



February 18, 2026

TPD# BNAS.00001

Info@TPDinc.com

510 S. 8th Street

Transportation Impact Assessment

City of Philadelphia, Philadelphia County, PA

510 S. 8th STREET TRANSPORTATION IMPACT STUDY

FOR SUBMISSION TO:
Center City Chabad

Prepared For:
Center City Chabad
527 Lombard Street
Philadelphia, PA 19147

February 18, 2026
TPD # BNAS.00001



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EXECUTIVE SUMMARY – 510 S. 8TH STREET

The purpose of this study is to examine the potential traffic impact associated with the proposed 180-student private school on the roadway network in the City of Philadelphia, Philadelphia County, PA. TPD has prepared thousands of traffic studies for proposed developments, including Schools. These studies are prepared based on typical traffic engineering standards, applicable PennDOT criteria and applicable municipal criteria. The purpose of the study is to assess the impact of the proposed development on specific intersections or elements of the transportation system.

Based on this evaluation, the following conclusions were reached:

1. The study area intersections included in this TIS are as follows:
 - » S. 8th Street and Lombard Street;
 - » S. 8th Street and South Street.
2. The project site is located on the west side of 8th Street, south of Lombard Street. The proposed development will consist of a 180-student kindergarten through 8th grade private school with 3 multi-family dwelling units to be occupied by school staff. The school will have a maximum of 180 students with the typical school hours being from 8:00 A.M. to 3:00 P.M., and after school activities extending up to 6:00 P.M.
3. Vehicular Access to the site will be provided by one right-in/right-out access location to 8th Street serving a 12-space parking garage. Student pick-up/drop-off will occur along 8th Street in front of the proposed school. The majority of students are anticipated to walk to school based on data from the nearby existing school.
4. It is our understanding that staff at the proposed school will actively communicate with parents and facilitate the drop-off/pick-up process, just as is done at the Applicant's other school nearby on Lombard Street.
5. When the School has evening or weekend operations, it is anticipated that visitors will travel to/from the site by various methods (i.e. walk, personal vehicle, transit, ride-share, etc.), as is typical in this area.
6. The measured sight distance at the site driveway exceed PennDOT's sight distance requirements.
7. The proposed development is anticipated to generate 56 new vehicular trips (31 entering trips and 25 exiting trips) during the weekday A.M. peak hour and 35 new vehicular trips (17 entering trips and 18 exiting trips) during the weekday P.M. school peak hour. It is important to note that one car visiting the site for a drop-off in the morning is equal to two (2) trips; one (1) entering trip and one (1) exiting trip. As such, the proposed development is anticipated to generate approximately 1 new car every 2-minutes during the A.M. peak hour, and approximately 1 new car trip every 3 to 4 minutes during the P.M. peak hour.
8. All intersection levels of service (ILOS) will operate at an acceptable ILOS B or better during the projected condition scenarios. Under projected conditions with the development of the proposed site, the study area intersections will operate at the same ILOS as under existing conditions, during the weekday A.M. and school P.M. peak hours. As such, the proposed application will satisfy PennDOT's LOS criteria and thus have little to no traffic impact.

9. Based on the LOS results at the S. 8th Street intersections with Lombard Street and South Street, where little to no traffic impact related to the proposed development was identified and satisfy PennDOT's LOS criteria, it anticipated that the S. 8th Street/Rodman Street intersection will also satisfy PennDOT's LOS criteria.
10. Traffic Planning and Design Inc. (TPD) recommends the following:
 - » Design the proposed site driveway to 8th Street per the applicable Streets Department standards.
 - » Coordinate with the Streets Department and PPA to designate the site frontage to sign the S. 8th Street frontage to restrict parking during peak arrival and dismissal time periods in order to facilitate vehicle drop-off and pick-up at the school.
 - » The proposed school should actively communicate with parents and facilitate the drop-off/pick-up process, just as is done at the Applicant's other school nearby on Lombard Street.
11. Levels of Service (LOS) for the study area intersections have been summarized in matrix form. **Table I** details the overall intersection LOS for each study area intersection. Please note, for analysis of intersections, LOS is defined in terms of delay. The LOS letter grade is based on the delay experienced by motorists during the one-hour analysis period.

**TABLE I
OVERALL INTERSECTION LEVEL OF SERVICE SUMMARY**

Intersection	Time Period	Existing	Projected	Meets LOS Requirements?
8 th Street & Lombard Street	AM	B (11.5)	B (11.6)	Yes
	PM	B (11.9)	B (12.0)	
8 th Street & South Street	AM	B (15.1)	B (15.3)	Yes
	PM	B (15.9)	B (16.0)	
8 th Street & Proposed Site Driveway	AM	--	A (0.9)	Yes
	PM	--	A (0.5)	

INTRODUCTION

Traffic Planning and Design, Inc. (TPD) has completed a Transportation Impact Study (TIS) for the proposed K-8th grade private school in the City of Philadelphia, Philadelphia County, Pennsylvania. The project site is located on the west side of S. 8th Street, between Lombard Street and South Street, as shown in **Figure 1**. As shown in **Figure 2**, the proposed development will also include 3 multifamily units to be occupied by school staff. The school will have a maximum of 180 students with the typical school hours being from 8:00 A.M. to 3:00 P.M., and after school activities extending up to 6:00 P.M. Vehicular access to the proposed eleven (12) space parking lot will be served by one right-in/right-out access to S. 8th Street. This lot is anticipated to be primarily used by staff and visitors.

EXISTING ROADWAY NETWORK

A field review of the existing roadway system in the study area was conducted. The existing roadway characteristics within the study area are summarized in **Table 1**. Photographs of the study area intersection are included in **Appendix A**.

TABLE 1
ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Roadway	Ownership	Predominant Directional Orientation	Posted Speed Limit
S. 8 th Street	City	North-South (1-way Southbound)	25 mph
Lombard Street	City	East-West (1-way Westbound)	25 mph
South Street	City	East-West (1-way Eastbound)	25 mph

Mass Transit Facilities

The City of Philadelphia is provided with public transportation by SEPTA. Public transportation is available in the immediate vicinity of the proposed site via Bus. There are also several bus stops/routes along 8th Street, Lombard Street and South Street within a block of the site.

Crash Data Investigation

Crash data were obtained from PennDOT for the study area intersections. PennDOT defines a reportable crash as follows, "A reportable (crash) is one in which an injury or fatality occurs or if at least one of the vehicles involved requires towing from the scene." Reportable crashes were tabulated for the five-year time period beginning 01/01/2019 and ending 12/31/2023. For a given intersection, PennDOT considers a crash occurrence of 5 reportable, correctable crashes over a continuous twelve-month period during the past five years to be a threshold value, above which the intersection design should be reviewed to examine if corrective measures can be taken to enhance safety. The number of reportable crashes at the study area intersections is shown in **Table 2**.

**TABLE 2
PENNDOT REPORTABLE CRASH DATA**

Study Area Intersection	Number of Reportable Crashes				
	2019	2020	2021	2022	2023
S. 8 th Street & Lombard Street	1	0	1	2	0
S. 8 th Street & South Street	2	0	0	0	0

Based on a review of the crash data, there were no continuous twelve-month periods during the past five years where 5 or more crashes occurred that were deemed correctable.

EXISTING TRAFFIC CONDITIONS

Intersection traffic counts were conducted on 15-minute intervals during a typical weekday morning (7:00 A.M. to 9:00 A.M.) school/commuter peak and a typical weekday afternoon school peak period (2:30 P.M. to 4:30 P.M.) Data pertaining to heavy vehicles, and pedestrians were observed during the turning movement counts. Peak hours and count dates for the study area intersection are identified in **Table 3**.

**TABLE 3
TRAFFIC COUNT INFORMATION**

Intersection	Date of Traffic Counts	Time Period	Intersection Peak Hour ¹
S. 8 th Street & Lombard Street	Tuesday, February 4, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	3:30 to 4:30 P.M.
S. 8 th Street & South Street	Tuesday, February 4, 2025	Weekday A.M.	8:00 to 9:00 A.M.
		Weekday P.M.	3:15 to 4:15 P.M.

1. Peak Hour consists of the four consecutive 15-minute intervals where the highest traffic volumes occur.

Existing condition traffic volumes for the weekday A.M. and weekday P.M. peak hours are illustrated in **Figures 3 and 4**, respectively. Traffic count data sheets are provided in **Appendix B**.

BASE (NO-BUILD) CONDITIONS

The PennDOT Bureau of Planning and Research (BPR suggests using a background growth trend factor of 0% per year in Philadelphia County for urban non-interstate roadways. As such, base (future no-build) conditions were not evaluated.

SCHEDULED ROADWAY IMPROVEMENTS

Based on a review of the DVRPC Transportation Improvement Program (TIP) there are no programmed roadway improvements in the vicinity of the proposed site.

PROPOSED SITE ACCESS

Vehicular access to the proposed parking lot will be served by one right-in/right-out access to 8th Street

Sight Distance Analysis

A sight distance analysis was prepared for the proposed site driveway. In general, recommended safe sight distances depend upon the posted speed limit and roadway grades. The measured sight distance at the proposed driveway were compared to PennDOT’s safe stopping sight distance standard, which is calculated by the following equation:

$$SSSD = 1.47VT + V^2/[30(f \pm g)]$$

SSSD = safe stopping sight distance (acceptable sight distance)

V = Vehicle Speed

T = Perception Reaction Time of Driver (2.5 seconds)

f = Coefficient of Friction for Wet Pavements

g = Percent of Roadway Grade Divided by 100

Table 4 show the measured and acceptable (SSSD), and required sight distances at the site driveway for vehicles exiting the site.

TABLE 4
SIGHT DISTANCE ANALYSIS
SITE DRIVEWAY TO 8TH STREET

	Direction	Posted Speed (mph)	Sight Distances (feet)		
			Grade ¹ (%)	SSSD	EXIST
Exiting Movements	To the left along 8 th Street	25	0%	147	200'+ ²
	To the right	25	<i>Not Applicable – right-in/right-out</i>		

SSSD = PennDOT Acceptable Sight Distance
EXIST = Existing (measured) Sight Distance

¹ = Roadway Grade Approaching Driveway
² = Additional sight distance achievable with management of on-street parking

As shown in **Table 4**, the measured sight distance at the site driveway exceed PennDOT’s sight distance requirements.

TRIP GENERATION

The trip generation rates for the proposed development were obtained from the *Trip Generation Manual*, Eleventh Edition, 2021, an Institute of Transportation Engineers (ITE) Informational Report. The data are categorized by Land Use Codes, with total vehicular trips for a given land use estimated using an independent variable and statistically generated rates or equations.

For the proposed development, Land Use Codes 530 (Private School, K-8), and 220 (Multifamily, Low Rise) were used to calculate the number of vehicular trips the development will generate during the following time periods: (1) average weekday; (2) weekday A.M. peak hour; (3) weekday P.M. peak hour. **Table 5** shows the rates/equations and directional percentages for the analyzed time periods.

**TABLE 5
ITE TRIP GENERATION DATA**

Land Use (ITE #)	Subcategory & Setting/Location	Time Period	Equations/Rates	Entering %	Exiting %
Private School (K-8) (#530)	Not Applicable	Weekday A.M. Peak Hour	$T = 1.01*(X)$	56%	44%
		Weekday P.M. Peak Hour ²	$\ln(T) = 0.98*\ln(X) - 0.38$	47%	53%
		Weekday	$T = 4.11*(X)$	50%	50%
Residential (#220)	Not Close to Rail Transit ¹ & Dense Multi-Use Urban	Weekday A.M. Peak Hour	$T = 0.30*(X)$	10%	90%
		Weekday P.M. Peak Hour	$T = 0.35*(X)$	63% ³	37%
		Weekday	$T = 2.93*(X)^4$	50%	50%

¹"Close to Rail Transit" is defined as within 1/2 mile of the site. The Lombard-South BSL subway stop is located about 0.52 miles from the site.

²Utilized the Weekday P.M. peak hour of the generator to evaluate the school PM peak hour.

³Directional distribution not provided, utilized directional distribution for LUC 220, General Urban/Suburban setting

⁴Rate/Equation not provided for LUC 220, used LUC 221 rate.

Multi-Modal Trip Reduction

For developments that accommodate alternative modes of transportation (i.e., rail, bus, bicycle and pedestrians), reductions in trip generation can be made to account for these non-vehicular trips or mass-transit facilities.

For land use code 220, ITE provides specific data associated with proximity to rail transit and dense urban settings. As such, TPD utilized the "dense multi-use urban" setting/location data to calculate trips for the residential portion of development. This data already factors in the high-density, mixed-use nature of the study area and therefore no further multi-modal trip reductions were applied to the residential portion of the development.

The data presented in the Trip Generation manual for land use code 530 (Private School, K-8) is based on data collected in areas throughout North America and does not account for the high density, mixed-use nature of the area surrounding the proposed development or the nearby transit options. The presence of pedestrian and transit facilities near the proposed site, as well as high density mix of land uses increases the share of non-vehicle trips. Therefore, trip generation for the proposed development is expected to generate fewer vehicular trips than what is estimated based solely on the ITE data. Based on information provided by the client regarding their current student body, approximately 70% of students walk to school as they live in the neighborhood. This 70% is relatively consistent with census data in the area. Based on the 2018 American Community Survey 5-year estimate of the *Means of Transportation to Work by Selected Characteristics* data set for census tracts 10.01, 11.01, 11.02, 15, and 16 that encompass the proposed site location and the surrounding area, approximately 77% of workers travel to work via non-vehicular means, which could be correlated to the characteristics of the proposed development. As such, TPD utilized the more conservative multimodal reduction of 70% (rather than the higher calculated percentage based on census data) to determine the new vehicular trip generation of the proposed school development. **Table 6** summarizes the proposed development site trip generation.

**TABLE 6
TRIP GENERATION SUMMARY**

Time Period	Land Use (ITE)	Total Trips	Non-Vehicular Trips %		Total Vehicular Trips		
			%	Total	Total	Enter	Exit
Weekday A.M. Peak Hour	Private School (530)	182	70%	127	55	31	24
	Residential (220)	1	0%	0	1	0	1
	Total	183	--	127	56	31	25
Weekday School P.M. Peak Hour	Private School (530)	111	70%	77	34	16	18
	Residential (220)	1	0%	0	1	1	0
	Total	112	--	77	35	17	18
Average Weekday	Private School (530)	740	70%	518	222	111	111
	Residential (220)	9	0%	0	9	5	4
	Total	749	--	518	231	116	115

As shown in **Table 6**, the proposed development is anticipated to generate 56 new vehicular trips (31 entering trips and 25 exiting trips) during the weekday A.M. peak hour and 35 new vehicular trips (17 entering trips and 18 exiting trips) during the weekday P.M. school peak hour. It is important to note that one car visiting the site for a drop-off in the morning is equal to two (2) trips; one (1) entering trip and one (1) exiting trip. As such, the proposed development is anticipated to generate approximately 1 new car every 2-minutes during the A.M. peak hour, and approximately 1 new car trip every 3 to 4 minutes during the P.M. peak hour.

Please note, when the School has evening or weekend operations, it is anticipated that visitors will travel to/from the site by various methods (i.e. walk, personal vehicle, transit, ride-share, etc.), as is typical in this area.

TRIP DISTRIBUTION

The distribution of trips generated by the proposed development was based on the local road network, the existing traffic patterns, and the site driveway configuration. The new trips for the proposed development were distributed to the local roadway network based on the percentages shown in **Table 7**.

**TABLE 7
TRIP DISTRIBUTION PERCENTAGES**

Direction	Assignment (To/From)	Distribution Percentage
to/from East	via Lombard Steet/South Street	38%
to/from West	via Lombard Steet/South Street	39%
to/from North	via 8 th Street/7 th Street	12%
to/from South	via 8 th Street/7 th Street	11%

The assignment of site-generated trips for the proposed development during the weekday A.M. and P.M. peak hours are shown in **Figure 5 and 6**. Please note, for the purpose of the traffic volume development and analysis, all site traffic was assigned to the proposed site driveway. However, it is expected that the student drop-off and pick-up will predominantly occur along S. 8th Street. It is our understanding that staff at the proposed school will actively communicate with parents and facilitate the drop-off/pick-up process, just as is done at the Applicant's other school nearby on Lombard Street.

PROJECTED (BUILD) CONDITION TRAFFIC VOLUMES

The site-generated trips for the proposed development were added to the existing condition traffic volumes to develop projected (build) condition traffic volumes. The projected condition traffic volumes for the weekday A.M. and P.M. peak hours are shown in **Figures 7 and 8**, respectively. Traffic volume development worksheets are contained in **Appendix C**.

LEVELS OF SERVICE FOR AN INTERSECTION

For analysis of intersections, level of service is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. LOS criteria is stated in terms of control delay per vehicle for a one-hour analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The criteria are shown in **Table 8**. Delay, as it relates to level of service, is a complex measure and is dependent upon a number of variables. For signalized intersections, these variables include the quality of vehicle progression, the cycle length, the green time ratio, and the volume/capacity ratio for the lane group in question. For unsignalized intersections, delay is related to the availability of gaps in the flow of traffic on the major street and the driver's discretion in selecting an appropriate gap for a particular movement from the minor street (straight across, left or right turn).

TABLE 8
LEVEL OF SERVICE CRITERIA
UNSIGNALIZED AND SIGNALIZED INTERSECTIONS¹

Level of Service	Control Delay Per Vehicle (Seconds)	
	Signalized	Unsignalized
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80 or v/c > 1.0	> 50 or v/c > 1.0

¹ Obtained from Exhibits 19-8 and 20-2 of the Transportation Research Board's Highway Capacity Manual 6th Edition

CAPACITY ANALYSIS METHODOLOGY

Capacity analyses were conducted for the weekday A.M. and P.M. peak hours at the study area intersections. These analyses were conducted according to the methodologies contained in the *Highway Capacity Manual 6th Edition* (HCM) using *Synchro 11* software, a Trafficware product. The following conditions were analyzed, as applicable:

- » Existing conditions;
- » Projected conditions (build conditions).

In addition, capacity analyses were conducted at the proposed site driveway intersection under the projected conditions. The capacity analysis worksheets are included in **Appendix D**. The traffic signal plan is included in **Appendix E**.

PennDOT's Transportation Impact Study Guidelines outlined in PennDOT's *Policies and Procedures for Transportation Impact Studies*, found in PennDOT's Publication 282, Appendix A, dated June 2025 contain the following criteria regarding levels of service:

- » The Guidelines state that if evaluation of the With Development Horizon Year Scenario to the Without Development Horizon Year Scenario indicates that the overall intersection level of service has dropped, the applicant will be required to mitigate the level of service if the increase in overall intersection delay is greater than 10-seconds. If the overall intersection delay increase is less than or equal to 10-seconds, mitigation of the intersection will not be required.
- » The Guidelines state that for mitigation scenarios, applicants are expected to mitigate the overall intersection LOS to the original Without Development LOS; the 10-second delay variance is not applied to mitigation scenarios. Applicants may be required to address available storage and queue lengths at critical movements or approaches even if the overall LOS requirements are met.
- » The Guidelines state that if signalization is the preferred alternative for mitigation, overall intersection LOS C in rural areas and LOS D in urban areas is acceptable.
- » The Guidelines states new signalized or unsignalized intersection established to serve as access to the development shall be designed to operate at minimum LOS C for rural areas, and minimum LOS D for urban areas.

LEVELS OF SERVICE IN THE STUDY AREA

Level of service (LOS) matrices for the study area intersections are shown in **Table 9** the weekday A.M. and weekday school P.M. peak hours.

TABLE 9
LEVEL OF SERVICE DELAY (SECONDS) SUMMARY

Intersection	Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Existing Conditions	Projected Conditions	Existing Conditions	Projected Conditions
S. 8 th Street & Lombard Street	WB LT	B	B	A	A
	SB TR	B	B	B	B
	ILOS	B (11.5)	B (11.6)	B (11.9)	B (12.0)
S. 8 th Street & South Street	EB TR	A	A	A	A
	SB L	B	B	B	B
	SB T	C	C	C	C
	ILOS	B (15.1)	B (15.3)	B (15.9)	B (16.0)
S. 8 th Street & Proposed Site Driveway	EB R	--	A	--	A
	ILOS	--	A (0.9)	--	A (0.5)

Projected = Build scenario; ILOS = Overall Intersection Level of Service;

As shown in **Table 9** under projected conditions with the development of the proposed site, the study area intersections will operate at the same overall intersection level of service (ILOS) as under existing conditions, during the weekday A.M. and school P.M. peak hours. As such, the proposed application will satisfy PennDOT's LOS criteria and thus have little to no traffic impact.

95TH PERCENTILE QUEUE ANALYSIS

Queue analyses were conducted at the study area intersections using *Synchro* software. For this analysis, the 95th percentile queue is defined as the queue length that is exceeded during 5% of the peak hour, or 3 of the 60 minutes in the peak hour. The queue analysis results are summarized in **Table 10** for the analyzed peak hours.

**TABLE 10
95TH PERCENTILE QUEUE ANALYSIS**

Intersection	Movement	Available Storage	Weekday AM Peak Hour		Weekday PM Peak Hour	
			Existing Conditions	Projected Conditions	Existing Conditions	Projected Conditions
S. 8 th Street & Lombard Street	WB LT	200+	135	145	108	113
	SB TR	200+	58	58	80	80
S. 8 th Street & South Street	EB TR	100+	90	95	93	98
	SB L	100	23	38	30	40
	SB T	315 ¹	138	140	163	165
S. 8 th Street & Proposed Site Driveway	EB R	50+	0	3	0	3

¹Distance to adjacent signalized intersection

As shown in **Table 10**, adequate queue storage will be provided under projected conditions with construction of the proposed Development. Queue analysis worksheets are included with the capacity analysis worksheets provided in **Appendix D**.

PARKING AND OPERATION ANALYSIS

Currently on-street parking is permitted along the site side of S. 8th Street, except in the area where the two existing driveways are located. This is 2-hour parking from 8 A.M.– 10 P.M., except for permit parking. As noted, in conjunction with the proposed development, one site driveway is proposed to serve the site. TPD recommends coordinating with the Streets Department and PPA to sign the S. 8th Street frontage to restrict parking during peak arrival and dismissal time periods in order to facilitate vehicular drop-off and pick-up at the school.

RECOMMENDATIONS & CONCLUSIONS

Please see the Executive Summary for the Recommendations and Conclusions in relation to the proposed school.



**PROPOSED
SITE**



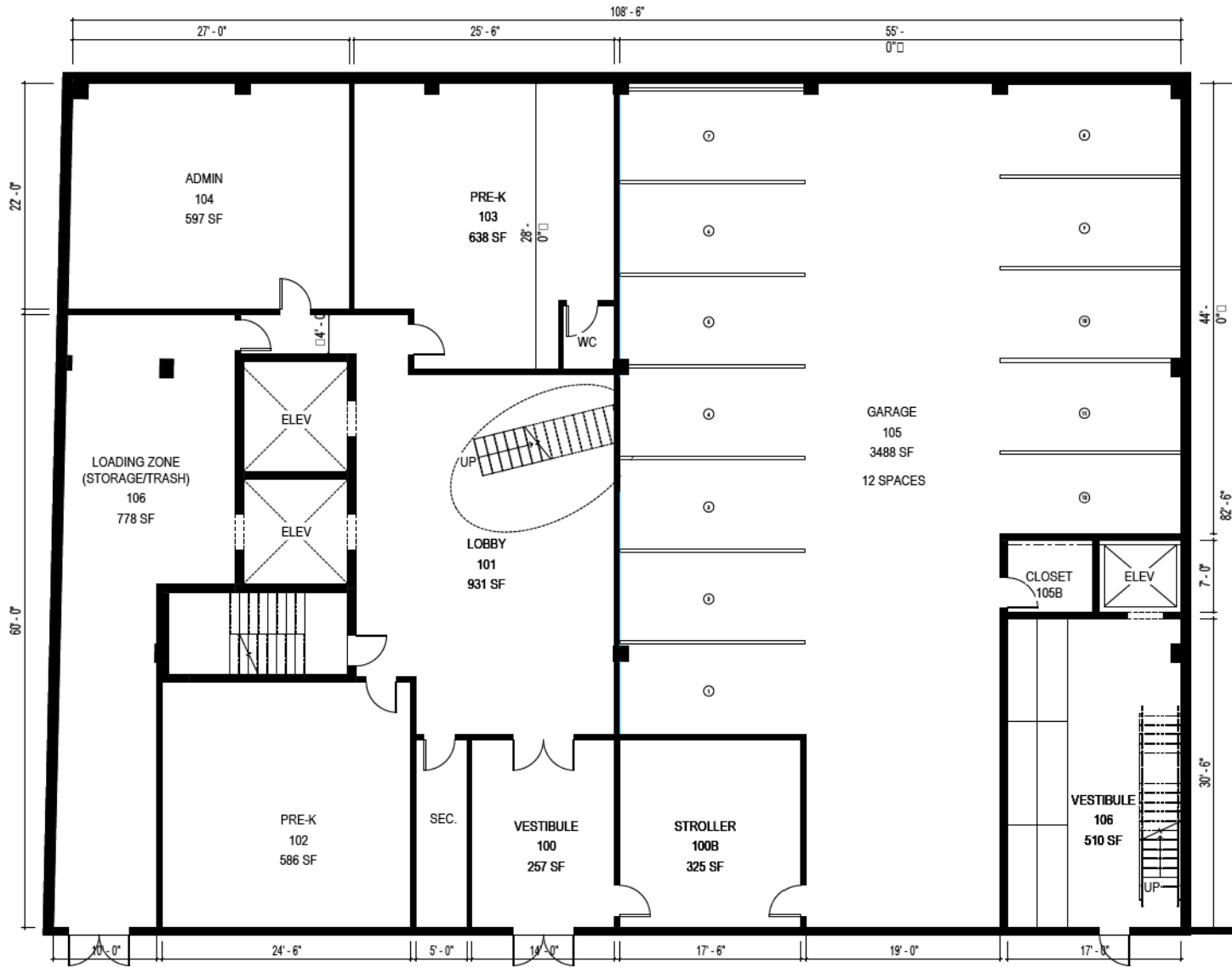
www.TPDinc.com

1.877.873.9739

info@TPDinc.com

FIGURE 1

SITE LOCATION



SgRA



STUART G. ROSENBERG
ARCHITECTS, P.C.
1000 Locust Street
Philadelphia, PA 19104
Tel: 215.561.1000
Fax: 215.561.1001

REVIEW

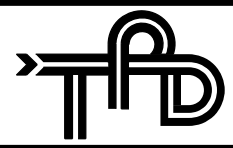
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Project
510 S 8TH ST

Project Information
510 S 8TH ST
PHILADELPHIA, PA 19147

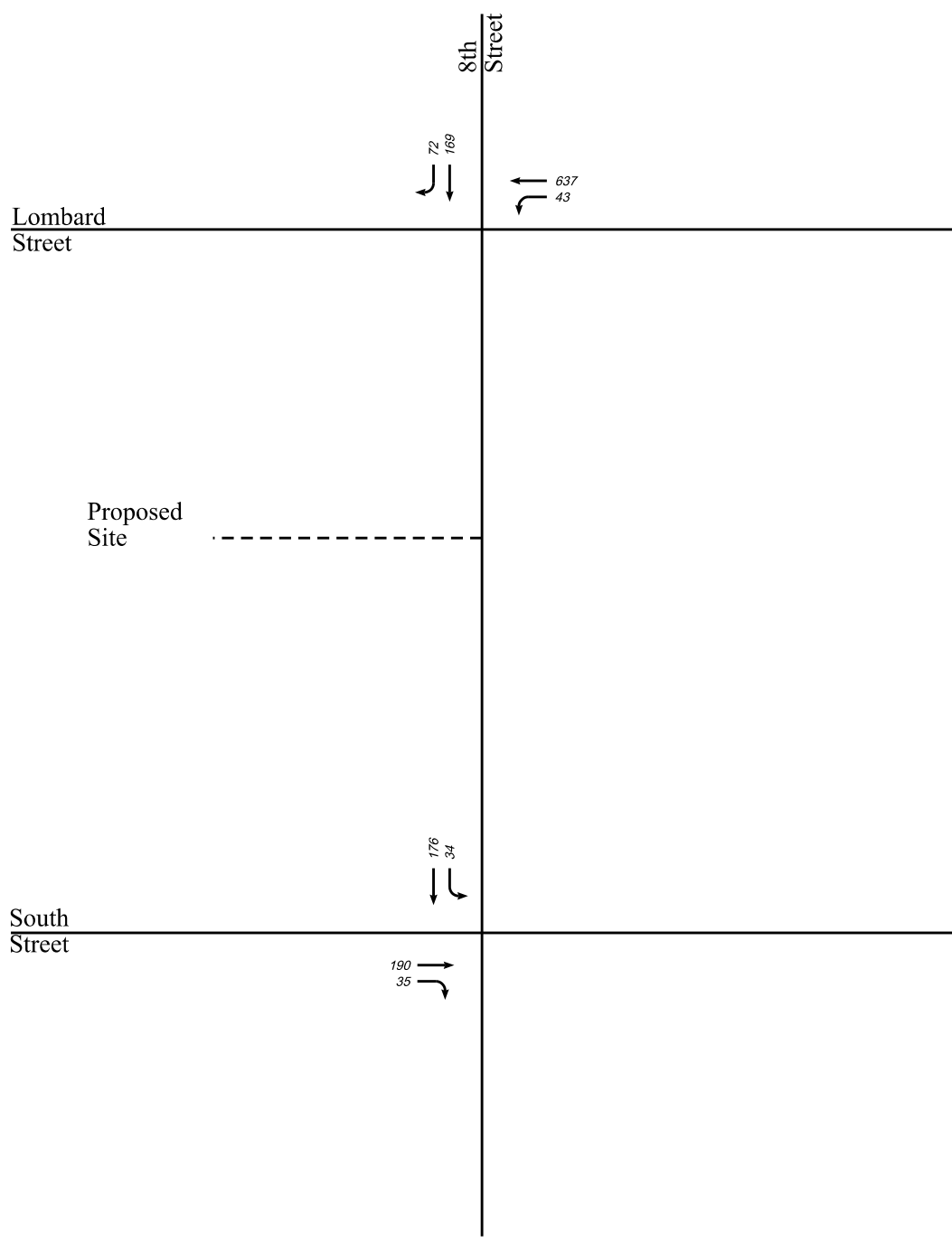
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FIRST FLOOR

Date: 02/04/2025
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 Designer: MLD
 Checker: SGR
 Scale: 1/8" = 1'-0"
 Drawing Name: A101

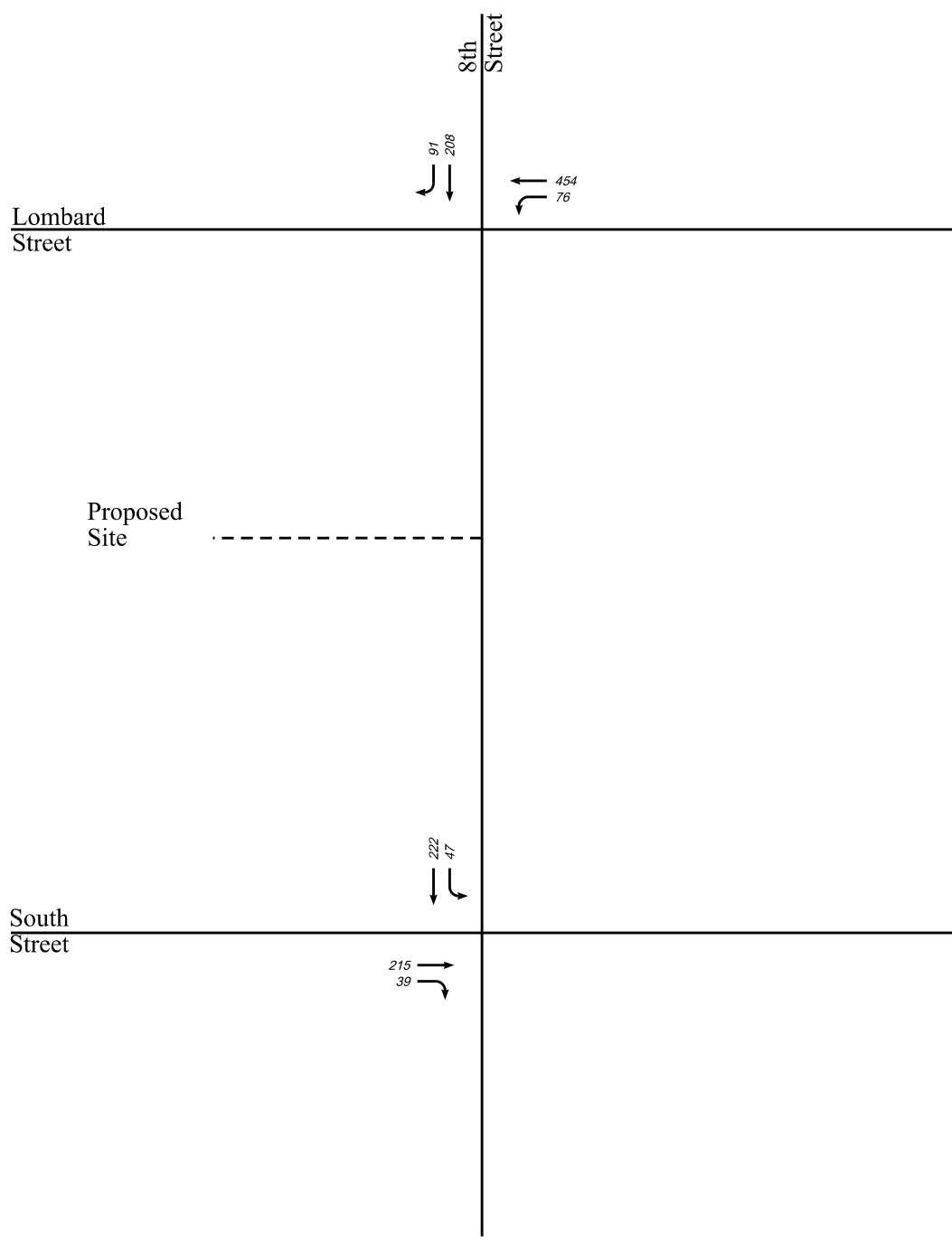


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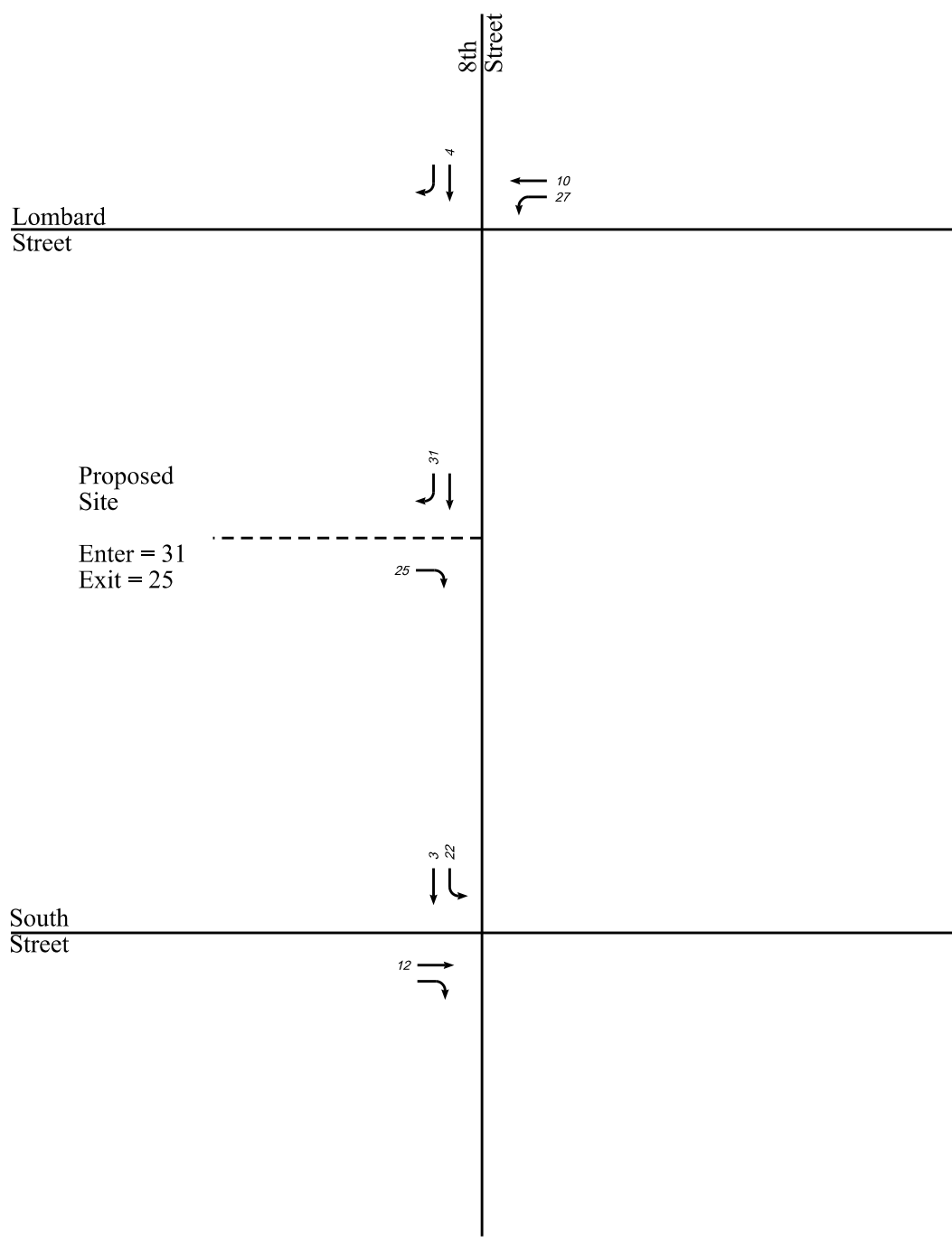
FIGURE 2
SITE PLAN



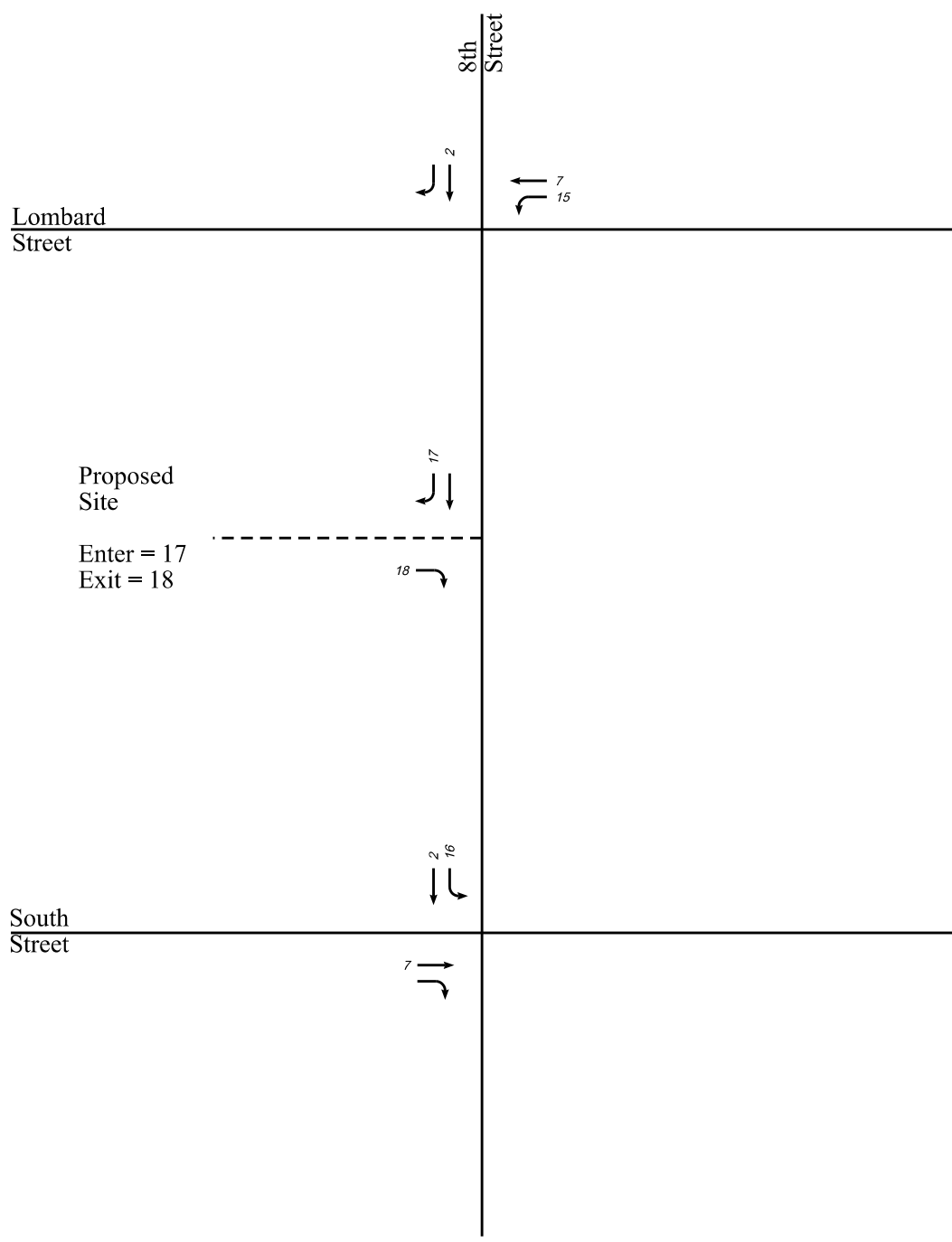
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FIGURE 3	
EXISTING CONDITIONS WEEKDAY A.M PEAK HOUR TRAFFIC VOLUMES	



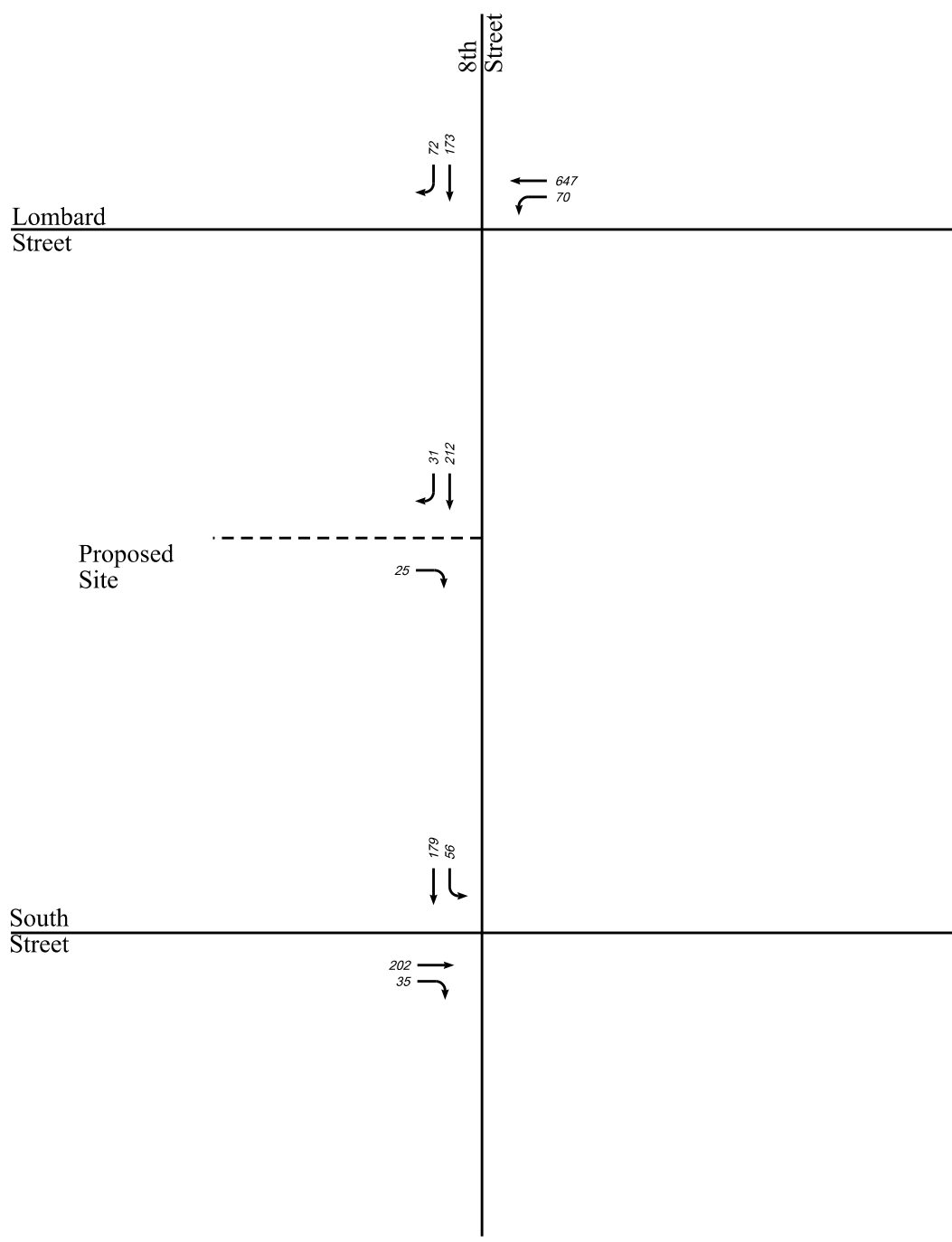
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	info@TPDinc.com
FIGURE 4	
EXISTING CONDITIONS WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES	




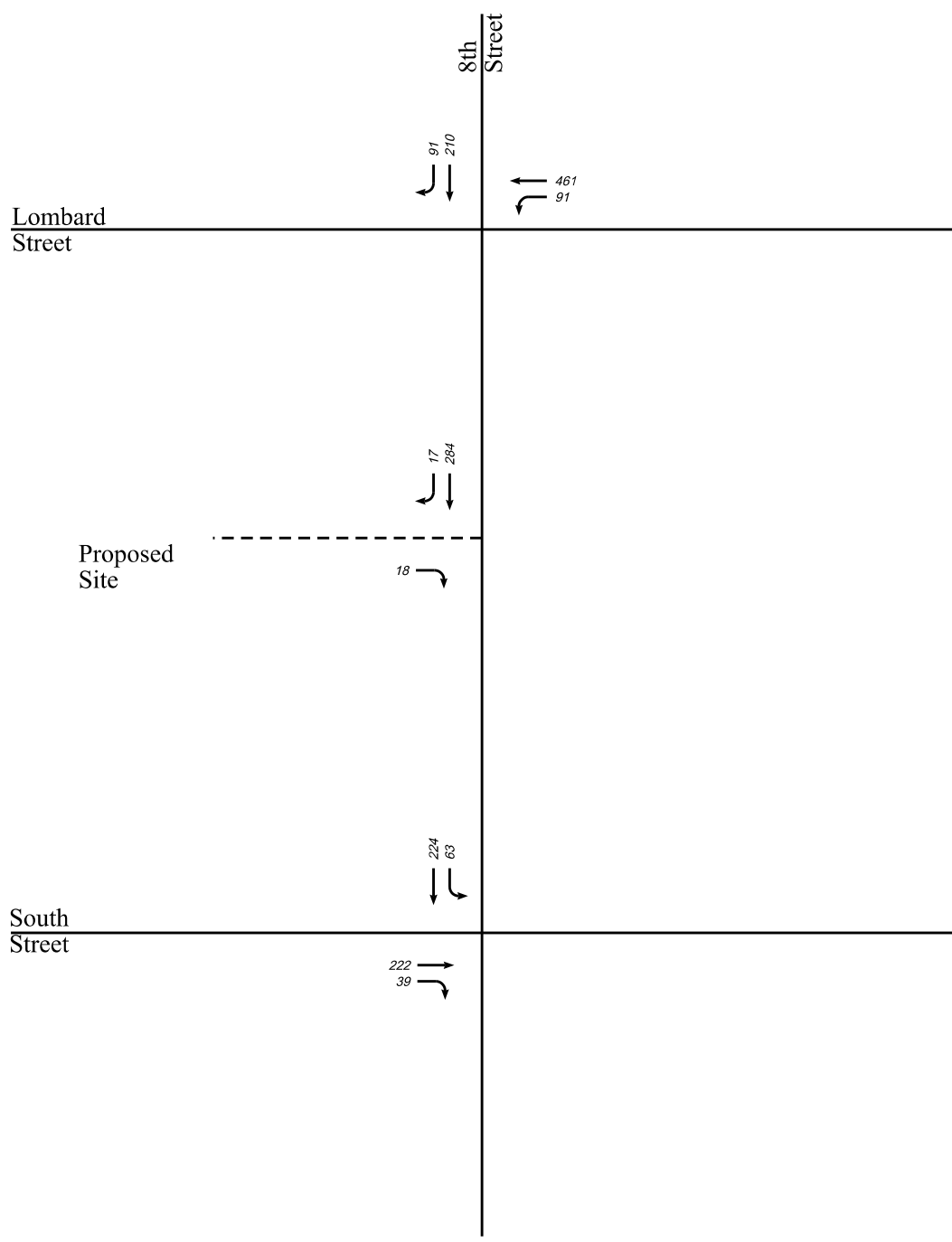
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FIGURE 5	
TRIP DISTRIBUTION WEEKDAY A.M PEAK HOUR	



	www.TPDinc.com
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FIGURE 6	
TRIP DISTRIBUTION WEEKDAY P.M PEAK HOUR	



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FIGURE 7	
PROJECTED CONDITIONS WEEKDAY A.M PEAK HOUR TRAFFIC VOLUMES	



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FIGURE 8	
PROJECTED CONDITIONS WEEKDAY P.M. PEAK HOUR TRAFFIC VOLUMES	

APPENDIX A:

Study Area Photographs





Direction / Road: Sb. S 8th Street
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Sb. S 8th Street
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Wb. Lombard Street
Approach / Departure: Approach
Distance: 50 feet



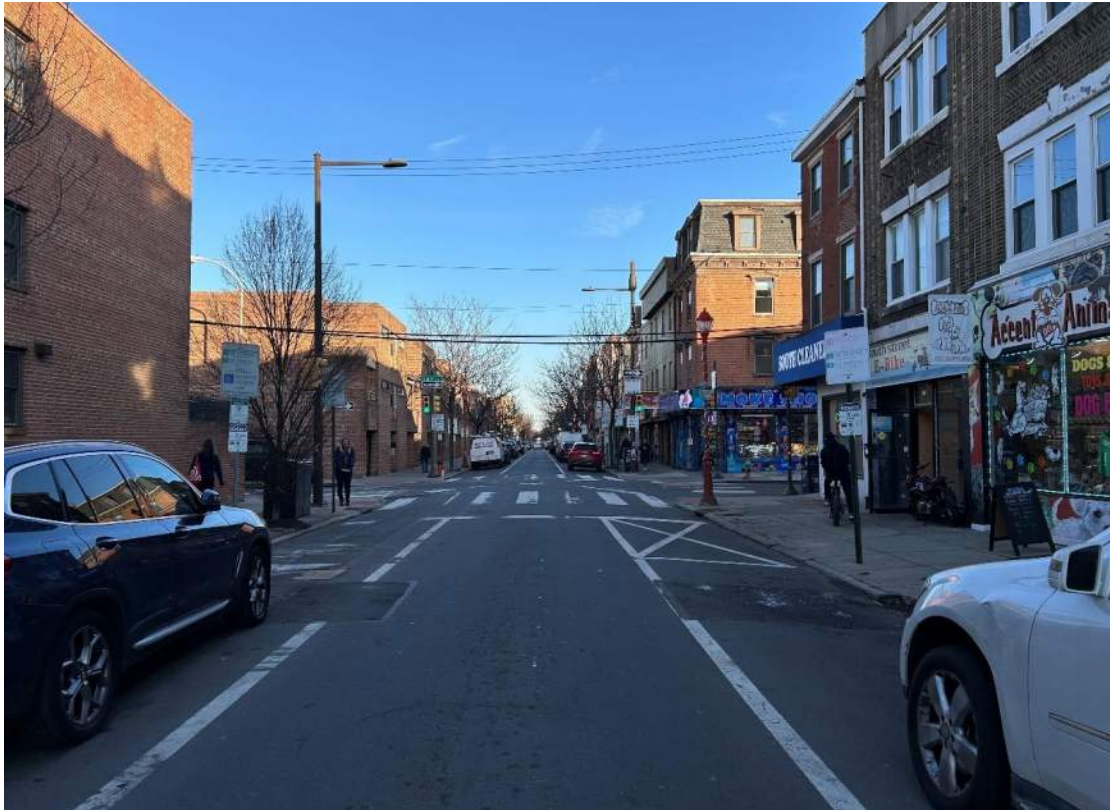
Direction / Road: Wb. Lombard Street
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Sb. S 8th Street
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Sb. S 8th Street
Approach / Departure: Approach
Distance: 200 Feet



Direction / Road: Eb. South Street
Approach / Departure: Approach
Distance: 50 feet



Direction / Road: Eb. South Street
Approach / Departure: Approach
Distance: 200 Feet

APPENDIX B:

Manual Traffic Count Printouts





Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 1 S 8th Street &
 Lombard Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 1

Counter: MIO:
 Set up By JH::

Turning Movement Data

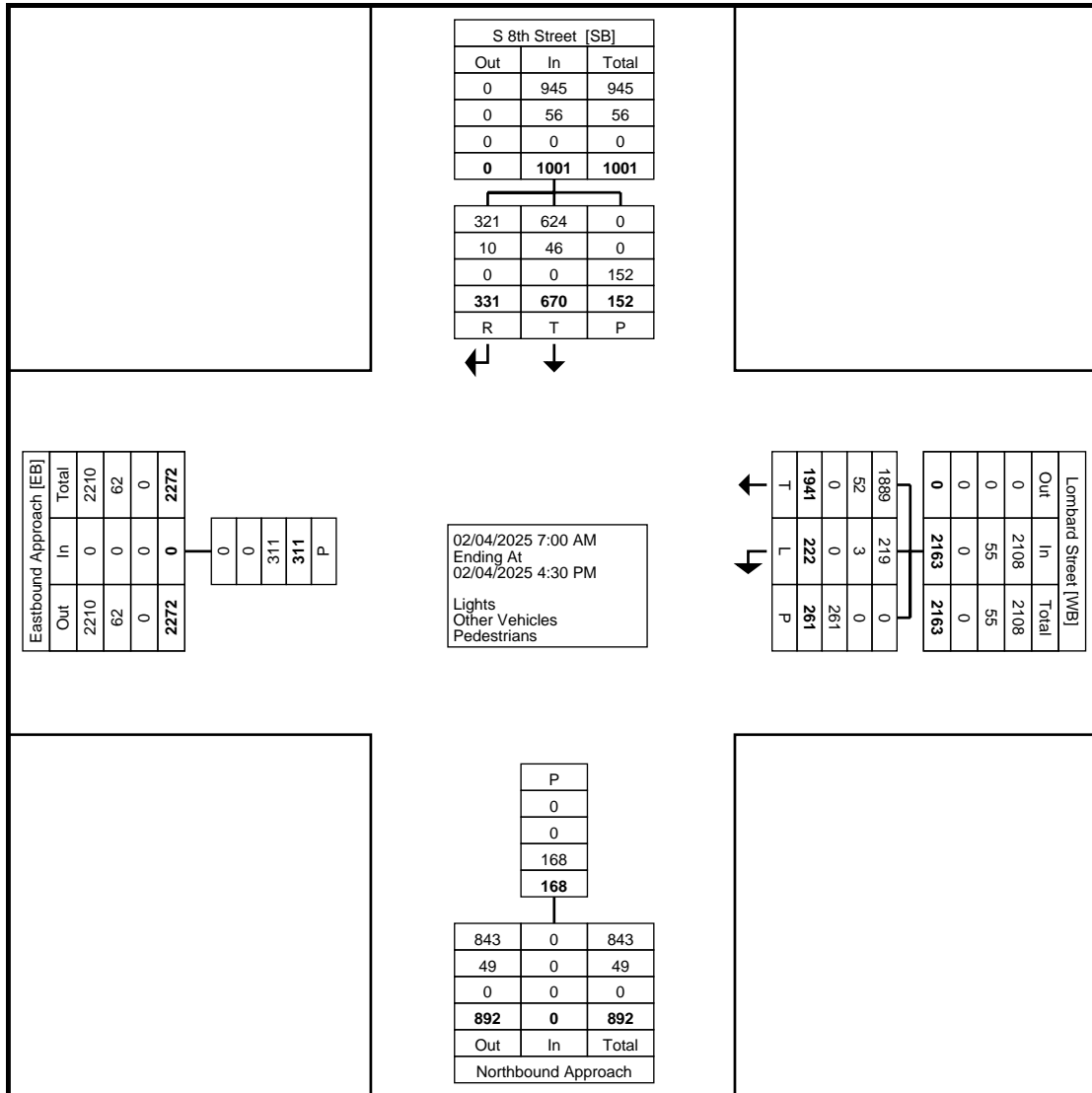
Start Time	Eastbound Approach		Lombard Street				Northbound Approach		S 8th Street					Int. Total
	Eastbound		Westbound		Northbound		Northbound		Southbound			Peds	App. Total	
	Peds	App. Total	Left	Thru	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red			
7:00 AM	23	0	9	70	5	79	5	0	19	18	0	5	37	116
7:15 AM	18	0	6	81	12	87	12	0	37	24	0	5	61	148
7:30 AM	16	0	11	106	7	117	12	0	45	26	0	7	71	188
7:45 AM	21	0	13	139	21	152	14	0	26	26	0	13	52	204
Hourly Total	78	0	39	396	45	435	43	0	127	94	0	30	221	656
8:00 AM	20	0	13	159	15	172	6	0	39	20	0	7	59	231
8:15 AM	15	0	10	156	20	166	15	0	39	13	0	11	52	218
8:30 AM	26	0	12	158	14	170	15	0	45	18	0	6	63	233
8:45 AM	19	0	8	164	19	172	13	0	46	21	0	10	67	239
Hourly Total	80	0	43	637	68	680	49	0	169	72	0	34	241	921
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:30 PM	18	0	17	90	18	107	6	0	40	17	0	9	57	164
2:45 PM	15	0	16	126	23	142	9	0	33	17	0	9	50	192
Hourly Total	33	0	33	216	41	249	15	0	73	34	0	18	107	356
3:00 PM	21	0	12	116	11	128	12	0	51	22	0	5	73	201
3:15 PM	20	0	19	122	16	141	5	0	42	17	1	12	60	201
3:30 PM	22	0	20	119	17	139	10	0	44	8	0	17	52	191
3:45 PM	17	0	25	124	27	149	15	0	62	23	0	14	85	234
Hourly Total	80	0	76	481	71	557	42	0	199	70	1	48	270	827
4:00 PM	22	0	14	103	14	117	8	0	51	30	0	17	81	198
4:15 PM	18	0	17	108	22	125	11	0	51	30	0	5	81	206
Grand Total	311	0	222	1941	261	2163	168	0	670	330	1	152	1001	3164
Approach %	-	-	10.3	89.7	-	-	-	-	66.9	33.0	0.1	-	-	-
Total %	-	0.0	7.0	61.3	-	68.4	-	0.0	21.2	10.4	0.0	-	31.6	-
Lights	-	0	219	1889	-	2108	-	0	624	320	1	-	945	3053
% Lights	-	-	98.6	97.3	-	97.5	-	-	93.1	97.0	100.0	-	94.4	96.5
Other Vehicles	-	0	3	52	-	55	-	0	46	10	0	-	56	111
% Other Vehicles	-	-	1.4	2.7	-	2.5	-	-	6.9	3.0	0.0	-	5.6	3.5
Pedestrians	311	-	-	-	261	-	168	-	-	-	-	152	-	-
% Pedestrians	100.0	-	-	-	100.0	-	100.0	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
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Count Name: 1 S 8th Street &
 Lombard Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 2

Counter: MIO:
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Turning Movement Data Plot



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
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 610.326.3100

Count Name: 1 S 8th Street &
 Lombard Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 3

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (8:00 AM)

Start Time	Eastbound Approach		Lombard Street				Northbound Approach		S 8th Street					Int. Total
	Eastbound		Westbound		Northbound		Southbound		Thru	Right	Right on Red	Peds	App. Total	
	Peds	App. Total	Left	Thru	Peds	App. Total	Peds	App. Total						
8:00 AM	20	0	13	159	15	172	6	0	39	20	0	7	59	231
8:15 AM	15	0	10	156	20	166	15	0	39	13	0	11	52	218
8:30 AM	26	0	12	158	14	170	15	0	45	18	0	6	63	233
8:45 AM	19	0	8	164	19	172	13	0	46	21	0	10	67	239
Total	80	0	43	637	68	680	49	0	169	72	0	34	241	921
Approach %	-	-	6.3	93.7	-	-	-	-	70.1	29.9	0.0	-	-	-
Total %	-	0.0	4.7	69.2	-	73.8	-	0.0	18.3	7.8	0.0	-	26.2	-
PHF	-	0.000	0.827	0.971	-	0.988	-	0.000	0.918	0.857	0.000	-	0.899	0.963
Lights	-	0	42	614	-	656	-	0	162	69	0	-	231	887
% Lights	-	-	97.7	96.4	-	96.5	-	-	95.9	95.8	-	-	95.9	96.3
Other Vehicles	-	0	1	23	-	24	-	0	7	3	0	-	10	34
% Other Vehicles	-	-	2.3	3.6	-	3.5	-	-	4.1	4.2	-	-	4.1	3.7
Pedestrians	80	-	-	-	68	-	49	-	-	-	-	34	-	-
% Pedestrians	100.0	-	-	-	100.0	-	100.0	-	-	-	-	100.0	-	-



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Count Name: 1 S 8th Street &
 Lombard Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 5

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (3:30 PM)

Start Time	Eastbound Approach		Lombard Street				Northbound Approach		S 8th Street					Int. Total
	Eastbound		Westbound		Northbound		Northbound		Southbound			Peds	App. Total	
	Peds	App. Total	Left	Thru	Peds	App. Total	Peds	App. Total	Thru	Right	Right on Red			
3:30 PM	22	0	20	119	17	139	10	0	44	8	0	17	52	191
3:45 PM	17	0	25	124	27	149	15	0	62	23	0	14	85	234
4:00 PM	22	0	14	103	14	117	8	0	51	30	0	17	81	198
4:15 PM	18	0	17	108	22	125	11	0	51	30	0	5	81	206
Total	79	0	76	454	80	530	44	0	208	91	0	53	299	829
Approach %	-	-	14.3	85.7	-	-	-	-	69.6	30.4	0.0	-	-	-
Total %	-	0.0	9.2	54.8	-	63.9	-	0.0	25.1	11.0	0.0	-	36.1	-
PHF	-	0.000	0.760	0.915	-	0.889	-	0.000	0.839	0.758	0.000	-	0.879	0.886
Lights	-	0	74	447	-	521	-	0	194	89	0	-	283	804
% Lights	-	-	97.4	98.5	-	98.3	-	-	93.3	97.8	-	-	94.6	97.0
Other Vehicles	-	0	2	7	-	9	-	0	14	2	0	-	16	25
% Other Vehicles	-	-	2.6	1.5	-	1.7	-	-	6.7	2.2	-	-	5.4	3.0
Pedestrians	79	-	-	-	80	-	44	-	-	-	-	53	-	-
% Pedestrians	100.0	-	-	-	100.0	-	100.0	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
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Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 1

Counter: MIO:
 Set up By JH::

Turning Movement Data

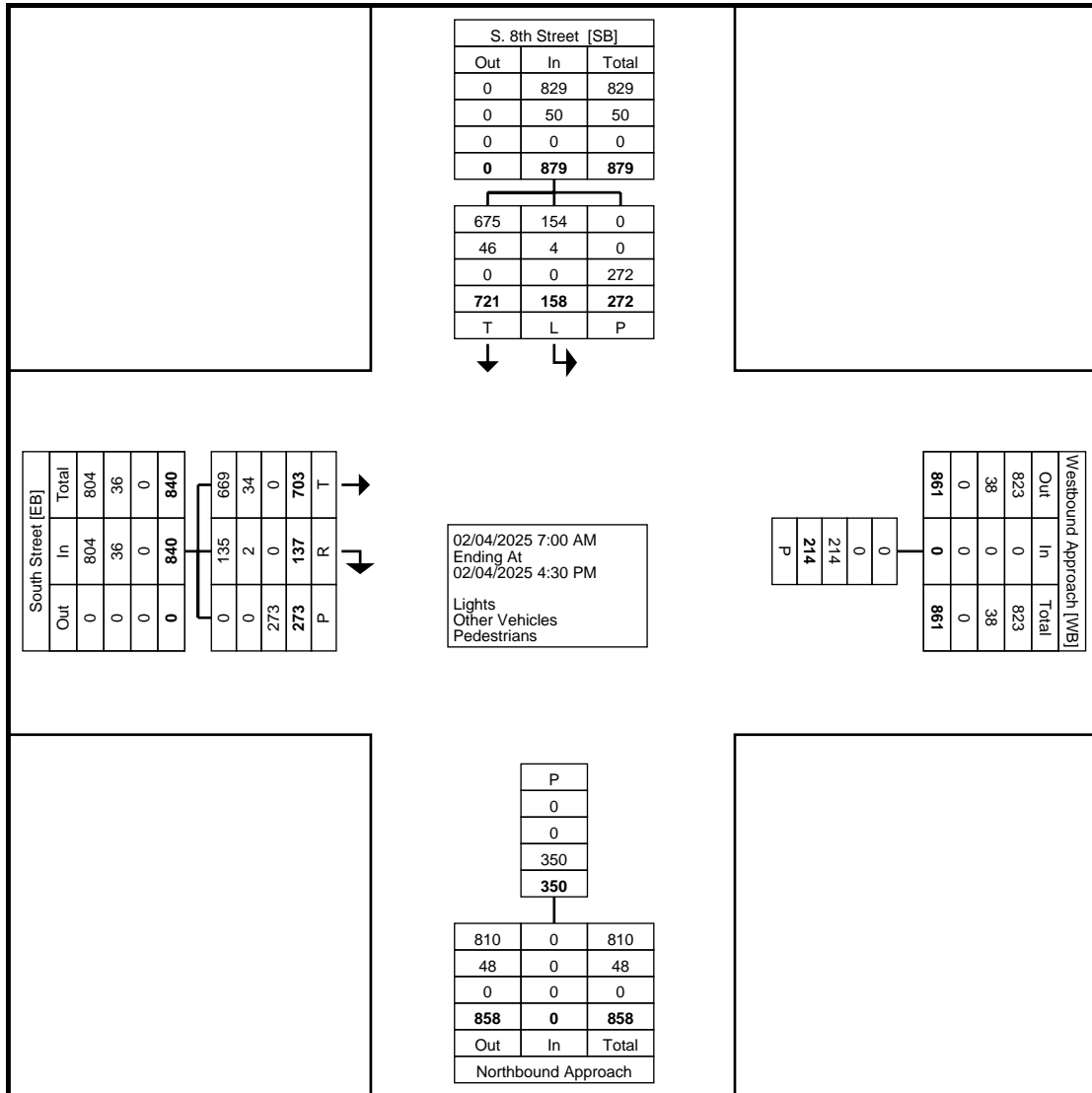
Start Time	South Street Eastbound					Westbound Approach Westbound		Northbound Approach Northbound		S. 8th Street Southbound				Int. Total
	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Peds	App. Total	Left	Thru	Peds	App. Total	
7:00 AM	17	4	0	12	21	5	0	3	0	7	19	5	26	47
7:15 AM	30	1	0	12	31	10	0	7	0	2	42	6	44	75
7:30 AM	45	7	0	13	52	8	0	9	0	9	44	10	53	105
7:45 AM	41	5	0	18	46	14	0	11	0	6	32	14	38	84
Hourly Total	133	17	0	55	150	37	0	30	0	24	137	35	161	311
8:00 AM	30	8	0	20	38	17	0	15	0	7	49	12	56	94
8:15 AM	44	8	1	18	53	16	0	14	0	7	40	9	47	100
8:30 AM	70	10	0	16	80	14	0	14	0	9	44	16	53	133
8:45 AM	46	8	0	18	54	17	0	11	0	11	43	11	54	108
Hourly Total	190	34	1	72	225	64	0	54	0	34	176	48	210	435
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2:30 PM	49	13	0	14	62	18	0	32	0	11	47	20	58	120
2:45 PM	34	6	0	15	40	20	0	24	0	13	38	35	51	91
Hourly Total	83	19	0	29	102	38	0	56	0	24	85	55	109	211
3:00 PM	43	8	1	23	52	8	0	31	0	19	47	27	66	118
3:15 PM	64	13	0	19	77	20	0	41	0	7	52	22	59	136
3:30 PM	51	8	0	22	59	9	0	29	0	5	55	19	60	119
3:45 PM	54	8	1	18	63	19	0	32	0	18	65	24	83	146
Hourly Total	212	37	2	82	251	56	0	133	0	49	219	92	268	519
4:00 PM	46	8	1	16	55	7	0	39	0	17	50	23	67	122
4:15 PM	39	16	2	19	57	12	0	38	0	10	54	19	64	121
Grand Total	703	131	6	273	840	214	0	350	0	158	721	272	879	1719
Approach %	83.7	15.6	0.7	-	-	-	-	-	-	18.0	82.0	-	-	-
Total %	40.9	7.6	0.3	-	48.9	-	0.0	-	0.0	9.2	41.9	-	51.1	-
Lights	669	129	6	-	804	-	0	-	0	154	675	-	829	1633
% Lights	95.2	98.5	100.0	-	95.7	-	-	-	-	97.5	93.6	-	94.3	95.0
Other Vehicles	34	2	0	-	36	-	0	-	0	4	46	-	50	86
% Other Vehicles	4.8	1.5	0.0	-	4.3	-	-	-	-	2.5	6.4	-	5.7	5.0
Pedestrians	-	-	-	273	-	214	-	350	-	-	-	272	-	-
% Pedestrians	-	-	-	100.0	-	100.0	-	100.0	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 2

Counter: MIO:
 Set up By JH::



Turning Movement Data Plot



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100

Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 3

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (8:00 AM)

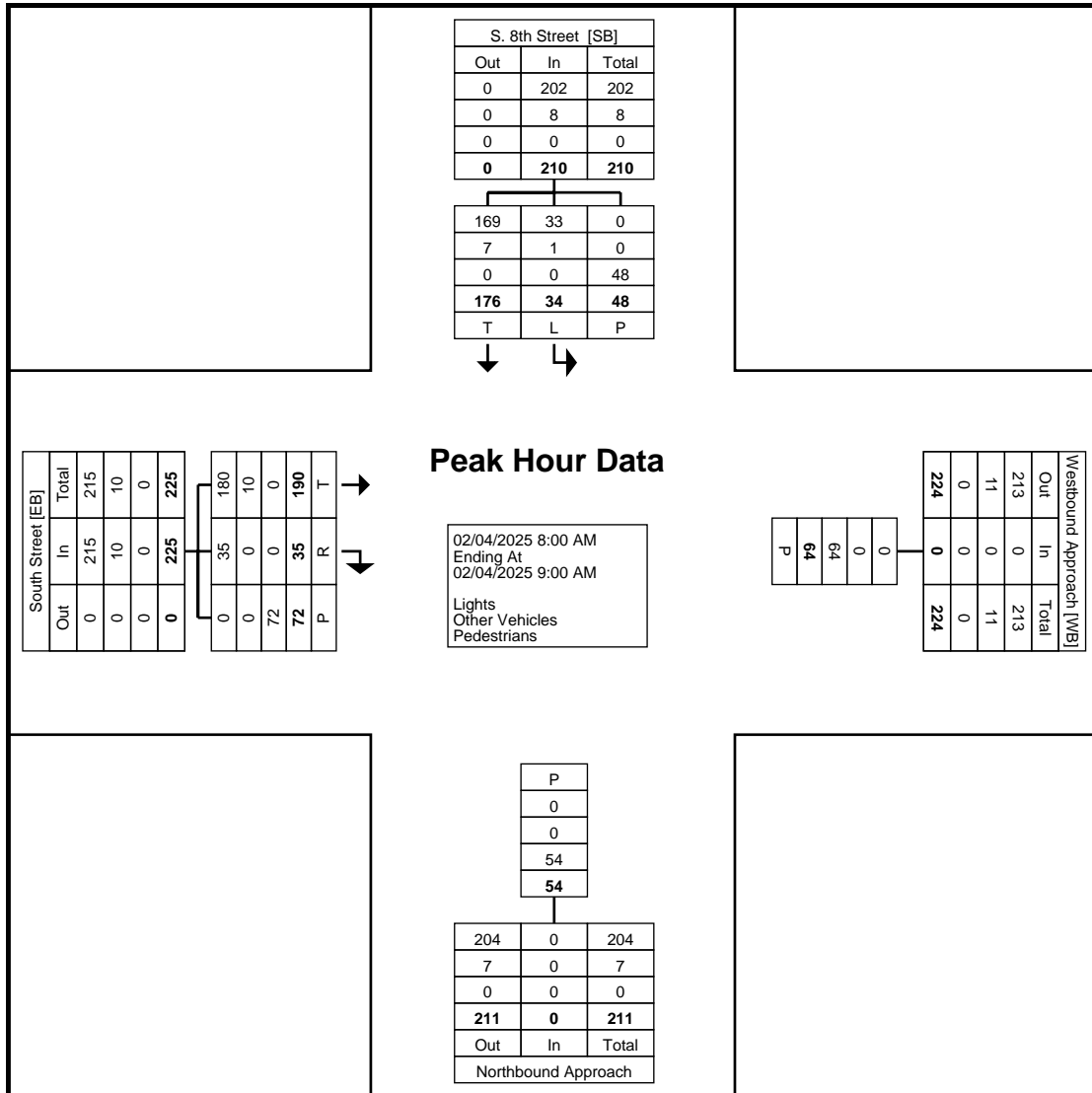
Start Time	South Street Eastbound					Westbound Approach Westbound		Northbound Approach Northbound		S. 8th Street Southbound				Int. Total
	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Peds	App. Total	Left	Thru	Peds	App. Total	
8:00 AM	30	8	0	20	38	17	0	15	0	7	49	12	56	94
8:15 AM	44	8	1	18	53	16	0	14	0	7	40	9	47	100
8:30 AM	70	10	0	16	80	14	0	14	0	9	44	16	53	133
8:45 AM	46	8	0	18	54	17	0	11	0	11	43	11	54	108
Total	190	34	1	72	225	64	0	54	0	34	176	48	210	435
Approach %	84.4	15.1	0.4	-	-	-	-	-	-	16.2	83.8	-	-	-
Total %	43.7	7.8	0.2	-	51.7	-	0.0	-	0.0	7.8	40.5	-	48.3	-
PHF	0.679	0.850	0.250	-	0.703	-	0.000	-	0.000	0.773	0.898	-	0.938	0.818
Lights	180	34	1	-	215	-	0	-	0	33	169	-	202	417
% Lights	94.7	100.0	100.0	-	95.6	-	-	-	-	97.1	96.0	-	96.2	95.9
Other Vehicles	10	0	0	-	10	-	0	-	0	1	7	-	8	18
% Other Vehicles	5.3	0.0	0.0	-	4.4	-	-	-	-	2.9	4.0	-	3.8	4.1
Pedestrians	-	-	-	72	-	64	-	54	-	-	-	48	-	-
% Pedestrians	-	-	-	100.0	-	100.0	-	100.0	-	-	-	100.0	-	-



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Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 4

Counter: MIO:
 Set up By JH::



Turning Movement Peak Hour Data Plot (8:00 AM)



Traffic Planning and Design, Inc
 2500 East High Street
 Suite 650
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 610.326.3100

Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 5

Counter: MIO:
 Set up By JH::

Turning Movement Peak Hour Data (3:15 PM)

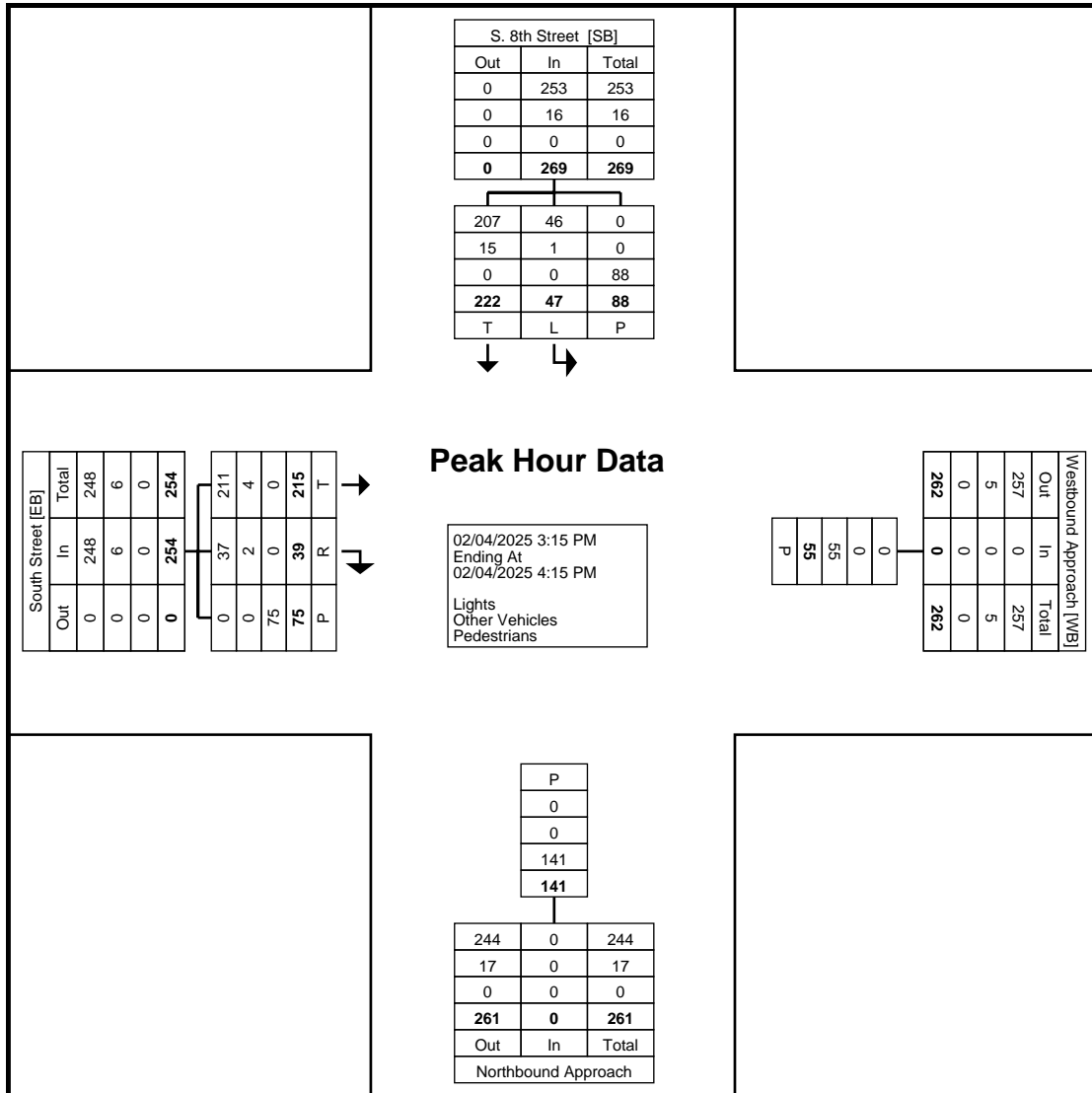
Start Time	South Street Eastbound					Westbound Approach Westbound		Northbound Approach Northbound		S. 8th Street Southbound				Int. Total
	Thru	Right	Right on Red	Peds	App. Total	Peds	App. Total	Peds	App. Total	Left	Thru	Peds	App. Total	
3:15 PM	64	13	0	19	77	20	0	41	0	7	52	22	59	136
3:30 PM	51	8	0	22	59	9	0	29	0	5	55	19	60	119
3:45 PM	54	8	1	18	63	19	0	32	0	18	65	24	83	146
4:00 PM	46	8	1	16	55	7	0	39	0	17	50	23	67	122
Total	215	37	2	75	254	55	0	141	0	47	222	88	269	523
Approach %	84.6	14.6	0.8	-	-	-	-	-	-	17.5	82.5	-	-	-
Total %	41.1	7.1	0.4	-	48.6	-	0.0	-	0.0	9.0	42.4	-	51.4	-
PHF	0.840	0.712	0.500	-	0.825	-	0.000	-	0.000	0.653	0.854	-	0.810	0.896
Lights	211	35	2	-	248	-	0	-	0	46	207	-	253	501
% Lights	98.1	94.6	100.0	-	97.6	-	-	-	-	97.9	93.2	-	94.1	95.8
Other Vehicles	4	2	0	-	6	-	0	-	0	1	15	-	16	22
% Other Vehicles	1.9	5.4	0.0	-	2.4	-	-	-	-	2.1	6.8	-	5.9	4.2
Pedestrians	-	-	-	75	-	55	-	141	-	-	-	88	-	-
% Pedestrians	-	-	-	100.0	-	100.0	-	100.0	-	-	-	100.0	-	-



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Count Name: 2 S. 8th Street &
 South Street
 Site Code:
 Start Date: 02/04/2025
 Page No: 6

Counter: MIO:
 Set up By JH::



Turning Movement Peak Hour Data Plot (3:15 PM)

APPENDIX C:

Volume Development Worksheets



TPD# BNAS.01

2/20/2026

Traffic Volumes Worksheet

Intersection:

8th Street & Lombard Street

Synchro Node:

1 Adjacent intersections: West 0 East 0 North 0 South 0

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts				43	637						169	72	921
Balancing													0
2025 Existing Volumes (Balanced)	0	0	0	43	637	0	0	0	0	0	169	72	921
New Trips				27	10						4		41
Pass-By Trips													0
Total Trip Distribution	0	0	0	27	10	0	0	0	0	0	4	0	41
Projected (Build) Volumes	0	0	0	70	647	0	0	0	0	0	173	72	962

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts				76	454						208	91	829
Balancing													0
2025 Existing Volumes (Balanced)	0	0	0	76	454	0	0	0	0	0	208	91	829
New Trips				15	7						2		24
Pass-By Trips													0
Total Trip Distribution	0	0	0	15	7	0	0	0	0	0	2	0	24
Projected (Build) Volumes	0	0	0	91	461	0	0	0	0	0	210	91	853

TPD# BNAS.01

2/20/2026

Traffic Volumes Worksheet

Intersection:

Synchro Node:

8th Street & South Street										
2	Adjacent intersections:	West	0	East	0	North	0	South	0	

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts		190	35							34	176		435
Balancing													0
2025 Existing Volumes (Balanced)	0	190	35	0	0	0	0	0	0	34	176	0	435
New Trips		12								22	3		37
Pass-By Trips													0
Total Trip Distribution	0	12	0	0	0	0	0	0	0	22	3	0	37
Projected (Build) Volumes	0	202	35	0	0	0	0	0	0	56	179	0	472

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume
	left	thru	right	left	thru	right	left	thru	right	left	thru	right	
2025 Existing Counts		215	39							47	222		523
Balancing													0
2025 Existing Volumes (Balanced)	0	215	39	0	0	0	0	0	0	47	222	0	523
New Trips		7								16	2		25
Pass-By Trips													0
Total Trip Distribution	0	7	0	0	0	0	0	0	0	16	2	0	25
Projected (Build) Volumes	0	222	39	0	0	0	0	0	0	63	224	0	548

TPD# BNAS.01

2/20/2026

Traffic Volumes Worksheet

Intersection:

Synchro Node:

8th Street & School Driveway											
3	Adjacent intersections:	West	0	East	0	North	0	South	0		

Time Period: Weekday A.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume	
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		
2025 Existing Counts													212	212
Balancing														0
2025 Existing Volumes (Balanced)	0	0	0	0	0	0	0	0	0	0	212	0	212	
New Trips			25									31		56
Pass-By Trips														0
Total Trip Distribution	0	0	25	0	0	0	0	0	0	0	0	31	56	
Projected (Build) Volumes	0	0	25	0	0	0	0	0	0	0	212	31	268	

Time Period: Weekday P.M. Peak Hour

	Eastbound			Westbound			Northbound			Southbound			Intersection Volume	
	left	thru	right	left	thru	right	left	thru	right	left	thru	right		
2025 Existing Counts													284	284
Balancing														0
2025 Existing Volumes (Balanced)	0	0	0	0	0	0	0	0	0	0	284	0	284	
New Trips			18									17		35
Pass-By Trips														0
Total Trip Distribution	0	0	18	0	0	0	0	0	0	0	0	17	35	
Projected (Build) Volumes	0	0	18	0	0	0	0	0	0	0	284	17	319	

APPENDIX D:

Capacity Analyses



1: 8th Street & Lombard Street

Existing Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔						↕↕	
Traffic Volume (vph)	0	0	0	43	637	0	0	0	0	0	169	72
Future Volume (vph)	0	0	0	43	637	0	0	0	0	0	169	72
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	12	12	12	13	13	13	12	12	12	13	13	13
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		424			590			171			268	
Travel Time (s)		11.6			16.1			4.7			7.3	
Confl. Peds. (#/hr)	34		49	49		34	80		68	68		80
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%	0%	0%	0%	0%	4%	4%
Shared Lane Traffic (%)												
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Minimum Split (s)				24.0	24.0						24.0	
Total Split (s)				35.0	35.0						25.0	
Total Split (%)				58.3%	58.3%						41.7%	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				3.0	3.0						3.0	
Lost Time Adjust (s)					-1.0						-1.0	
Total Lost Time (s)					5.0						5.0	

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 1: 8th Street & Lombard Street



1: 8th Street & Lombard Street

Existing Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	43	637	0	0	0	0	0	169	72
Future Volume (veh/h)	0	0	0	43	637	0	0	0	0	0	169	72
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No						No		
Adj Sat Flow, veh/h/ln				2150	2116	0				0	2116	2116
Adj Flow Rate, veh/h				45	664	0				0	176	75
Peak Hour Factor				0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %				2	4	0				0	4	4
Cap, veh/h				125	1932	0				0	897	354
Arrive On Green				0.48	0.50	0.00				0.00	0.33	0.32
Sat Flow, veh/h				250	3970	0				0	2796	1063
Grp Volume(v), veh/h				379	330	0				0	128	123
Grp Sat Flow(s),veh/h/ln				2103	2010	0				0	2010	1743
Q Serve(g_s), s				6.6	5.9	0.0				0.0	2.7	3.1
Cycle Q Clear(g_c), s				6.6	5.9	0.0				0.0	2.7	3.1
Prop In Lane				0.12		0.00				0.00		0.61
Lane Grp Cap(c), veh/h				1052	1005	0				0	670	581
V/C Ratio(X)				0.36	0.33	0.00				0.00	0.19	0.21
Avail Cap(c_a), veh/h				1052	1005	0				0	670	581
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.2	9.0	0.0				0.0	14.2	14.6
Incr Delay (d2), s/veh				1.0	0.9	0.0				0.0	0.6	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.2	4.5	0.0				0.0	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				10.2	9.8	0.0				0.0	14.9	15.4
LnGrp LOS				B	A						B	B
Approach Vol, veh/h					709						251	
Approach Delay, s/veh					10.0						15.1	
Approach LOS					B						B	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		8.6		5.1								
Green Ext Time (p_c), s		4.7		1.3								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh											11.3	
HCM 6th LOS											B	

2: 8th Street & South Street

Existing Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	190	35	0	0	0	0	0	0	34	176	0
Future Volume (vph)	0	190	35	0	0	0	0	0	0	34	176	0
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	11	11	11	12	12	12	12	12	12	9	11	11
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		441			530			122			218	
Travel Time (s)		12.0			14.5			3.3			5.9	
Confl. Peds. (#/hr)	48		54	54		48	72		64	64		72
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	5%	0%	0%	0%	0%	0%	0%	0%	3%	4%	2%
Shared Lane Traffic (%)												
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		35.0								25.0	25.0	
Total Split (%)		58.3%								41.7%	41.7%	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		5.0								5.0	5.0	

Intersection Summary
















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 15 (25%), Referenced to phase 2:EBT and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 2: 8th Street & South Street



2: 8th Street & South Street

Existing Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	190	35	0	0	0	0	0	0	34	176	0
Future Volume (veh/h)	0	190	35	0	0	0	0	0	0	34	176	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	2018	2100							1969	2034	0
Adj Flow Rate, veh/h	0	232	42							41	215	0
Peak Hour Factor	0.82	0.82	0.82							0.82	0.82	0.82
Percent Heavy Veh, %	0	5	0							3	4	0
Cap, veh/h	0	823	149							625	678	0
Arrive On Green	0.00	0.50	0.48							0.11	0.11	0.00
Sat Flow, veh/h	0	1646	298							1875	2034	0
Grp Volume(v), veh/h	0	0	274							41	215	0
Grp Sat Flow(s),veh/h/ln	0	0	1944							1875	2034	0
Q Serve(g_s), s	0.0	0.0	4.9							1.2	5.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	4.9							1.2	5.8	0.0
Prop In Lane	0.00		0.15							1.00		0.00
Lane Grp Cap(c), veh/h	0	0	972							625	678	0
V/C Ratio(X)	0.00	0.00	0.28							0.07	0.32	0.00
Avail Cap(c_a), veh/h	0	0	972							625	678	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	8.8							18.3	20.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7							0.2	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.6							0.9	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	9.5							18.5	21.6	0.0
LnGrp LOS			A							B	C	
Approach Vol, veh/h		274									256	
Approach Delay, s/veh		9.5									21.1	
Approach LOS		A									C	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		6.9		7.8								
Green Ext Time (p_c), s		1.7		1.0								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			15.1									
HCM 6th LOS			B									

1: 8th Street & Lombard Street

Existing Conditions
Timing Plan: Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	76	454	0	0	0	0	0	208	91
Future Volume (vph)	0	0	0	76	454	0	0	0	0	0	208	91
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	12	12	12	13	13	13	12	12	12	13	13	13
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		424			590			171			268	
Travel Time (s)		11.6			16.1			4.7			7.3	
Confl. Peds. (#/hr)	53		44	44		53	79		80	80		79
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%	0%	0%	0%	0%	7%	2%
Shared Lane Traffic (%)												
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Minimum Split (s)				24.0	24.0						24.0	
Total Split (s)				35.0	35.0						25.0	
Total Split (%)				58.3%	58.3%						41.7%	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				3.0	3.0						3.0	
Lost Time Adjust (s)					-1.0						-1.0	
Total Lost Time (s)					5.0						5.0	

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 1: 8th Street & Lombard Street



1: 8th Street & Lombard Street

Existing Conditions
Timing Plan: Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	76	454	0	0	0	0	0	208	91
Future Volume (veh/h)	0	0	0	76	454	0	0	0	0	0	208	91
Initial Q (Qb), veh				0	0	0					0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No							No	
Adj Sat Flow, veh/h/ln				2133	2150	0				0	2065	2150
Adj Flow Rate, veh/h				85	510	0				0	234	102
Peak Hour Factor				0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %				3	2	0				0	7	2
Cap, veh/h				284	1798	0				0	864	355
Arrive On Green				0.48	0.50	0.00				0.00	0.33	0.32
Sat Flow, veh/h				568	3703	0				0	2695	1064
Grp Volume(v), veh/h				317	278	0				0	174	162
Grp Sat Flow(s),veh/h/ln				2122	2042	0				0	1962	1694
Q Serve(g_s), s				5.3	4.7	0.0				0.0	3.9	4.3
Cycle Q Clear(g_c), s				5.3	4.7	0.0				0.0	3.9	4.3
Prop In Lane				0.27		0.00				0.00		0.63
Lane Grp Cap(c), veh/h				1061	1021	0				0	654	565
V/C Ratio(X)				0.30	0.27	0.00				0.00	0.27	0.29
Avail Cap(c_a), veh/h				1061	1021	0				0	654	565
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				8.9	8.7	0.0				0.0	14.6	15.0
Incr Delay (d2), s/veh				0.7	0.7	0.0				0.0	1.0	1.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.2	3.6	0.0				0.0	3.2	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				9.6	9.3	0.0				0.0	15.6	16.3
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					595						336	
Approach Delay, s/veh					9.5						15.9	
Approach LOS					A						B	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		7.3		6.3								
Green Ext Time (p_c), s		3.9		1.7								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh											11.8	
HCM 6th LOS											B	

2: 8th Street & South Street

Existing Conditions
Timing Plan: Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	215	39	0	0	0	0	0	0	47	222	0
Future Volume (vph)	0	215	39	0	0	0	0	0	0	47	222	0
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	11	11	11	12	12	12	12	12	12	9	11	11
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		441			530			122			218	
Travel Time (s)		12.0			14.5			3.3			5.9	
Confl. Peds. (#/hr)	88		141	141		88	75		55	55		75
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	5%	0%	0%	0%	0%	0%	0%	2%	7%	0%
Shared Lane Traffic (%)												
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		35.0								25.0	25.0	
Total Split (%)		58.3%								41.7%	41.7%	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		5.0								5.0	5.0	

Intersection Summary
















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 15 (25%), Referenced to phase 2:EBT and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 2: 8th Street & South Street



2: 8th Street & South Street

Existing Conditions
Timing Plan: Weekday PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	215	39	0	0	0	0	0	0	47	222	0
Future Volume (veh/h)	0	215	39	0	0	0	0	0	0	47	222	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	2067	2018							1985	1985	0
Adj Flow Rate, veh/h	0	239	43							52	247	0
Peak Hour Factor	0.90	0.90	0.90							0.90	0.90	0.90
Percent Heavy Veh, %	0	2	5							2	7	0
Cap, veh/h	0	828	149							630	662	0
Arrive On Green	0.00	0.50	0.48							0.11	0.11	0.00
Sat Flow, veh/h	0	1656	298							1890	1985	0
Grp Volume(v), veh/h	0	0	282							52	247	0
Grp Sat Flow(s),veh/h/ln	0	0	1954							1890	1985	0
Q Serve(g_s), s	0.0	0.0	5.1							1.5	6.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	5.1							1.5	6.9	0.0
Prop In Lane	0.00		0.15							1.00		0.00
Lane Grp Cap(c), veh/h	0	0	977							630	662	0
V/C Ratio(X)	0.00	0.00	0.29							0.08	0.37	0.00
Avail Cap(c_a), veh/h	0	0	977							630	662	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	8.8							18.5	20.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7							0.3	1.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.7							1.2	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	9.6							18.7	22.5	0.0
LnGrp LOS			A							B	C	
Approach Vol, veh/h		282									299	
Approach Delay, s/veh		9.6									21.8	
Approach LOS		A									C	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		7.1		8.9								
Green Ext Time (p_c), s		1.8		1.1								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			15.9									
HCM 6th LOS			B									

1: 8th Street & Lombard Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↑						↑↔	
Traffic Volume (vph)	0	0	0	70	647	0	0	0	0	0	173	72
Future Volume (vph)	0	0	0	70	647	0	0	0	0	0	173	72
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	12	12	12	13	13	13	12	12	12	13	13	13
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		424			590			171			268	
Travel Time (s)		11.6			16.1			4.7			7.3	
Confl. Peds. (#/hr)	34		49	49		34	80		68	68		80
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	4%	0%	0%	0%	0%	0%	4%	4%
Shared Lane Traffic (%)												
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Minimum Split (s)				24.0	24.0						24.0	
Total Split (s)				35.0	35.0						25.0	
Total Split (%)				58.3%	58.3%						41.7%	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				3.0	3.0						3.0	
Lost Time Adjust (s)					-1.0						-1.0	
Total Lost Time (s)					5.0						5.0	

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 1: 8th Street & Lombard Street



1: 8th Street & Lombard Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	647	0	0	0	0	0	173	72
Future Volume (veh/h)	0	0	0	70	647	0	0	0	0	0	173	72
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.87
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No						No		
Adj Sat Flow, veh/h/ln				2150	2116	0				0	2116	2116
Adj Flow Rate, veh/h				73	674	0				0	180	75
Peak Hour Factor				0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %				2	4	0				0	4	4
Cap, veh/h				192	1862	0				0	903	350
Arrive On Green				0.48	0.50	0.00				0.00	0.33	0.32
Sat Flow, veh/h				384	3829	0				0	2814	1049
Grp Volume(v), veh/h				399	348	0				0	130	125
Grp Sat Flow(s),veh/h/ln				2097	2010	0				0	2010	1748
Q Serve(g_s), s				7.1	6.3	0.0				0.0	2.8	3.1
Cycle Q Clear(g_c), s				7.1	6.3	0.0				0.0	2.8	3.1
Prop In Lane				0.18		0.00				0.00		0.60
Lane Grp Cap(c), veh/h				1048	1005	0				0	670	583
V/C Ratio(X)				0.38	0.35	0.00				0.00	0.19	0.21
Avail Cap(c_a), veh/h				1048	1005	0				0	670	583
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.3	9.1	0.0				0.0	14.3	14.6
Incr Delay (d2), s/veh				1.1	0.9	0.0				0.0	0.6	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				5.6	4.8	0.0				0.0	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				10.4	10.0	0.0				0.0	14.9	15.4
LnGrp LOS				B	B						B	B
Approach Vol, veh/h					747						255	
Approach Delay, s/veh					10.2						15.2	
Approach LOS					B						B	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		9.1		5.1								
Green Ext Time (p_c), s		4.9		1.3								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh					11.5							
HCM 6th LOS					B							

2: 8th Street & South Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	202	35	0	0	0	0	0	0	56	179	0
Future Volume (vph)	0	202	35	0	0	0	0	0	0	56	179	0
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	11	11	11	12	12	12	12	12	12	9	11	11
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Link Speed (mph)		25			25			25				25
Link Distance (ft)		441			530			122				218
Travel Time (s)		12.0			14.5			3.3				5.9
Confl. Peds. (#/hr)	48		54	54		48	72		64	64		72
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	5%	0%	0%	0%	0%	0%	0%	0%	3%	4%	2%
Shared Lane Traffic (%)												
Turn Type		NA								Perm	NA	
Protected Phases		2										4
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		35.0								25.0	25.0	
Total Split (%)		58.3%								41.7%	41.7%	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		5.0								5.0	5.0	

Intersection Summary
















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 15 (25%), Referenced to phase 2:EBT and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 2: 8th Street & South Street



2: 8th Street & South Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	202	35	0	0	0	0	0	0	56	179	0
Future Volume (veh/h)	0	202	35	0	0	0	0	0	0	56	179	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	2018	2100							1969	2034	0
Adj Flow Rate, veh/h	0	246	42							68	218	0
Peak Hour Factor	0.82	0.82	0.82							0.82	0.82	0.82
Percent Heavy Veh, %	0	5	0							3	4	0
Cap, veh/h	0	832	142							625	678	0
Arrive On Green	0.00	0.50	0.48							0.11	0.11	0.00
Sat Flow, veh/h	0	1663	284							1875	2034	0
Grp Volume(v), veh/h	0	0	288							68	218	0
Grp Sat Flow(s),veh/h/ln	0	0	1947							1875	2034	0
Q Serve(g_s), s	0.0	0.0	5.2							2.0	5.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	5.2							2.0	5.9	0.0
Prop In Lane	0.00		0.15							1.00		0.00
Lane Grp Cap(c), veh/h	0	0	974							625	678	0
V/C Ratio(X)	0.00	0.00	0.30							0.11	0.32	0.00
Avail Cap(c_a), veh/h	0	0	974							625	678	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	8.8							18.7	20.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8							0.4	1.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.8							1.6	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	9.6							19.0	21.7	0.0
LnGrp LOS			A							B	C	
Approach Vol, veh/h		288									286	
Approach Delay, s/veh		9.6									21.1	
Approach LOS		A									C	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		7.2		7.9								
Green Ext Time (p_c), s		1.8		1.1								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			15.3									
HCM 6th LOS			B									

3: 8th Street & Site Driveway

Projected Conditions
Timing Plan: Weekday AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	25	0	0	212	31
Future Volume (vph)	0	25	0	0	212	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	200			218	171	
Travel Time (s)	5.5			5.9	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

3: 8th Street & Site Driveway

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↖	
Traffic Vol, veh/h	0	25	0	0	212	31
Future Vol, veh/h	0	25	0	0	212	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	0	0	230	34

Major/Minor	Minor2	Major2
Conflicting Flow All	- 132	- 0
Stage 1	- -	- -
Stage 2	- -	- -
Critical Hdwy	- 6.94	- -
Critical Hdwy Stg 1	- -	- -
Critical Hdwy Stg 2	- -	- -
Follow-up Hdwy	- 3.32	- -
Pot Cap-1 Maneuver	0 893	- -
Stage 1	0 -	- -
Stage 2	0 -	- -
Platoon blocked, %		- -
Mov Cap-1 Maneuver	- 893	- -
Mov Cap-2 Maneuver	- -	- -
Stage 1	- -	- -
Stage 2	- -	- -

Approach	EB	SB
HCM Control Delay, s/v	9.2	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	893	-	-
HCM Lane V/C Ratio	0.03	-	-
HCM Control Delay (s/veh)	9.2	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.1	-	-

1: 8th Street & Lombard Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔↔						↔↔	
Traffic Volume (vph)	0	0	0	91	461	0	0	0	0	0	210	91
Future Volume (vph)	0	0	0	91	461	0	0	0	0	0	210	91
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	12	12	12	13	13	13	12	12	12	13	13	13
Right Turn on Red			Yes	Yes		Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		424			590			171			268	
Travel Time (s)		11.6			16.1			4.7			7.3	
Confl. Peds. (#/hr)	53		44	44		53	79		80	80		79
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%	0%	0%	0%	0%	7%	2%
Shared Lane Traffic (%)												
Turn Type				Perm	NA						NA	
Protected Phases					2						4	
Permitted Phases				2								
Minimum Split (s)				24.0	24.0						24.0	
Total Split (s)				35.0	35.0						25.0	
Total Split (%)				58.3%	58.3%						41.7%	
Yellow Time (s)				3.0	3.0						3.0	
All-Red Time (s)				3.0	3.0						3.0	
Lost Time Adjust (s)					-1.0						-1.0	
Total Lost Time (s)					5.0						5.0	

Intersection Summary

















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:WBTL and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 1: 8th Street & Lombard Street



1: 8th Street & Lombard Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	91	461	0	0	0	0	0	210	91
Future Volume (veh/h)	0	0	0	91	461	0	0	0	0	0	210	91
Initial Q (Qb), veh				0	0	0				0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00				1.00		0.88
Parking Bus, Adj				1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach				No						No		
Adj Sat Flow, veh/h/ln				2133	2150	0				0	2065	2150
Adj Flow Rate, veh/h				102	518	0				0	236	102
Peak Hour Factor				0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %				3	2	0				0	7	2
Cap, veh/h				327	1753	0				0	866	353
Arrive On Green				0.48	0.50	0.00				0.00	0.33	0.32
Sat Flow, veh/h				653	3614	0				0	2702	1059
Grp Volume(v), veh/h				330	290	0				0	175	163
Grp Sat Flow(s),veh/h/ln				2117	2042	0				0	1962	1696
Q Serve(g_s), s				5.6	5.0	0.0				0.0	3.9	4.3
Cycle Q Clear(g_c), s				5.6	5.0	0.0				0.0	3.9	4.3
Prop In Lane				0.31		0.00				0.00		0.62
Lane Grp Cap(c), veh/h				1059	1021	0				0	654	565
V/C Ratio(X)				0.31	0.28	0.00				0.00	0.27	0.29
Avail Cap(c_a), veh/h				1059	1021	0				0	654	565
HCM Platoon Ratio				1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	0.00				0.00	1.00	1.00
Uniform Delay (d), s/veh				9.0	8.7	0.0				0.0	14.6	15.0
Incr Delay (d2), s/veh				0.8	0.7	0.0				0.0	1.0	1.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				4.4	3.8	0.0				0.0	3.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				9.8	9.4	0.0				0.0	15.6	16.3
LnGrp LOS				A	A						B	B
Approach Vol, veh/h					620						338	
Approach Delay, s/veh					9.6						16.0	
Approach LOS					A						B	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		7.6		6.3								
Green Ext Time (p_c), s		4.0		1.7								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh				11.8								
HCM 6th LOS				B								

2: 8th Street & South Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	222	39	0	0	0	0	0	0	63	224	0
Future Volume (vph)	0	222	39	0	0	0	0	0	0	63	224	0
Ideal Flow (vphpl)	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100
Lane Width (ft)	11	11	11	12	12	12	12	12	12	9	11	11
Right Turn on Red			Yes			Yes			Yes	Yes		Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		441			530			122			218	
Travel Time (s)		12.0			14.5			3.3			5.9	
Confl. Peds. (#/hr)	88		141	141		88	75		55	55		75
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	5%	0%	0%	0%	0%	0%	0%	2%	7%	0%
Shared Lane Traffic (%)												
Turn Type		NA								Perm	NA	
Protected Phases		2									4	
Permitted Phases										4		
Minimum Split (s)		24.0								24.0	24.0	
Total Split (s)		35.0								25.0	25.0	
Total Split (%)		58.3%								41.7%	41.7%	
Yellow Time (s)		3.0								3.0	3.0	
All-Red Time (s)		3.0								3.0	3.0	
Lost Time Adjust (s)		-1.0								-1.0	-1.0	
Total Lost Time (s)		5.0								5.0	5.0	

Intersection Summary
















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 15 (25%), Referenced to phase 2:EBT and 6:, Start of Yellow
 Natural Cycle: 50
 Control Type: Pretimed

Splits and Phases: 2: 8th Street & South Street



2: 8th Street & South Street

Projected Conditions
Timing Plan: Weekday AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	222	39	0	0	0	0	0	0	63	224	0
Future Volume (veh/h)	0	222	39	0	0	0	0	0	0	63	224	0
Initial Q (Qb), veh	0	0	0							0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.85							1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00							1.00	1.00	1.00
Work Zone On Approach		No									No	
Adj Sat Flow, veh/h/ln	0	2067	2018							1985	1985	0
Adj Flow Rate, veh/h	0	247	43							70	249	0
Peak Hour Factor	0.90	0.90	0.90							0.90	0.90	0.90
Percent Heavy Veh, %	0	2	5							2	7	0
Cap, veh/h	0	833	145							630	662	0
Arrive On Green	0.00	0.50	0.48							0.11	0.11	0.00
Sat Flow, veh/h	0	1666	290							1890	1985	0
Grp Volume(v), veh/h	0	0	290							70	249	0
Grp Sat Flow(s),veh/h/ln	0	0	1957							1890	1985	0
Q Serve(g_s), s	0.0	0.0	5.2							2.0	7.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	5.2							2.0	7.0	0.0
Prop In Lane	0.00		0.15							1.00		0.00
Lane Grp Cap(c), veh/h	0	0	978							630	662	0
V/C Ratio(X)	0.00	0.00	0.30							0.11	0.38	0.00
Avail Cap(c_a), veh/h	0	0	978							630	662	0
HCM Platoon Ratio	1.00	1.00	1.00							0.33	0.33	1.00
Upstream Filter(I)	0.00	0.00	1.00							1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	8.9							18.7	20.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8							0.4	1.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0							0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	3.9							1.6	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	9.6							19.0	22.5	0.0
LnGrp LOS			A							B	C	
Approach Vol, veh/h		290									319	
Approach Delay, s/veh		9.6									21.8	
Approach LOS		A									C	
Timer - Assigned Phs		2		4								
Phs Duration (G+Y+Rc), s		35.0		25.0								
Change Period (Y+Rc), s		6.0		6.0								
Max Green Setting (Gmax), s		29.0		19.0								
Max Q Clear Time (g_c+I1), s		7.2		9.0								
Green Ext Time (p_c), s		1.8		1.2								
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			16.0									
HCM 6th LOS			B									

3: 8th Street & Site Driveway

Projected Conditions
Timing Plan: Weekday AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	18	0	0	284	17
Future Volume (vph)	0	18	0	0	284	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25			25	25	
Link Distance (ft)	200			218	171	
Travel Time (s)	5.5			5.9	4.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

3: 8th Street & Site Driveway

Projected Conditions
Timing Plan: Weekday AM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗			↕	
Traffic Vol, veh/h	0	18	0	0	284	17
Future Vol, veh/h	0	18	0	0	284	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	0	0	309	18

Major/Minor	Minor2		Major2	
Conflicting Flow All	-	164	-	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	852	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	852	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s/v	9.3	0
HCM LOS	A	

Minor Lane/Major Mvmt	EBLn1	SBT	SBR
Capacity (veh/h)	852	-	-
HCM Lane V/C Ratio	0.023	-	-
HCM Control Delay (s/veh)	9.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.1	-	-

APPENDIX E:

Traffic Signal Diagram



MATERIAL LIST

1	EA	SOLID STATE CONTROLLER
215	LF	CONDUIT, 3-INCH
17	EA	CONDUIT ELBOW, 3-INCH
4	EA	TRAFFIC C-POST, 20'
1	EA	D-POLE
1	EA	D-POLE FOUNDATION
8	EA	SIGNAL HEAD 8-INCH 3-SECTION, POLE/POST MOUNTED
200	LF	SIGNAL CABLE, 5-CONDUCTOR
210	LF	SIGNAL CABLE, 20-CONDUCTOR
55	LF	ELECTRICAL SERVICE WIRE
4	EA	TRAFFIC SIGN
2	EA	COMBINATION STREET NAME SIGN, 2-SIGN ASSEMBLY
1	EA	STREET LIGHT LUMINAIRE 250W HPS
1	EA	UTILITY MANHOLE MODIFICATION
1	EA	RECTANGULAR COMPOSITE JUNCTION BOX
1	EA	REMOVE STREET LIGHT POLE
1	EA	REMOVE STREET LIGHT POLE FOUNDATION
1	EA	REMOVE BOLLARD
2	EA	REMOVE TRAFFIC SIGN POST
1	EA	REMOVE TRAFFIC SIGN
1	EA	ELECTRICAL SERVICE CONNECTION
1	IN	REMOVE SIGNAL EQUIPMENT
1	EA	CONNECTION OF ELECTRICAL SERVICE CABLE
50	LF	LIGHTING CABLE

AT YOUR REQUEST, CARB & DUFF, INC. HAS ATTEMPTED, TO THE BEST OF OUR ABILITY, TO PRODUCE AS BUILT DRAWINGS INDICATING ONLY IN A NONSPECIFIC MANNER THE LOCATION OF THE UNDERGROUND ELECTRICAL FACILITIES INSTALLED BY CARB & DUFF, INC. AT THIS LOCATION PER THE CONTRACT DRAWINGS.

IT IS THE RESPONSIBILITY OF THE OWNER OR EXCAVATING CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PER ALL APPLICABLE PROVISIONS OF THE UNDERGROUND FACILITY PROTECTION ACT (PC 1994, C. 118). UTILITIES SHOWN ON THE AS BUILT DRAWINGS ARE NOT WARRANTED TO BE EXACT NOR CAN THEY BE ASSUMED TO BE THE ONLY SUBSURFACE PIPES OR STRUCTURE WHICH MAY BE ENCOUNTERED DURING EXCAVATION.

THESE DRAWINGS SHOULD BE REFERRED TO AS GUIDELINES ONLY, DUE TO CONSTRUCTION ACTIVITIES BEYOND OUR CONTROL, SITE CONDITIONS MAY HAVE BEEN MODIFIED TO MAKE THESE DRAWINGS INACCURATE.

CARB & DUFF, INC. ACCEPTS NO LIABILITY AS TO THE EXACT LOCATION OF INSTALLED ELECTRIC FACILITIES.

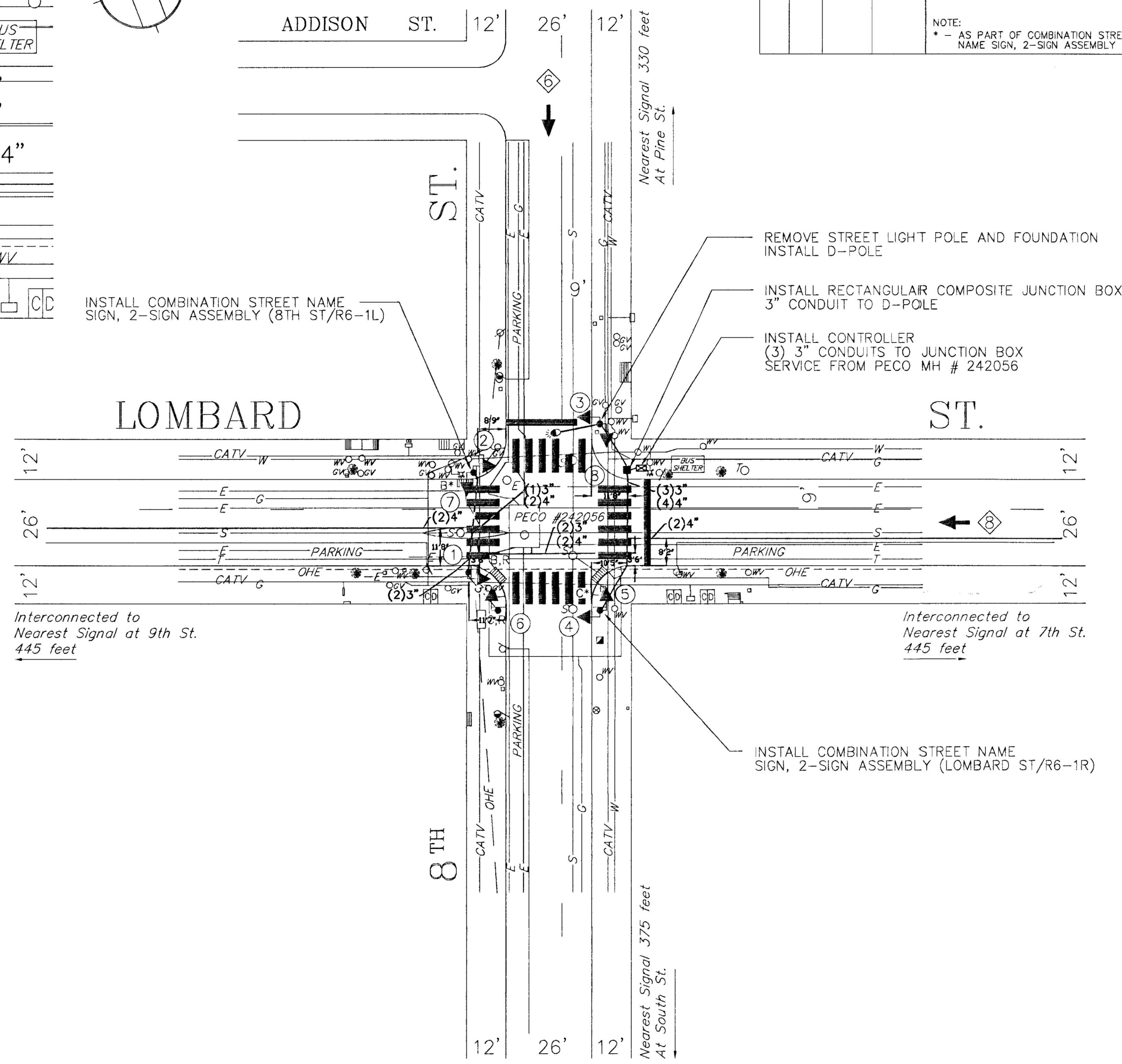
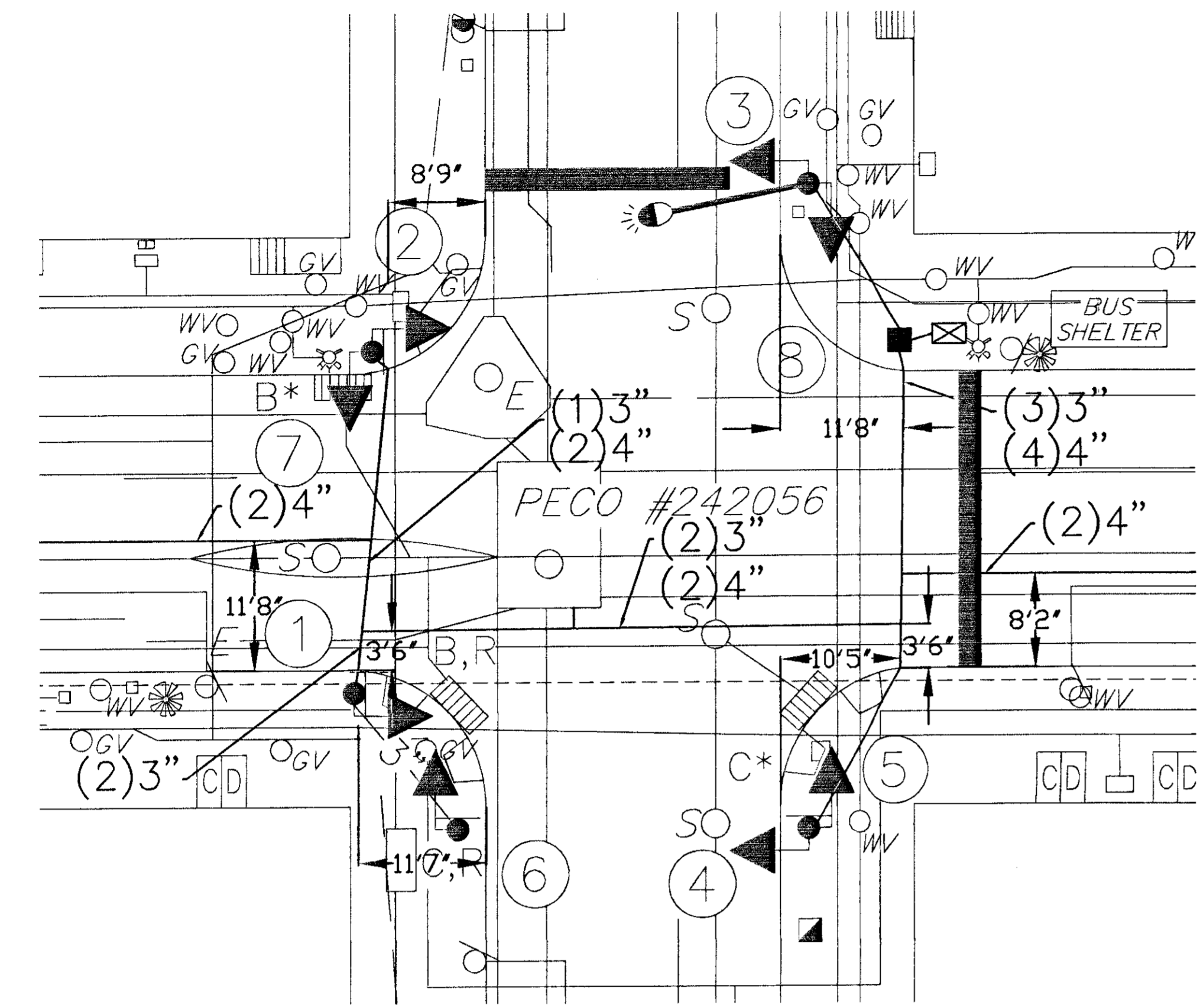
LEGEND

	Existing mast arm, to be removed		New curb ramp
	New mast arm, length		Existing curb ramp
	Existing C-Post, to be removed		Existing tree
	New C-Post		Existing grate inlet
	New base-mounted controller		Existing inlet
	Existing signal head, to be removed		Existing street light
	New signal head and number		New street light
	Existing 2" conduit, to be abandoned		Existing fire hydrant
	Existing conduit and size, to be abandoned		Existing mail box
	New conduit and size		Existing flag pole
	New junction box		Existing parking meter
	Existing sign post and sign		Existing bike rack
	New sign post and sign		Existing PECO pole
			Existing call box, to be removed
			Existing bollard
			Existing catenary pole
			New luminaire

SIGN TABULATION

QUAN	SYM	SERIES	SIZE	LEGEND
1	B	R6-1L	36 x 12	ONE WAY LEFT ARROW
1	B*	R6-1L	36 x 12	ONE WAY LEFT ARROW
1	C	R6-1R	36 x 12	ONE WAY RIGHT ARROW
1	C*	R6-1R	36 x 12	ONE WAY RIGHT ARROW
2	R	R10-11	24 x 24	NO TURN ON RED

NOTE:
 * - AS PART OF COMBINATION STREET NAME SIGN, 2-SIGN ASSEMBLY



PHASING, TIMING AND COLOR SEQUENCE CHART

MINIMUM G/M	PHASE	STAGES	A			B			FLASH
			1	2	3	4	5	6	
10	8	1,2	G	Y	R	R	R	R	R
10	4	3,4	G	Y	R	R	R	R	R
10	6	5,6	R	R	R	G	Y	R	R
10	2	7,8	R	R	R	G	Y	R	R

PROGRAM 1

SECONDS	29	3	3	19	3	3	60 SEC.
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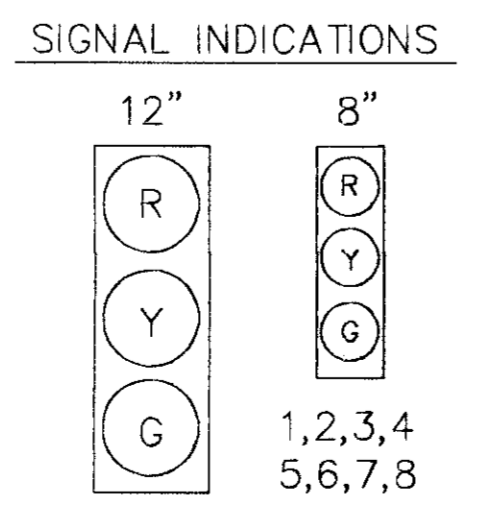
PROGRAM 2

SECONDS	24	3	3	24	3	3	60 SEC.
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WEEKLY PROGRAM CHART

EVENT	DAY*	TIME	CYCLE	OFFSET**	PROGRAM	REMARKS
1	1-7	0:00	60	0	1	NORMAL
2	1-7	***	60	0	2	
3						
4						

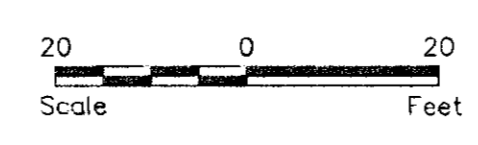
* DAY 1 = MONDAY
 ** OFFSET REFERENCED TO THE BEGINNING OF YELLOW INTERVAL 2, PHASE A
 *** TO BE DETERMINED



AS-BUILT

DATE: **7-14-09**

OR&A Orth - Rodgers & Associates, Inc.
 TRANSPORTATION ENGINEERS and PLANNERS
 Executive Offices: 230 South Broad Street, Philadelphia, PA 19102 (215) 739-1932
 301 Lindenwood Drive, Suite 130, Malvern, PA 19355 (610) 407-9700



CITY OF PHILADELPHIA
 TRAFFIC CONTROL SYSTEM

8TH ST. &
 LOMBARD ST.

DIST	COUNTY	ROUTE	SECT	SHEET
6-0	PHILADELPHIA			79 OF 84
CITY OF PHILADELPHIA				
NO.	REVISION	DATE	BY	

APPROVED _____ DATE _____
TRAFFIC ENGINEERING DIVISION

DESIGN REVIEW _____ DATE _____
PENNDOT TRAFFIC ENGINEER

MATERIAL LIST

- 1 EA SOLID STATE CONTROLLER
- 205 LF CONDUIT, 3-INCH
- 19 EA CONDUIT ELBOW, 3-INCH
- 3 EA TRAFFIC C-POST, 20'
- 2 EA D-POLE
- 2 EA D-POLE FOUNDATION
- 8 EA SIGNAL HEAD 8-INCH 3-SECTION, POLE/POST MOUNTED
- 200 LF SIGNAL CABLE, 5-CONDUCTOR
- 230 LF SIGNAL CABLE, 20-CONDUCTOR
- 40 LF ELECTRICAL SERVICE WIRE
- 9 EA TRAFFIC SIGN
- 4 EA BREAKAWAY STEEL SQUARE POST
- 2 EA COMBINATION STREET NAME SIGN, 2-SIGN ASSEMBLY
- 1 EA STREET LIGHT LUMINAIRE 250W HPS
- 1 EA UTILITY MANHOLE MODIFICATION
- 1 EA STEEL JUNCTION BOX
- 1 EA CIRCULAR COMPOSITE JUNCTION BOX
- 2 EA RELOCATE TRAFFIC SIGN
- 5 EA REMOVE TRAFFIC SIGN
- 3 EA REMOVE STREET LIGHT POLE
- 3 EA REMOVE STREET LIGHT POLE FOUNDATION
- 2 EA ELECTRICAL SERVICE CONNECTION
- 1 IN REMOVE SIGNAL EQUIPMENT
- 1 EA CONNECTION OF ELECTRICAL SERVICE CABLE
- 100 LF LIGHTING CABLE

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LEGEND

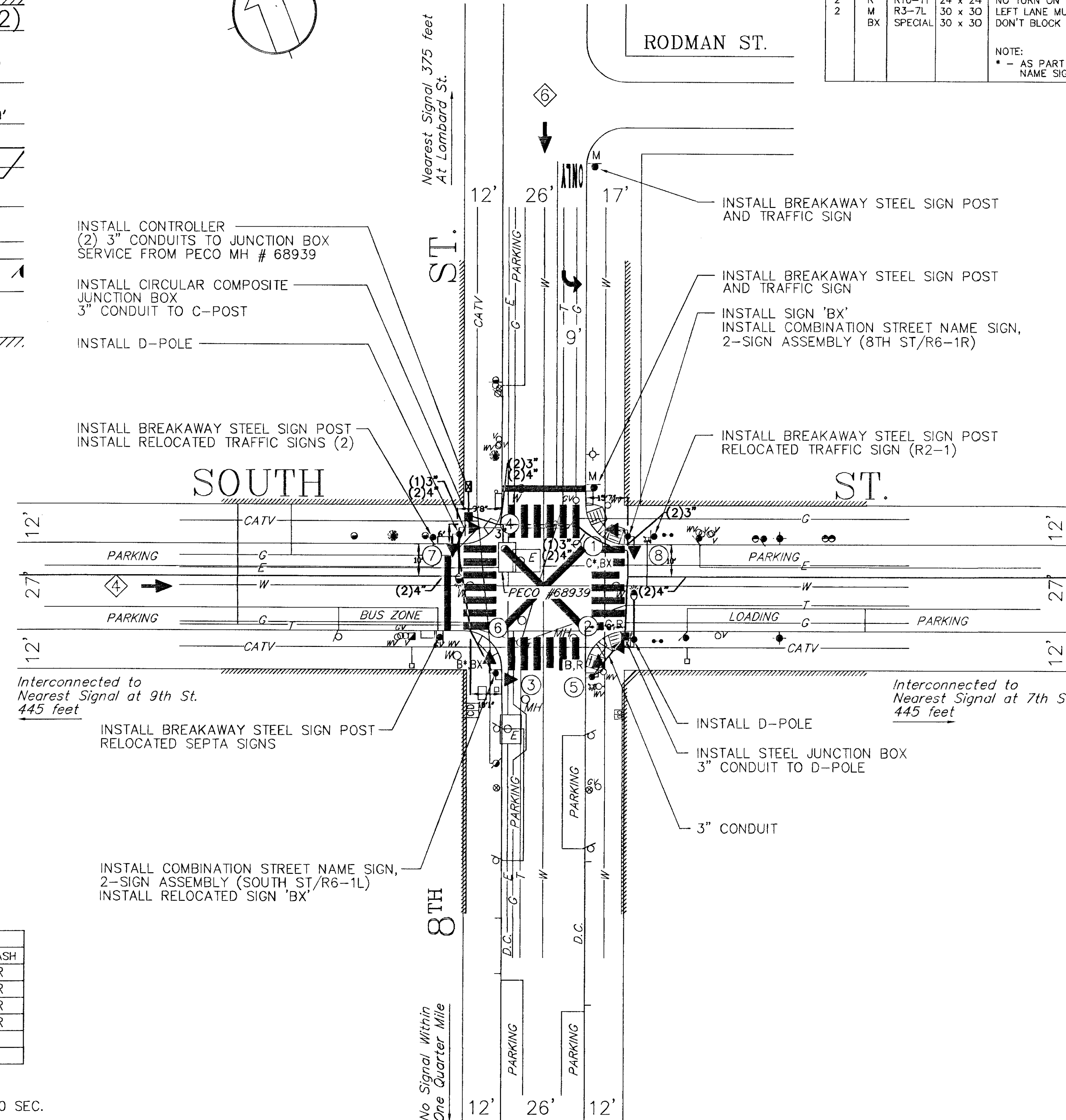
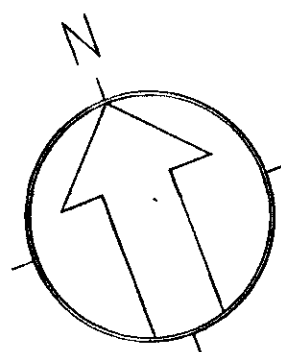
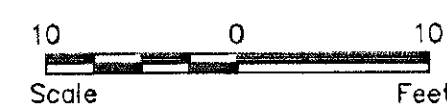
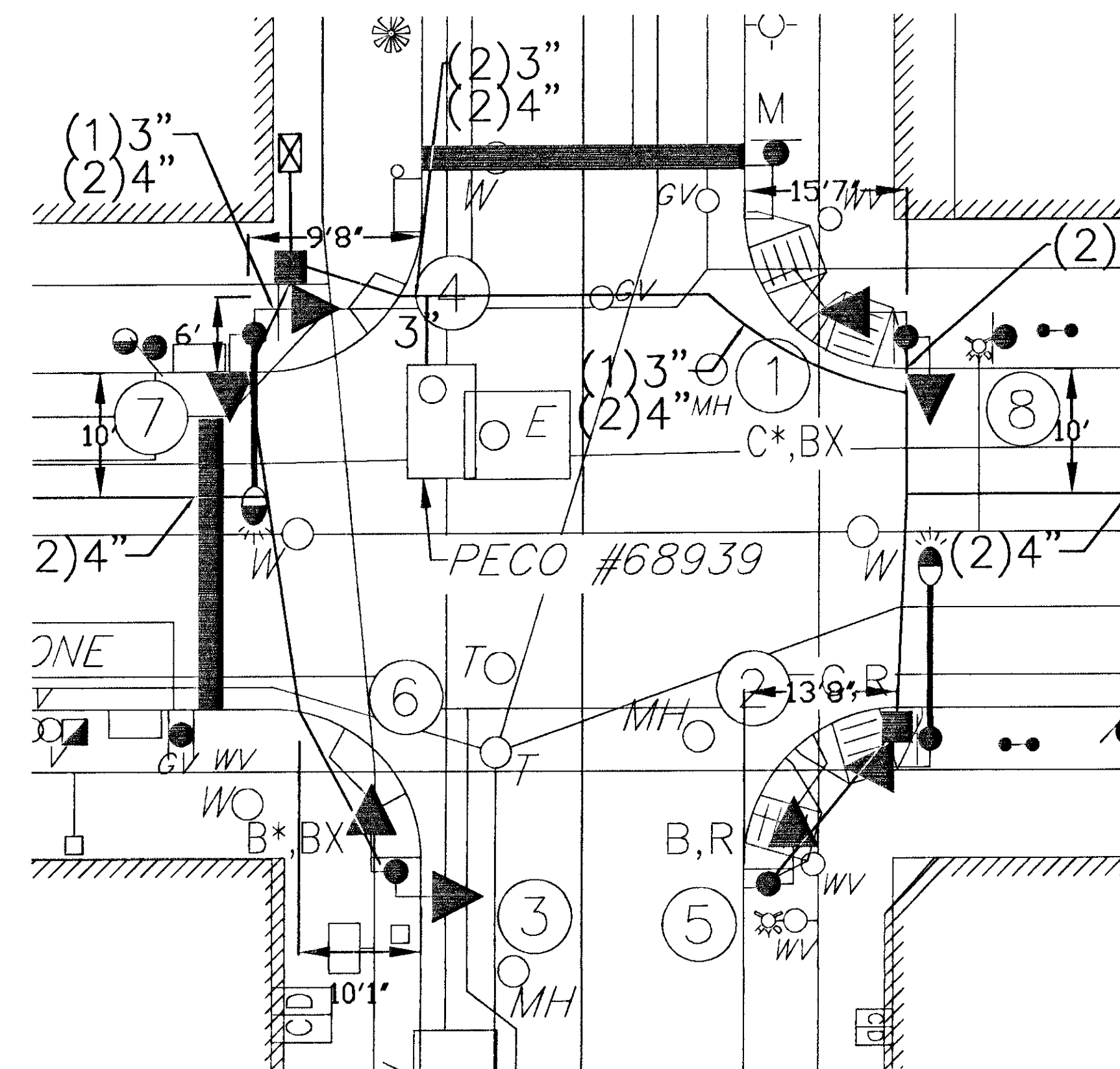
- Existing mast arm, to be removed
- New mast arm, length 35'
- Existing C-Post, to be removed
- New C-Post
- New base-mounted controller
- Existing signal head, to be removed
- New signal head and number
- Existing 2" conduit, to be abandoned
- Existing conduit and size, to be abandoned
- New conduit and size
- New junction box
- Existing sign post and sign
- New sign post and sign
- New curb ramp
- Existing curb ramp
- Existing tree
- Existing grate inlet
- Existing inlet
- Existing street light
- New street light
- Existing fire hydrant
- Existing mail box
- Existing flag pole
- Existing parking meter
- Existing bike rack
- Existing PECO pole
- Existing call box, to be removed
- Existing bollard
- Existing catenary pole
- New luminaire

CITY OF PHILADELPHIA
TRAFFIC CONTROL SYSTEM

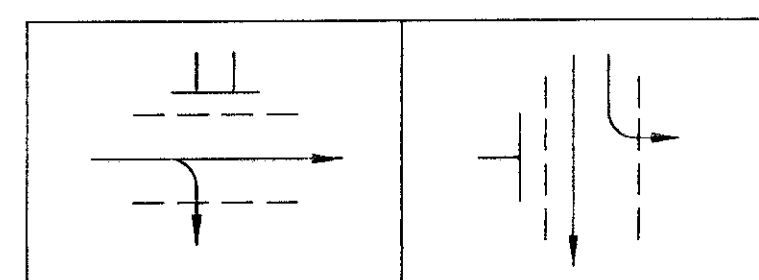
8TH ST. &
SOUTH ST.

SIGN TABULATION				
QUAN	SYM	SERIES	SIZE	LEGEND
1	B	R6-1L	36 x 12	ONE WAY LEFT ARROW
1	B*	R6-1L	36 x 12	ONE WAY LEFT ARROW
1	C	R6-1R	36 x 12	ONE WAY RIGHT ARROW
1	C*	R6-1R	36 x 12	ONE WAY RIGHT ARROW
2	R	R10-11	24 x 24	NO TURN ON RED
2	M	R3-7L	30 x 30	LEFT LANE MUST TURN LEFT
2	BX	SPECIAL	30 x 30	DON'T BLOCK THE BOX

NOTE:
* - AS PART OF COMBINATION STREET NAME SIGN, 2-SIGN ASSEMBLY



PHASING, TIMING AND COLOR SEQUENCE CHART



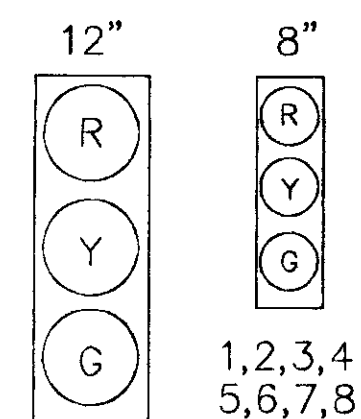
MINIMUM G/M	FH	PHASE	STAGES						FLASH				
			SIGNALS	INTERVAL	1	2	3	4		5	6		
10		4	1,2		G	Y	R		R	R	R	R	R
10		8	3,4		G	Y	R		R	R	R	R	R
10		6	5,6		R	R	R		G	Y	R		R
10		2	7,8		R	R	R		G	Y	R		R

PROGRAM 1	SECONDS	29	3	3	19	3	3	60 SEC.
PROGRAM 2	SECONDS	24	3	3	24	3	3	60 SEC.

WEEKLY PROGRAM CHART						
EVENT	DAY*	TIME	CYCLE	OFFSET**	PROGRAM	REMARKS
1	1-7	0:00	60	15	1	NORMAL
2	1-7	***	60	0	2	
3						
4						

* DAY 1 = MONDAY
** OFFSET REFERENCED TO THE BEGINNING OF YELLOW INTERVAL 2, PHASE A
*** TO BE DETERMINED

SIGNAL INDICATIONS



AS-BUILT

DATE: **8-14-09**

OR&A Orth - Rodgers & Associates, Inc.
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