parking assessment has been completed by Planning Horizons and is included under separate heading within the application.

Under existing conditions, the property has two full access driveways and parking areas along Wells, one on the east (parking lot B) and west side of the building (parking lot A). Parking lot A driveway provides access to the primary parking area for the site and includes a total of 49 parking spaces. Parking lot B driveway provides access to approximately 14 parking spaces. This area is designated for student drop off only and there is a 5 minute parking limitation. Currently the eastern and western driveways/parking areas are not connected. As part of revisions to the site being considered under this application, a parent drop-off and pick-up connector roadway is being proposed which would connect the two parking areas. This connector road would be one-way from west to east and will be used exclusively for the purpose of parent drop-off and pick-up only (no extended parking).

Weekly classes and instruction for activities at both RSM and Dance Fever primarily occur between 3:00 pm and 9:00 pm on weekdays and between 8:00 am and 7 pm on weekends. Most of the existing programs are geared toward the school age population with Dance Fever offering some later evening classes for adults. The vast majority of students in both schools are driven to the facility and dropped-off/picked-up when the session is

over. Carpooling is encouraged and frequently more than one child per household is enrolled in concurrent classes.

Safety Assessment

To identify potential vehicle crash trends at the two site driveways, reported vehicular crash data for the study-area intersections was obtained from MassDOT for the years 2006 through 2010, the most recent five-year history available. A summary of the MassDOT vehicle crash history and crash rates is presented in Table 1. This data is contained in the Attachments for reference.

The 2010 MassDOT average crash rates for unsignalized intersections for District 6 is 0.58. As shown in Table 1, the only site driveway with recorded crashes is the Lot B driveway location which observed a total of 2 accidents over the 5 years of date that was reviewed.

Table 1 Vehicular Crash Summary (2006-2010)

-	Wells Avenue and LOT B Driveway	Wells Avenue and LOT A Driveway
Year		
2006	0	0
2007	1	0
2008	1	0
2009	0	0
2010	0	0
Total	2	0
Average	0.40	0
Collision Type		0
Angle	0	0
Head-on	0	0
Rear-end	0	0
Rear-to-Rear	1	0
Sideswipe, opposite direction	0	0
Sideswipe, same direction	0	0
Single vehicle crash	0	0
Unknown	0	0
Not reported	1	0
Total	2	0
Crash Severity		0
Fatal injury	0	0
Non-fatal injury	1	0
Property damage only (none injured)	1	0
Not Reported	0	0
Unknown	0	0
Total	2	0
Time of Day		0
Weekday, 7:00 AM - 9:00 AM	0	0
Weekday, 4:00 PM - 6:00 PM	0	0
Saturday, 11:00 AM - 2:00 PM	0	0
Weekday, other time	2	0
Weekend, other time	0	0
Total	2	0
Pavement Conditions		0
Dry	2	0
Wet	0	0
Snow	0	0
Ice	0	0
Sand, mud, dirt, oil, gravel	0	0
Water (standing, moving)	0	0
Slush	0	0
Other	0	0
Unknown	0	0
Not reported	0	0
Total	2	0
MassDOT Crash Rates	0.36	0.00

*Represents Crash Rate per Million Entering Vehicles Miles (MEV); State Average is 0.60 and Local MassDOT District (6) is 0.58 For unsignalized intersections

Based on the crash data, it can be concluded that neither site driveway currently has significant crash frequency. In addition, based on anecdotal information provided by the Proponent, there are no known or perceived safety issues associated with access and operations of the site driveways.

Existing Traffic Conditions

For the purpose of assessing existing and future traffic conditions at the site driveway and along Wells Avenue in the vicinity of the site, manual turning movement and automatic traffic recorder counts were conducted. Specifically, manual turning movement counts were conducted at each site driveway between the hours of 2-4 PM on a weekday to capture key parent drop-off and pick-up periods in April of 2013. All traffic count sheets are included in the appendix of this document along with networks of the peak traffic activity at the site driveways during the afternoon peak period. In addition, an automatic traffic recorder (ATR) count was conducted along Wells Avenue in front of the site for 48 hour period. The ATR count collected both vehicular movement and vehicle speed. A summary of the ATR count is provided below in Table 2.

Table 2 ATR Data Summary

Location	Daily[a] Weekday	Weekday Morning Peak Hour Volume[b]	K Factor[c]	Dir. Dist.[d]	Weekday Evening Peak Hour Volume	K Factor	Dir. Dist.	85th Percentile Speed (mph) EB	WB
Wells Avenue, west of #181 Driveway	2,000	145	7.2%	EB 68%	170	8.5%	EB 81%	33	29

Source: Vanasse Hangen Brustlin, Inc. Based on automatic traffic recorder (ATR) counts conducted in June 2011
a average daily traffic (ADT) volume expressed in vehicles per day
b peak period traffic volumes expressed in vehicles per hour
c percent of daily traffic that occurs during the peak period
d directional distribution of peak period traffic
Note: peak hours do not necessarily coincide with the peak hours of the individual intersection turning movement counts

Sight Distance

A sight distance analysis, in conformance with guidelines of the American Association of State Highway and Transportation Officials (AASHTO) was performed at the existing site access driveways on Wells Avenue. Stopping Sight Distance (SSD) is the distance required for a vehicle approaching an intersection from either direction to perceive, react and come to a complete stop before colliding with an object in the road, in this case the exiting vehicle from a driveway. In this respect, SSD can be considered as the minimum visibility criterion for the safe operation of an unsignalized intersection.

Intersection Sight Distance (ISD) is based on the time required for perception, reaction and completion of the desired critical exiting maneuver (left turn) once the driver on a minor street approach decided to execute the maneuver. Calculation for the critical ISD includes the time to (1) turn left, and to clear the half of the intersection without conflicting with the vehicles approaching from the left; and (2) accelerate to the operating speed of the roadway without causing approaching vehicles to unduly reduce their speed (in the case of the right-in/right-out driveway only this portion applies). In this context, ISD can be considered as a desirable visibility criterion for the safe operation of an unsignalized intersection. Essentially, while SSD is the minimum distance needed to avoid collisions, ISD is the minimum distance needed so that mainline motorists will not have to substantially reduce their speed due to turning vehicles. To maintain the safe operation of an unsignalized intersection, ISD should be greater than or equal to the stopping sight distance, though it is desirable to meet ISD requirements by themselves.

To calculate the required ISD and SSD at the existing site driveways along Wells Avenue the observed 85th percentile speed of 33 mph was used (even though the 85th percentile speed .WB was 28 mph). Table 3 summarizes the sight distance analysis.

Table 3 Sight Distance Analysis Summary

	Stopping Sight Distance			Intersection Sight Distance		
	Traveling	Required [a]	Measured	Looking	Required [a]	Measured
Lot A Driveway	Eastbound [a]	230 feet	210 feet	East	365 feet	250 feet
	Westbound	230 feet	270 feet	West	320 feet	190 feet
Lot B Driveway	Eastbound [a]	230 feet	240feet	East	365 feet	240 feet
	Westbound	230 feet	260 feet	West	320 feet	210 feet

Source: Based on guidelines established in A Policy on the Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2004

a Based on measured 85th percentile speed

As outlined in Table 3, the critical stopping sight distance approaching the Lot A and Lot B driveways is 230 feet which is currently met or exceeded for all movements with the exception of the eastbound approach to the LOT A driveway which currently has approximately 210 feet of visibility. As outlined in the table, current field conditions fall short of meeting intersection sight distance (ISD) requirements. Meeting the SSD requirements at both driveways should be the minimum sight distance that needs to be provided although it is highly desirable to meet both SSD and ISD at each location.

Existing features which limit the sight distance in this area included a horizontal curve in the roadway coupled with vegetation overgrowth. Pictures at each site driveway were taken in June 2013 to represent exiting conditions.

Lot A Driveway looking west

Lot A Driveway looking East

Lot B Driveway looking West

As shown in the photographs, it is the combination of horizontal roadway curvature and the overgrowth that causes limitation in sight lines. To improve on the existing condition, and meet the SSD requirements at a minimum, clearing and pruning along the site frontage to the west of the Lot B site driveway is necessary and should be completed immediately. In addition, additional trimming on all both sides of each driveway should be considered to increase the available ISD to the extent possible and practical. To supplement clearing proposed, relocating the STOP signs and accompanying stop lines closer to Wells Avenue (approximately 2-4 feet behind sidewalk) will also have a positive influence on available sight lines, as would the relocation of panel sign located immediately to the east of the east driveway. For the purpose of demonstrating the changes required to meet the SSD minimum, refer to sight-distance figure in the Appendix which outlines the areas that need to be cleared to improve sight lines.

Under current conditions, parking along the south side of Wells Avenue is signed to not allow parking except on Saturdays Sundays and Holidays along the site frontage. Given the horizontal profile of the roadway in this area and the need to maximize sight lines for access and egress to the site, we strongly recommend that existing parking restrictions be modified to **not** allow parking along the south side of Wells Avenue in the area of the site frontage at any time.

Site Plan Modification and Operational Protocols

As described earlier, as part of the permitting process for the project, long term onsite enhancements are being proposed. Additionally, in the short term, the recent deployment of a police detail, employing a parking lot attendant, and reopening lot B have considerably improved operational conditions on site. Future enhancements proposed include the following:

- Modification to the existing site plan to accommodate a parent drop-off and pick-up lane along the front of the existing building. This controlled area will be one-way (west to east), and will be used exclusively for parent drop and pick-up only.
- Protocols for access, parking, and drop-off including staggering classes that are spread by 15 minute intervals. Protocols include:
    - Students will be dropped off and picked up in the new parent drop-off and pick-up lane. This driveway connection between parking lots will allow for live parking exclusively. All other vehicles will be directed

to parking lot A. Parent will have the option to park and walk their child into the school when necessary as well.

- Teacher and administrators will park in lot B and, if necessary, in lot A, closest to Wells Avenue.
- A parking attendant will monitor the site driveway between 3:00 and 7:00 PM on weekdays to insure student pedestrian safety and to keep traffic circulating through the parking lot.
- Regular reminders will be sent to parent regarding parking procedures, pick-up and drop-off protocols, and to reinforce that there shall be no parking on Wells Avenue.
- Both RSM and Dance Fever will further develop and promote carpool programs that will be aimed at further reducing vehicular trips to the site. For example, reduced tuition rates and other incentives will be offered to parents who continually demonstrate viable carpooling arrangements.
- Lease arrangements (temporary or long term) will be sought to allow for teacher and administrator parking based on monitoring the extent to which the above outlined improvements will address identified concerns.

Traffic Operational Analyses

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic within the study area. To assess quality of flow, roadway capacity analyses were conducted with respect to the 2013 existing conditions with the proposed site plan modification and operational protocols in place. Capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands. The analysis summary, Table 4, contains the results of operational analyses at each site driveway with the revised site plan and assumed operational protocols in place. The analysis is limited to the afternoon peak hour which is the critical peak period for combination of site traffic activity and ambient background traffic volumes.

Level-of-Service and Delay Criteria

Level-of-service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure of the effect of a number of factors including roadway geometrics, speed, travel delay, freedom to maneuver, and safety. Level-of-service provides an index to the operational qualities of a roadway segment or an intersection. Level-of-service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

For unsignalized intersections, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. The LOS is determined primarily for left turns from the main street and all movements from the minor street (site driveways in this case). The study of an unsignalized intersection is, for the most part, done by observing the most critical movement, which is most often the left turn out of the side street. The evaluation criteria used to analyze intersections is based on the 2000 Highway Capacity Manual (HCM)[1] and are included in the Attachments.

Unsignalized Site Driveway Capacity Analyses

Table 4 presents a summary of the capacity analyses for the unsignalized site driveways along Wells Avenue. The capacity analyses worksheets are included in the Attachments.

1 Highway Capacity Manual, HCM2000, Transportation Research Board, Washington, DC (2000).

Table 3
Unsignalized Intersection Capacity – Morning and Afternoon Peak Periods

Location	Peak Period	Critical Movement	2013 Build Conditions				Proposed Conditions			
			Dem [a]	v/c [b]	Del [c]	LOS [d]	Dem	v/c	Del	LOS
Wells Avenue at East Site Driveway	Weekday Afternoon	NB LTR	109	0.36	16	C	157	0.48	17	C
		SB LTR	23	0.04	10	A	23	0.04	10	A
Wells Avenue at West Side Driveway	Weekday Afternoon	NBLR	48	0.16	14	B	0	0	0	A

a demand in vehicles per hour for unsignalized intersections; the demand applies to only the most critical street approach or lane group
b volume-to-capacity ratio for the critical movement
c delay of critical approach only, rounded to the nearest whole second
d level of service of the critical movement
LT left turn
RT right turn

As outlined in Table 4, the traffic operations at both access driveways currently operate at LOS C or better during the critical afternoon peak period. With the proposed site access circulation and drop-off/pick-up protocols in place, and the associated redistribution of traffic that will create, operations of both site driveways has been maintained at LOS C or better and This represents good operations for site driveway movements during the critical period of site traffic activity.

Conclusion

This memo has been prepared to provide a review of existing and future traffic conditions at the Russian School of Mathematics (RSM) and Dance Fever site with the proposed site modifications and operational protocols in place. Currently the school portion of the facility is permitted for up to 10 students per class room and current enrollment is beyond the permitted levels. Given the popularity of the school the applicant is seeking modification to its special permit to allow:

- up to 200 students in the school at any given time
- up to a maximum of 15 students per class
- up to 17 classes to occur at any one time
- up to 28 employees on site at any one time

To improve on existing facilities and operations, the Proponent is proposing modifications to the existing site plan and the introduction of a traffic/parking management plan that includes protocols for student drop-off and pick-up. Review of accidents records in at the two site access driveways indicates that there are limited at the Lot B driveway (2 accidents in 5 years) and no recorded accidents at the Lot A driveway. The calculated accident rate at the western driveway falls well below the MassDOT average accident rate for unsignalized intersections. Review of available sight distance indicates that the with the proposed access modifications adequate stopping sight distance is available at both driveways with the exception of the eastbound approach to the east driveway. To improve sight distance at this location to meet the minimum required, clearing of existing vegetation is strongly recommended as discussed above and outlined in the figure contained in the appendix. In addition, additional clearing to improve on ISD, moving the STOP signs/stop bar forward (2-4 feet) behind sidewalk, and relocating the existing panel sign on the east side of the Lot A driveway (by a few feet further into the site) will all contribute to improving the overall sight lines for each driveway. Operations of the site driveways during

peak traffic conditions with the proposed site modification and protocols in place is expected to be at LOS C or better which is well within the acceptable range.

Attachments

- Site Plan
- Accident Records
- Traffic Projection Spreadsheets
- Traffic Count Sheets
- Sight Distance Spreadsheet
- SYNCHRO Analysis Sheets

Site Plan

215137tc.dwg (2.2012)

PARKING LOT A			
REGULATION	REQUIRED	EXISTING	PROPOSED
STANDARD PARKING SPACE (WxD)	9.0'x19.0'	VARIES	–
HANDICAP PARKING SPACE (WxD)	12.0'x19.0'	VARIES	–
PARKING LOT FRONT SETBACK	25.0'	38.5'	–
PARKING LOT SIDE SETBACK	20.0'	8.8'**	–
ENTRANCE/EXIT DRIVEWAY WIDTH	20.0'	23.7'	–
MANEUVERING SPACE (DxW) FOR END STALL	5.0'x9.0'	5.3'x19.3'	–
HANDICAP SPACES	4%/MIN. 3	3	–
MINIMUM AISLE WIDTH	24.0'	19.8'	–

*2.0' OVERHANG SECTION 30–19 (h) (2)d)
**PRE–EXISTING NON–CONFORMING

PARKING LOT B			
REGULATION	REQUIRED	EXISTING	PROPOSED
STANDARD PARKING SPACE (WxD)	9.0'x19.0'	VARIES	–
HANDICAP PARKING SPACE (WxD)	12.0'x19.0'	VARIES	–
PARKING LOT FRONT SETBACK	25.0'	23.6'**	–
PARKING LOT SIDE SETBACK	20.0'	17.6'**	–
ENTRANCE/EXIT DRIVEWAY WIDTH	20.0'	23.8'	–
MANEUVERING SPACE (DxW) FOR END STALL	5.0'x9.0'	3.5'x18.5'	–
MINIMUM AISLE WIDTH	24.0'	23.6'	–

*2.0' OVERHANG SECTION 30–19 (h) (2)d)
**PRE–EXISTING NON–CONFORMING

TOTAL EXISTING OFFSITE PARKING SPACES 24

AS–BUILT PARKING SPACES 61
AS–BUILT HANDICAP SPACES 3
TOTAL AS–BUILT SPACES 64

ZONING CHART			
NEWTON, MASSACHUSETTS			
ZONE: LMD	SUBMISSION: PROPOSED		
REGULATION	REQUIRED	EXISTING	PROPOSED
LOT AREA	20,000.0s.f.	87,131±s.f.	N/A
FRONT SETBACK	25.0'	93.6'	N/A
SIDE SETBACK	20.0'	65.9'	N/A
SIDE SETBACK	20.0'	21.4'	N/A
BUILD HEIGHT	36.0'	24.6'	N/A
MAX. STORIES	3	2	N/A
AVERAGE GRADE	N/A	99.4'	N/A
LOT COVERAGE	25.0%	13.0%	N/A
OPEN SPACE	N/A	62.7%	N/C

LEGEND

- STORM SEWER — D
- SANITARY SEWER — S
- WATER MAIN — W
- OVERHEAD ELECTRIC — OE
- CONTOUR — 21
- BUILDING
- CHAINLINK FENCE — x
- PROPERTY LINE W/ BEARING DISTANCE — N85°23'35"W 346.41'
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- GAS VALVE
- WATER VALVE
- UTILITY POLE
- DRAINAGE MANHOLE
- SEWER MANHOLE
- FIRE HYDRANT
- CATCH BASIN
- MONITORING WELL
- ELECTRIC MANHOLE — EMH

N19°40'51"W 343.32'

LOT AREA: 87,131±s.f.
LOT COVERAGE: 13.0%

PARKING LOT A

PARKING LOT B

AS–BUILT DUMPSTER AREA

2 STORY BRICK #200 FF. EL. 100.0

2ND STORY OVERHANG

METAL ROOF OVERHANG

CONCRETE WALK

SHED

STOCKADE FENCE

NO PARKING

SIGN "PARKING FOR 200 WELLS ONLY"

DEDICATED OFFSITE SCHOOL PARKING SPACES
24 SPACES

S70°19'00"W 338.59'

50.0' WIDE PERMANENT DRAIN & SEWER EASEMENT

WELLS AVENUE

R=774.45'
L=233.89'

CB RIM 94.3
EMH RIM 96.2
EMH RIM 96.3
SMH RIM 96.3
DMH RIM 96.7
CB RIM 96.6
CB RIM 93.8
CB RIM 98.1
CB RIM 98.0
DMH RIM 99.6
CB RIM 99.4
SMH RIM 98.4
SMH RIM 100.4
CB RIM 101.8
EMH RIM 102.3
CB RIM 101.9
SMH RIM 102.4
SMH RIM 102.0

0 10 20 40 80
SCALE: 1" = 20'

TOPOGRAPHIC PLAN OF LAND NEWTON, MASSACHUSETTS

SHOWING EXISTING AT #200 WELLS AVENUE

SCALE: 1in.=20ft. DATE: MAY 9, 2012
REVISED: MARCH 25, 2013

PROJECT: 06175

VTP ASSOCIATES INC.
LAND SURVEYORS – CIVIL ENGINEERS.
#132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332–8271

PARKING LOT A			
REGULATION	REQUIRED	EXISTING	PROPOSED
STANDARD PARKING SPACE (WxD)	9.0'x19.0'	VARIES	–
HANDICAP PARKING SPACE (WxD)	12.0'x19.0'	VARIES	–
PARKING LOT FRONT SETBACK	25.0'	38.5'	–
PARKING LOT SIDE SETBACK	20.0'	8.8'**	–
ENTRANCE/EXIT DRIVEWAY WIDTH	20.0'	23.7'	–
MANEUVERING SPACE (DxW) FOR END STALL	5.0'x9.0'	5.3'x19.3'	–
HANDICAP SPACES	4%/MIN. 3	3	–
MINIMUM AISLE WIDTH	24.0'	19.8'	–

*2.0' OVERHANG SECTION 30–19 (h) (2)d)
**PRE–EXISTING NON–CONFORMING

PARKING LOT B			
REGULATION	REQUIRED	EXISTING	PROPOSED
STANDARD PARKING SPACE (WxD)	9.0'x19.0'	VARIES	–
HANDICAP PARKING SPACE (WxD)	12.0'x19.0'	VARIES	–
PARKING LOT FRONT SETBACK	25.0'	23.6'**	–
PARKING LOT SIDE SETBACK	20.0'	17.6'**	–
ENTRANCE/EXIT DRIVEWAY WIDTH	20.0'	23.8'	–
MANEUVERING SPACE (DxW) FOR END STALL	5.0'x9.0'	3.5'x18.5'	–
MINIMUM AISLE WIDTH	24.0'	23.6'	–

*2.0' OVERHANG SECTION 30–19 (h) (2)d)
**PRE–EXISTING NON–CONFORMING

NOTE: THE EXISTING DIMENSIONAL REQUIREMENTS FOR PARKING LOT A AND PARKING LOT B HAVE BEEN APPROVED BY BOARD ORDER 325–06.

TOTAL EXISTING OFFSITE PARKING SPACES 24

TOTAL SPACES 62

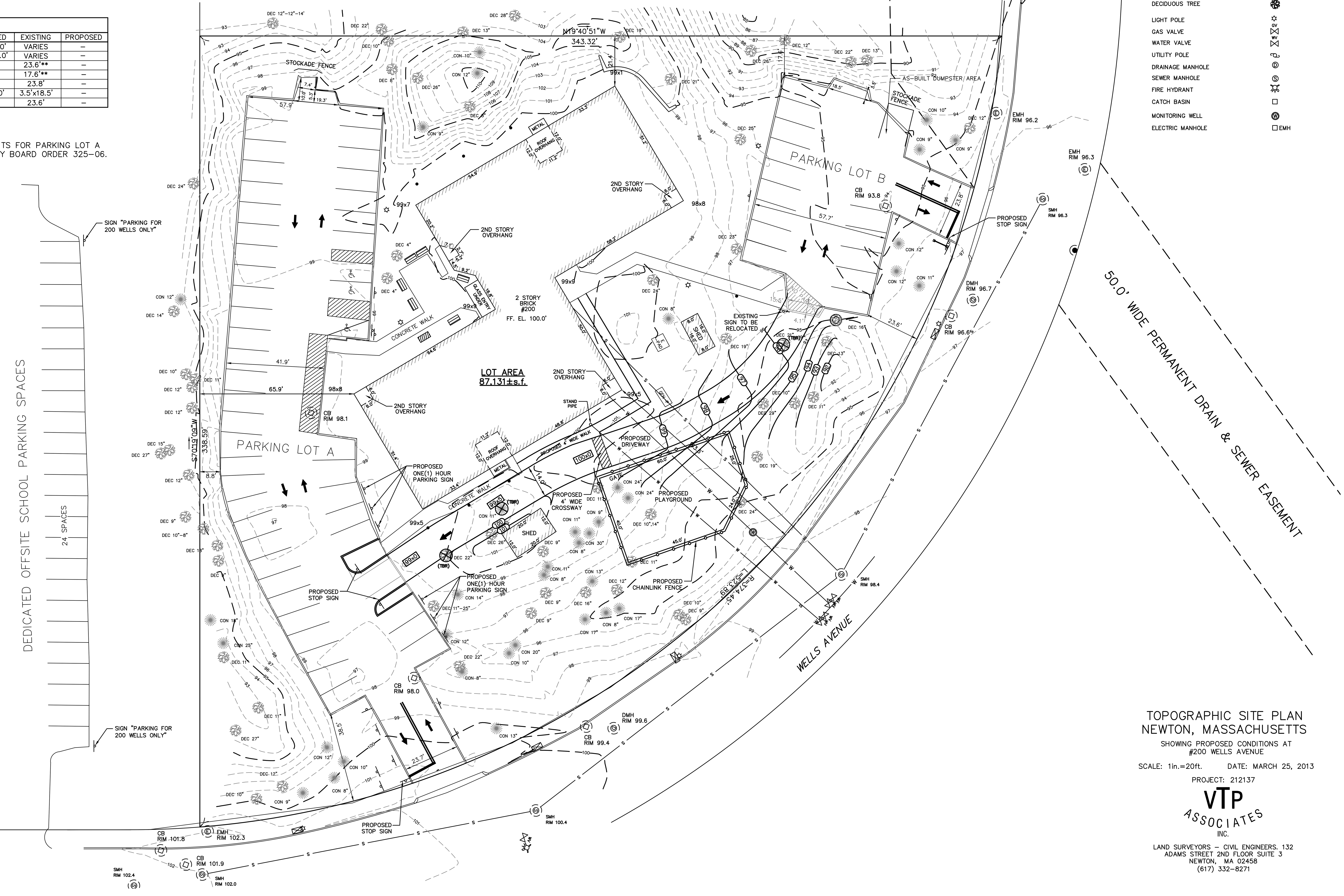
PARKING LOT A
PARKING SPACES 45
HANDICAP 3

PARKING LOT B
PARKING SPACES 14

ZONING CHART			
NEWTON, MASSACHUSETTS			
ZONE: LMD	SUBMISSION: PROPOSED		
REGULATION	REQUIRED	EXISTING	PROPOSED
LOT AREA	20,000.0s.f.	87,131±s.f.	N/A
FRONT SETBACK	25.0'	93.6'	N/A
SIDE SETBACK	20.0'	65.9'	N/A
SIDE SETBACK	20.0'	21.4'	N/A
BUILD HEIGHT	36.0'	24.6'	N/A
MAX. STORIES	3	2	N/A
AVERAGE GRADE	N/A	99.4'	N/A
LOT COVERAGE	25.0%	13.0%	N/C
OPEN SPACE	N/A	62.7%	59.1%

LEGEND

- STORM SEWER — D —
- SANITARY SEWER — S —
- WATER MAIN — W —
- OVERHEAD ELECTRIC — OE —
- CONTOUR — 21 —
- BUILDING
- CHAINLINK FENCE — x —
- PROPERTY LINE W/ BEARING DISTANCE (N85°23'35"W 346.41')
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- GAS VALVE
- WATER VALVE
- UTILITY POLE
- DRAINAGE MANHOLE
- SEWER MANHOLE
- FIRE HYDRANT
- CATCH BASIN
- MONITORING WELL
- ELECTRIC MANHOLE □EMH



0 10 20 40 80
SCALE: 1" = 20'

TOPOGRAPHIC SITE PLAN
NEWTON, MASSACHUSETTS
SHOWING PROPOSED CONDITIONS AT #200 WELLS AVENUE

SCALE: 1in.=20ft. DATE: MARCH 25, 2013

PROJECT: 212137

VTP ASSOCIATES INC.
LAND SURVEYORS – CIVIL ENGINEERS. 132 ADAMS STREET 2ND FLOOR SUITE 3
NEWTON, MA 02458
(617) 332–8271

■

Accident Records

Traffic Counts

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton COUNT DATE : 5/1/2013

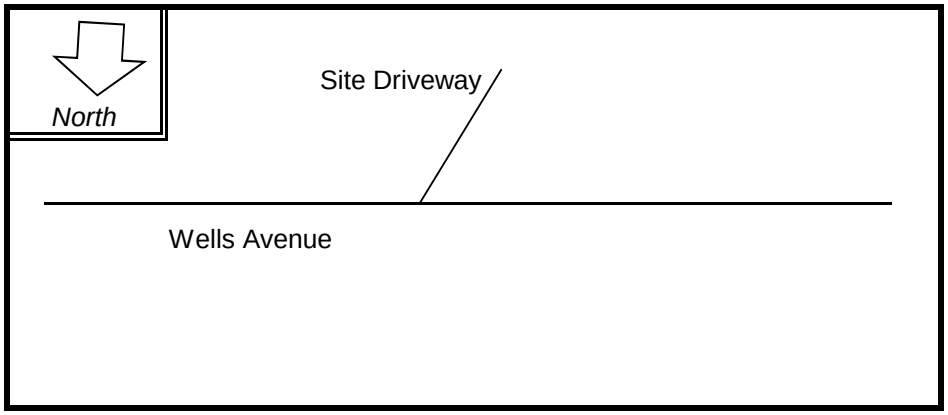
DISTRICT : 6 UNSIGNALIZED : X SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Wells Avenue

MINOR STREET(S) : West Site Driveway

INTERSECTION DIAGRAM (Label Approaches)



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (PM) :	170	40	48			**258**

" K " FACTOR : **0.085** INTERSECTION ADT (**V**) = TOTAL DAILY APPROACH VOLUME : **3,035**

TOTAL # OF CRASHES : 2 # OF YEARS : 5 AVERAGE # OF CRASHES PER YEAR (**A**) : **0.40**

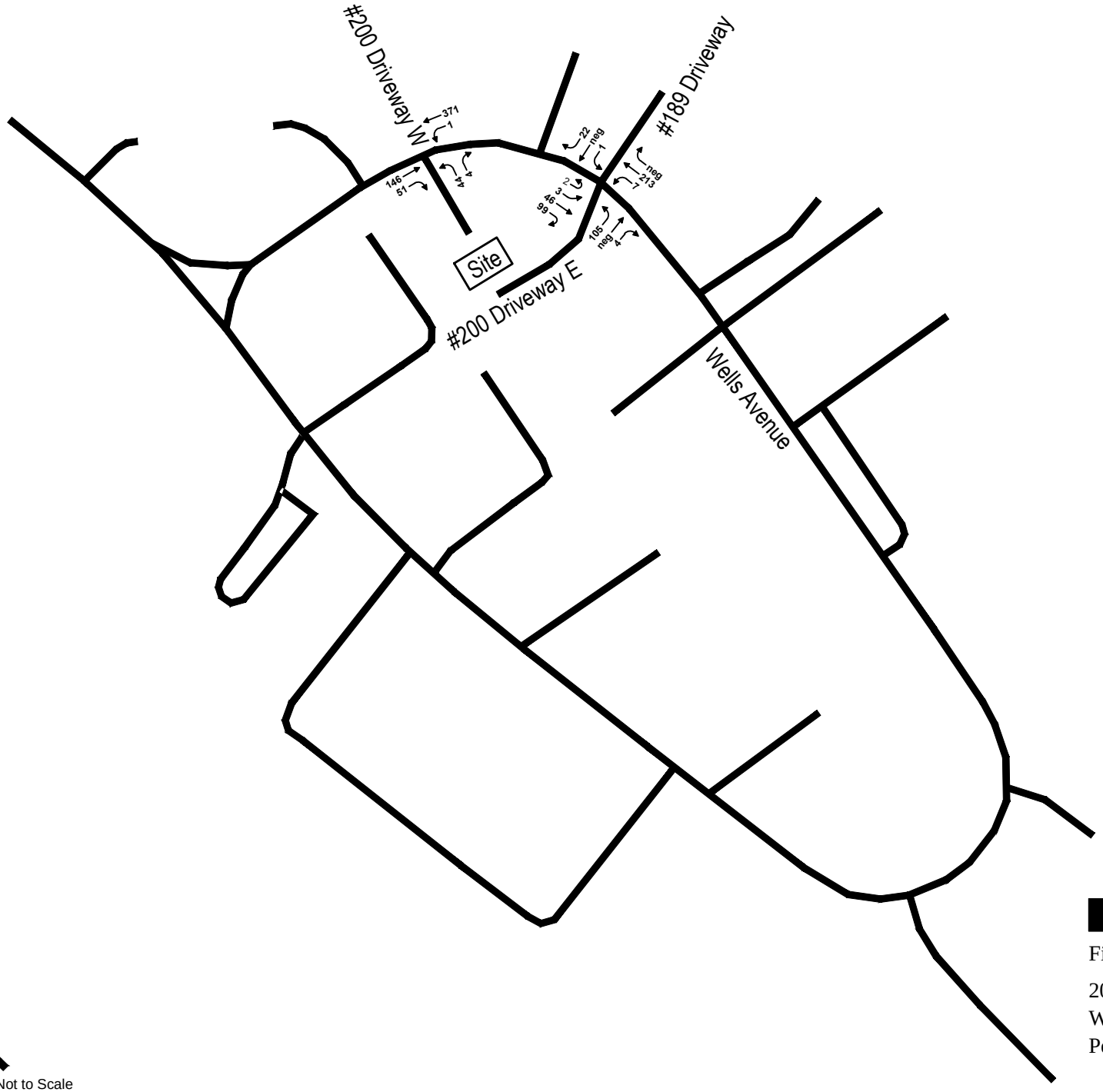
CRASH RATE CALCULATION : **0.36** RATE = $\frac{(A * 1{,}000{,}000)}{(V * 365)}$

Comments :

Project Title & Date:

■

Traffic Protections



Vanasse Hangen Brustlin, Inc.

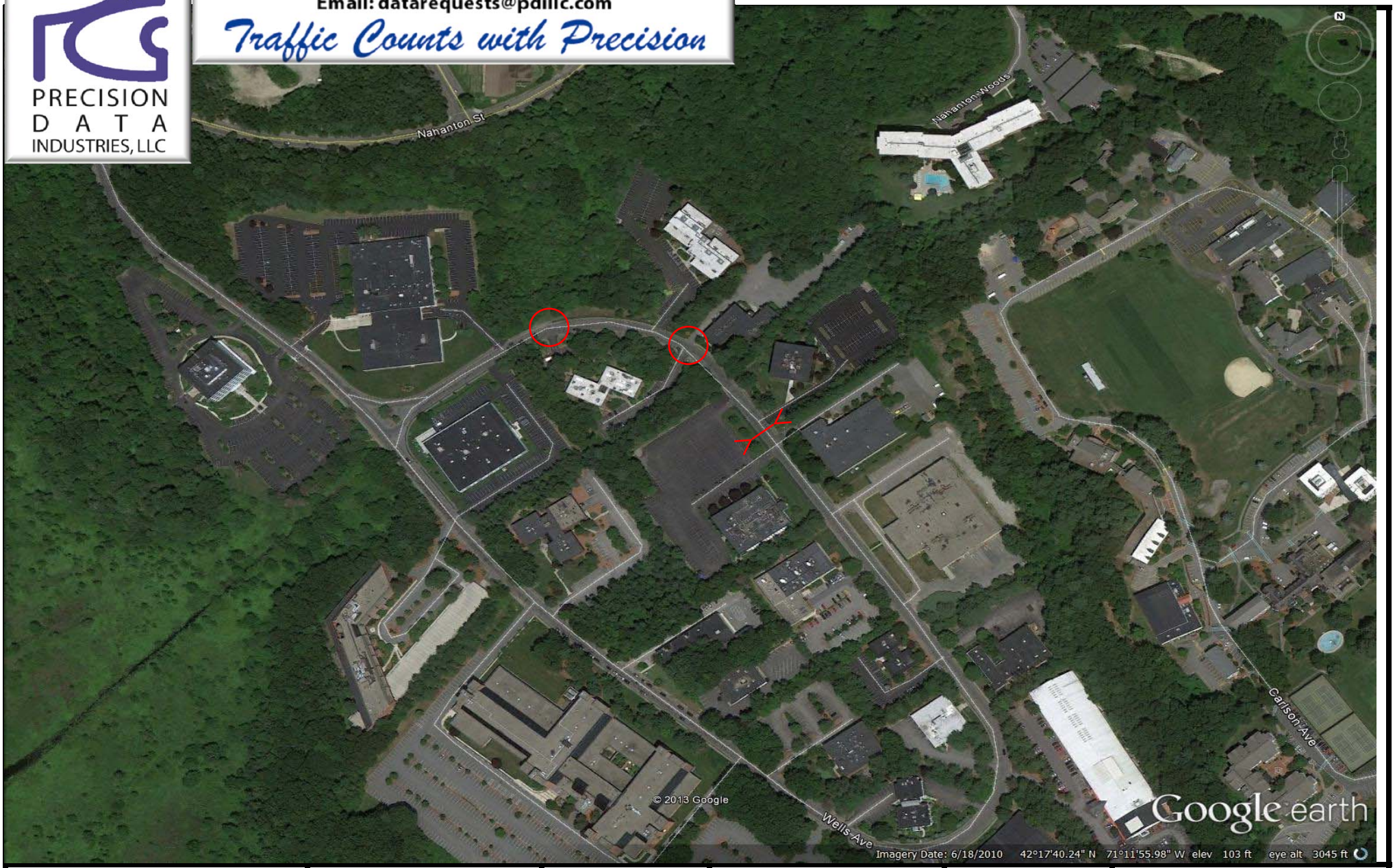
Figure 1

2013 Existing Conditions
Weekday Evening
Peak Hour Traffic Volumes

Not to Scale

PRECISION DATA INDUSTRIES, LLC
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Traffic Counts with Precision



Client:	Engineer:	Site Code:	Date:	PDI Job Number:	City, State:
VHB	R. Hart	12350.00	Wed 4/10 thru Thurs 4/11/13	133293	Newton, MA

Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

EB

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

133293 A CLASS
Site Code: 12350.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/10/1														
3	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	11	0	0	1	0	0	0	0	0	0	0	0	12
05:00	0	13	8	0	1	0	0	0	0	0	0	0	0	22
06:00	0	22	12	0	2	1	0	0	0	0	0	0	0	37
07:00	0	36	9	0	4	0	1	1	0	0	0	0	0	51
08:00	0	87	11	1	1	0	0	0	0	0	0	0	0	100
09:00	0	63	5	0	2	0	0	1	0	0	0	0	0	71
10:00	0	40	10	0	2	0	0	0	0	0	0	0	0	52
11:00	0	37	7	0	0	0	0	0	0	0	0	0	0	44
12 PM	0	48	4	0	3	1	0	0	0	0	0	0	0	56
13:00	0	53	8	0	0	0	0	0	0	0	0	0	0	61
14:00	0	49	6	0	0	0	0	0	0	0	0	0	0	55
15:00	0	48	5	0	0	0	0	0	0	0	0	0	0	53
16:00	1	35	8	0	1	0	0	0	0	0	0	0	0	45
17:00	0	18	2	0	1	0	0	0	0	0	0	0	0	21
18:00	2	21	3	0	0	0	0	0	0	0	0	0	0	26
19:00	0	14	2	0	0	0	0	0	0	0	0	0	0	16
20:00	0	8	0	0	0	0	0	0	0	0	0	0	0	8
21:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	3	630	104	1	18	2	1	2	0	0	0	0	0	761
Percent	0.4%	82.8%	13.7%	0.1%	2.4%	0.3%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		08:00	06:00	08:00	07:00	06:00	07:00	07:00						08:00
Vol.		87	12	1	4	1	1	1						100
PM Peak	18:00	13:00	13:00		12:00	12:00								13:00
Vol.	2	53	8		3	1								61

Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

EB

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

133293 A CLASS
Site Code: 12350.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/11/1														
3	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	10	1	0	0	0	0	0	0	0	0	0	0	11
05:00	0	18	9	0	2	0	0	0	0	0	0	0	0	29
06:00	0	13	15	1	0	0	0	0	0	0	0	0	0	29
07:00	0	40	14	0	2	1	0	0	0	0	0	0	0	57
08:00	0	77	4	0	2	0	0	0	0	0	0	0	0	83
09:00	0	70	9	0	1	0	0	0	0	0	0	0	0	80
10:00	0	48	2	2	1	0	0	0	0	0	0	0	0	53
11:00	0	33	7	0	0	2	0	0	0	0	0	0	0	42
12 PM	0	41	5	0	0	0	0	0	0	0	0	0	0	46
13:00	0	48	4	0	0	0	0	0	0	0	0	0	0	52
14:00	0	47	8	0	0	0	0	0	0	0	0	0	0	55
15:00	0	34	7	0	0	0	0	0	0	0	0	0	0	41
16:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
17:00	0	21	1	0	1	0	0	0	0	0	0	0	0	23
18:00	0	21	4	0	0	0	0	0	0	0	0	0	0	25
19:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
20:00	0	7	5	0	0	0	0	0	0	0	0	0	0	12
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	594	103	3	9	3	0	0	0	0	0	0	0	712
Percent	0.0%	83.4%	14.5%	0.4%	1.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		08:00	06:00	10:00	05:00	11:00								08:00
Vol.		77	15	2	2	2								83
PM Peak		13:00	14:00		17:00									14:00
Vol.		48	8		1									55
Total		1224	207	4	27	5	1	2	0	0	0	0	0	1473

Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

WB

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

133293 A CLASS
Site Code: 12350.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/10/1														
3	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
06:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
07:00	0	23	10	0	2	2	0	0	0	0	0	0	0	37
08:00	0	40	4	0	4	0	0	0	0	0	0	0	0	48
09:00	0	43	5	0	2	0	0	0	0	0	0	0	0	50
10:00	0	72	9	0	2	0	0	0	0	0	0	0	0	83
11:00	0	72	10	1	3	0	0	0	0	0	0	0	0	86
12 PM	4	88	8	1	1	0	0	1	0	0	0	0	0	103
13:00	3	72	15	0	1	0	0	0	0	0	0	0	0	91
14:00	0	88	19	0	0	0	0	1	0	0	0	0	0	108
15:00	0	99	11	1	1	0	0	0	0	0	0	0	0	112
16:00	1	122	8	0	1	0	0	0	0	0	0	0	0	132
17:00	0	142	5	0	0	0	0	1	0	0	0	0	0	148
18:00	0	83	5	0	2	0	0	0	0	0	0	0	0	90
19:00	1	77	4	0	0	0	0	0	0	0	0	0	0	82
20:00	0	32	1	0	0	0	0	0	0	0	0	0	0	33
21:00	0	35	3	0	0	0	0	0	0	0	0	0	0	38
22:00	0	20	1	0	0	0	0	0	0	0	0	0	0	21
23:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
Total	9	1128	122	3	20	2	0	3	0	0	0	0	0	1287
Percent	0.7%	87.6%	9.5%	0.2%	1.6%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		10:00	07:00	11:00	08:00	07:00								11:00
Vol.		72	10	1	4	2								86
PM Peak	12:00	17:00	14:00	12:00	18:00			12:00						17:00
Vol.	4	142	19	1	2			1						148

Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

WB

PRECISION
D A T A
INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

133293 A CLASS
Site Code: 12350.00

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
04/11/1														
3	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
05:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
06:00	0	6	2	1	0	0	0	0	0	0	0	0	0	9
07:00	0	29	7	0	1	0	0	0	0	0	0	0	0	37
08:00	0	36	4	0	1	1	0	0	0	0	0	0	0	42
09:00	1	41	7	0	2	0	0	0	0	0	0	0	0	51
10:00	2	58	13	1	0	0	0	0	0	0	0	0	0	74
11:00	1	78	7	2	3	0	0	0	0	0	0	0	0	91
12 PM	1	97	9	0	1	1	0	0	0	0	0	0	0	109
13:00	0	71	11	1	1	1	0	0	0	0	0	0	0	85
14:00	0	73	22	0	1	0	0	0	0	0	0	0	0	96
15:00	1	79	13	1	0	1	0	0	0	0	0	0	0	95
16:00	0	125	10	0	2	0	0	0	0	0	0	0	0	137
17:00	1	136	9	0	1	0	0	0	0	0	0	0	0	147
18:00	1	90	10	0	0	0	0	0	0	0	0	0	0	101
19:00	0	54	4	0	0	0	0	0	0	0	0	0	0	58
20:00	0	30	4	0	0	0	0	0	0	0	0	0	0	34
21:00	0	35	2	0	0	0	0	0	0	0	0	0	0	37
22:00	0	27	1	0	0	0	0	0	0	0	0	0	0	28
23:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
Total	8	1091	138	6	14	4	0	0	0	0	0	0	0	1261
Percent	0.6%	86.5%	10.9%	0.5%	1.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	10:00	11:00	11:00	08:00								11:00
Vol.	2	78	13	2	3	1								91
PM Peak	12:00	17:00	14:00	13:00	16:00	12:00								17:00
Vol.	1	136	22	1	2	1								147
Total		2219	260	9	34	6	0	3	0	0	0	0	0	2548

PRECISION
D A T A
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P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

133293 A SPEED
Site Code: 12350.00

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/10/1																
3	0	0	0	0	1	0	0	0	0	0	0	0	0	1	*	32
01:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2	*	34
02:00	0	0	0	0	3	2	2	0	0	0	0	0	0	7	33	36
03:00	0	0	0	1	3	2	0	**1**	0	0	0	0	0	7	33	35
04:00	2	0	2	1	4	2	1	0	0	0	0	0	0	12	34	26
05:00	0	0	2	11	5	4	0	0	0	0	0	0	0	22	35	30
06:00	0	4	11	10	10	2	0	0	0	0	0	0	0	37	31	26
07:00	4	6	14	13	10	1	**3**	0	0	0	0	0	0	51	30	23
08:00	8	**14**	**16**	**22**	**21**	**16**	3	0	0	0	0	0	0	**100**	34	25
09:00	**10**	13	9	13	15	10	1	0	0	0	0	0	0	71	33	22
10:00	8	10	13	5	13	2	1	0	0	0	0	0	0	52	30	21
11:00	11	**7**	10	9	6	0	**1**	0	0	0	0	0	0	44	27	18
12 PM	**13**	6	12	10	11	3	1	0	0	0	0	0	0	56	30	20
13:00	6	6	**17**	10	**15**	**7**	0	0	0	0	0	0	0	**61**	33	23
14:00	7	7	12	**15**	12	2	0	0	0	0	0	0	0	55	30	22
15:00	**7**	**5**	**10**	12	**14**	**4**	**1**	0	0	0	0	0	0	**53**	32	23
16:00	5	4	7	**13**	13	2	1	0	0	0	0	0	0	45	31	24
17:00	2	3	9	6	1	0	0	0	0	0	0	0	0	21	27	20
18:00	2	3	3	7	10	1	0	0	0	0	0	0	0	26	32	25
19:00	2	0	3	5	5	1	0	0	0	0	0	0	0	16	32	24
20:00	0	1	1	2	4	0	0	0	0	0	0	0	0	8	32	27
21:00	1	0	4	5	0	0	0	0	0	0	0	0	0	10	27	22
22:00	0	0	0	0	2	0	0	0	0	0	0	0	0	2	*	32
23:00	0	0	1	0	1	0	0	0	0	0	0	0	0	2	*	27
%	11.6%	11.7%	20.5%	22.3%	23.7%	8.1%	2.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	08:00	08:00	08:00	08:00	08:00	07:00	03:00						08:00		
Vol.	10	14	16	22	21	16	3	1						100		
Midday Peak	12:00	11:00	13:00	14:00	13:00	13:00	11:00							13:00		
Vol.	13	7	17	15	15	7	1							61		
PM Peak	15:00	15:00	15:00	16:00	15:00	15:00	15:00							15:00		
Vol.	7	5	10	13	14	4	1							53		

% iles		
	15th Percentile :	10 MPH
	50th Percentile :	23 MPH
	85th Percentile :	32 MPH
	95th Percentile :	36 MPH

Stats		
	10 MPH Pace Speed :	23-32 MPH
	Number in Pace :	299
	Percent in Pace :	39.3%
	Number of Vehicles > 25 MPH :	345
	Percent of Vehicles > 25 MPH :	45.4%
	Mean Speed(Average) :	23 MPH

PRECISION
D A T A
INDUSTRIES, LLC
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Wells Avenue
just west of #181 Driveway
City, State: Newton, MA
Client: VHB/ R. Hart

133293 A SPEED
Site Code: 12350.00

EB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/11/1																
3	0	0	0	0	0	1	0	0	0	0	0	0	0	1	*	37
01:00	0	0	0	0	1	2	0	0	0	0	0	0	0	3	*	35
02:00	0	0	0	1	2	1	**1**	**2**	0	0	0	0	0	7	*	38
03:00	1	0	0	0	1	3	0	1	0	0	0	0	0	6	36	30
04:00	0	0	0	2	6	2	0	1	0	0	0	0	0	11	34	33
05:00	3	0	4	8	12	2	0	0	0	0	0	0	0	29	32	26
06:00	3	0	10	5	6	4	0	1	0	0	0	0	0	29	34	25
07:00	5	9	**16**	13	10	3	1	0	0	0	0	0	0	57	30	22
08:00	8	5	12	**19**	**27**	11	1	0	0	0	0	0	0	**83**	34	25
09:00	**10**	**16**	10	16	11	**16**	1	0	0	0	0	0	0	80	35	23
10:00	6	6	10	10	11	9	1	0	0	0	0	0	0	53	34	24
11:00	3	**7**	12	9	9	2	0	0	0	0	0	0	0	42	30	22
12 PM	6	7	**13**	8	8	4	0	0	0	0	0	0	0	46	31	21
13:00	**7**	7	5	**12**	13	7	**1**	0	0	0	0	0	0	52	33	23
14:00	7	7	6	8	**14**	**13**	0	0	0	0	0	0	0	**55**	35	24
15:00	**6**	**6**	6	**7**	**9**	**6**	**1**	0	0	0	0	0	0	**41**	34	23
16:00	4	0	**11**	5	6	2	0	0	0	0	0	0	0	28	31	23
17:00	3	2	5	7	4	2	0	0	0	0	0	0	0	23	31	23
18:00	6	3	6	5	4	1	0	0	0	0	0	0	0	25	28	19
19:00	0	4	2	5	4	0	0	0	0	0	0	0	0	15	30	23
20:00	0	2	1	4	4	1	0	0	0	0	0	0	0	12	32	26
21:00	2	0	1	0	2	0	0	0	0	0	0	0	0	5	*	18
22:00	0	0	2	0	2	1	0	0	0	0	0	0	0	5	*	29
23:00	0	1	1	0	1	1	0	0	0	0	0	0	0	4	*	25
%	11.2%	11.5%	18.7%	20.2%	23.5%	13.2%	1.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	09:00	07:00	08:00	08:00	09:00	02:00	02:00						08:00		
Vol.	10	16	16	19	27	16	1	2						83		
Midday Peak	13:00	11:00	12:00	13:00	14:00	14:00	13:00							14:00		
Vol.	7	7	13	12	14	13	1							55		
PM Peak	15:00	15:00	16:00	15:00	15:00	15:00	15:00							15:00		
Vol.	6	6	11	7	9	6	1							41		

% iles

15th Percentile :	10 MPH
50th Percentile :	24 MPH
85th Percentile :	33 MPH
95th Percentile :	37 MPH

Stats

10 MPH Pace Speed :	24-33 MPH
Number in Pace :	265
Percent in Pace :	37.2%
Number of Vehicles > 25 MPH :	341
Percent of Vehicles > 25 MPH :	47.9%
Mean Speed(Average) :	24 MPH

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just west of #181 Driveway
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Client: VHB/ R. Hart

133293 A SPEED
Site Code: 12350.00

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/10/1																
3	0	0	1	0	1	0	0	0	0	0	0	0	0	2	*	27
01:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2	*	29
02:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1	*	8
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	*	27
04:00	2	0	0	2	0	0	0	0	0	0	0	0	0	4	*	15
05:00	0	1	0	3	1	0	0	0	0	0	0	0	0	5	26	25
06:00	0	1	0	2	1	0	0	0	0	0	0	0	0	4	*	24
07:00	2	6	11	10	8	0	0	0	0	0	0	0	0	37	30	23
08:00	**3**	**7**	8	16	**13**	1	0	0	0	0	0	0	0	48	31	24
09:00	2	7	**13**	**19**	7	**2**	0	0	0	0	0	0	0	**50**	29	23
10:00	8	7	14	39	14	1	0	0	0	0	0	0	0	83	30	23
11:00	16	10	19	29	8	**3**	**1**	0	0	0	0	0	0	86	28	20
12 PM	21	9	**36**	30	5	2	0	0	0	0	0	0	0	103	27	19
13:00	**22**	11	18	30	10	0	0	0	0	0	0	0	0	91	28	19
14:00	17	**12**	32	**33**	**12**	2	0	0	0	0	0	0	0	**108**	28	20
15:00	17	11	27	34	**20**	**3**	0	0	0	0	0	0	0	112	29	21
16:00	**26**	21	34	33	17	1	0	0	0	0	0	0	0	132	28	19
17:00	23	**22**	**46**	**44**	12	1	0	0	0	0	0	0	0	**148**	27	20
18:00	7	10	27	32	12	2	0	0	0	0	0	0	0	90	29	22
19:00	4	5	18	35	19	1	0	0	0	0	0	0	0	82	30	25
20:00	2	1	5	15	10	0	0	0	0	0	0	0	0	33	31	25
21:00	1	3	5	15	13	1	0	0	0	0	0	0	0	38	32	26
22:00	1	1	3	12	4	0	0	0	0	0	0	0	0	21	30	25
23:00	0	0	0	2	4	0	0	0	0	0	0	0	0	6	32	30
%	13.6%	11.3%	24.6%	34.0%	14.9%	1.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	09:00	08:00	09:00								09:00		
Vol.	3	7	13	19	13	2								50		
Midday Peak	13:00	14:00	12:00	14:00	14:00	11:00	11:00							14:00		
Vol.	22	12	36	33	12	3	1							108		
PM Peak	16:00	17:00	17:00	17:00	15:00	15:00								17:00		
Vol.	26	22	46	44	20	3								148		

% iles

15th Percentile :	9 MPH
50th Percentile :	22 MPH
85th Percentile :	29 MPH
95th Percentile :	32 MPH

Stats

10 MPH Pace Speed :	21-30 MPH
Number in Pace :	619
Percent in Pace :	48.1%
Number of Vehicles > 25 MPH :	484
Percent of Vehicles > 25 MPH :	37.6%
Mean Speed(Average) :	21 MPH

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Site Code: 12350.00

WB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th % ile	Ave Speed
04/11/1																
3	0	0	0	0	2	0	0	0	0	0	0	0	0	2	*	32
01:00	0	0	1	1	1	0	0	0	0	0	0	0	0	3	*	27
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	*	15
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1	*	27
04:00	0	0	1	1	2	0	0	0	0	0	0	0	0	4	*	28
05:00	2	1	0	2	1	0	0	0	0	0	0	0	0	6	*	17
06:00	0	0	2	4	2	**1**	0	0	0	0	0	0	0	9	28	28
07:00	1	**6**	2	19	9	0	0	0	0	0	0	0	0	37	30	24
08:00	2	5	5	17	**13**	0	0	0	0	0	0	0	0	42	30	25
09:00	**5**	4	**13**	**24**	5	0	0	0	0	0	0	0	0	**51**	28	22
10:00	7	9	17	27	13	1	0	0	0	0	0	0	0	74	29	22
11:00	13	9	14	37	14	**3**	**1**	0	0	0	0	0	0	91	29	22
12 PM	**16**	10	**28**	**41**	13	1	0	0	0	0	0	0	0	**109**	28	21
13:00	12	**12**	24	28	8	1	0	0	0	0	0	0	0	85	27	20
14:00	13	6	20	37	**17**	3	0	0	0	0	0	0	0	96	30	22
15:00	18	11	17	32	15	2	0	0	0	0	0	0	0	95	29	20
16:00	21	**18**	31	41	**23**	3	0	0	0	0	0	0	0	137	29	21
17:00	**23**	9	**43**	**52**	19	0	**1**	0	0	0	0	0	0	**147**	28	21
18:00	15	12	34	27	10	3	0	0	0	0	0	0	0	101	28	20
19:00	3	4	11	27	10	3	0	0	0	0	0	0	0	58	30	25
20:00	3	5	6	12	8	0	0	0	0	0	0	0	0	34	30	22
21:00	2	1	3	13	13	**5**	0	0	0	0	0	0	0	37	34	27
22:00	1	0	6	12	8	1	0	0	0	0	0	0	0	28	31	27
23:00	2	0	2	2	6	1	0	0	0	0	0	0	0	13	33	25
%	12.6%	9.8%	22.2%	36.2%	16.8%	2.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	07:00	09:00	09:00	08:00	06:00								09:00		
Vol.	5	6	13	24	13	1								51		
Midday Peak	12:00	13:00	12:00	12:00	14:00	11:00	11:00							12:00		
Vol.	16	12	28	41	17	3	1							109		
PM Peak	17:00	16:00	17:00	17:00	16:00	21:00	17:00							17:00		
Vol.	23	18	43	52	23	5	1							147		

% iles		
	15th Percentile :	9 MPH
	50th Percentile :	23 MPH
	85th Percentile :	29 MPH
	95th Percentile :	33 MPH

Stats		
	10 MPH Pace Speed :	22-31 MPH
	Number in Pace :	624
	Percent in Pace :	49.5%
	Number of Vehicles > 25 MPH :	528
	Percent of Vehicles > 25 MPH :	41.9%
	Mean Speed(Average) :	22 MPH

Wells Avenue
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133293 A VOLUME
Site Code: 12350.00

Start Time	EB A.M.		EB P.M.		WB A.M.		WB P.M.		Combined A.M.		Combined P.M.		10-Apr-13 Wed
12:00	0		12		0		27		0		39		
12:15	0		11		1		23		1		34		
12:30	0		14		0		28		0		42		
12:45	1	1	19	56	1	2	25	103	2	3	44	159	
01:00	1		17		0		24		1		41		
01:15	0		11		1		22		1		33		
01:30	1		12		1		23		2		35		
01:45	0	2	21	61	0	2	22	91	0	4	43	152	
02:00	1		22		0		33		1		55		
02:15	1		11		0		23		1		34		
02:30	3		10		1		20		4		30		
02:45	2	7	12	55	0	1	32	108	2	8	44	163	
03:00	1		9		1		20		2		29		
03:15	1		14		0		38		1		52		
03:30	0		22		0		27		0		49		
03:45	5	7	8	53	0	1	27	112	5	8	35	165	
04:00	5		13		1		37		6		50		
04:15	3		12		0		35		3		47		
04:30	2		8		2		29		4		37		
04:45	2	12	12	45	1	4	31	132	3	16	43	177	
05:00	3		5		0		36		3		41		
05:15	3		2		0		38		3		40		
05:30	6		7		2		43		8		50		
05:45	10	22	7	21	3	5	31	148	13	27	38	169	
06:00	6		7		0		23		6		30		
06:15	11		8		1		24		12		32		
06:30	9		7		1		23		10		30		
06:45	11	37	4	26	2	4	20	90	13	41	24	116	
07:00	19		5		7		33		26		38		
07:15	11		3		4		10		15		13		
07:30	11		3		12		20		23		23		
07:45	10	51	5	16	14	37	19	82	24	88	24	98	
08:00	22		2		14		9		36		11		
08:15	15		2		9		9		24		11		
08:30	29		2		13		10		42		12		
08:45	34	100	2	8	12	48	5	33	46	148	7	41	
09:00	27		5		14		20		41		25		
09:15	14		1		11		8		25		9		
09:30	19		1		9		4		28		5		
09:45	11	71	3	10	16	50	6	38	27	121	9	48	
10:00	18		1		20		6		38		7		
10:15	12		0		22		6		34		6		
10:30	14		1		19		1		33		2		
10:45	8	52	0	2	22	83	8	21	30	135	8	23	
11:00	13		1		16		3		29		4		
11:15	6		0		18		2		24		2		
11:30	16		1		20		0		36		1		
11:45	9	44	0	2	32	86	1	6	41	130	1	8	
Total	406		355		323		964		729		1319		
Percent	55.7%		26.9%		44.3%		73.1%						
Day Total			761				1287				2048		
Peak	08:15		01:15		11:00		04:45		08:30		03:15		
Vol.	105		66		86		148		154		186		
P.H.F.	0.772		0.750		0.672		0.860		0.837		0.894		

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133293 A VOLUME
Site Code: 12350.00

Start	EB				WB				Combined				11-Apr-13
Time	A.M.		P.M.		A.M.		P.M.		A.M.		P.M.		Thu
12:00	1		10		1		21		2		31		
12:15	0		11		0		33		0		44		
12:30	0		9		1		23		1		32		
12:45	0	1	16	46	0	2	32	109	0	3	48	155	
01:00	0		14		2		32		2		46		
01:15	1		14		1		17		2		31		
01:30	1		12		0		18		1		30		
01:45	1	3	12	52	0	3	18	85	1	6	30	137	
02:00	1		24		0		31		1		55		
02:15	1		9		0		22		1		31		
02:30	3		11		0		22		3		33		
02:45	2	7	11	55	1	1	21	96	3	8	32	151	
03:00	1		7		0		20		1		27		
03:15	2		10		0		28		2		38		
03:30	0		12		1		23		1		35		
03:45	3	6	12	41	0	1	24	95	3	7	36	136	
04:00	3		8		0		33		3		41		
04:15	6		8		2		41		8		49		
04:30	1		6		2		37		3		43		
04:45	1	11	6	28	0	4	26	137	1	15	32	165	
05:00	4		7		2		44		6		51		
05:15	5		3		1		36		6		39		
05:30	4		5		1		26		5		31		
05:45	16	29	8	23	2	6	41	147	18	35	49	170	
06:00	10		8		1		30		11		38		
06:15	7		9		2		28		9		37		
06:30	6		4		3		28		9		32		
06:45	6	29	4	25	3	9	15	101	9	38	19	126	
07:00	17		3		7		16		24		19		
07:15	14		5		11		19		25		24		
07:30	14		5		8		13		22		18		
07:45	12	57	2	15	11	37	10	58	23	94	12	73	
08:00	9		6		15		8		24		14		
08:15	20		3		9		11		29		14		
08:30	25		1		12		13		37		14		
08:45	29	83	2	12	6	42	2	34	35	125	4	46	
09:00	22		3		10		14		32		17		
09:15	19		1		14		8		33		9		
09:30	19		1		15		9		34		10		
09:45	20	80	0	5	12	51	6	37	32	131	6	42	
10:00	14		1		19		10		33		11		
10:15	17		3		17		9		34		12		
10:30	10		1		22		5		32		6		
10:45	12	53	0	5	16	74	4	28	28	127	4	33	
11:00	16		1		22		5		38		6		
11:15	6		1		30		4		36		5		
11:30	14		2		10		3		24		5		
11:45	6	42	0	4	29	91	1	13	35	133	1	17	
Total	401		311		321		940		722		1251		
Percent	55.5%		24.9%		44.5%		75.1%						
Day Total		712				1261				1973			
Peak	08:15		01:15		11:00		04:15		08:30		04:15		
Vol.	96		62		91		148		137		175		
P.H.F.	0.828		0.646		0.758		0.841		0.926		0.795		

N/S:#189 Driveway/ #200 Driveway East
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 133293 A
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	#189 Wells Avenue From North				Wells Avenue From East				#200 Wells Avenue East From South				Wells Avenue From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
03:00 PM	0	0	0	0	1	31	0	0	0	0	3	0	8	13	0	0	56
03:15 PM	3	0	0	0	0	26	2	0	1	0	6	0	20	16	1	0	75
03:30 PM	2	0	0	0	1	22	0	0	5	0	21	0	16	12	1	0	80
03:45 PM	0	0	0	0	0	33	0	0	0	0	16	0	7	19	0	0	75
Total	5	0	0	0	2	112	2	0	6	0	46	0	51	60	2	0	286
04:00 PM	3	0	0	0	0	40	2	0	0	0	2	0	3	12	0	0	62
04:15 PM	2	0	0	0	2	51	1	0	0	0	3	0	4	9	0	0	72
04:30 PM	3	0	0	0	0	37	0	0	2	0	3	0	3	9	0	0	57
04:45 PM	3	0	1	0	0	33	1	0	0	0	2	0	12	14	0	0	66
Total	11	0	1	0	2	161	4	0	2	0	10	0	22	44	0	0	257
05:00 PM	8	0	0	0	0	71	2	0	0	0	12	0	10	11	1	0	115
05:15 PM	5	0	0	0	0	41	2	0	0	0	14	0	28	8	0	0	98
05:30 PM	2	0	0	0	0	49	2	0	2	0	33	0	37	15	1	2	143
05:45 PM	7	0	1	0	0	52	1	0	2	0	46	0	24	12	1	0	146
Total	22	0	1	0	0	213	7	0	4	0	105	0	99	46	3	2	502
06:00 PM	3	0	0	0	0	32	0	0	0	0	15	0	12	8	1	0	71
06:15 PM	4	0	0	0	0	36	0	0	1	0	8	0	11	11	0	2	73
06:30 PM	1	0	1	0	1	27	1	0	0	0	7	0	9	7	1	0	55
06:45 PM	4	0	0	0	0	13	3	0	0	0	14	0	16	4	0	1	55
Total	12	0	1	0	1	108	4	0	1	0	44	0	48	30	2	3	254
Grand Total	50	0	3	0	5	594	17	0	13	0	205	0	220	180	7	5	1299
Apprch %	94.3	0	5.7	0	0.8	96.4	2.8	0	6	0	94	0	53.4	43.7	1.7	1.2	
Total %	3.8	0	0.2	0	0.4	45.7	1.3	0	1	0	15.8	0	16.9	13.9	0.5	0.4	
Cars	50	0	3	0	5	587	17	0	13	0	205	0	220	174	7	5	1286
% Cars	100	0	100	0	100	98.8	100	0	100	0	100	0	100	96.7	100	100	99
Heavy Vehicles	0	0	0	0	0	7	0	0	0	0	0	0	0	6	0	0	13
% Heavy Vehicles	0	0	0	0	0	1.2	0	0	0	0	0	0	0	3.3	0	0	1

	#189 Wells Avenue From North					Wells Avenue From East					#200 Wells Avenue East From South					Wells Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	8	0	0	0	8	0	71	2	0	73	0	0	12	0	12	10	11	1	0	22	115
05:15 PM	5	0	0	0	5	0	41	2	0	43	0	0	14	0	14	28	8	0	0	36	98
05:30 PM	2	0	0	0	2	0	49	2	0	51	2	0	33	0	35	37	15	1	2	55	143
05:45 PM	7	0	1	0	8	0	52	1	0	53	2	0	46	0	48	24	12	1	0	37	146
Total Volume	22	0	1	0	23	0	213	7	0	220	4	0	105	0	109	99	46	3	2	150	502
% App. Total	95.7	0	4.3	0		0	96.8	3.2	0		3.7	0	96.3	0		66	30.7	2	1.3		
PHF	.688	.000	.250	.000	.719	.000	.750	.875	.000	.753	.500	.000	.571	.000	.568	.669	.767	.750	.250	.682	.860
Cars	22	0	1	0	23	0	209	7	0	216	4	0	105	0	109	99	46	3	2	150	498
% Cars	100	0	100	0	100	0	98.1	100	0	98.2	100	0	100	0	100	100	100	100	100	100	99.2
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
% Heavy Vehicles	0	0	0	0	0	0	1.9	0	0	1.8	0	0	0	0	0	0	0	0	0	0	0.8

N/S:#189 Driveway/ #200 Driveway East
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION DATA INDUSTRIES, LLC
P.O. Box 301 Berlin, MA 01503
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File Name : 133293 A
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Cars

	#189 Wells Avenue From North				Wells Avenue From East				#200 Wells Avenue East From South				Wells Avenue From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
03:00 PM	0	0	0	0	1	31	0	0	0	0	3	0	8	13	0	0	56
03:15 PM	3	0	0	0	0	25	2	0	1	0	6	0	20	13	1	0	71
03:30 PM	2	0	0	0	1	21	0	0	5	0	21	0	16	12	1	0	79
03:45 PM	0	0	0	0	0	33	0	0	0	0	16	0	7	19	0	0	75
Total	5	0	0	0	2	110	2	0	6	0	46	0	51	57	2	0	281
04:00 PM	3	0	0	0	0	40	2	0	0	0	2	0	3	12	0	0	62
04:15 PM	2	0	0	0	2	50	1	0	0	0	3	0	4	9	0	0	71
04:30 PM	3	0	0	0	0	37	0	0	2	0	3	0	3	9	0	0	57
04:45 PM	3	0	1	0	0	33	1	0	0	0	2	0	12	12	0	0	64
Total	11	0	1	0	2	160	4	0	2	0	10	0	22	42	0	0	254
05:00 PM	8	0	0	0	0	70	2	0	0	0	12	0	10	11	1	0	114
05:15 PM	5	0	0	0	0	41	2	0	0	0	14	0	28	8	0	0	98
05:30 PM	2	0	0	0	0	49	2	0	2	0	33	0	37	15	1	2	143
05:45 PM	7	0	1	0	0	49	1	0	2	0	46	0	24	12	1	0	143
Total	22	0	1	0	0	209	7	0	4	0	105	0	99	46	3	2	498
06:00 PM	3	0	0	0	0	32	0	0	0	0	15	0	12	7	1	0	70
06:15 PM	4	0	0	0	0	36	0	0	1	0	8	0	11	11	0	2	73
06:30 PM	1	0	1	0	1	27	1	0	0	0	7	0	9	7	1	0	55
06:45 PM	4	0	0	0	0	13	3	0	0	0	14	0	16	4	0	1	55
Total	12	0	1	0	1	108	4	0	1	0	44	0	48	29	2	3	253
Grand Total	50	0	3	0	5	587	17	0	13	0	205	0	220	174	7	5	1286
Apprch %	94.3	0	5.7	0	0.8	96.4	2.8	0	6	0	94	0	54.2	42.9	1.7	1.2	
Total %	3.9	0	0.2	0	0.4	45.6	1.3	0	1	0	15.9	0	17.1	13.5	0.5	0.4	

	#189 Wells Avenue From North					Wells Avenue From East					#200 Wells Avenue East From South					Wells Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	8	0	0	0	8	0	70	2	0	72	0	0	12	0	12	10	11	1	0	22	114
05:15 PM	5	0	0	0	5	0	41	2	0	43	0	0	14	0	14	28	8	0	0	36	98
05:30 PM	2	0	0	0	2	0	49	2	0	51	2	0	33	0	35	37	15	1	2	55	143
05:45 PM	7	0	1	0	8	0	49	1	0	50	2	0	46	0	48	24	12	1	0	37	143
Total Volume	22	0	1	0	23	0	209	7	0	216	4	0	105	0	109	99	46	3	2	150	498
% App. Total	95.7	0	4.3	0		0	96.8	3.2	0		3.7	0	96.3	0		66	30.7	2	1.3		
PHF	.688	.000	.250	.000	.719	.000	.746	.875	.000	.750	.500	.000	.571	.000	.568	.669	.767	.750	.250	.682	.871

N/S:#189 Driveway/ #200 Driveway East
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION
D A T A
INDUSTRIES, LLC
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File Name : 133293 A
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Heavy Vehicles

	#189 Wells Avenue From North				Wells Avenue From East				#200 Wells Avenue East From South				Wells Avenue From West				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	4
03:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	0	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
05:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Grand Total	0	0	0	0	0	7	0	0	0	0	0	0	0	6	0	0	13
Apprch %	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	53.8	0	0	0	0	0	0	0	46.2	0	0	

	#189 Wells Avenue From North					Wells Avenue From East					#200 Wells Avenue East From South					Wells Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
03:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.313

N/S:#189 Driveway/ #200 Driveway East
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION
D A T A
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File Name : 133293 A
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Peds and Bicycles

	#189 Wells Avenue From North				Wells Avenue From East				#200 Wells Avenue East From South				Wells Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
03:00 PM	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	5
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
03:30 PM	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	1	5
03:45 PM	0	0	0	3	0	0	0	0	0	0	0	10	0	0	0	1	14
Total	0	0	0	5	0	0	0	0	0	0	0	18	0	0	0	3	26
04:00 PM	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	5	0	0	0	2	0	0	0	0	7
Total	0	0	0	2	0	0	0	5	0	0	0	13	0	0	0	0	20
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
05:30 PM	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0	3	8
05:45 PM	0	0	0	0	0	0	0	2	0	0	0	4	0	0	0	2	8
Total	0	0	0	1	0	0	0	5	0	0	0	7	0	0	0	5	18
06:00 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	3
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0	0	5
Grand Total	0	0	0	11	0	0	0	11	0	0	0	39	0	0	0	8	69
Apprch %	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	100	
Total %	0	0	0	15.9	0	0	0	15.9	0	0	0	56.5	0	0	0	11.6	

	#189 Wells Avenue From North					Wells Avenue From East					#200 Wells Avenue East From South					Wells Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	3	3	0	0	0	0	0	0	0	0	10	10	0	0	0	1	1	14
04:00 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	6
Total Volume	0	0	0	5	5	0	0	0	0	0	0	0	0	21	21	0	0	0	1	1	27
% App. Total	0	0	0	100		0	0	0	0		0	0	0	100		0	0	0	100		
PHF	.000	.000	.000	.417	.417	.000	.000	.000	.000	.000	.000	.000	.000	.525	.525	.000	.000	.000	.250	.250	.482

N/S:#189 Driveway/ #200 Driveway East
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

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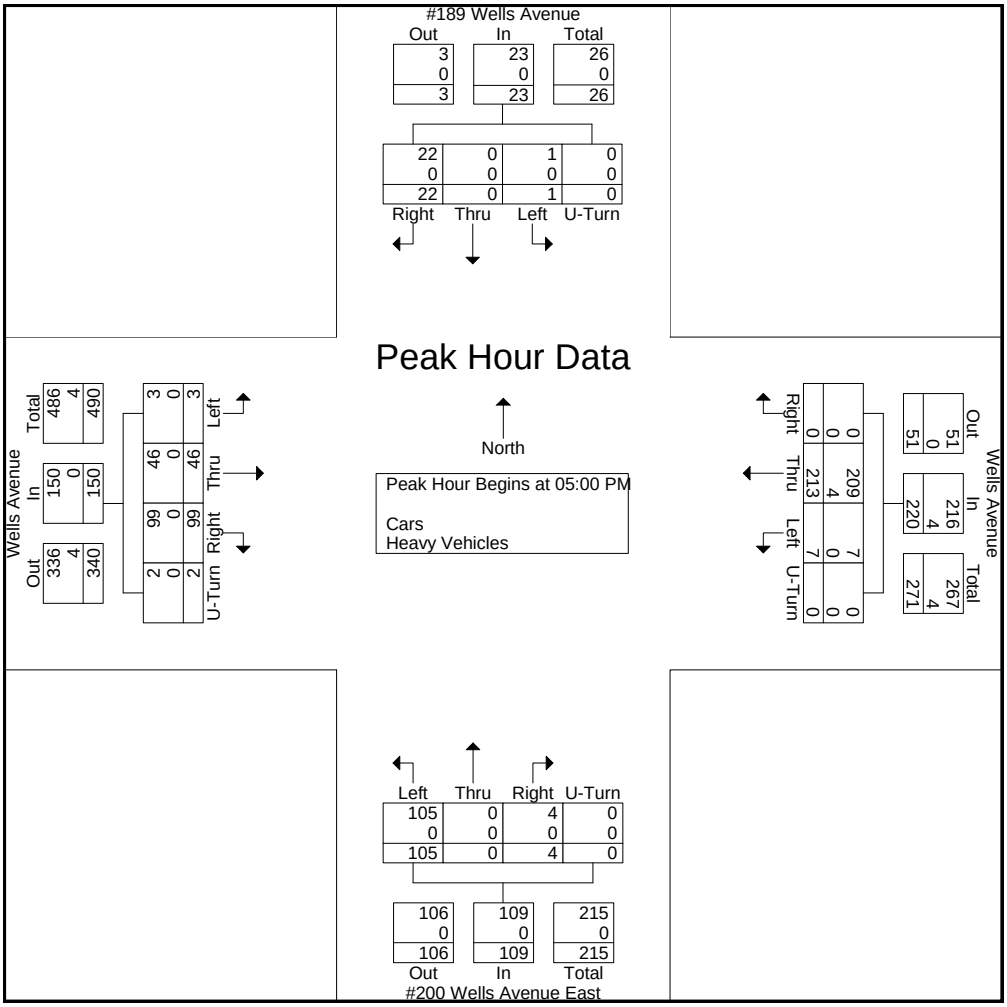
	#189 Wells Avenue From North					Wells Avenue From East					#200 Wells Avenue East From South					Wells Avenue From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	8	0	0	0	8	0	71	2	0	73	0	0	12	0	12	10	11	1	0	22	115
05:15 PM	5	0	0	0	5	0	41	2	0	43	0	0	14	0	14	28	8	0	0	36	98
05:30 PM	2	0	0	0	2	0	49	2	0	51	2	0	33	0	35	37	15	1	2	55	143
05:45 PM	7	0	1	0	8	0	52	1	0	53	2	0	46	0	48	24	12	1	0	37	146
Total Volume	22	0	1	0	23	0	213	7	0	220	4	0	105	0	109	99	46	3	2	150	502
% App. Total	95.7	0	4.3	0		0	96.8	3.2	0		3.7	0	96.3	0		66	30.7	2	1.3		
PHF	.688	.000	.250	.000	.719	.000	.750	.875	.000	.753	.500	.000	.571	.000	.568	.669	.767	.750	.250	.682	.860
Cars	22	0	1	0	23	0	209	7	0	216	4	0	105	0	109	99	46	3	2	150	498
% Cars	100	0	100	0	100	0	98.1	100	0	98.2	100	0	100	0	100	100	100	100	100	100	99.2
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	4
% Heavy Vehicles	0	0	0	0	0	0	1.9	0	0	1.8	0	0	0	0	0	0	0	0	0	0	0.8



S: # 200 Driveway West
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION
D A T A
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Office: 508.481.3999 Fax: 508.545.1234
Email: datarequests@pdillc.com

File Name : 133293 B
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Wells Avenue From East			#200 Wells Avenue West From South			Wells Avenue From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
03:00 PM	33	0	0	0	0	0	3	25	0	61
03:15 PM	36	1	0	0	10	0	17	36	0	100
03:30 PM	46	0	0	3	16	0	15	29	0	109
03:45 PM	54	0	0	2	10	0	8	27	0	101
Total	169	1	0	5	36	0	43	117	0	371
04:00 PM	48	1	0	1	3	0	1	15	0	69
04:15 PM	61	1	0	0	5	0	4	17	0	88
04:30 PM	46	1	0	0	1	0	1	15	0	64
04:45 PM	39	0	0	2	2	0	5	23	0	71
Total	194	3	0	3	11	0	11	70	0	292
05:00 PM	103	0	0	0	3	0	3	22	0	131
05:15 PM	66	0	0	2	11	0	14	33	0	126
05:30 PM	92	1	0	1	17	0	21	55	0	187
05:45 PM	110	0	0	1	13	0	13	36	0	173
Total	371	1	0	4	44	0	51	146	0	617
06:00 PM	56	0	0	0	8	0	7	18	0	89
06:15 PM	54	1	1	2	9	0	8	21	0	96
06:30 PM	35	0	0	0	1	0	0	16	0	52
06:45 PM	33	0	0	1	1	0	1	21	0	57
Total	178	1	1	3	19	0	16	76	0	294
Grand Total	912	6	1	15	110	0	121	409	0	1574
Apprch %	99.2	0.7	0.1	12	88	0	22.8	77.2	0	
Total %	57.9	0.4	0.1	1	7	0	7.7	26	0	
Cars	907	6	1	15	110	0	121	406	0	1566
% Cars	99.5	100	100	100	100	0	100	99.3	0	99.5
Heavy Vehicles	5	0	0	0	0	0	0	3	0	8
% Heavy Vehicles	0.5	0	0	0	0	0	0	0.7	0	0.5

	Wells Avenue From East				#200 Wells Avenue West From South				Wells Avenue From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	103	0	0	103	0	3	0	3	3	22	0	25	131
05:15 PM	66	0	0	66	2	11	0	13	14	33	0	47	126
05:30 PM	92	1	0	93	1	17	0	18	21	55	0	76	187
05:45 PM	110	0	0	110	1	13	0	14	13	36	0	49	173
Total Volume	371	1	0	372	4	44	0	48	51	146	0	197	617
% App. Total	99.7	0.3	0		8.3	91.7	0		25.9	74.1	0		
PHF	.843	.250	.000	.845	.500	.647	.000	.667	.607	.664	.000	.648	.825
Cars	368	1	0	369	4	44	0	48	51	146	0	197	614
% Cars	99.2	100	0	99.2	100	100	0	100	100	100	0	100	99.5
Heavy Vehicles	3	0	0	3	0	0	0	0	0	0	0	0	3
% Heavy Vehicles	0.8	0	0	0.8	0	0	0	0	0	0	0	0	0.5

S: # 200 Driveway West
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

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Email: datarequests@pdillc.com

File Name : 133293 B
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Cars

	Wells Avenue From East			#200 Wells Avenue West From South			Wells Avenue From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
03:00 PM	33	0	0	0	0	0	3	25	0	61
03:15 PM	35	1	0	0	10	0	17	35	0	98
03:30 PM	45	0	0	3	16	0	15	29	0	108
03:45 PM	54	0	0	2	10	0	8	27	0	101
Total	167	1	0	5	36	0	43	116	0	368
04:00 PM	48	1	0	1	3	0	1	15	0	69
04:15 PM	61	1	0	0	5	0	4	17	0	88
04:30 PM	46	1	0	0	1	0	1	14	0	63
04:45 PM	39	0	0	2	2	0	5	22	0	70
Total	194	3	0	3	11	0	11	68	0	290
05:00 PM	102	0	0	0	3	0	3	22	0	130
05:15 PM	66	0	0	2	11	0	14	33	0	126
05:30 PM	92	1	0	1	17	0	21	55	0	187
05:45 PM	108	0	0	1	13	0	13	36	0	171
Total	368	1	0	4	44	0	51	146	0	614
06:00 PM	56	0	0	0	8	0	7	18	0	89
06:15 PM	54	1	1	2	9	0	8	21	0	96
06:30 PM	35	0	0	0	1	0	0	16	0	52
06:45 PM	33	0	0	1	1	0	1	21	0	57
Total	178	1	1	3	19	0	16	76	0	294
Grand Total	907	6	1	15	110	0	121	406	0	1566
Apprch %	99.2	0.7	0.1	12	88	0	23	77	0	
Total %	57.9	0.4	0.1	1	7	0	7.7	25.9	0	

	Wells Avenue From East				#200 Wells Avenue West From South				Wells Avenue From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	102	0	0	102	0	3	0	3	3	22	0	25	130
05:15 PM	66	0	0	66	2	11	0	13	14	33	0	47	126
05:30 PM	92	1	0	93	1	17	0	18	21	55	0	76	187
05:45 PM	108	0	0	108	1	13	0	14	13	36	0	49	171
Total Volume	368	1	0	369	4	44	0	48	51	146	0	197	614
% App. Total	99.7	0.3	0		8.3	91.7	0		25.9	74.1	0		
PHF	.852	.250	.000	.854	.500	.647	.000	.667	.607	.664	.000	.648	.821

S: # 200 Driveway West
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

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File Name : 133293 B
Site Code : 12350.00
Start Date : 4/11/2013
Page No : 1

Groups Printed- Heavy Vehicles

	Wells Avenue From East			#200 Wells Avenue West From South			Wells Avenue From West			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0
03:15 PM	1	0	0	0	0	0	0	1	0	2
03:30 PM	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	1	0	3
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	0	0	0	2	0	2
05:00 PM	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	2	0	0	0	0	0	0	0	0	2
Total	3	0	0	0	0	0	0	0	0	3
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	5	0	0	0	0	0	0	3	0	8
Apprch %	100	0	0	0	0	0	0	100	0	
Total %	62.5	0	0	0	0	0	0	37.5	0	

	Wells Avenue From East				#200 Wells Avenue West From South				Wells Avenue From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:00 PM													
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
03:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	0	2	0	0	0	0	0	1	0	1	3
% App. Total	100	0	0		0	0	0		0	100	0		
PHF	.500	.000	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.375

S: # 200 Driveway West
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

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Site Code : 12350.00
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Page No : 1

Groups Printed- Peds and Bicycles

	Wells Avenue From East			#200 Wells Avenue West From South			Wells Avenue From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
03:00 PM	0	0	0	0	0	4	0	0	0	4
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	1	0	0	11	0	0	0	12
Total	0	0	1	0	0	15	0	0	0	16
04:00 PM	0	0	0	0	0	2	0	0	0	2
04:15 PM	1	0	1	0	0	3	0	0	0	5
04:30 PM	0	0	0	0	0	4	0	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	9	0	0	0	11
05:00 PM	0	0	1	0	0	2	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	4	0	0	0	4
05:45 PM	0	0	1	0	0	5	0	0	0	6
Total	0	0	2	0	0	11	0	0	0	13
06:00 PM	0	0	1	0	0	1	0	0	0	2
06:15 PM	0	0	0	0	0	2	0	0	1	3
06:30 PM	0	0	0	0	0	4	0	0	0	4
06:45 PM	0	0	0	0	0	2	0	0	0	2
Total	0	0	1	0	0	9	0	0	1	11
Grand Total	1	0	5	0	0	44	0	0	1	51
Apprch %	16.7	0	83.3	0	0	100	0	0	100	
Total %	2	0	9.8	0	0	86.3	0	0	2	

	Wells Avenue From East				#200 Wells Avenue West From South				Wells Avenue From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	0	0	1	1	0	0	11	11	0	0	0	0	12
04:00 PM	0	0	0	0	0	0	2	2	0	0	0	0	2
04:15 PM	1	0	1	2	0	0	3	3	0	0	0	0	5
04:30 PM	0	0	0	0	0	0	4	4	0	0	0	0	4
Total Volume	1	0	2	3	0	0	20	20	0	0	0	0	23
% App. Total	33.3	0	66.7		0	0	100		0	0	0		
PHF	.250	.000	.500	.375	.000	.000	.455	.455	.000	.000	.000	.000	.479

S: # 200 Driveway West
E/W: Wells Avenue
City, State: Newton, MA
Client: VHB/ R. Hart

PRECISION DATA INDUSTRIES, LLC
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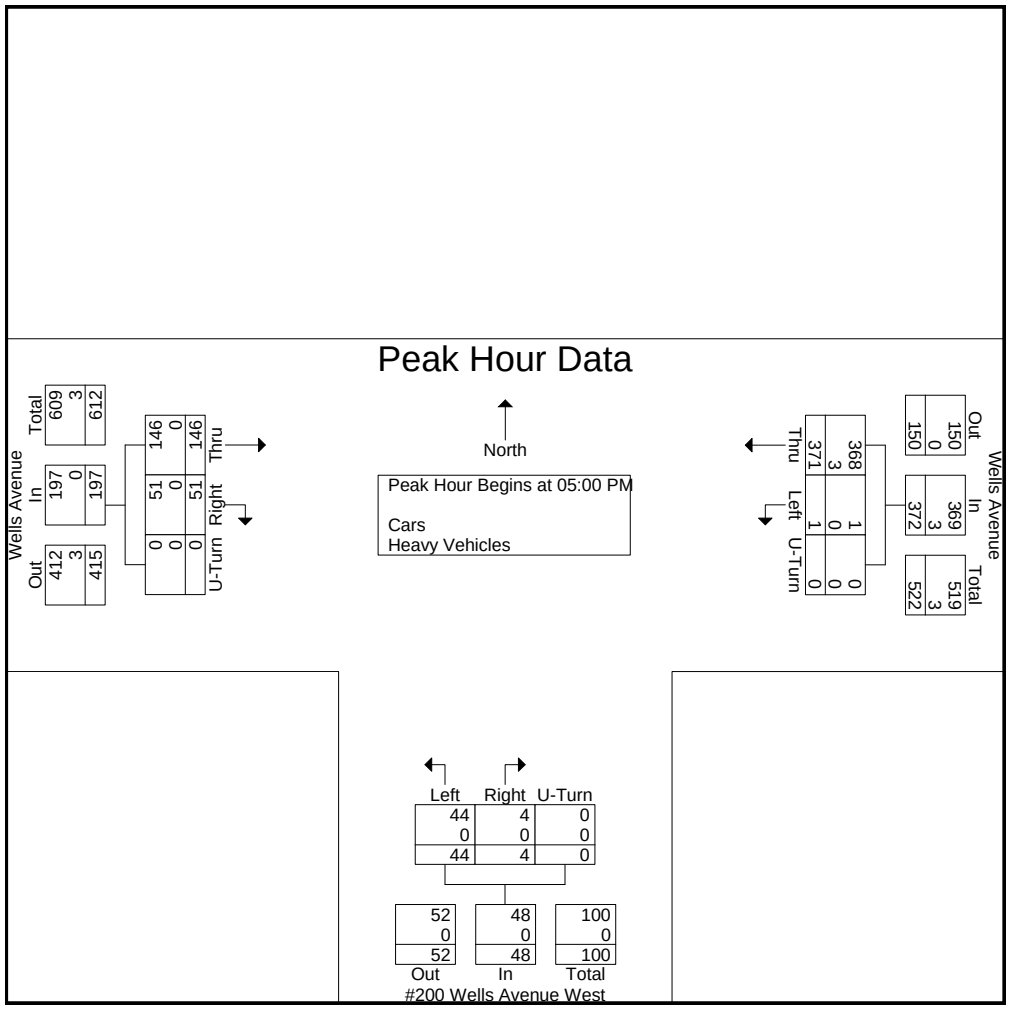
	Wells Avenue From East				#200 Wells Avenue West From South				Wells Avenue From West				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:30 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	103	0	0	103	0	3	0	3	3	22	0	25	131
05:15 PM	66	0	0	66	2	11	0	13	14	33	0	47	126
05:30 PM	92	1	0	93	1	17	0	18	21	55	0	76	187
05:45 PM	110	0	0	110	1	13	0	14	13	36	0	49	173
Total Volume	371	1	0	372	4	44	0	48	51	146	0	197	617
% App. Total	99.7	0.3	0		8.3	91.7	0		25.9	74.1	0		
PHF	.843	.250	.000	.845	.500	.647	.000	.667	.607	.664	.000	.648	.825
Cars	368	1	0	369	4	44	0	48	51	146	0	197	614
% Cars	99.2	100	0	99.2	100	100	0	100	100	100	0	100	99.5
Heavy Vehicles	3	0	0	3	0	0	0	0	0	0	0	0	3
% Heavy Vehicles	0.8	0	0	0.8	0	0	0	0	0	0	0	0	0.5



PEAK HOUR FACTOR/HEAVY VEHICLE PERCENTAGE CALCULATIONS

Job Number: 12350.00
Name: Russian School of Mathematics
Location: Newton, MA
Peak Analyzed: Weekday Evening
Network Peak Hour: 5:00 - 6:00

Enter information in yellow boxes only

1 :: #189 Driveway/#200 Driveway East & Wells Avenue

Approach	NB	SB	WB	EB
Peak Hour Volume	109	23	220	150
Peak 15 min. Vol.	48	8	73	55
Heavy Vehicle Volume	0	0	4	0
PHF	0.57	0.72	0.75	0.68
HV%	0%	0%	2%	0%

2 :: #200 Driveway West & Wells Avenue

Approach	NB	SB	WB	EB
Peak Hour Volume	48	0	372	197
Peak 15 min. Vol.	18	0	110	76
Heavy Vehicle Volume	0	0	3	0
PHF	0.67		0.85	0.65
HV%	0%		1%	0%

Total
502
184
4
0.68
0.8%

Total
617
204
3
0.76
0.5%

Sight Distance

Stopping Sight Distance and Intersection Sight Distance Calculator [v0.97]
Based on 'A Policy on Geometric Design of Highways and Streets', AASHTO, 2004

Section I

Project Information

Project Number:	12350	**Analyst:**	RCH
City/Town, State:	Newton MA		
Location:	Wells Avenue	**Client:**	RSM

Street Names and Directions

Major Street name:	Route 28	EB/WB
Minor Street name:	Western Site Driveway	NB/SB
Minor Street intersects *from* the:	south	

Street Notes

The minor street *predominantly* serves...	Passenger Cars
Sight distance location intersection is...	Existing
Total number of lanes on Major Street is...	2

Grade Information [enter down slope as a negative number]

Major Street Approach Grade:	0.00%	EB
	0.00%	WB
Minor Street Approach Grade:	0.00%	SB
	0.00%	NB

Major Street Speed Information

Posted		*Observed **
30	EB	33
30	WB	33

** note:* off-peak *85th percentile speeds*

Section II

ISD and SSD *Observations*

Instructions on how to observe and measure ISD and SSD are included on subsequent pages.

ISD - Intersection sight distance is the distance that is based on the time required for perception, reaction and completion of the desired critical exiting maneuver [typically, a left turn] once the driver on a minor street approach [or a site drive] decides to execute the maneuver. Calculation for the critical ISD includes the time to [1] turn left, and to clear the near half of the intersection without conflicting with the vehicles approaching from the left; and [2] upon turning left, to accelerate to the operating speed on the roadway without causing approaching vehicles on the main road to unduly reduce their speed. In this context, ISD can be considered as a *desirable* visibility criterion for the safe operation of an unsignalized intersection.

SSD - Stopping sight distance is the distance required for a vehicle approaching an intersection from either direction to perceive, react, and come to a complete stop before colliding with the exiting vehicle from a driveway. In this respect, SSD can be considered as the *minimum* visibility criterion for the safe operation of an unsignalized intersection.

			Limiting Factors:
***Observed* ISD:**	210	looking left [west]	Horizontal Curve and Mature Trees/Vegetation
(rounded to nearest 5 feet)	240	looking right [east]	Horizontal Curve and Mature Trees/Vegetation
***Observed* SSD:**	240	traveling EB	Horizontal Curve and Mature Trees/Vegetation
(rounded to nearest 5 feet)	260	traveling WB	Horizontal Curve and Mature Trees/Vegetation

Section III

ISD and SSD *Calculations* (rounded up to the next highest 5 feet) [sources: SSD - AASHTO, pp.110-117; ISD - AASHTO, pp. 650 - 664]

Cases are described in detail on subsequent pages. In summary...

B1: left turn from minor road, from stop control
B2: right turn from minor road, from stop control
B3: crossing maneuver from minor road, from stop control, assuming left- and right turns are not permitted *[otherwise, case B1 or B2 would supercede]*

***Desirable* Calculated...**		**Condition Met?**
... ISD, case B1:	365	**No**
... ISD, case B2:	320	**No**
... ISD, case B3:	320	**No**

[note: if number of lanes crossed exceeds 6, or if grades are steep, consult the manual]

***Minimum* Calculated ...**		**Condition Met?**
... ISD, case B1:	230	**No**
... ISD, case B2:	230	**Yes**
... ISD, case B3:	230	**No**

[note: minimum *ISD is equal to required SSD]*

Calculated ...			**Condition Met?**
... SSD:	230	traveling EB	**Yes**
	230	traveling WB	**Yes**

Section IV

AASHTO Guidance

Refer to AASHTO for specific guidance on SSD and ISD if presented with an unusual/atypical case.
Adequate ISD is not needed at signalized intersections, assuming traffic signal heads are visible on all approaches.
Any object that would obstruct the driver's view should be removed or lowered, if practical. Such objects include buildings, parked cars, highway structures, hedges/vegetation/trees/bushes/unmowed lawn, walls, fences, and terrain.
For ISD, an object should be considered an obstruction if it obstructs the vision of a driver whose eye height is 3.5 feet above the roadway surface and the object to be seen is 3.5 feet above the surface of the intersecting road.
Where horizontal sight restrictions occur on downgrades, particularly at the ends of long downgrades, it is desirable to provide SSD that exceeds those values indicated above (refer to page 114 of AASHTO).

Stopping Sight Distance and Intersection Sight Distance Calculator [v0.97]
Based on 'A Policy on Geometric Design of Highways and Streets', AASHTO, 2004

Section I

Project Information

Project Number:	12350	**Analyst:**	RCH
City/Town, State:	Newton MA		
Location:	Wells Avenue	**Client:**	RSM

Street Names and Directions

Major Street name:	Route 28	EB/WB
Minor Street name:	Easterm Site Driveway	NB/SB
Minor Street intersects *from* the:		south
The minor street *predominantly* serves...		Passenger Cars
Sight distance location intersection is...		Existing
Total number of lanes on Major Street is...		2

Street Notes

Grade Information [enter down slope as a negative number]

Major Street Approach Grade:	0.00%	EB
	0.00%	WB
Minor Street Approach Grade:	0.00%	SB
	0.00%	NB

Major Street Speed Information

Posted		*Observed **
30	EB	33
30	WB	33

** note:* off-peak *85th percentile speeds*

Section II

ISD and SSD *Observations*

Instructions on how to observe and measure ISD and SSD are included on subsequent pages.

ISD - Intersection sight distance is the distance that is based on the time required for perception, reaction and completion of the desired critical exiting maneuver [typically, a left turn] once the driver on a minor street approach [or a site drive] decides to execute the maneuver. Calculation for the critical ISD includes the time to [1] turn left, and to clear the near half of the intersection without conflicting with the vehicles approaching from the left; and [2] upon turning left, to accelerate to the operating speed on the roadway without causing approaching vehicles on the main road to unduly reduce their speed. In this context, ISD can be considered as a *desirable* visibility criterion for the safe operation of an unsignalized intersection.

SSD - Stopping sight distance is the distance required for a vehicle approaching an intersection from either direction to perceive, react, and come to a complete stop before colliding with the exiting vehicle from a driveway. In this respect, SSD can be considered as the *minimum* visibility criterion for the safe operation of an unsignalized intersection.

			Limiting Factors:
***Observed* ISD:**	190	looking left [west]	Horizontal Curve and Mature Trees/Vegetation
(rounded to nearest 5 feet)	250	looking right [east]	Horizontal Curve and Mature Trees/Vegetation
***Observed* SSD:**	210	traveling EB	Horizontal Curve and Mature Trees/Vegetation
(rounded to nearest 5 feet)	270	traveling WB	Horizontal Curve and Mature Trees/Vegetation

Section III

ISD and SSD *Calculations* (rounded up to the next highest 5 feet) [sources: SSD - AASHTO, pp.110-117; ISD - AASHTO, pp. 650 - 664]

Cases are described in detail on subsequent pages. In summary...

B1: left turn from minor road, from stop control

B2: right turn from minor road, from stop control

B3: crossing maneuver from minor road, from stop control, assuming left- and right turns are not permitted *[otherwise, case B1 or B2 would supercede]*

***Desirable* Calculated...**		**Condition Met?**
... ISD, case B1:	365	**No**
... ISD, case B2:	320	**No**
... ISD, case B3:	320	**No**

[note: if number of lanes crossed exceeds 6, or if grades are steep, consult the manual]

***Minimum* Calculated ...**		**Condition Met?**
... ISD, case B1:	230	**No**
... ISD, case B2:	230	**Yes**
... ISD, case B3:	230	**No**

[note: minimum *ISD is equal to required SSD]*

Calculated ...			**Condition Met?**
... SSD:	230	traveling EB	**No**
	230	traveling WB	**Yes**

Section IV

AASHTO Guidance

Refer to AASHTO for specific guidance on SSD and ISD if presented with an unusual/atypical case.

Adequate ISD is not needed at signalized intersections, assuming traffic signal heads are visible on all approaches.

Any object that would obstruct the driver's view should be removed or lowered, if practical. Such objects include buildings, parked cars, highway structures, hedges/vegetation/trees/bushes/unmowed lawn, walls, fences, and terrain.

For ISD, an object should be considered an obstruction if it obstructs the vision of a driver whose eye height is 3.5 feet above the roadway surface and the object to be seen is 3.5 feet above the surface of the intersecting road.

Where horizontal sight restrictions occur on downgrades, particularly at the ends of long downgrades, it is desirable to provide SSD that exceeds those values indicated above (refer to page 114 of AASHTO).

■

SYNCHRO Analysis

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (veh/h)	3	46	99	7	213	0	105	0	4	1	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.57	0.57	0.57	0.72	0.72	0.72
Hourly flow rate (vph)	4	54	116	8	251	0	184	0	7	1	0	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	251			171			417	386	112	393	445	251
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	251			171			417	386	112	393	445	251
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			65	100	99	100	100	96
cM capacity (veh/h)	1327			1407			525	546	946	562	507	793

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	174	259	191	32
Volume Left	4	8	184	1
Volume Right	116	0	7	31
cSH	1327	1407	534	779
Volume to Capacity	0.00	0.01	0.36	0.04
Queue Length 95th (ft)	0	0	40	3
Control Delay (s)	0.2	0.3	15.5	9.8
Lane LOS	A	A	C	A
Approach Delay (s)	0.2	0.3	15.5	9.8
Approach LOS			C	A

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	34.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	146	51	1	371	44	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.67	0.67
Hourly flow rate (vph)	172	60	1	436	66	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			232		641	202
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			232		641	202
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		85	99
cM capacity (veh/h)			1342		442	844

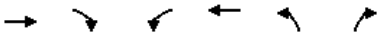
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	232	438	72
Volume Left	0	1	66
Volume Right	60	0	6
cSH	1700	1342	460
Volume to Capacity	0.14	0.00	0.16
Queue Length 95th (ft)	0	0	14
Control Delay (s)	0.0	0.0	14.3
Lane LOS		A	B
Approach Delay (s)	0.0	0.0	14.3
Approach LOS			B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✣			✣			✣			✣	
Volume (veh/h)	3	46	18	7	213	0	149	0	8	1	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.57	0.57	0.57	0.72	0.72	0.72
Hourly flow rate (vph)	4	54	21	8	251	0	261	0	14	1	0	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	251			75			369	339	65	353	349	251
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	251			75			369	339	65	353	349	251
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			54	100	99	100	100	96
cM capacity (veh/h)	1327			1524			565	581	1005	594	573	793

Direction, Lane #	SE 1	NW 1	NE 1	SW 1
Volume Total	79	259	275	32
Volume Left	4	8	261	1
Volume Right	21	0	14	31
cSH	1327	1524	578	782
Volume to Capacity	0.00	0.01	0.48	0.04
Queue Length 95th (ft)	0	0	64	3
Control Delay (s)	0.4	0.3	16.8	9.8
Lane LOS	A	A	C	A
Approach Delay (s)	0.4	0.3	16.8	9.8
Approach LOS			C	A

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	145	150	8	371	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.67	0.67
Hourly flow rate (vph)	171	176	9	436	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			347		714	259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			347		714	259
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1217		398	785

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	347	446	0
Volume Left	0	9	0
Volume Right	176	0	0
cSH	1700	1217	1700
Volume to Capacity	0.20	0.01	0.00
Queue Length 95th (ft)	0	1	0
Control Delay (s)	0.0	0.2	0.0
Lane LOS		A	A
Approach Delay (s)	0.0	0.2	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	29.3%	ICU Level of Service	A
Analysis Period (min)	15		

781-373-1375 *502 South Avenue, W*

Memorandum

To: Land Use Committee of the City of Newton Board of Aldermen

From: Lou Mercuri, Planning Horizons

Re: 200 Wells Avenue / Russian School of Mathematics and Dance Fever

Date: June 25, 2013

On behalf of the petitioners for this land use petition I am submitting this report regarding the availability of parking for the amendment to Special Permit Board Order #325-06.

Background and Proposal Highlights

The Russian School of Mathematics ("RSM") and Dance Fever sought and received approval from the Board of Aldermen in 2006 to operate a for-profit after school and weekend program. In the interim, the programs have seen increases in the number of enrolled students and faculty. Accordingly, RSM has filed a request to amend the 2006 special permit in a number of ways. Specifically, RSM is seeking to:

A. Allow up to 200 students in the school at any given time
B. Allow up to a maximum of 15 students per class
C. Allow up to 17 classes to occur at any one time
D. Allow up to 28 employees on site at any one time

The focus of this report was to determine whether the current and proposed parking supply will adequately meet the circulation and parking needs of the site going forward.[1] Since the majority of the students at RSM are dropped off at the beginning of their class and picked up at the conclusion of the class, the best way to accommodate the increased enrollment is to improve the efficiency of the circulation at the site, as opposed to increasing available parking. In fact, the parking counts revealed that even at peak drop-off and pick-up times, there were between 28 and 42 onsite parking spaces available. (see Chart III)

A most significant feature of the proposed improvement to the site operation includes a proposed circular driveway in front of the school that would connect through both parking lots. This driveway will facilitate both drop-off and pickup of students and will considerably ease the parking demands on the existing two lots. The specifics of the operation of the new driveway including queuing distances, parking duration, access and egress from the site will be considered in an accompanying report prepared by VHB Associates.

This report concludes that the proposed driveway will significantly improve the drop-off and pick-up process at the site. The connecting driveway will allow approximately 15 cars to queue as the drivers efficiently drop off their children at the start of class, leaving the 63 onsite parking spaces available for teachers and parents who are picking up their children. A conservative estimate is that the proposed driveway will eliminate 75% of the parking associated with drop-off, and 40% of the parking associated with pick-up

[1] Based on the recent zoning review by the Department of Inspectional Services, RSM and Dance Fever combined require a total of 56 parking stalls. Since a total of 63 parking stalls are provided on site, a parking waiver is not required in this application.

Operations Existing Conditions

Both RSM and Dance Fever would continue to operate in the 15,305 square foot space in a former office building at 200 Wells Avenue. Weekly classes and instruction for both activities primarily occur between 3:00pm and 9:00pm on weekdays and between 8:00am and 7:00pm on weekends. Most of the existing programs are geared towards the school-age population with Dance Fever offering some later evening classes for adults. The vast majority of students in both schools are driven by car to the school, dropped off and picked up when the sessions are over. Carpooling is encouraged and frequently more than one child per household is enrolled in concurrent classes.

As of Spring 2013, here are the daily numbers of classes and students enrolled at both RSM and Dance Fever:

Russian School of Mathematics				
Spring 2013 Enrollments				
Day of Week	Time of Classes	# of Classes	Total # of Students per Day	# Students per Class
Monday	3:30-8:45	35	388	11
Tuesday	2:30-8:45	31	324	10
Wednesday	3:30-8:45	30	335	11
Thursday	3:30-8:30	29	314	11
Friday	3:15-8:45	24	226	9
Saturday	8:45-6:15	68	819	12
Sunday	8:45-6:45	60	656	11

Dance Fever				
Spring 2013 Enrollments				
Day of Week	Time of Classes	# of Classes*	Total # of Students per Day	# Students per Class
Monday	2:00-9:00	4	117	2.9
Tuesday	2:00-9:00	36	87	2.4
Wednesday	2:00-9:00	46	98	2.1
Thursday	2:00-9:00	35	78	2.2
Friday	2:00-9:00	36	82	2.3
Saturday	9:00-4:00	37	93	2.5
Sunday	9:00-7:00	13	42	3.2
* This number includes one-on-one private instruction				

In terms of peak capacities, the critical periods are weekdays between 5:00pm and 6:00pm when as many as 17 RSM classes are in operation simultaneously. Start and end times for the 1.5, 2.0, and 2.5 hour classes are roughly staggered to 15-minute intervals during the peak times. On Saturdays, peak start and end times are between 11:00am and 12:00 noon, and later between 3:15 and 3:45pm. The Sunday peak period is between 11:00 and 11:45am.

Peak periods for Dance Fever classes tend to be a bit later than RSM with the largest enrollments occurring between 6:00 and 8:00pm. During those times typically 25 students are attending classes. On Saturdays, the period between 10:00am and 12:00 noon is busiest with 20 students attending classes. Sunday classes are particularly light with just 10 students at most taking classes between 12:00 noon and 1:00pm. There are fewer students per teacher at Dance Fever

and the ratio is close to 3 students per teacher for these sessions. The owner of Dance Fever estimates that there are no more than 10 students who drive themselves to class each week; most students are provided with rides.

Parking Facilities

Under the current operation, three designated parking areas are used for both RSM and Dance Fever as follows:

1. Parking lot "A": This is the largest parking area and is located adjacent to the main entrance to the building. The lot accommodates a total of 49 parking spaces, including 1 handicap space in close proximity to the main entrance. The lot is accessed from Wells Avenue and there is sufficient aisle width to accommodate a two-way flow in the lot. At present the lot is used exclusively for **student pick up** and there is a 15-minute **maximum** time limit for parking.
2. Parking lot "B": This lot has been recently reopened and is located further west on Wells Avenue, about 50 yards from the entrance to Parking Lot A. The lot accommodates 14 parking spaces, none are handicap spaces. At this time, the lot is designated for student **drop off** only and there is a 5-minute parking limitation.
3. Auxiliary parking lot: The petitioners have established a leased parking arrangement with the owners of the adjacent office building at 180 Wells Avenue. In total, 24 consecutive parking spaces (none handicap) at the closest point to the RSM site are available for administration and faculty use. These spaces are accessed from a separate driveway off of Wells Avenue to the 180 Wells Avenue site. There is a walkway connecting this parking area with the RSM site.

In the three lots described, there are a total of 87 available parking spaces. The actual zoning requirement for RSM and Dance Fever is 56 parking spaces, leaving a surplus of 31 spaces. If the on-site allocation of 63 spaces (14 in lot B and 49 in lot A) is considered, then a surplus of 7 parking spaces is present.

Open parking on one side of Wells Avenue (the side opposite the site) is permitted by the City and there are approximately 24 spaces from the entrance of Parking lot B to just beyond the entrance to parking lot A. However, the petitioners continue to urge parents, faculty, and administration to avoid using Wells Avenue for drop off, pickup, or general parking purposes.

RSM has taken the additional positive step of hiring its own parking manager and one Newton police detail during the busiest weeknight hours. This effort has greatly assisted the vehicular flow in and out of both parking lots A and B. In addition, pedestrian safety for students has improved as there is supervision of students entering and exiting parked cars.

Parking Methodology and Results

To get a complete picture of the parking supply and demand for both uses, it is necessary to understand the current and proposed operations and match them with the peak periods. With access to all of the classroom enrollments, schedules, and observations, it was determined that the peak periods for parking are generally between 5:00pm and 6:00pm on weekdays and in later morning and early afternoon on Saturdays and Sundays. As noted earlier, Mondays are the peak operation day with Tuesdays and Wednesdays not far behind. Planning Horizons surveyed the three main parking locations (lot A, lot B, Auxiliary lot) and also surveyed the parking used along Wells Avenue at the peak times.

In total all four locations were surveyed on 18 different occasions. Each weekday was surveyed on two or more occasions, and in addition there were three Saturday and one Sunday surveys conducted.

Since RSM classes are staggered to start and end in 15-minute intervals, it was decided to conduct three different parking counts 10 minutes apart for an interval totaling 20 minutes. This method allowed for fluctuation in drop-offs and

pickups that typically occur within a several-minute window around the start and end of classes. For the summary of counts contained in the body of this report, the average of three separate intervals was used. The full detail of the capacities at each of the intervals is included in Appendix A of this report.

Four baseline counts were taken at the start of classes at approximately 3:30pm on Wednesday, Thursday, and Friday afternoons. These counts were taken to assess the capacities at the start of the RSM sessions and an hour and a half after Dance Fever classes had commenced. These counts will be considered separately from the 5:00-6:00pm peak weekday hour counts.

All counts were conducted between March 28 and April 25, 2013. Weather conditions were noted but generally temperatures were a little above average and conditions ranged from clear to a light rain falling. This time of year corresponds to expected highest enrollment numbers for the entire academic year.

All of the data obtained can be best summarized in chart form using the day of the week as the frame of reference as follows:

Chart I Peak Hour Parking by Day of Week and Parking Area

Day of Week	# of Counts	Avg. Lot A (capacity 49)	Avg. Lot B (capacity 14)	Avg. Auxiliary Parking (capacity 24)	Avg. Wells Ave* (open parking)	Total (average of counts)
Monday	2	29	6	24	20	79
Tuesday	2	19	3	23	20	65
Wednesday	2	30	5	24	23	82
Thursday	2	24	4	22	16	66
Friday	2	26	7	22	11	66
Saturday	3	25	8	20	1	63
Sunday	1	29	6	19	3	57

Chart II Off-Peak (3:30 PM) Parking by Day of Week and Parking Area

Day of Week	# of Counts	Avg. Lot A (capacity 49)	Avg. Lot B (capacity 14)	Avg. Auxiliary Parking (capacity 24)	Avg. Wells Ave* (open parking)	Total (average of counts)
Wednesday	2	24	6	20	15	65
Thursday	1	15	3	23	17	58
Friday	1	20	3	17	14	34

**These columns include all of the cars parked on Wells Avenue at the time of the count. Parking on Wells Avenue is open and available to all members of the public. Therefore, some of the vehicles included in this count may well be attributable to non-RSM/Dance Fever uses. The proposed connector driveway will eliminate any need for patrons of the site to park on Wells Avenue, to the extent that such a need currently exists.*

In terms of peak hour counts the lowest count on an individual day was Thursday March 28 with an average of 56 cars parked during the interval in all locations. The highest recorded count occurred on Wednesday April 24 when 90 cars were parked during the 5:20-5:40pm period. The range of all counts on all weekdays is between 65 cars parked on Tuesdays and 82 cars parked on Wednesdays.

The following chart denotes the number and percent of available parking spaces in Lot A, Lot B, and the Auxiliary parking area by day of the week:

Chart III Peak Hour Parking by Day of Week and Parking Area Using Occupancy Rates									
Day of Week	# of Counts	Lot A Available Spaces	% Available	Lot B Available Spaces	% Available	Auxiliary Lot Available Spaces	% Available	Total Available	% Available
Monday	2	20	41	8	57	0	0	28	32
Tuesday	2	30	61	11	78	1	4	42	48
Wednesday	2	19	39	9	64	0	0	28	32
Thursday	2	25	51	10	71	2	8	37	42
Friday	2	23	47	7	50	2	8	32	37
Saturday	3	24	49	6	43	4	17	34	39
Sunday	1	20	41	8	57	5	21	33	38

Under current conditions, there are on average between 28 and 42 parking spaces available at any given time. In total, the three parking areas provide 87 spaces.

To summarize, Charts I-III demonstrate the following points:

- During the busiest periods, RSM and Dance Fever combined generate an average actual parking demand of between 57 and 82 spaces depending on the day of the week.
- There are between 28 and 42 available parking spaces during the peak periods in Lot A, Lot B, and the Auxiliary parking area.
- The highest recorded amount of parking occurred on April 24 when 90 cars were observed.
- The recent deployment of a police detail, employing a park lot attendant, and reopening lot B have considerably improved conditions and safety on site. Going forward, the proposed site driveway will improve conditions further and this will be discussed in the next section.

Future Conditions and Limitations, Site Driveway Parking Projections and Drop-Off and Pickup Plan

The current petition seeks to establish the following limits on the overall use:

- No more than 200 children in the school at any time
- No more than 15 students per class
- No more than 17 classes conducted at any one time
- No more than 28 employees on site at any one time

Each of these limitations falls within the boundaries of how RSM and Dance Fever are currently operating in the Spring of 2013. Therefore, the parking analysis based on current conditions will closely reflect future expectations and demand for parking with the main exception of the new site driveway.

This land use petition contains the provision to construct a one-way site driveway directly in front of the building that will be accessed from lot B and will exit onto lot A in close proximity to Wells Avenue. This is a major improvement to the site operation and will considerably reduce parking demand as described later on in this report.

A second issue relates to the status of the auxiliary lot in the long term. The lot accommodates 24 cars and has been a great benefit for teachers and administrators needing long-term parking. However, a long-term lease arrangement may not be achievable and RSM and Dance Fever will need to provide adequate onsite parking. Under future conditions, the assumption will be made that these 24 spaces will not be available.

Parking Projections

The proposed site driveway will considerably reduce the need for onsite parking. In particular, the drop-off of students will be greatly facilitated as drivers will access the site driveway, drop off and leave the site without having to park in either lot A or lot B. The pickup of students creates a potentially greater parking demand as parents may arrive 5-10 minutes early and will not be able to remain in the driveway for "live" parking. However, many parents will arrive on time or perhaps be late and students will be waiting to greet them in the site drive.

The following parking projections (see Chart IV below) are based on the following assumptions:

- **The new site drive will eliminate 75% of the cars that currently use a parking space for drop-off purposes**
- **The new site drive will eliminate 40% of pick up parking that currently occurs**
- All employees (up to 28 at one time) will need long-term parking and there will be one parked car per employee
- The amount of total onsite parking (between 57 and 82 cars) depending on the day will continue and remain constant
- The Auxiliary parking area of 24 spaces will no longer be available and a total of 62 onsite spaces will be available for both schools

When all of these factors are introduced, the following chart clearly demonstrates that adequate onsite parking will be available:

Chart IV Future Parking Projections at Peak Hour Based on Spring 2013 Enrollments and Current Parking Data

Day of Week	Peak Hour Counts	Employee Parking	Student-Related Parking	Total Parking Demand	Projected Student Dropoff and Pickup Parking	Projected Employee Parking	Total Parking Needed	Total Surplus
Monday	2	28	51	79	23	28	51	+11
Tuesday	2	28	37	65	17	28	45	+17
Wednesday	2	28	54	82	25	28	53	+9
Thursday	2	28	38	66	17	28	45	+17
Friday	2	28	38	66	18	28	46	+16
Saturday	3	28	35	63	14	28	42	+20
Sunday	1	28	29	57	13	28	41	+21

It is estimated that there will be at least 9 available spaces in either parking lot A or B at the peak hour.

Parking Drop-Off, and Pickup Plan

A revised parking drop-off and pickup plan needs to include the following elements:

- Students will be dropped off and picked up in the new site driveway between lot A and lot B. The driveway will allow for live parking and those needing parking beyond a minute or two will be directed to parking lot A.
- Teacher and administrator parking will occur in lot B and in lot A closest to Wells Avenue
- A parking attendant will monitor the site driveway between 3:00 and 7:00pm on weekdays to insure student pedestrian safety and to keep traffic circulating through the driveway
- Regular reminders will be sent to parents regarding parking procedures and to reinforce the concept that there will be no parking on Wells Avenue[2]

[2] Although not directly related, RSM ought to consider further staggering of classes to allow for a more even distribution of class start and ending times. For example, currently 10 RSM classes start on Monday at 3:30pm and only 3 start at 3:45pm (see Appendix B). Starting either 6 or 7 classes at both times would reduce parking demands at pickup times.

- Both RSM and Dance Fever will further develop and promote a carpool program that will further reduce vehicular trips. Reduced tuition rates and other incentives will be offered to parents who continually demonstrate viable carpooling arrangements.
- Lease arrangements (whether temporary or long term) will be sought to allow for teacher and administrator parking

In conclusion, the new site driveway will greatly offset parking demands and there is sufficient parking to accommodate the current and future needs of both schools. This, coupled with an active and closely monitored parking drop-off and pickup plan described at the end of this report will allow the schools to operate in a safe and efficient manner.

Appendix A - RSM Parking Counts and Capacities

RSM Parking Counts									
Parking Lot A									
Capacity 49									
				Count 1		Count 2		Count 3	
Day	Date	Weather	Time Interval	Occupied	Vacant	Occupied	Vacant	Occupied	Vacant
Monday	8-Apr	68° clear	5:20-5:40	27	22	38	11	37	12
Monday	22-Apr	50° cloudy	5:10-5:30	21	28	21	28	28	21
Tuesday	2-Apr	40° clear	5:20-5:40	19	30	26	23	16	33
Tuesday	9-Apr	65° clear	5:20-5:40	13	36	16	33	22	27
Wednesday	3-Apr	40° clear	5:00-5:20	20	29	19	30	23	26
Wednesday	24-Apr	75° clear	5:20-5:40	33	16	44	5	40	9
Thursday	28-Mar	45° light rain	5:40-6:00	22	27	20	29	17	32
Thursday	25-Apr	66° clear	5:30-5:50	42	7	26	23	18	31
Friday	5-Apr	54° clear	5:25-5:45	18	31	21	28	25	24
Friday	12-Apr	37° light rain	5:25-5:45	34	15	28	21	30	19
Saturday	30-Mar	50° clear	11:20-11:40	30	19	24	25	19	30
Saturday	13-Apr	40° cloudy	11:20-11:40	31	18	27	22	19	30
Sunday	14-Apr	50° cloudy	11:25-11:45	28	21	34	15	26	23
Wednesday	3-Apr	45° clear	3:25-3:45	31	18	17	32	16	33
Wednesday	10-Apr	60° cloudy	3:25-3:45	21	28	22	27	20	29
Thursday	11-Apr	50° p. cloudy	3:25-3:45	21	28	16	33	8	41
Friday	12-Apr	38° rain	3:25-3:45	21	28	23	26	15	34
Saturday	13-Apr	50° cloudy	3:30-3:50	27	22	21	28	24	25

RSM Parking Counts									
Parking Lot B									
Capacity 14									
				Count 1		Count 2		Count 3	
Day	Date	Weather	Time Interval	Occupied	Vacant	Occupied	Vacant	Occupied	Vacant
Monday	8-Apr	68° clear	5:20-5:40	5	9	6	8	8	6
Monday	22-Apr	50° cloudy	5:10-5:30	7	7	6	8	3	11
Tuesday	2-Apr	40° clear	5:20-5:40	0	14	3	11	3	11
Tuesday	9-Apr	65° clear	5:20-5:40	2	12	3	11	8	6
Wednesday	3-Apr	40° clear	5:00-5:20	8	6	5	9	4	10
Wednesday	24-Apr	75° clear	5:20-5:40	3	11	5	9	7	7
Thursday	28-Mar	45° light rain	5:40-6:00	2	12	1	13	2	12
Thursday	25-Apr	66° clear	5:30-5:50	6	8	6	8	4	10
Friday	5-Apr	54° clear	5:25-5:45	11	3	7	7	2	12
Friday	12-Apr	37° light rain	5:25-5:45	11	3	5	9	5	9
Saturday	30-Mar	50° clear	11:20-11:40	2	12	5	9	2	12
Saturday	13-Apr	40° cloudy	11:20-11:40	5	9	5	9	3	11
Sunday	14-Apr	50° cloudy	11:25-11:45	6	8	8	6	3	11
Wednesday	3-Apr	45° clear	3:25-3:45	8	6	7	7	4	10
Wednesday	10-Apr	60° cloudy	3:25-3:45	5	9	6	8	8	6
Thursday	11-Apr	50° p. cloudy	3:25-3:45	6	8	2	12	1	13
Friday	12-Apr	38° rain	3:25-3:45	11	3	5	9	2	12
Saturday	13-Apr	50° cloudy	3:30-3:50	11	3	10	4	7	7

RSM Parking Counts									
Auxiliary Parking									
Capacity 24									
				Count 1		Count 2		Count 3	
Day	Date	Weather	Time Interval	Occupied	Vacant	Occupied	Vacant	Occupied	Vacant
Monday	8-Apr	68° clear	5:20-5:40	24	0	23	1	24	0
Monday	22-Apr	50° cloudy	5:10-5:30	24	0	24	0	23	1
Tuesday	2-Apr	40° clear	5:20-5:40	24	0	24	0	24	0
Tuesday	9-Apr	65° clear	5:20-5:40	23	1	22	2	24	0
Wednesday	3-Apr	40° clear	5:00-5:20	24	0	24	0	24	0
Wednesday	24-Apr	75° clear	5:20-5:40	24	0	23	1	24	0
Thursday	28-Mar	45° light rain	5:40-6:00	22	2	23	1	22	2
Thursday	25-Apr	66° clear	5:30-5:50	24	0	23	1	21	3
Friday	5-Apr	54° clear	5:25-5:45	24	0	24	0	24	0
Friday	12-Apr	37° light rain	5:25-5:45	20	4	21	3	17	7
Saturday	30-Mar	50° clear	11:20-11:40	22	2	22	2	22	2
Saturday	13-Apr	40° cloudy	11:20-11:40	17	7	18	6	19	5
Sunday	14-Apr	50° cloudy	11:25-11:45	18	6	19	5	19	5
Wednesday	3-Apr	45° clear	3:25-3:45	20	4	21	3	23	1
Wednesday	10-Apr	60° cloudy	3:25-3:45	18	6	20	4	20	4
Thursday	11-Apr	50° p. cloudy	3:25-3:45	22	2	23	1	23	1
Friday	12-Apr	38° rain	3:25-3:45	16	8	18	6	18	6
Saturday	13-Apr	50° cloudy	3:30-3:50	21	3	20	4	20	4

RSM Parking Counts						
Wells Avenue Parking						
Day	Date	Weather	Time Interval	Count 1 # Parked	Count 2 # Parked	Count 3 # Parked
Monday	8-Apr	68° clear	5:20-5:40	18	19	18
Monday	22-Apr	50° cloudy	5:10-5:30	23	20	22
Tuesday	2-Apr	40° clear	5:20-5:40	17	18	19
Tuesday	9-Apr	65° clear	5:20-5:40	21	22	21
Wednesday	3-Apr	40° clear	5:00-5:20	24	24	24
Wednesday	24-Apr	75° clear	5:20-5:40	21	23	23
Thursday	28-Mar	45° light rain	5:40-6:00	14	14	15
Thursday	25-Apr	66° clear	5:30-5:50	18	17	16
Friday	5-Apr	54° clear	5:25-5:45	9	10	7
Friday	12-Apr	37° light rain	5:25-5:45	17	13	12
Saturday	30-Mar	50° clear	11:20-11:40	13	15	15
Saturday	13-Apr	40° cloudy	11:20-11:40	8	8	8
Sunday	14-Apr	50° cloudy	11:25-11:45	3	3	2
Wednesday	3-Apr	45° clear	3:25-3:45	16	15	15
Wednesday	10-Apr	60° cloudy	3:25-3:45	15	14	14
Thursday	11-Apr	50° p. cloudy	3:25-3:45	16	18	17
Friday	12-Apr	38° rain	3:25-3:45	11	15	17
Saturday	13-Apr	50° cloudy	3:30-3:50	5	7	8

The Wells Avenue Parking area is open to all public use in the area; some of the observed vehicles may be attributable to non-RSM/Dance Fever uses.

Appendix B - RSM Spring 2013 Classes by Day

Monday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Mon	3:30 PM		10	0	10		115	0	115
Mon	3:45 PM		3	0	3		32	0	32
Mon	4:00 PM		2	0	2		25	0	25
Mon	4:15 PM		1	0	1		8	0	8
Mon	5:00 PM		1	6	7		15	70	85
Mon	5:15 PM		5	0	5		46	0	46
Mon	5:30 PM		2	6	8		25	70	95
Mon	5:45 PM		4	2	6		41	24	65
Mon	6:00 PM		3	0	3		36	0	36
Mon	6:15 PM		0	2	2		0	16	16
Mon	6:30 PM		1	0	1		12	0	12
Mon	6:45 PM		1	4	5		13	29	42
Mon	7:00 PM		2	1	3		20	15	35
Mon	7:15 PM		0	2	2		0	22	22
Mon	7:30 PM		0	2	2		0	25	25
Mon	7:45 PM		0	3	3		0	36	36
Mon	8:00 PM		0	3	3		0	35	35
Mon	8:30 PM		0	3	3		0	33	33
Mon	8:45 PM		0	1	1		0	13	13
TOTALS			**35**	**35**	**70**		**388**	**388**	

Tuesday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Tue	2:30 PM		4	0	4		34	0	34
Tue	3:15 PM		1	0	1		10	0	10
Tue	3:30 PM		8	0	8		89	0	89
Tue	4:00 PM		4	2	6		43	16	59
Tue	4:15 PM		2	0	2		25	0	25
Tue	4:30 PM		0	2	2		0	18	18
Tue	4:45 PM		2	0	2		21	0	21
Tue	5:00 PM		0	1	1		0	7	7
Tue	5:30 PM		3	5	8		36	61	97
Tue	5:45 PM		1	2	3		9	22	31
Tue	6:00 PM		2	6	8		18	64	82
Tue	6:15 PM		3	2	5		30	25	55
Tue	6:45 PM		0	1	1		0	9	9
Tue	7:00 PM		1	1	2		9	12	21
Tue	7:30 PM		0	3	3		0	36	36
Tue	7:45 PM		0	2	2		0	19	19
Tue	8:00 PM		0	2	2		0	15	15
Tue	8:15 PM		0	1	1		0	9	9
Tue	8:45 PM		0	1	1		0	11	11
TOTALS			**31**	**31**	**62**		**324**	**324**	

Wednesday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Wed	3:30 PM		9	0	9		104	0	104
Wed	3:45 PM		2	0	2		24	0	24
Wed	4:00 PM		2	0	2		26	0	26
Wed	4:15 PM		2	0	2		20	0	20
Wed	4:30 PM		1	0	1		10	0	10
Wed	5:00 PM		1	1	2		11	12	23
Wed	5:15 PM		1	0	1		6	0	6
Wed	5:30 PM		2	7	9		25	84	109
Wed	5:45 PM		4	3	7		39	35	74
Wed	6:00 PM		0	2	2		0	22	22
Wed	6:15 PM		2	1	3		22	9	31
Wed	6:30 PM		3	2	5		40	22	62
Wed	6:45 PM		1	2	3		8	11	19
Wed	7:00 PM		0	1	1		0	11	11
Wed	7:30 PM		0	2	2		0	25	25
Wed	7:45 PM		0	3	3		0	26	26
Wed	8:00 PM		0	1	1		0	14	14
Wed	8:15 PM		0	1	1		0	16	16
Wed	8:30 PM		0	2	2		0	26	26
Wed	8:45 PM		0	2	2		0	22	22
TOTALS			**30**	**30**	**60**		**335**	**335**	

Thursday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Thu	3:30 PM		8	0	8		87	0	87
Thu	3:45 PM		5	0	5		52	0	52
Thu	4:15 PM		2	0	2		21	0	21
Thu	4:45 PM		1	0	1		3	0	3
Thu	5:00 PM		1	1	2		9	13	22
Thu	5:15 PM		2	2	4		22	18	40
Thu	5:30 PM		3	6	9		29	63	92
Thu	5:45 PM		3	3	6		35	32	67
Thu	6:00 PM		4	1	5		40	11	51
Thu	6:15 PM		0	1	1		0	8	8
Thu	6:30 PM		1	0	1		10	0	10
Thu	6:45 PM		0	2	2		0	23	23
Thu	7:00 PM		1	1	2		6	9	15
Thu	7:15 PM		0	2	2		0	17	17
Thu	7:30 PM		0	2	2		0	17	17
Thu	7:45 PM		0	2	2		0	24	24
Thu	8:00 PM		0	3	3		0	30	30
Thu	8:15 PM		0	1	1		0	11	11
Thu	8:30 PM		0	4	4		0	38	38
TOTALS			**31**	**31**	**62**		**314**	**314**	

Friday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Fri	3:15 PM		2	0	2		19	0	19
Fri	3:30 PM		8	0	8		78	0	78
Fri	3:45 PM		1	0	1		7	0	7
Fri	4:15 PM		1	0	1		8	0	8
Fri	4:30 PM		2	1	3		20	13	33
Fri	4:45 PM		0	1	1		0	7	7
Fri	5:00 PM		1	2	3		15	12	27
Fri	5:15 PM		0	1	1		0	12	12
Fri	5:30 PM		2	6	8		18	65	83
Fri	5:45 PM		2	1	3		21	7	28
Fri	6:00 PM		2	0	2		8	0	8
Fri	6:30 PM		2	2	4		24	23	47
Fri	6:45 PM		1	1	2		8	8	16
Fri	7:00 PM		0	1	1		0	2	2
Fri	7:30 PM		0	2	2		0	18	18
Fri	7:45 PM		0	2	2		0	21	21
Fri	8:00 PM		0	1	1		0	15	15
Fri	8:30 PM		0	2	2		0	15	15
Fri	8:45 PM		0	1	1		0	8	8
TOTALS			**24**	**24**	**48**		**226**	**226**	

Saturday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Sat	8:45 AM		7	0	7		78	0	78
Sat	9:00 AM		6	0	6		85	0	85
Sat	9:15 AM		2	0	2		22	0	22
Sat	9:30 AM		1	0	1		16	0	16
Sat	10:00 AM		1	0	1		13	0	13
Sat	10:45 AM		1	6	7		12	71	83
Sat	11:00 AM		7	3	10		87	39	126
Sat	11:15 AM		3	3	6		29	29	58
Sat	11:30 AM		6	5	11		73	75	148
Sat	12:30 PM		0	3	3		0	38	38
Sat	12:45 PM		3	2	5		35	19	54
Sat	1:00 PM		2	9	11		30	114	144
Sat	1:15 PM		8	2	10		97	22	119
Sat	1:30 PM		2	0	2		14	0	14
Sat	2:00 PM		0	1	1		0	8	8
Sat	2:15 PM		1	0	1		13	0	13
Sat	2:30 PM		0	1	1		0	8	8
Sat	2:45 PM		2	3	5		24	35	59
Sat	3:00 PM		2	1	3		24	12	36
Sat	3:15 PM		3	4	7		32	44	76
Sat	3:30 PM		3	2	5		38	24	62
Sat	3:45 PM		7	6	13		88	80	168
Sat	4:15 PM		0	1	1		0	9	9
Sat	4:30 PM		0	1	1		0	12	12
Sat	4:45 PM		0	1	1		0	10	10
Sat	5:00 PM		0	2	2		0	30	30
Sat	5:15 PM		1	8	9		9	100	109
Sat	5:30 PM		0	2	2		0	20	20
Sat	5:45 PM		0	1	1		0	11	11
Sat	6:15 PM		0	1	1		0	9	9
TOTALS			**68**	**68**	**136**		**819**	**819**	

Sunday

			Classes				Students		
Day	**Time**		**Starting**	**Ending**	**Total**		**Starting**	**Ending**	**Total**
Sun	8:45 AM		2	0	2		20	0	20
Sun	9:00 AM		5	0	5		70	0	70
Sun	9:15 AM		4	0	4		41	0	41
Sun	9:30 AM		2	0	2		16	0	16
Sun	9:45 AM		2	0	2		24	0	24
Sun	10:00 AM		2	0	2		18	0	18
Sun	10:45 AM		1	3	4		14	33	47
Sun	11:00 AM		2	2	4		24	17	41
Sun	11:15 AM		2	1	3		21	10	31
Sun	11:30 AM		5	5	10		63	64	127
Sun	11:45 AM		2	3	5		14	39	53
Sun	12:00 PM		2	0	2		23	0	23
Sun	12:30 PM		1	2	3		14	18	32
Sun	12:45 PM		1	2	3		13	23	36
Sun	1:00 PM		1	5	6		15	67	82
Sun	1:15 PM		3	3	6		30	24	54
Sun	1:30 PM		4	1	5		46	11	57
Sun	1:45 PM		2	0	2		21	0	21
Sun	2:00 PM		0	4	4		0	51	51
Sun	2:15 PM		5	2	7		53	18	71
Sun	2:30 PM		1	0	1		11	0	11
Sun	3:00 PM		0	1	1		0	15	15
Sun	3:15 PM		1	0	1		10	0	10
Sun	3:30 PM		0	1	1		0	10	10
Sun	3:45 PM		2	6	8		20	65	85
Sun	4:00 PM		5	2	7		54	26	80
Sun	4:15 PM		1	1	2		7	9	16
Sun	4:45 PM		1	2	3		8	26	34
Sun	5:15 PM		0	3	3		0	21	21
Sun	5:30 PM		0	4	4		0	38	38
Sun	5:45 PM		1	1	2		6	8	14
Sun	6:15 PM		0	2	2		0	20	20
Sun	6:30 PM		0	3	3		0	37	37
Sun	6:45 PM		0	1	1		0	6	6
TOTALS			**60**	**60**	**120**		**656**	**656**	

Appendix C - Dance Fever Spring 2013 Classes by Day

MONDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
2-3pm	2	2		4
3-4pm	4	4		8
4-5pm	17	6		23
5-6pm	9	7		16
6-7pm	33	8		41
7-8pm	29	6	1	36
8-9pm	13	7	4	24
TOTALS	**107**		**5**	

TUESDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
2-3pm	2	2		4
3-4pm	3	3		6
4-5pm	11	4		15
5-6pm	12	6		18
6-7pm	23	9		32
7-8pm	17	8		25
8-9pm	17	4		21
TOTALS	**85**		**0**	

WEDNESDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
2-3pm	1	2		3
3-4pm	5	4		9
4-5pm	14	8		22
5-6pm	23	10		33
6-7pm	28	8		36
7-8pm	15	8	1	24
8-9pm	12	6	3	21
TOTALS	**98**		**4**	

THURSDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
2-3pm	1	1		2
3-4pm	5	3		8
4-5pm	8	6		14
5-6pm	16	0		16
6-7pm	21	10		31
7-8pm	18	9		27
8-9pm	7	6	5	18
TOTALS	**76**		**5**	

FRIDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
2-3pm	2	2		4
3-4pm	3	3		6
4-5pm	6	2		8
5-6pm	17	3		20
6-7pm	24	9		33
7-8pm	19	10	1	30
8-9pm	11	7	2	20
TOTALS	**82**		**3**	

SATURDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
9-10am	1	1		2
10-11am	25	5		30
11-12pm	22	8		30
12-1pm	12	7		19
1-2pm	17	7		24
2-3pm	7	5		12
3-4pm	9	4		13
TOTALS	**93**		**0**	

SUNDAY				
Time	**Students**	**Teachers**	**Adults**	**Total**
9-10am	1	1		2
10-11am	5	2		7
11-12pm	10	3		13
12-1pm	2	2		4
1-2pm	1	1		2
2-3pm	2	1		3
3-4pm	4	3		7
6-7:30pm*	17			17
TOTALS	**42**		**0**	
* Practice Night				

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ATTACHMENT C

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#325-06

CITY OF NEWTON

IN BOARD OF ALDERMEN

December 18, 2006

2006 DEC 29 AM 9:38
CITY CLERK
NEWTON, MA. 02159

ORDERED:

That the Board, finding that the public convenience and welfare will be substantially served by its action and that said action will be without substantial detriment to the public good, and without substantially derogating from the intent or purpose of the Zoning Ordinance, hereby grants the following SPECIAL PERMIT and SITE PLAN APPROVAL to allow a for-profit educational use, waivers to the parking ordinances, and approval of two free-standing signs in accordance with the recommendation of the Land Use Committee and the reasons given by the Committee therefor, through its Chairman, Alderman George E. Mansfield:

200 WELLS AVENUE, NEWTON

1. The Board finds that the for-profit mathematics school, as conditioned herewith, is appropriate for this site because:

   a. the weekday classes have been scheduled to begin in the late afternoon, no earlier than 3:30 pm;

   b. the weekday classes will be scheduled such that the start times are no closer than 15 minutes apart and that there will be no overlap between the scheduled drop-off time for any one class and the scheduled pick-up time for any other classes at this school;

   c. the pick up and drop activities for all students attending weekday classes between 3:30pm and 6:00pm shall utilize Lot B; and

   d. the parking spaces in Lot B will include a 15 minute parking restriction to assure that the parking spaces will be turned over, in a timely manner, to facilitate the drop-off and pick-up activities

2. The Board finds that based on the proposed class schedule, in terms of start and ending times, the number of classes scheduled per day, and the limitations on the number of students per class, this use should not have an adverse impact on traffic along Wells Avenue.

3. The Board finds that the requested waiver to the number of required parking spaces, from 74 to 62, if Board Order #324-06 is also exercised, or from 72 to 62, if this Special Permit is exercised and the balance of the building is utilized as office use, is acceptable because the mathematics school weekday classes are scheduled to begin primarily after

STEPHEN J. BUCHBINDER, ESQUIRE
SCHLESINGER AND BUCHBINDER, LLP
1200 WALNUT STREET
NEWTON, MA 02461-1267 6262-B

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3:30pm, and that the petitioner shall have exclusive use of Parking Lot B to facilitate the drop-off and pick-up activities during such times when the scheduled classes overlap with the by-right office use(s), and then shall have access to both Lots, in the evening, when there is a reduced parking demand for the by-right office use(s), which is/are expected to be functioning primarily during the day.

4. The Board finds that the waivers to the dimensional controls of the parking ordinance are acceptable because:

   a. The petitioner has provided a site plan that eliminates the substandard parking stalls and provides the appropriate number of handicap parking stalls; and

   b. The petitioner will develop a written Parking and Pick-up and Drop-off Policy that will include a provision that the parents of the students will park their vehicles only within delineated parking spaces to drop off or pick up students; and

   c. The petitioner shall advise all parents that for all classes scheduled to begin at 3:30pm until approximately 6:00pm, the pick up and drop off of students shall be accommodated in Parking Lot B, and within Lot A, after 6:00 p.m., when the demand for parking spaces within Lot A is reduced, such that there should be no queuing or unloading of vehicles within the maneuvering aisles, which are at a reduced width.

5. The Board finds that the requested waivers to the interior and perimeter parking lot landscaping requirements are acceptable because:

   a. the site includes several mature trees that help to screen the parking facilities; and

   b. the introduction of interior landscaping would require a further reduction in the number of parking stalls being provided.

6. The Board finds that the waiver to the minimum 1 ft.-candle parking lot lighting requirement is acceptable because:

   a. the existing light levels at the parking facilities appear to be sufficient to allow for drivers of vehicles to see pedestrians; and

   b. the petitioner is proposing to provide some additional lighting on designated walkways, to and from the parking facilities, to increase pedestrian safety.

7. The Board finds the approval of the two the free-standing signs is appropriate for this site because:

   a. The free-standing sign adjacent to Lot A will include four placard signs, one for

each tenant, which will help drivers identify the site and the main parking area; and

b. The second free-standing sign will be located adjacent to Parking Lot B and will designate this parking area for use by the mathematics school only, for drop-off and pick-up activities.

PETITION NUMBER: #325-06

PETITIONER: The Russian School of Mathematics, Inc.

LOCATION: ~~200~~ 200 Wells Avenue, Ward 8, Section 84, Block 34A, Lot 2

OWNER: RJ Wells Management, LLC

ADDRESS OF OWNER: 200 Wells Ave, Newton 47971/201
111 South Bedford Street, Suite 100
Burlington, MA 01803

TO BE USED FOR: A for-profit mathematics school.

CONSTRUCTION: No new building construction; construction of a new sidewalk for emergency access at the rear and restriping of portions of parking area.

EXPLANATORY NOTE: Section 30-5(b)(2) allows the Board of Aldermen to grant a Special Permit for a for-profit mathematics school in a Limited Manufacturing zone; Section 30-19(m) allows the Board to grant exceptions to the parking requirements including: Section 30-19(d)(11), (13)&(16) for approval to reduce the number of required parking stalls from 74 to 62 spaces, if this special permit and Board Order #324-06 are both exercised, or from 72 to 62 if this special permit is exercised on its own and the balance of building is office use; Section 30-19(h)(3), for approval of a waiver to reduce the minimum aisle width from 24 ft. to 19.8 ft. in Parking Lot A; Section 30-19(j)(2)e), for approval of a waiver to install guardrail instead of curbing in Parking Lot A; Section 30-19(h)(3), for approval of waiver to reduce the minimum aisle width from 24 ft. to 23.6 ft. for Parking Lot B; Section 30-19(h)(1), for approval of a waiver to reduce the front setback from 25 ft. to 23.6 ft. for Parking Lot B; Section 30-19(h)(2)e), for approval of waiver to reduce the end stall turn-out depth from 5 ft. to 3.5 ft. for Parking Lot B; Section 30-19(i)(1)a)(I)& 30-19(i)(2), for approval of

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waiver to the extent necessary to confirm and continue existing perimeter and interior landscaping for Parking Lots A & B; Section 30-19(j)(1), for approval of waiver to the extent necessary to confirm and continue existing lighting installation, and to allow reduced illumination below 1 ft. candle, to the extent necessary for Parking Lots A & B; Section 30-20(f)(9) and Section 30-20(l) for approval of two freestanding signs, one sign at Parking Lot A, with 4 panels, one for each tenant, and one at Parking Lot B, identifying this lot for use by the mathematics school, only; Section 30-23, for Site Plan Approval; and Section 30-24(d), for a Special Permit Approval pertaining to a for-profit mathematics school.

Land referred to is located in a Limited Manufacturing District.

Approved, subject to the following conditions:

1. All buildings, parking areas, driveways, walkways, landscaping, and other site features shall be located and constructed consistent with the following plans, except where such plans are to be amended, in accordance with Condition 2.:

   a. Site survey and engineering plans, prepared by VTP Associates, Inc., consisting of four sheets as follows:

      i) "Topographic Plan of Land, Newton, Massachusetts, Showing Existing Conditions at #200 Wells Avenue," dated August 2, 2006;

      ii) "Topographic Plan of Land, Newton, Massachusetts, Showing Proposed Conditions at #200 Wells Avenue," dated September 26, 2006;

      iii) "Topographic Plan of Land, Newton, Massachusetts, Showing Traffic Controls at #200 Wells Avenue," dated September 26, 2006; and

      iv) "Area Plan of Land, Newton, Massachusetts, to Accompany the Petition of Russian School," dated August 10, 2006.

   b. Landscape plans, prepared by Olson Lewis Dioli & Doktor Architects, dated October 20, 2006, consisting of two sheets as follows:

      i) Sheet A1, "Existing/Removal Planting Plan;" and

      ii) Sheet A2, "Proposed Planting Plan."

   c. Parking lot and pedestrian lighting plans and details, consisting of 3 sheets as follows:

i) "Existing Site Lighting Calc.," prepared by D&D Electrical Contractors, Inc., dated September 27, 2006;

ii) "Partial Plan Showing Proposed Bollard Lighting," prepared by Olson Lewis Dioli & Doktor Architects and Planners, Inc., dated November 20, 2006;

iii) Product detail sheet from Wolfers, The Lighting Experts, undated bronze finished bollard light.

d. Freestanding sign details, prepared by Savit & Associates, Inc., consisting of two sheets as follows:

i) Drawing 200.1, "Free standing directory," dated November 30, 2006; and

ii) Drawing 200.2, "Free standing directory," dated October 9, 2006.

e. The following sheet from the Architectural elevations and floor plans, consisting of three sheets as follows:

i) Sheet A1.2, "1st Floor Proposed," prepared by Olson Lewis Dioli & Doktor Architects, dated September 8, 2006;

2. Prior to the issuance of any building permits, the petitioner shall submit plans for review by the Director of Planning and Development to assure that such plans have been amended as follows:

a. All site plans shall include the new 4 ft. wide sidewalk, from the rear of the building to parking Lot A, as required by the Fire Department, and as depicted on the "Partial Plan Showing Proposed Bollard Lighting," as prepared by Olson Lewis Dioli & Doktor Architects and Planners, Inc., dated 11/20/06; and

b. The "Partial Plan Showing Proposed Bollard Lighting," shall be amended to include at least one additional bollard light, along the walkway leading from the building to parking Lot B, to assure sufficient light levels for students entering and exiting the building.

3. This Special Permit and Site Plan Approval for a for-profit educational use and for waivers to the parking ordinance is being granted specifically for a for-profit mathematics school, "Russian School of Mathematics," in accordance with all of the conditions included herewith, and such Special Permit and Site Plan Approval shall terminate when this for-profit mathematics school use ceases.

4. The petitioner shall submit a copy of a Parking and Drop-off/Pick-up Policy to the Director of Planning and Development and City Traffic Engineer for review and approval, which shall include, but not be limited to, provisions that:

a. parents or guardians shall park within a delineated parking stall in order to drop off or pick up students;

b. such drop-off and pick up activities shall only occur on-site, within delineated parking stalls, and that no such activities shall take place within maneuvering aisles, driveways, or designated "No Parking" areas on site and shall not occur on Wells Avenue;

c. vehicles shall only be permitted to park for a maximum of 15 minutes within Lot B, and that Lot B shall be limited for use by the parents and guardians of the mathematics school students only, for the pick-up and drop-off of such students;

d. parents or guardians who intend to park for longer than 15 minutes or students who may drive themselves to class shall only park within a delineated parking stall within Lot A.

This Policy shall include a Transportation Demand Management Plan, which should include provisions to encourage carpooling and otherwise reduce the number of Single-Occupancy Vehicles (SOV's) traveling to and from the site during times where on-site and on-street parking activities and traffic on the adjacent roadways are at their peak.

The petitioner shall file a copy of the approved Policy with the City Clerk and Commissioner of Inspectional Services, prior to issuance of any certificate(s) of occupancy, temporary or final.

5. Prior to the initial opening of the for-profit mathematics school approved by this special permit, the petitioner shall provide the parents or guardians of all students and students of legal driving age with a copy of the approved Parking and Pick-up/Drop-off Policy.

At least once a year thereafter, and for as long as a for-profit mathematics school is operated on this site, the petitioner shall provide all parent or guardians and students of legal driving age a copy of the approved Parking and Pick-up/Drop-off Policy. A copy of the approved policy shall also be distributed to the parent or guardians of any new students and to such student directly, in the event that the students are of legal driving age, at the time of registration.

6. Prior to issuance of a building permit, the petitioners shall submit the language for any necessary amendments to the Wells Avenue Deed Restriction to the Law Department for review and approval and the executed amendment shall be recorded with the Registry of Deeds for the Southern District of Middlesex County.

7. Prior to the issuance of any certificates of occupancy, the petitioners shall install pedestrian lighting along all egress paths, in accordance with the "Partial Plan Showing Proposed Bollard Lighting," as prepared by Olson Lewis Dioli & Doktor Architects and Planners, Inc., dated 11/20/06, which shall have been amended in accordance with condition 2., above.

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8. Prior to the issuance of any certificates of occupancy, the petitioner shall have complied with all of the conditions included in the Newton Fire Department memo dated October 6, 2006, on file with the City Clerk.

9. The petitioner shall have submitted a directional and parking sign package to the Director of Planning and Development and City Traffic Engineer for review and approval, which shall include all details and locations for on-site directional signage and for signage identifying parking restrictions, including but not limited to, the 15 minute parking restrictions in Lot B and all designated "No Parking" area(s), as required by the Fire Department and/or shown on the approved plans. Such approved signage shall have been installed by the petitioner prior to the issuance of any certificates of occupancy.

10. Prior to the issuance of any building permits, the petitioner shall submit copies of plans and elevations of the proposed free-standing sign at Parking Lot B, as amended based on the recommendations of the Urban Design and Beautification Commission, to the City Traffic Engineer, for review and approval, to assure that the lowering of the sign face will not impact sight lines of drivers of the vehicles exiting the site.

11. Prior to the issuance of any certificates of occupancy, the petitioner shall have installed the parabolic mirrors and warning signs, in accordance with the recommendations of the Assistant Traffic Engineer, in the memorandum dated November 8, 2006, on file with the City Clerk. The petitioner shall submit specifications and details of the proposed mirrors and warning signs, and proposed locations for all such devices, for review and approval by the City Traffic Engineer prior to installing the mirrors and signs.

12. The petitioner shall comply with the following provisions when establishing the class schedules:

    a. The class schedule shall be developed in accordance with the Memorandum from Planning Horizons to the Land Use Committee of the Board of Aldermen, dated September 8, 2006, on file with the City Clerk. The petitioner may schedule fewer classes then indicated in this document, but shall not schedule any additional classes beyond those identified in this Memorandum, nor deviate from the scheduled start and end times for any classes, which begin or end, prior to 6:00 pm.

    b. There shall be no more than 10 students per class;

    c. There shall be no more than 10 employees on site at any given time;

    d. No weekday classes shall be scheduled to begin before 3:30 p.m.;

    e. No more than one weekday class shall be scheduled to begin concurrently, between 3:30 p.m. and 6:00 p.m., and there shall be no less than 15 minutes between the scheduled start time of such classes; and

    f. the maximum number of students on-site, at any given time, shall not exceed 100 students, of which no more than 14% of the total students shall be over 14 years of age.

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The petitioner shall filed a copy of its actual class schedule with the City Clerk, Commissioner of Inspectional Services and Director of Planning and Development on at least an annual basis and any time during that year or session that the actual class schedule has been altered to assure compliance with this condition.

13. Within one year of the issuance of the final certificate of occupancy for the school, the petitioner shall submit a follow-up Parking and Traffic Study to the City Traffic Engineer and Director of Planning and Development, describing, in narrative and chart form, the operation of the parking facilities, based on the actual operation of any and all schools operating on this site in conjunction with the occupied office space(s). The methodology and scope of the Parking and Traffic Study shall be subject to the review and approval of the City Traffic Engineer before the petitioner conducts such Study. The Study should include an updated parking analysis of the number of number of vacant spaces, during peak times throughout the day, over a minimum of a three-weekday period, of which at least one of those days should be the peak weekday in terms of on-site enrollment, based on the combined class schedules of this school and the for-profit school approved through Board Order #324-06, if that Special Permit has been exercised. This study shall also include details on the effectiveness of the school's Transportation Demand Management Plan, in accordance with Condition 4., above, based on actual numbers of parents/guardians who carpool and/or other ways the petitioner has successfully reduced the number of SOV trips entering and exiting the site. In addition, this follow-up Study should identify any issues that may have occurred and any proposed changes to the pick up/drop off activities, parking arrangements, and/or class schedules that may been implemented or are proposed to correct such problems.

If, at any point after the issuance of the final Certificate of Occupancy, the City Traffic Engineer and/or Director of Planning and Development identify problems with the drop-off and pick-up activities and/or parking arrangements on-site or along Wells Avenue, through direct observation, which may be voluntary or in response to complaints about traffic issues along Wells Avenue, adjacent to this site, or vehicular accidents on site or immediately adjacent to either of the parking lot accessways; or a result of the review of the submitted follow-up traffic and parking study, they may require modifications to the approved class schedule(s). Such modifications may include, but not be limited to: changes to the scheduled start and/or dismal times, increases in the amount of time between the scheduled start times and/or dismissal times of classes, and/or reductions in the maximum class sizes, and may be imposed if the City Traffic Engineer and Director of Planning and Development believe that the site activities result in: unsafe site circulation for pedestrians or vehicles; the queuing or pick-up/drop off activities within the required parking lot maneuvering aisles, driveways or anywhere else on-site specifically restricted as "No Parking" areas; queuing and/or pick-up and drop-off activities along Wells Avenue; and/or potential obstructions for emergency access or if they believe that alterations to the class, as may be proposed by the petitioner in their Study, would be inadequate to deal with any on-site and/or off-site circulation issues.

In no case shall the Director of Planning and Development or City Traffic Engineer recommend nor shall the Commissioner of Inspectional Services allow for increases in

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the number of classes; changes in the class schedules which would result in a decreased amount of time between the start and/or dismissal times of classes; changes in the class schedule which would result in an earlier start or dismissal time for any classes beginning or ending prior to 6:00pm; increases in the number of students per class or the total number of students permitted on-site, at any given time; or the scheduling of any classes prior to 3:30 pm, except as provided for in Condition 12., above. Any such changes to the standard class schedules or maximum number of students would require an amendment to this Special Permit/Site Plan Approval from the Board of Aldermen.

14. Notwithstanding the provisions of Conditions 12. and 13., above, should the petitioner want to schedule any day time classes, specifically for a limited summer camp program, the petitioner shall submit a Traffic and Parking Analysis, for review by the City Traffic Engineer and Director of Planning and Development, which specifically focuses on the daytime parking and traffic activities on-site. The methodology and scope of the Parking and Traffic Study shall be subject to the review and approval of the City Traffic Engineer before the petitioner conducts such Study. Such analysis shall provide specific details as to how the on-site parking will be managed during the morning and evening peaks, throughout the proposed duration of the summer camp program, and, at a minimum, shall include the following:

a. Detailed information on the proposed summer camp class schedule(s), including the total number of classes per day, the length of each class, the duration of the summer camp session(s), and the expected ages of the students.

b. Detailed information on all other weekday classes offered by the mathematics school or any other on-site school(s), which are scheduled to begin prior to 6 p.m., through the duration of the proposed summer camp session(s);

c. Detailed information on the maximum number of employees expected on-site, at any given time, during the "summer camp" session(s).

d. An analysis on the maximum parking lot occupancy (demand), from 8am to 6pm, and on the maximum number of parking spaces, which would be required through Section 30-19 for all concurrent uses on the site. Such an analysis should include the maximum number of students, as may be permitted through this Board Order and, if approved and exercised, Board Order #324-06, who may be enrolled in other classes or other summer camp programs beginning prior to 6pm on weekdays.

e. Specific provisions for staggering the pick up and drop off activities such that the number of vehicles does not exceed the number of available spaces on-site, such staggering should take into account the time for parents to park and "unload" their children and should be coordinated to minimize conflicts with any other classes, which may have overlapping start or dismissal times, that may be scheduled by this school or any other on-site school or concurrent summer camp program.

g. A proposed "Queuing Prevention Plan," which shall include detailed provisions to prevent drop-off and pick-up activities during such times when all on-site spaces may be limited, and specifically to prevent any queuing on pick up and drop-off

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activities from occurring in the on-site maneuvering aisles, driveways or designated "No Parking" areas or anywhere along Wells Avenue.

h. A Transportation Demand Management Plan, which shall include provisions for car pooling and otherwise reducing the number of SOV trips to/from the site during peak times.

The maximum number of students who may be permitted to participate in any daytime summer camp program shall be limited by the Director of Planning and Development and City Traffic Engineer, based on their evaluation of the submitted Study; direct observations of the existing site circulation and traffic volumes and on-street parking activities on the portion of Wells Avenue immediately adjacent to the site; and based on the expected capacity of the parking facilities to accommodate such activities without potential vehicular or pedestrian conflicts either on site or along Wells Avenue. Such enrollment shall not exceed forty total students in either this or any other concurrent, on-site summer camp programs, commencing prior to 6:00 p.m. on weekdays. In addition, the Director of Planning and Development and City Traffic Engineer may impose restrictions on the standard class schedule, throughout the duration of the summer camp, if such camp is permitted, to assure that there are sufficient parking spaces to accommodate the pick-up of students from the camp and any overlap in the drop-off or pick-up of students for standard classes.

15. The petitioner shall submit details on the proposed lighting for free-standing signs for review and approval by the Director of Planning and Development. Such sign lighting shall only utilize fixtures that screen the light source and focus the light downward. No ground mounted lighting nor any sign mounted fixtures which direct lighting upward shall be utilized. Such submittal shall include all specifications on the proposed lighting fixtures and lamps, and shall be designed to comply with the City's Light Trespass Ordinance.

16. No building permit shall be issued pursuant to this SPECIAL PERMIT/SITE PLAN APPROVAL until:

a. The petitioner shall have recorded with the Registry of Deeds for the Southern District of Middlesex County a Certified copy of this Board Order granting this SPECIAL PERMIT/SITE PLAN APPROVAL.

b. A certified copy of such recorded notices shall have been filed with the City Clerk, the Inspectional Services Department, City Engineer, and the Director of Planning and Development.

c. The petitioner shall have submitted final site and landscaping plans for review by the Director of Planning and Development to assure consistency with the approved plans and required amendements, in accordance with Conditions 1. and 2., above.

d. The petitioner shall have submitted a copy of the written Parking and Drop-off/Pick-up Policy, in accordance with Condition 4., and the Director of Planning and Development and City Traffic Engineer shall have filed a copy of their written

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approvals and a copy of the approved Policy with the Commissioner of Inspectional Service and the City Clerk.

e. The petitioner shall have submitted language for all necessary amendments to the Wells Avenue Deed Restriction to the Law Department, in accordance with Condition 6., and the amendment has been recorded at the Registry of Deeds for the Southern District of Middlesex County.

17. No portion of the building pursuant to this SPECIAL PERMIT and SITE PLAN APPROVAL shall be occupied until:

a. The petitioner shall have filed with the City Clerk, the Department of Inspectional Services and the Department of Planning and Development a statement by a registered engineer certifying that Conditions #1. and 2. have been complied with.

b. The petitioner shall have installed pedestrian lighting along all egress paths, in accordance with Condition 7., above.

c. The petitioner shall have complied with all the conditions of the Newton Fire Department, in accordance with Condition 8. above, and the Fire Department shall have provided a written statement to the City Clerk and Commissioner of Inspectional Services certifying such compliance.

d. The petitioner shall have installed the approved directional and parking signage, in accordance with Condition 9., above.

e. The petitioner shall have installed the parabolic mirrors and warning signs along Wells Avenue, in accordance with Condition 10., and the City Traffic Engineer shall have provided a written statement to the City Clerk and Commissioner of Inspectional Services certifying such compliance.

f. There shall have been submitted to the City Engineer final as-built, site engineering plans, in digital and paper format, with the latter sealed by a licensed surveyor, prior to the issuance of any final occupancy permits.

g. There shall have been filed with the City Clerk, the Department of Inspectional Services and the Department of Planning and Development a statement by the City Engineer certifying that the final construction details have been constructed to standards of the City of Newton Engineering Department.

f. The petitioner shall have installed the two approved free-standing signs, adjacent to Parking Lots A & B, and approved lighting, in accordance with Condition 15., above.

h. There shall have been filed with the City Clerk and the Department of Inspectional Services a statement by the Director of Planning and Development approving final location, number and type of plant materials, final landscape features, locations and details of the approved on-site signage, locations and types of pedestrian lighting, the location and screening of the relocated dumpster, and alterations to the layout

and striping of the parking facilities.

i. Notwithstanding the provisions of Condition #17. h. above, the Commissioner of Inspectional Services may issue one or more certificates of temporary occupancy for all or portions of the building prior to installation of final landscaping provided that the Petitioner shall first have filed with the Director of Planning and Development a bond, letter of credit, cash or other security in the form satisfactory to the Director of Planning and Development in an amount not less than 135% of the value of the aforementioned remaining landscaping to secure installation of such landscaping.

Under Suspension of Rules
Readings Waived and Approved
22 yeas 0 nays 2 absent (Ald. Sangiolo and Weisbuch)

The undersigned hereby certifies that the foregoing copy of the decision of the Board of Aldermen granting a SPECIAL PERMIT/SITE PLAN APPROVAL is a true accurate copy of said decision, the original of which having been filed with the CITY CLERK on December 29, 2006. The undersigned further certifies that all statutory requirements for the issuance of such SPECIAL PERMIT/SITE PLAN APPROVAL have been complied with and that all plans referred to in the decision have been filed with the City Clerk.

ATTEST:

(SGD) DAVID A. OLSON, City Clerk
Clerk of the Board of Aldermen

I, David A. Olson, as the Clerk of the Board of Aldermen and keeper of its records and as the City Clerk and official keeper of the records of the CITY OF NEWTON, hereby certify that Twenty days have elapsed since the filing of the foregoing decision of the Board of Aldermen in the Office of the City Clerk on 2/6/07 and that NO APPEAL to said decision pursuant to M.G.Laws Chapter 40, Section 17 has been filed thereto.

ATTEST:

(SGD) DAVID A. OLSON, City Clerk
Clerk of the Board of Aldermen

Attest. Middlesex S. Register

A True Copy
Attest

City Clerk of Newton, Mass.

Setti D. Warren
Mayor

City of Newton, Massachusetts
Department of Planning and Development
1000 Commonwealth Avenue Newton, Massachusetts 02459

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Candace Havens
Director

ATTACHMENT D

ZONING REVIEW MEMORANDUM

Date: May 21, 2013

To: John Lojek, Commissioner of Inspectional Services

From: Jane Santosuosso, Chief Zoning Code Official
Eve Tapper, Chief Planner for Current Planning

ET

Cc: Stephen J. Buchbinder, attorney for the applicant
Candace Havens, Director of Planning and Development
Ouida Young, Associate City Solicitor

RE: Request to amend the conditions of the 2006 Site Plan Approval/Special Permit Board Order #325-06 , to install a circular driveway connecting two parking lots, and to install a shed and play area onsite

	SBL: 84 034A 0002

BACKGROUND:

The property at 200 Wells Avenue consists of a 87,120 square foot lot improved with a structure built in 1979. The applicant has run an afterschool and weekend mathematics program on the premises since 2006, when the Board of Aldermen issued Board Order #325-06, granting a special permit and site plan approval for the for-profit educational use. The Board Order waived requirements of the parking provisions, and approved the installation of two free-standing signs. The Board Order was also specific as to limitations on the applicant's operation at the site with respect to class size, maximum number of students and employees allowed onsite at any given time, and when and how frequently classes could start. A parking and drop-off plan was also approved, calling for parents to use one of the two onsite parking lots (known as "Lot B") exclusively for drop-off. A concurrent Board Order (#324-06) was issued for Dance Fever (a dance program for children and adults located at the premises) with similar conditions. In 2006, both the applicant and Dance Fever were located on the first floor of 200 Wells Avenue, and the second floor of the building was used as commercial office space.

Over the past seven years, the applicant's program has grown to its current enrollment of approximately 200 children. The office use in the building has shrunk from 16,516 square feet to 1,211 square feet, with the remaining 15,305 now occupied by the math school.

The previous Board Order contained several conditions for the operation of the school. This application proposes to amend the following conditions:

- No more than ten students per class
- No more than ten employees on site at any time
- No more than one weekday class is scheduled to begin concurrently, between 3:30 pm and 6:00 pm, and there is no less than 15 minutes between the scheduled start time of such classes
- The maximum number of students on-site, at any given time, cannot exceed 100 students, of which no more than 14% of the total students may be over 14 years of age.
- Parents and guardians park within a delineated parking stall to drop off or pick up students
- Drop-off and pick-up activities occur only on-site, within delineated parking stalls, and no such activities take place within maneuvering aisles, driveways, or designated "No Parking" areas on site and may not occur on Well Avenue
- Vehicles are permitted to park for a maximum of 15 minutes within Lot B, and that Lot B is limited for use by parents and guardians of the mathematics school students only, for the pick-up and drop-off of such students
- Freestanding sign details, consisting of two sheets:
    - Free standing directory, dated 11/30/2006
    - Free standing directory, dated 10/9/2006
- Parking lot and pedestrian lighting plans and details, consisting of 3 sheets:
    - "Existing Site Lighting Calc"
    - "Partial Plan Showing Proposed Bollard Lighting"

In January 2013, the Inspectional Services Department cited the applicant for violations of the Board Order, as follows:

- Parents were not using Lot B for drop-off and pick-up (Lot B had been closed)
- Parents were parking on Wells Avenue for drop-off and pick-up
- There were at times more than 10 students per class
- There were at times more than 100 students on site
- A shed had been constructed illegally on site
- The school was not conducting annual inspections, as required by the State Building Code

To accommodate the current intensity of the use on the site, the applicant proposes to amend the current site plan to include a circular driveway attaching Lot B and Lot A. The driveway will allow for curbside drop-off of students, and will eliminate the need for parents to park and walk their children into the building. Parents may still park in Lot A when they are picking up the children. The applicant is also proposing to construct a new fenced-in play area and storage shed onsite, and seeks to legalize an existing storage shed.

The following review is based on plans and materials submitted to date as noted below.

- Zoning Review Application, prepared by Stephen J. Buchbinder, attorney, dated 4/16/13
- Topographic Site Plan, Existing Conditions, stamped by Joseph R. Porter, surveyor, VTP Associates, dated 3/25/2013, revised 5/9/2013
- Site Plan, Proposed Conditions, stamped by Joseph R. Porter, surveyor, VTP Associates, dated 3/25/2013
- Architectural Plans, created by Donald Lang Architects, Inc. dated 3/4/2013, revised 3/18/2013
    - Existing ground floor plan
    - Existing second floor plan
    - Existing ground floor reflected ceiling plan
    - Existing second floor reflected ceiling plan
    - Proposed ground floor plan
    - Proposed second floor plan
    - Proposed ground floor reflected ceiling plan
    - Proposed second floor reflected ceiling plan
- Parking calculation, undated
- Correspondence between Donald Lang, architect and William Forte, Newton Zoning Enforcement Agent, dated 4/3/2013 regarding capacity of 200 Wells Avenue

ADMINISTRATIVE DETERMINATIONS:

1. The School obtained a special permit (Board Order #325-06) in 2006 to operate a for-profit after-school/weekend math program with no more than 100 students in the building at a time. As the enrollment has increased significantly, the School needs to amend the special permit to allow the current enrollment and enrollment capacity. The applicant seeks to allow up to 200 children in the school at any given time.

2. The Board Order limits the class size to ten students per class. Due to current enrollment, the applicant seeks to increase the class size limit to 15 students.

3. The Board Order currently limits the number of classes to ten at a time. Due to current enrollment, the applicant seeks to increase the number of classes to up to 17 at a time.

4. The Board Order currently limits the number of employees on site at any given time to no more than ten. The applicant seeks to amend the Board Order to allow up to 28 employees on site at a time.

5. The Board Order currently requires that all students be dropped off in Lot B, and permits parking for no more than 15 minutes. The applicant seeks to amend the Board Order to allow a revised parking, drop-off and pick-up plan which will include Lot B as well as a new proposed driveway connecting Lots A and B, with pick-up to continue to occur in Lot A only.

6. A revised lighting plan must be approved to include lighting along the proposed driveway connection Lots A and B.

7. A revised directional and signage package must be approved to address the change in traffic flow. The directional signs must be in compliance with the dimensional standards set forth in the Newton Zoning Ordinance section 30-20(f)(8).

8. The Russian School and Dance Fever require a combined total of 56 parking stalls. There are currently 62 stalls on site. Therefore, no parking waiver is required.

9. The deed restriction for the site requires site plan approval for changes made to the property. The applicant seeks approval to construct a fenced-in play area and shed on-site, as well as to legalize an existing storage shed.

10. See "Zoning Relief Summary" below:

Zoning Relief Required		
Ordinance		Action Required
§30-23	Amend site plan approval #325-06	S.P. per §30-24
§30-24	Amend Board Order #325-06	S.P. per §30-24

Attachment E

CITY OF NEWTON
ENGINEERING DIVISION

MEMORANDUM

To: Alderman Ted Hess-Mahan, Land Use Committee Chairman

From: John Daghlian, Associate City Engineer

Re: Special Permit – #200 Wells Avenue

Date: June 24, 2013

CC: Lou Taverna, PE City Engineer
Linda Finucane, Associate City Clerk
Alexandria Ananth, Chief Planner

In reference to the above site, I have the following comments for a plan entitled:

Topographic Site Plan
Newton, MA
Showing Proposed Conditions at #200 Wells Avenue
Prepared by: VTP Associates, Inc.
Dated: March 25, 2013

Executive Summary:

The plan submitted shows a proposed playground along Wells Avenue, the playground will be placed over existing water services and sanitary sewer connections. Without having any details of the playground, I urge caution if footings are to be used for any playground equipment or structures so that the installation of any footings do not damage these services. Not knowing what the proposed playground surface is, which may trigger subsurface drainage improvement if the surface is impervious (i.e. rubberized).

General:

1. As of January 1, 2009, all trench excavation contractors shall comply with Massachusetts General Laws Chapter 82A, Trench Excavation Safety Requirements, to protect the general public from unauthorized access to unattended trenches. Trench Excavation Permit required. This applies to all trenches on public and private property. *This note shall be incorporated onto the plans*

2. All tree removal shall comply with the City's Tree Ordinance.

3. The applicant will have to apply for a Building Permits with the Department of Inspectional Service prior to any construction.

4. Prior to Occupancy Permit being issued, an As-Built Plan shall be submitted to the Engineering Division in both digital format and in hard copy. The plan should show all utilities and final grades, any easements and final grading. *This note must be incorporated onto the site plan.*

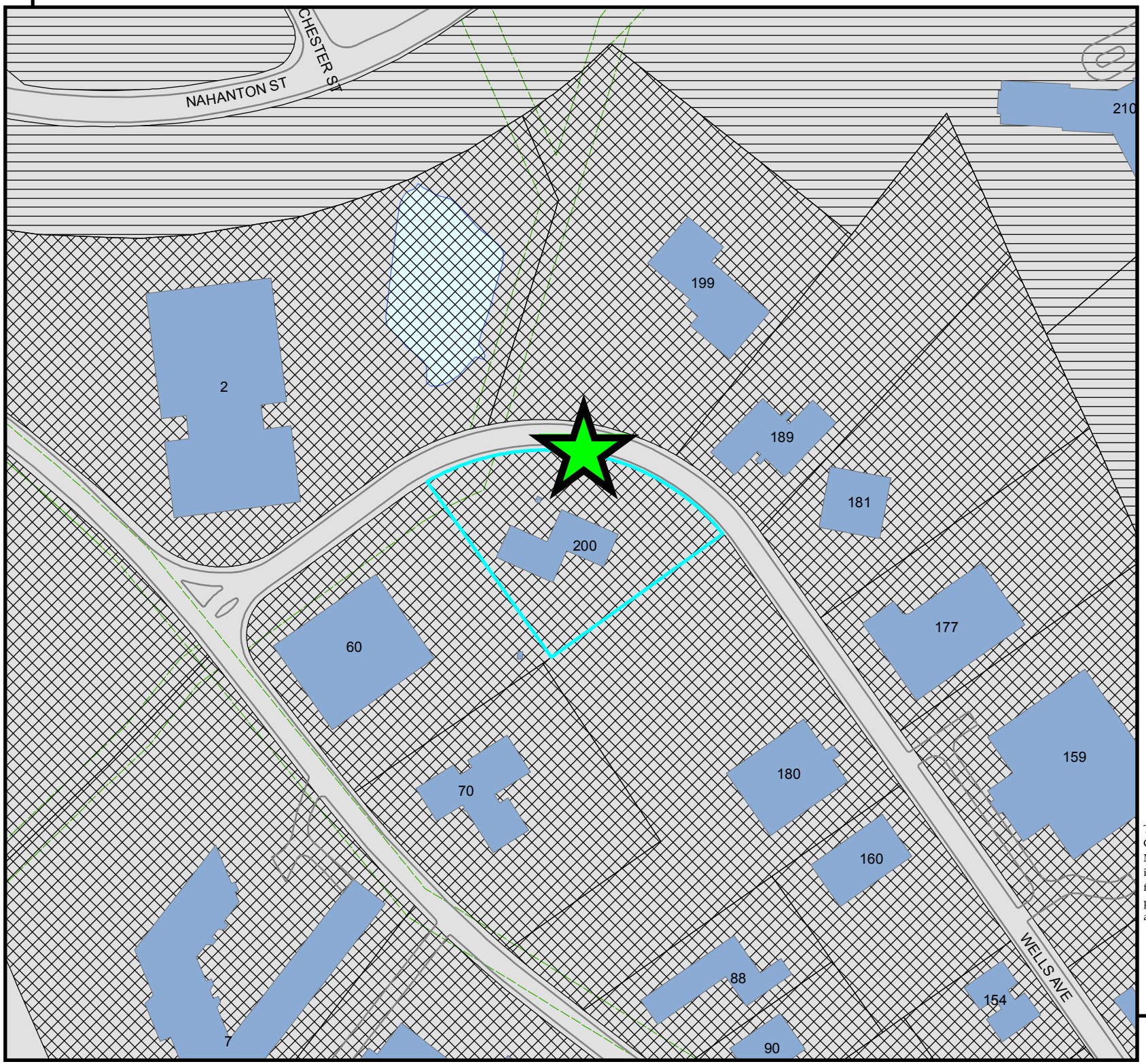
5. If a Certificate of Occupancy is requested prior to all site work being completed, the applicant will be required to post a Certified Bank Check in the amount to cover the remaining work. The City Engineer shall determine the value of the uncompleted work. *This note must be incorporated onto the site plan.*

Note: If the plans are updated it is the responsibility of the Applicant to provide all City Departments [Conservation Commission, ISD, and Engineering] involved in the permitting and approval process with complete and consistent plans.

If you have any questions or concerns please feel free to contact me @ 617-796-1023.

Zoning Map
200 Wells Ave.

City of Newton, Massachusetts



Legend

- Single Residence 1
- Limited Manufacturing
- Streets-Pavement Edge
- Building Outlines
- Surface Water

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Mayor - Setti D. Warren
GIS Administrator - Dougl...

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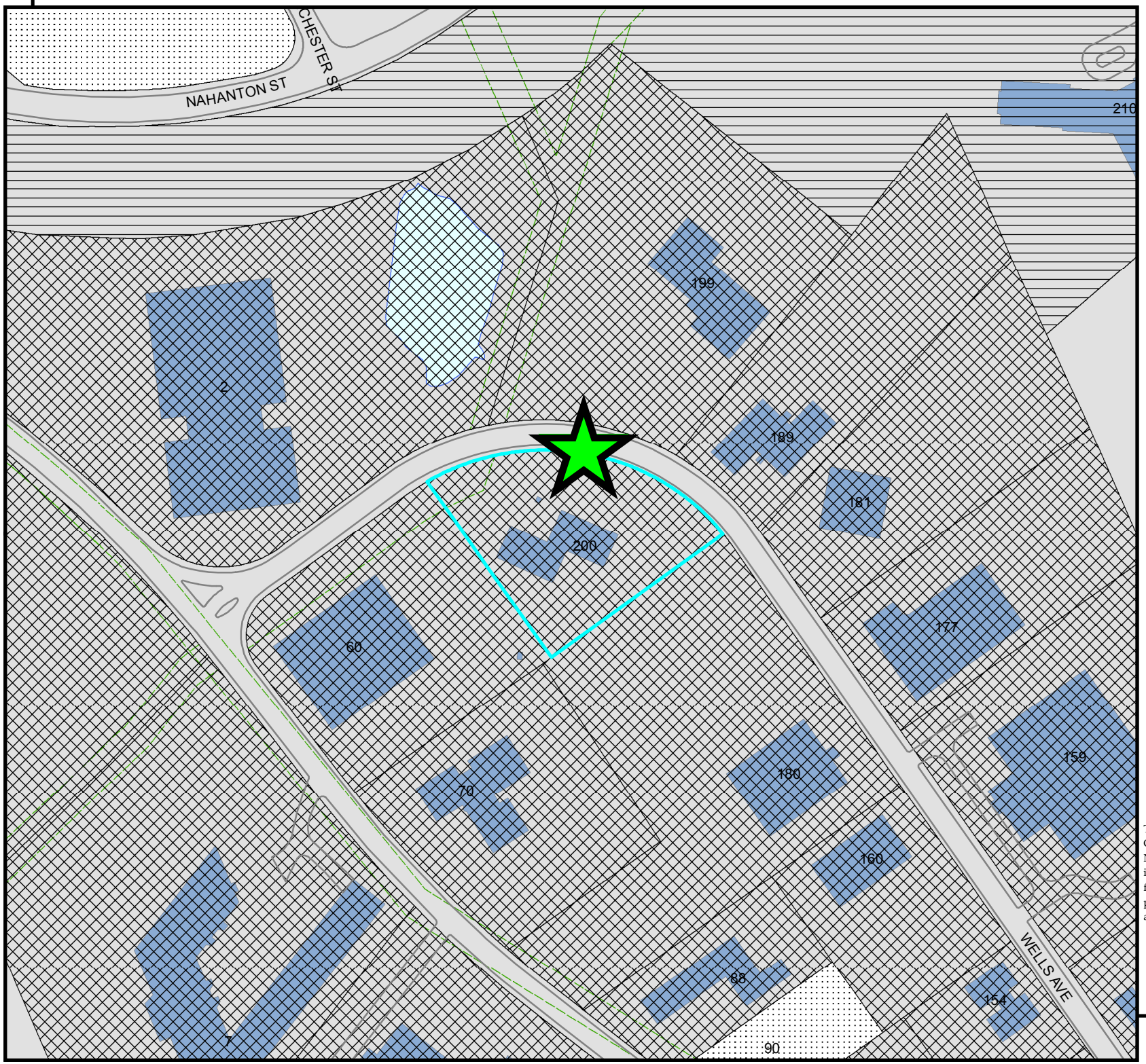
ATTACHMENT F

Map Date: July 03, 2013

Land Use Map
200 Wells Ave.

City of Newton, Massachusetts



Legend

Land Use

Land Use

- Multi-Family Residential
- Commercial
- Nonprofit Organizations
- Streets-Pavement Edge
- Building Outlines
- Surface Water

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CITY OF NEWTON, MASS... ...S
Mayor - Setti D. Warren
GIS Administrator - Dougl...

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ATTACHMENT G

Map Date: July 03, 2013