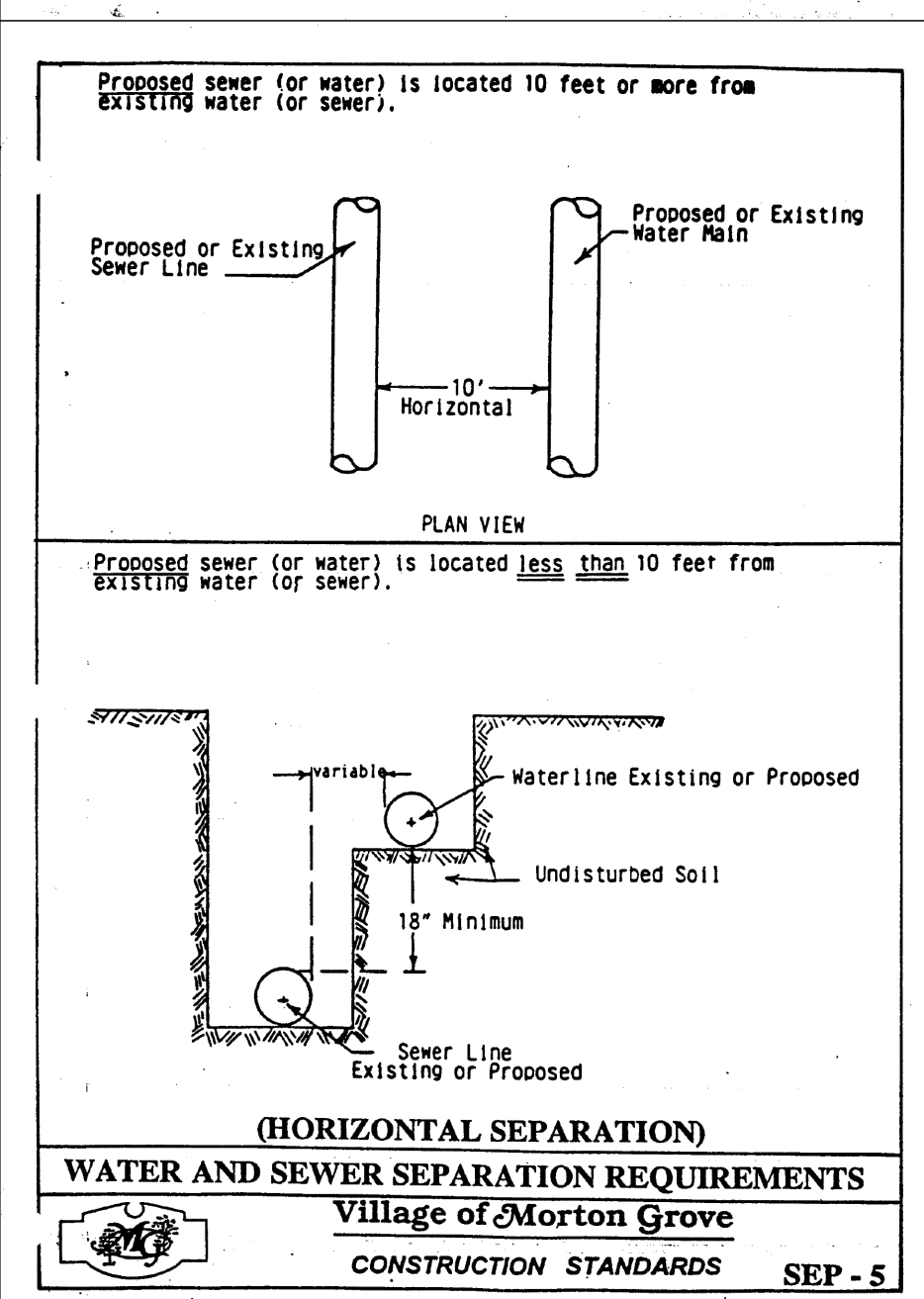
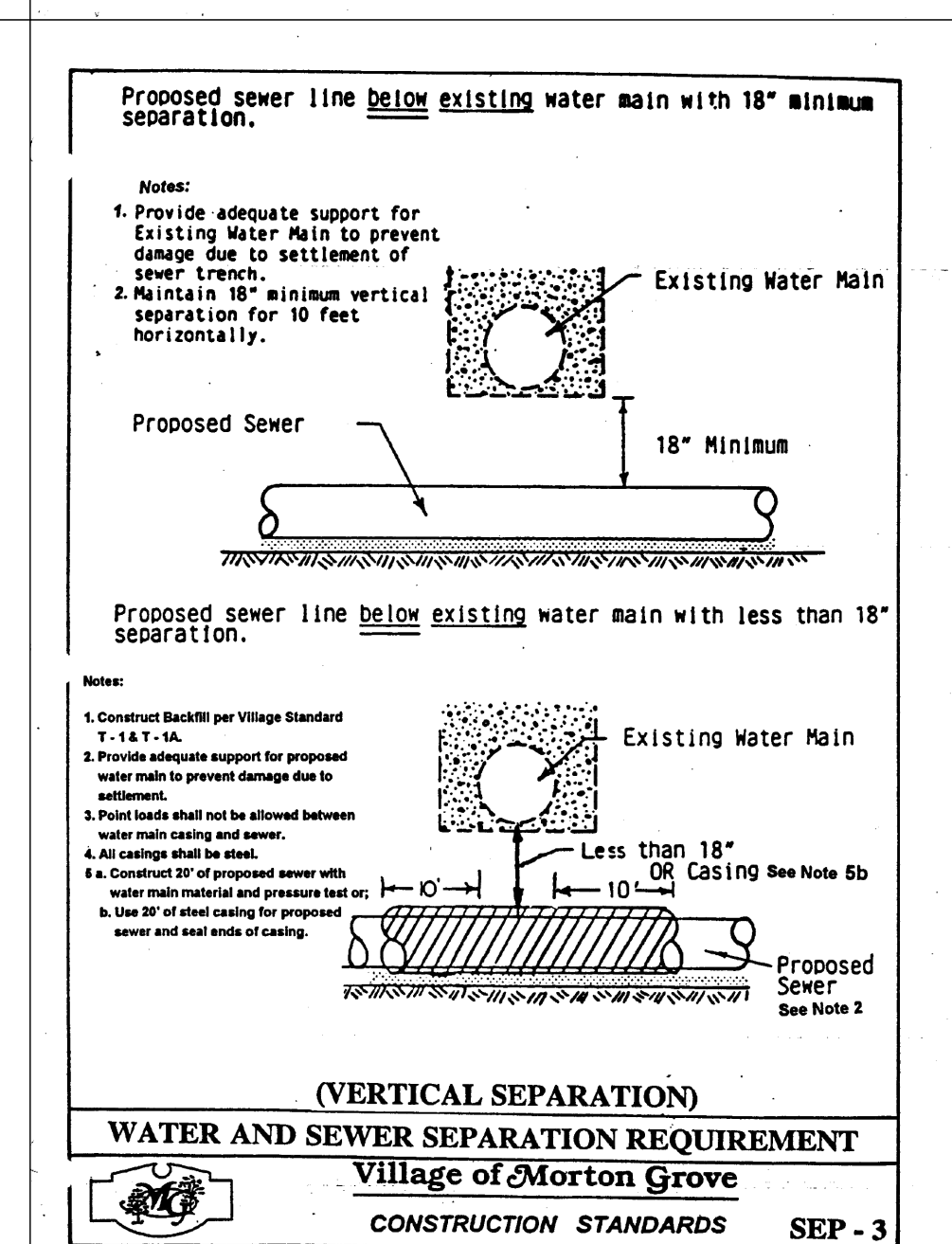
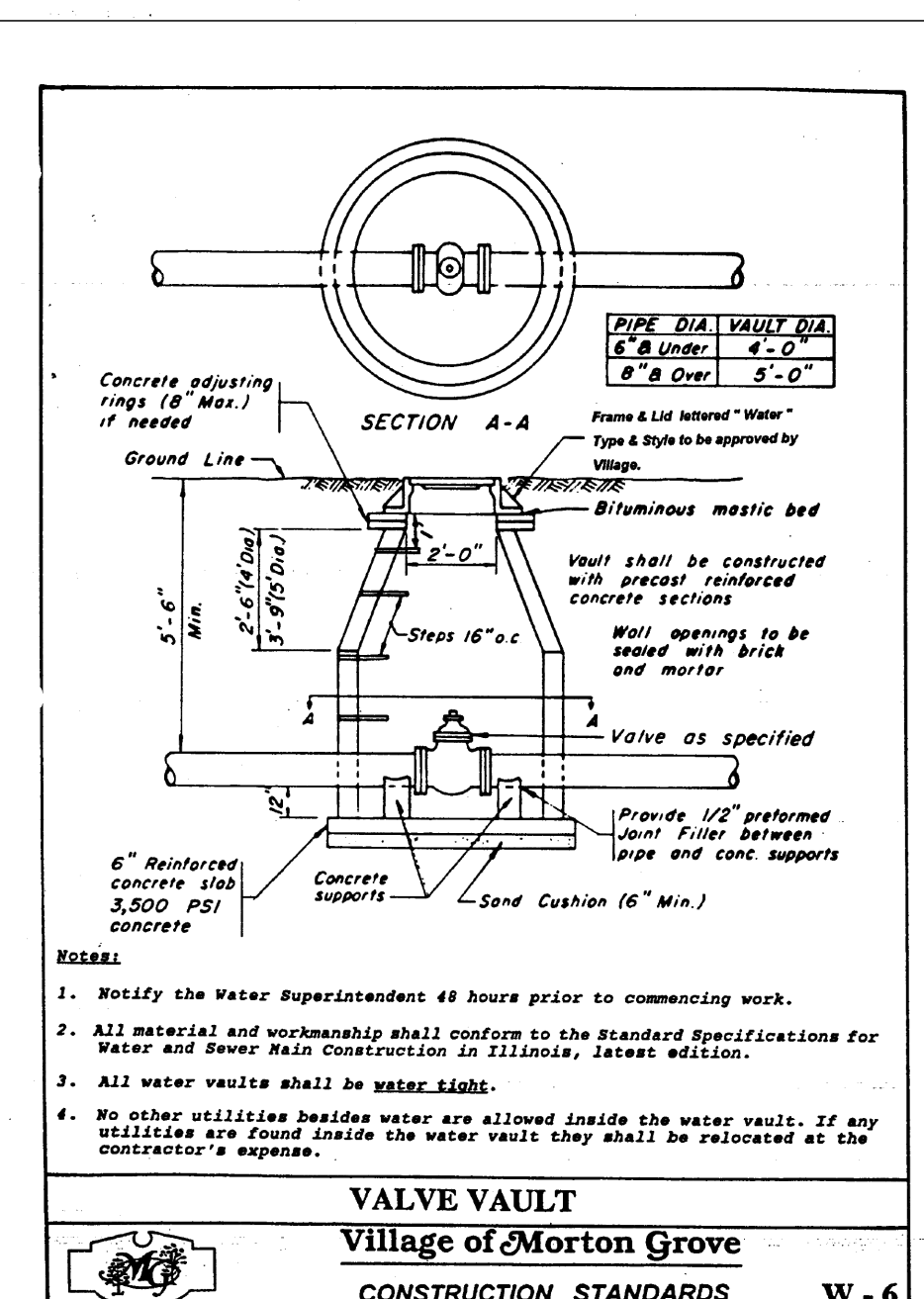
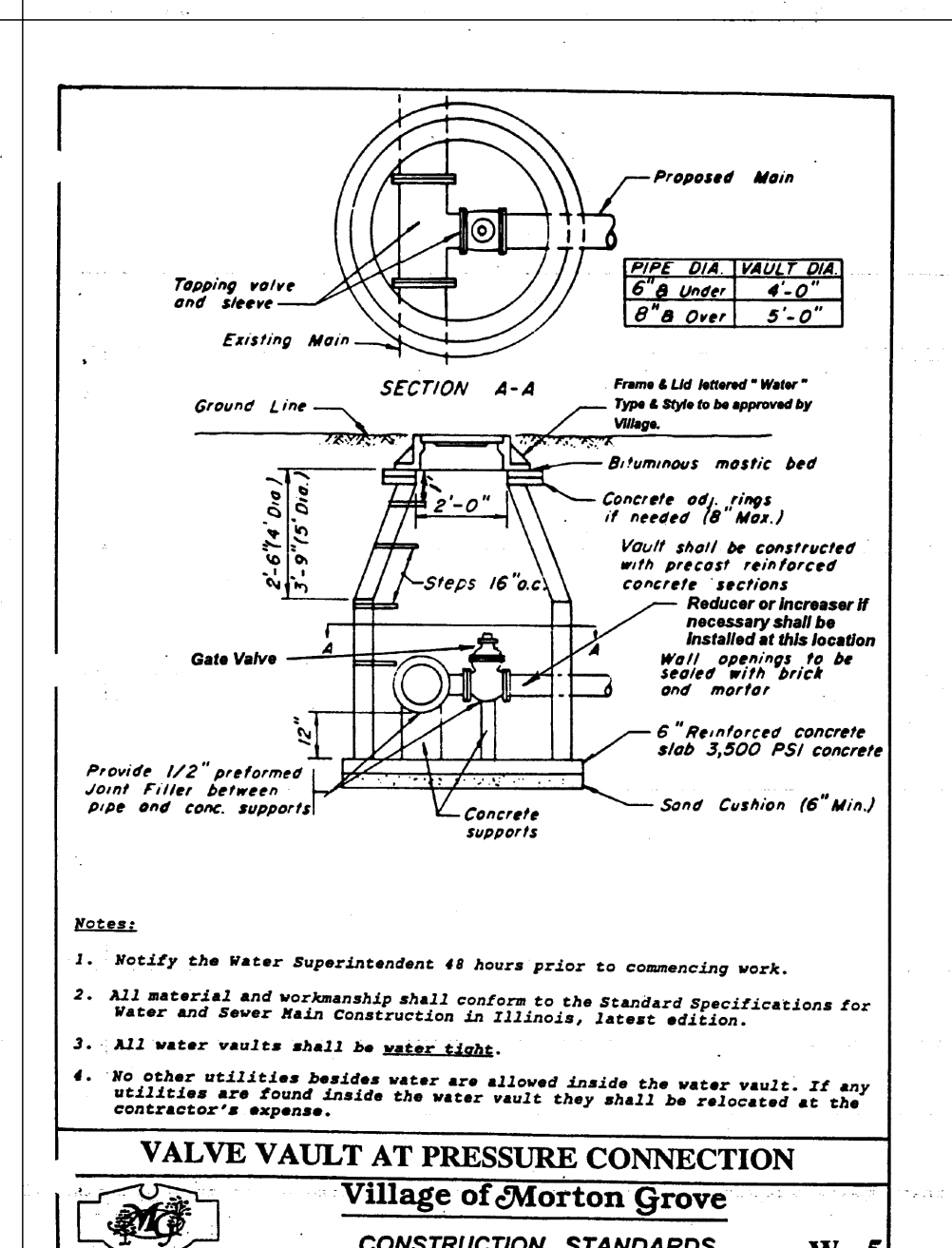
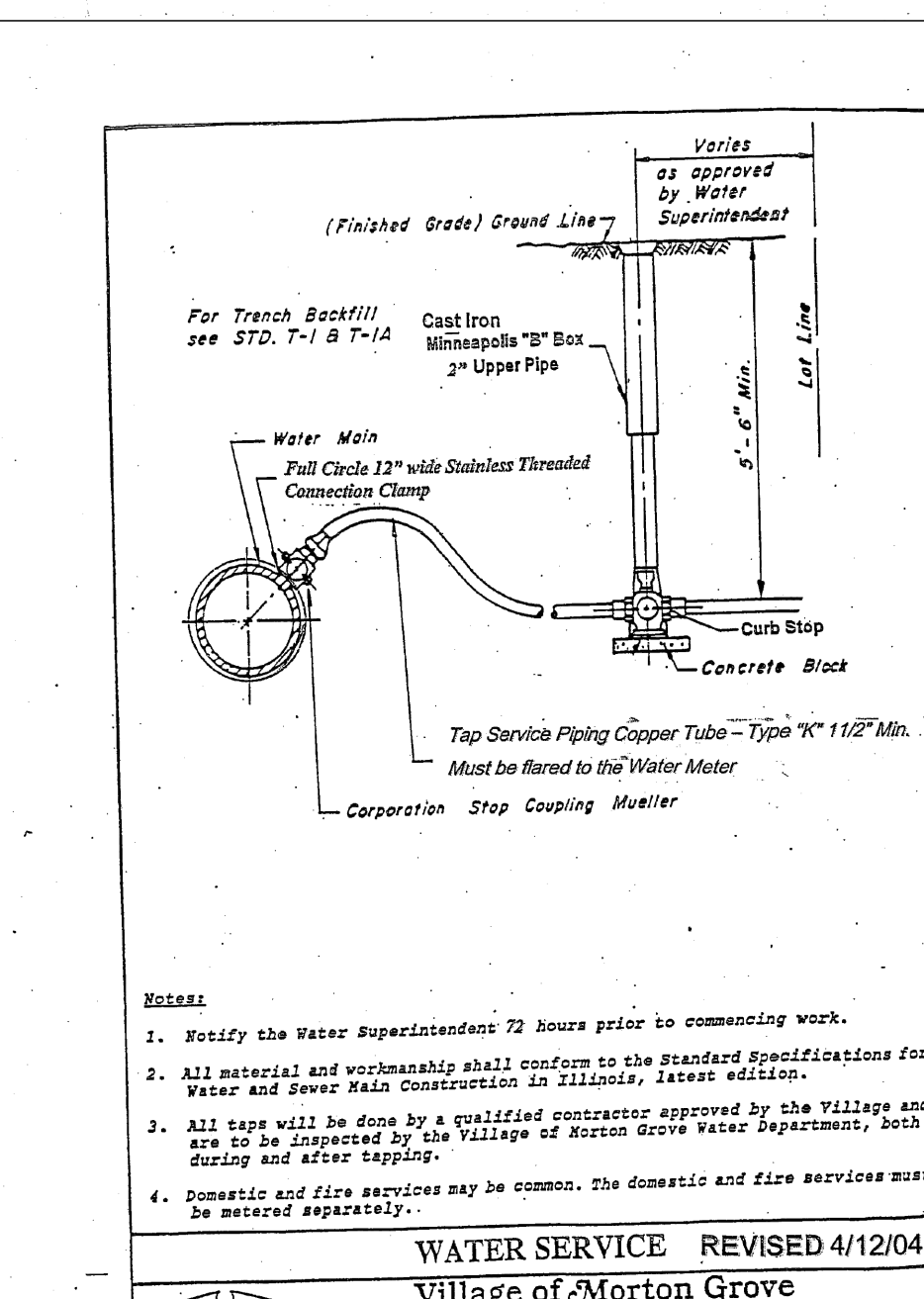
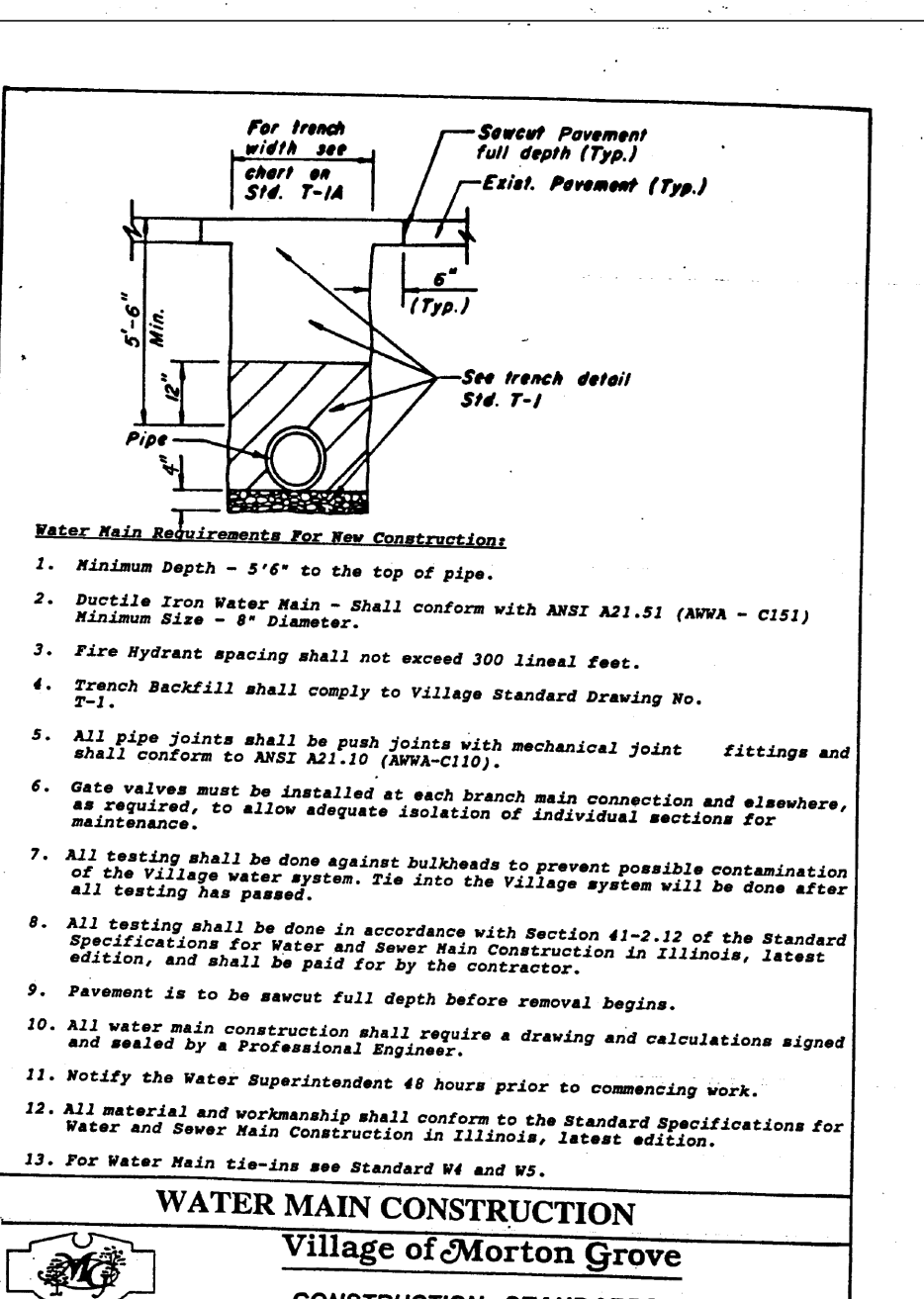
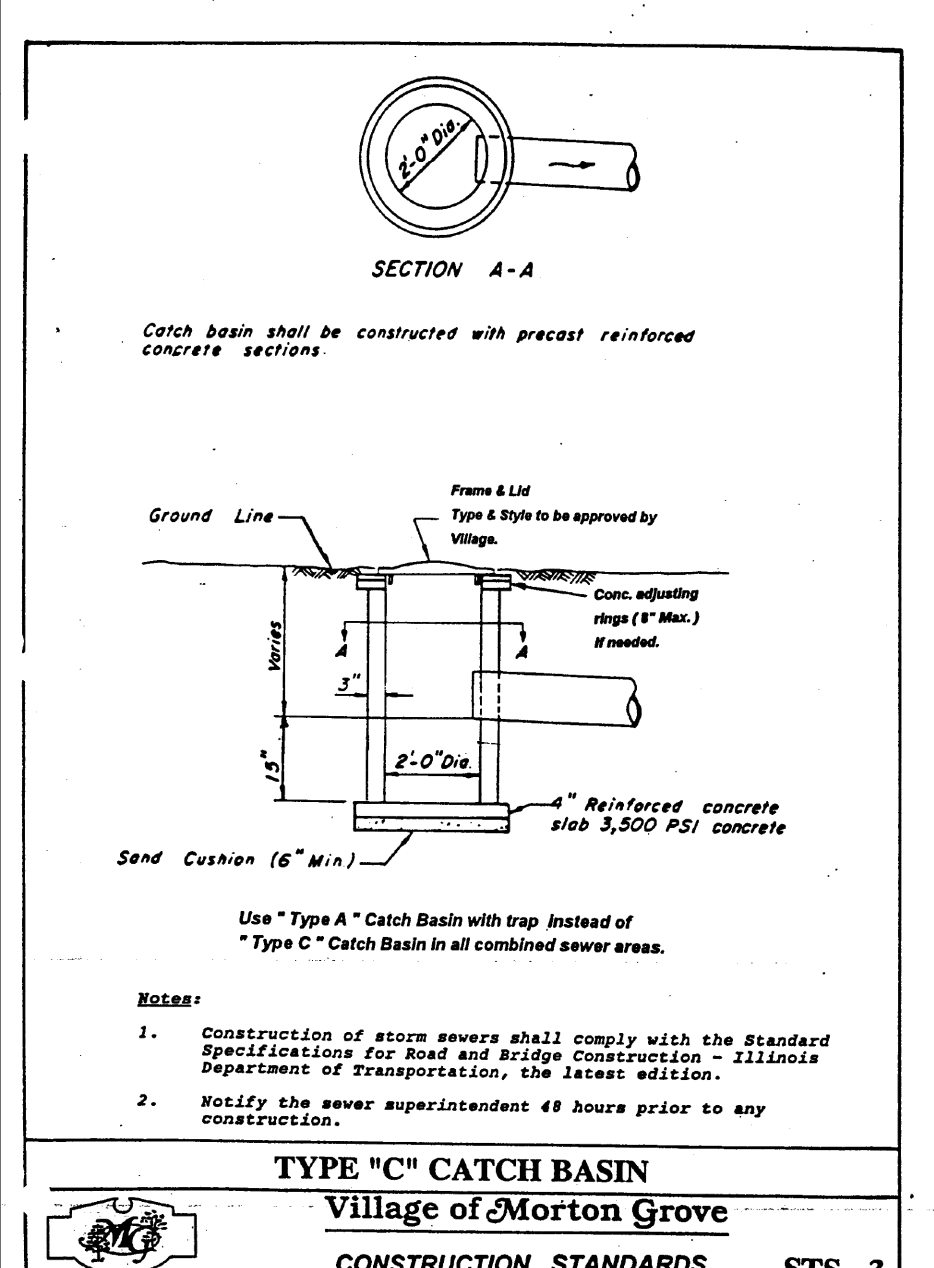
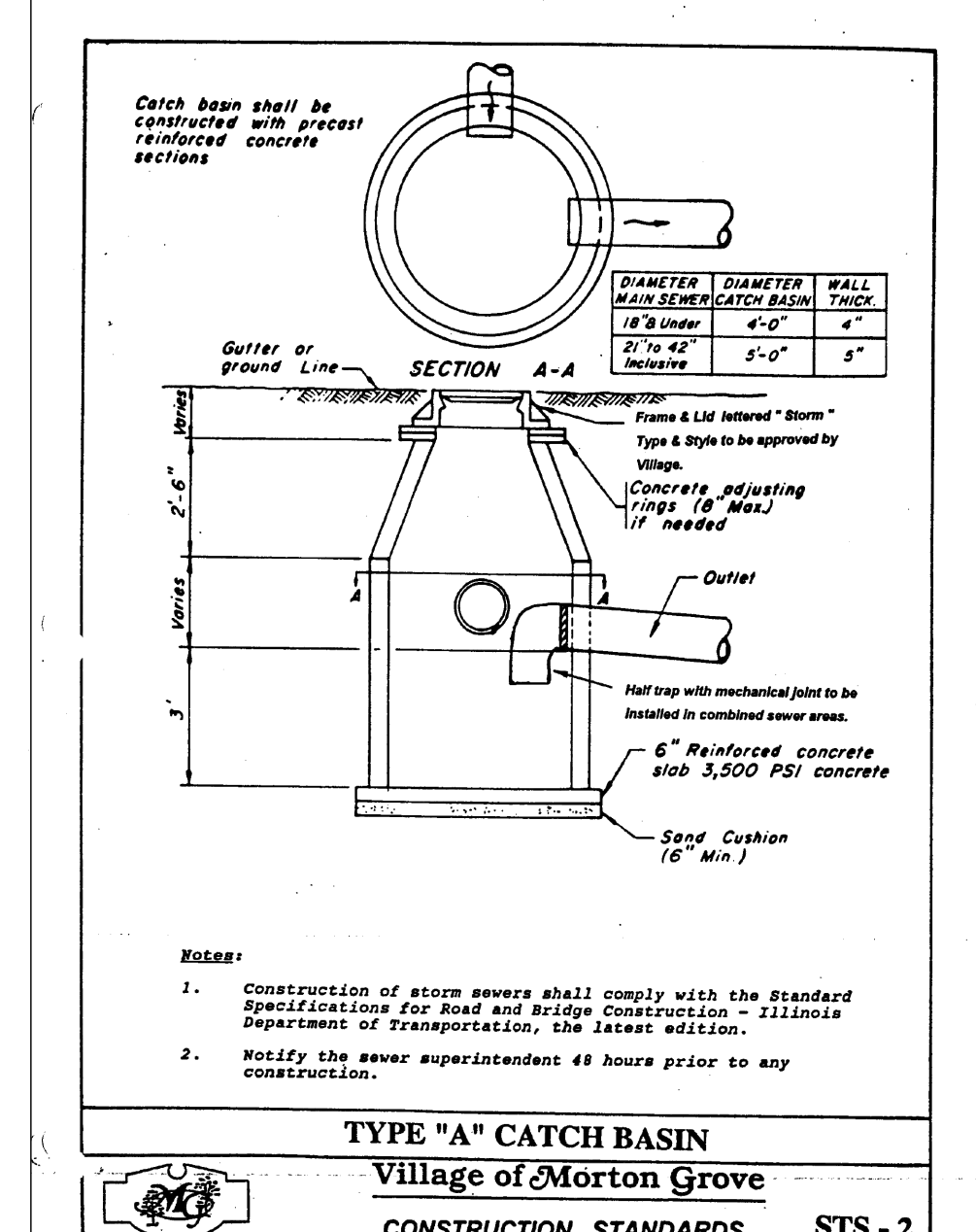
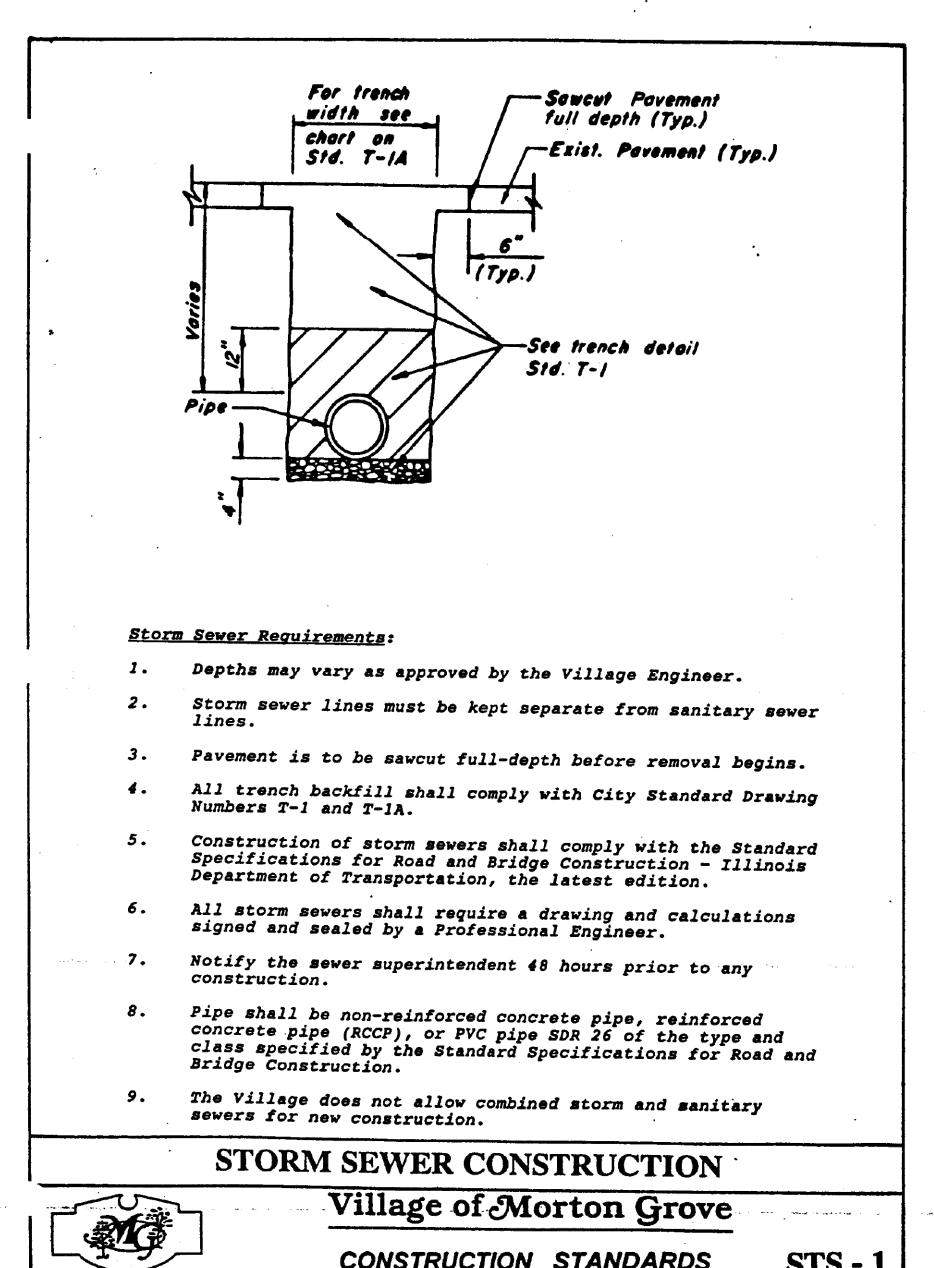
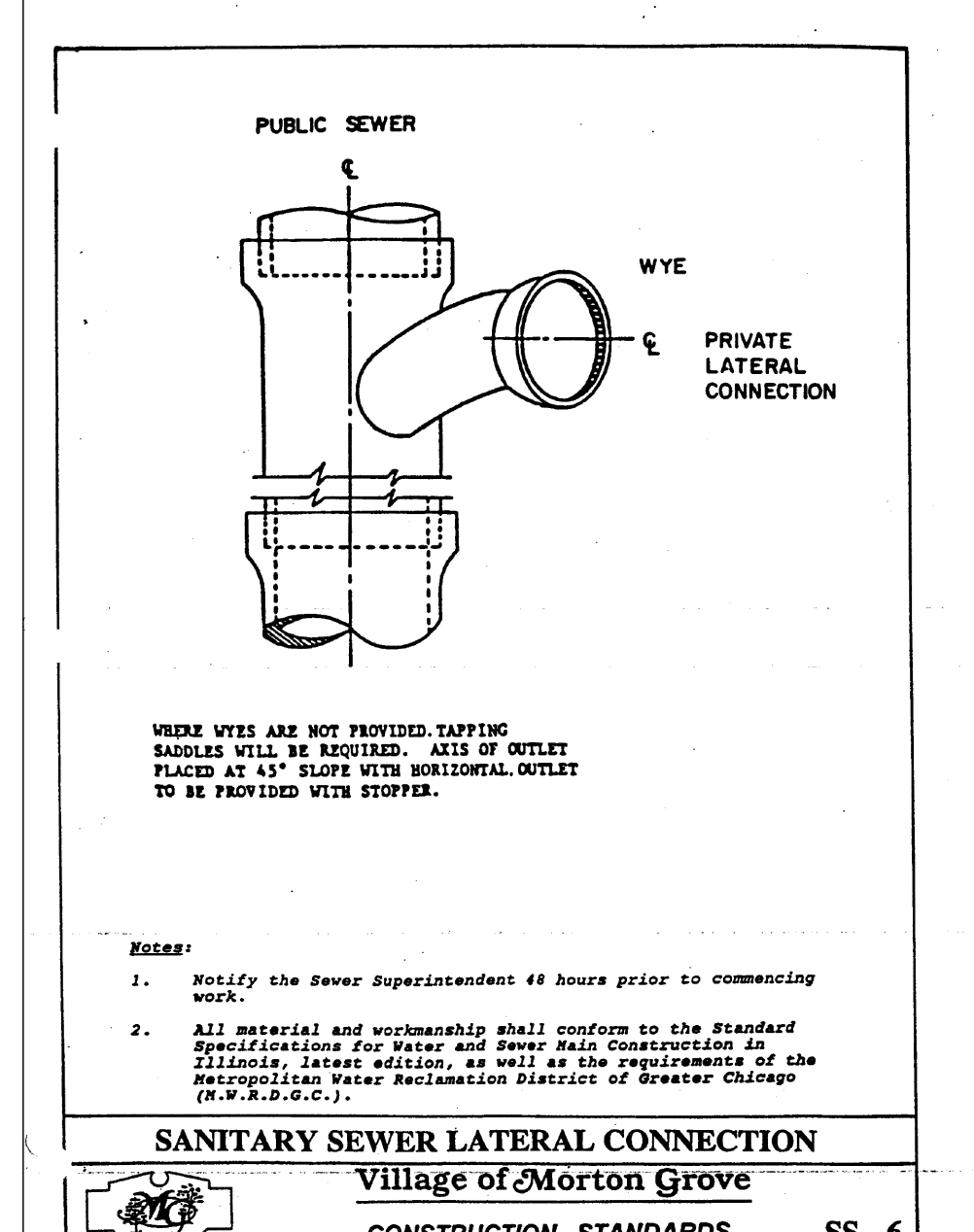
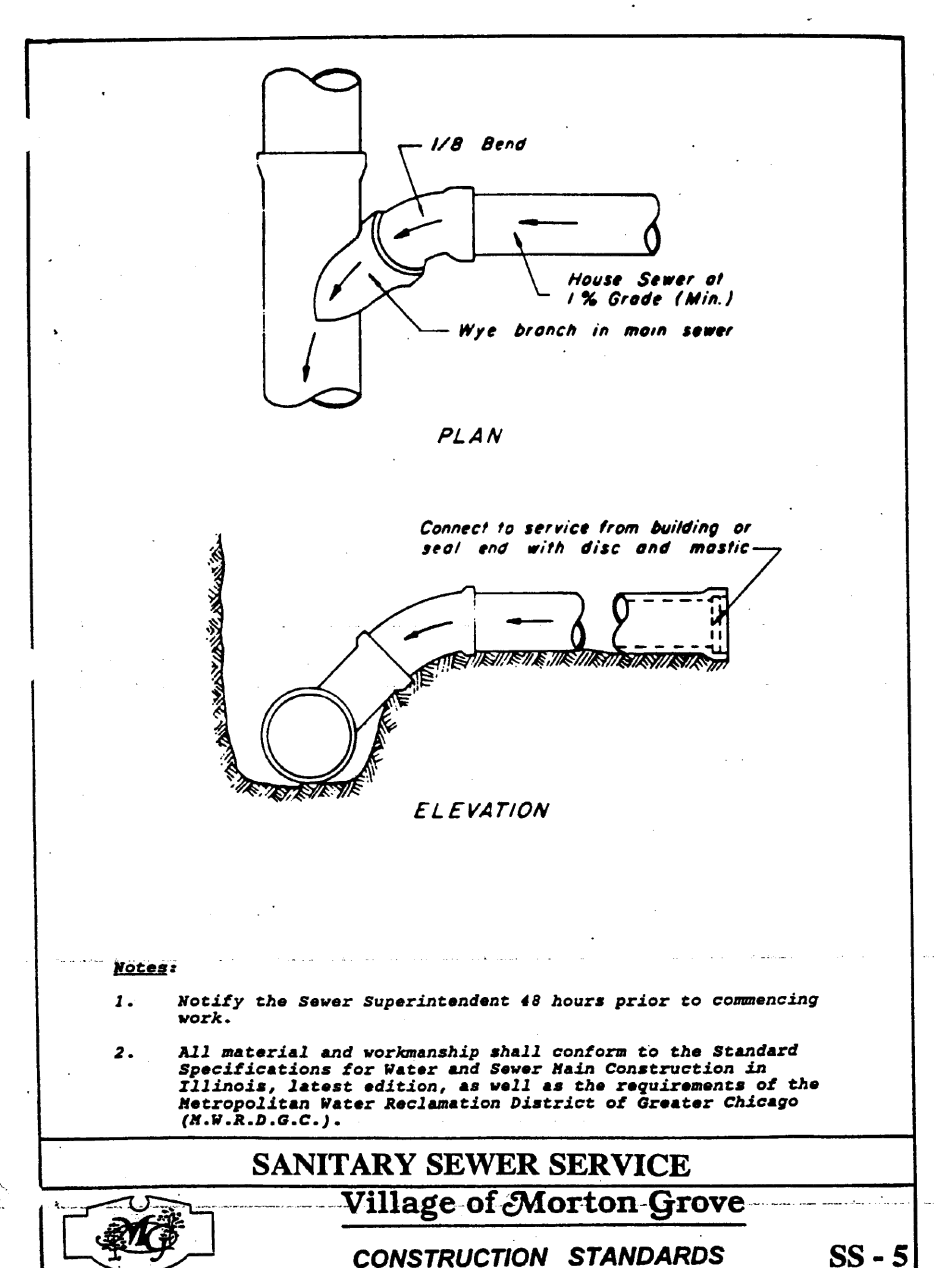
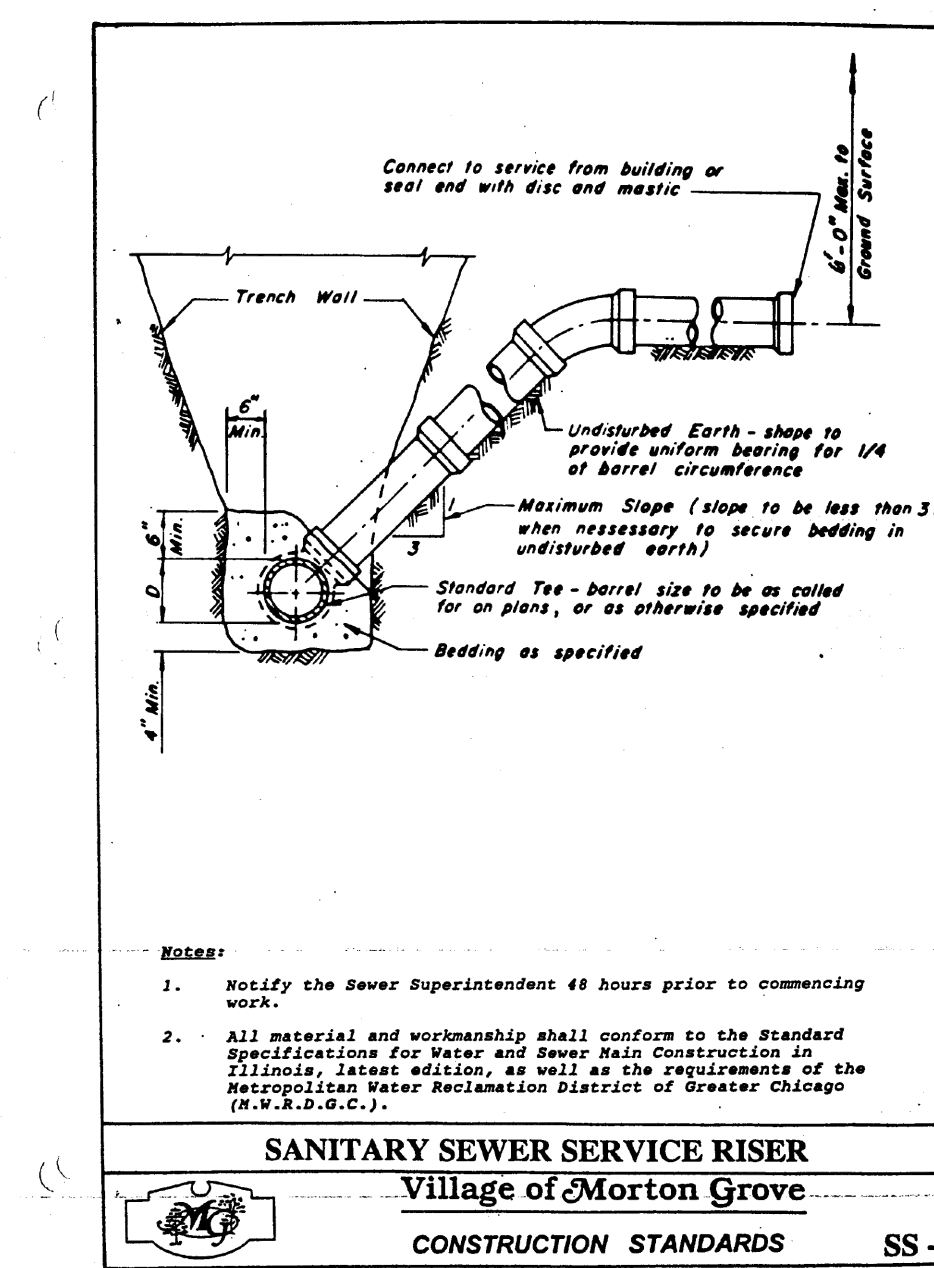
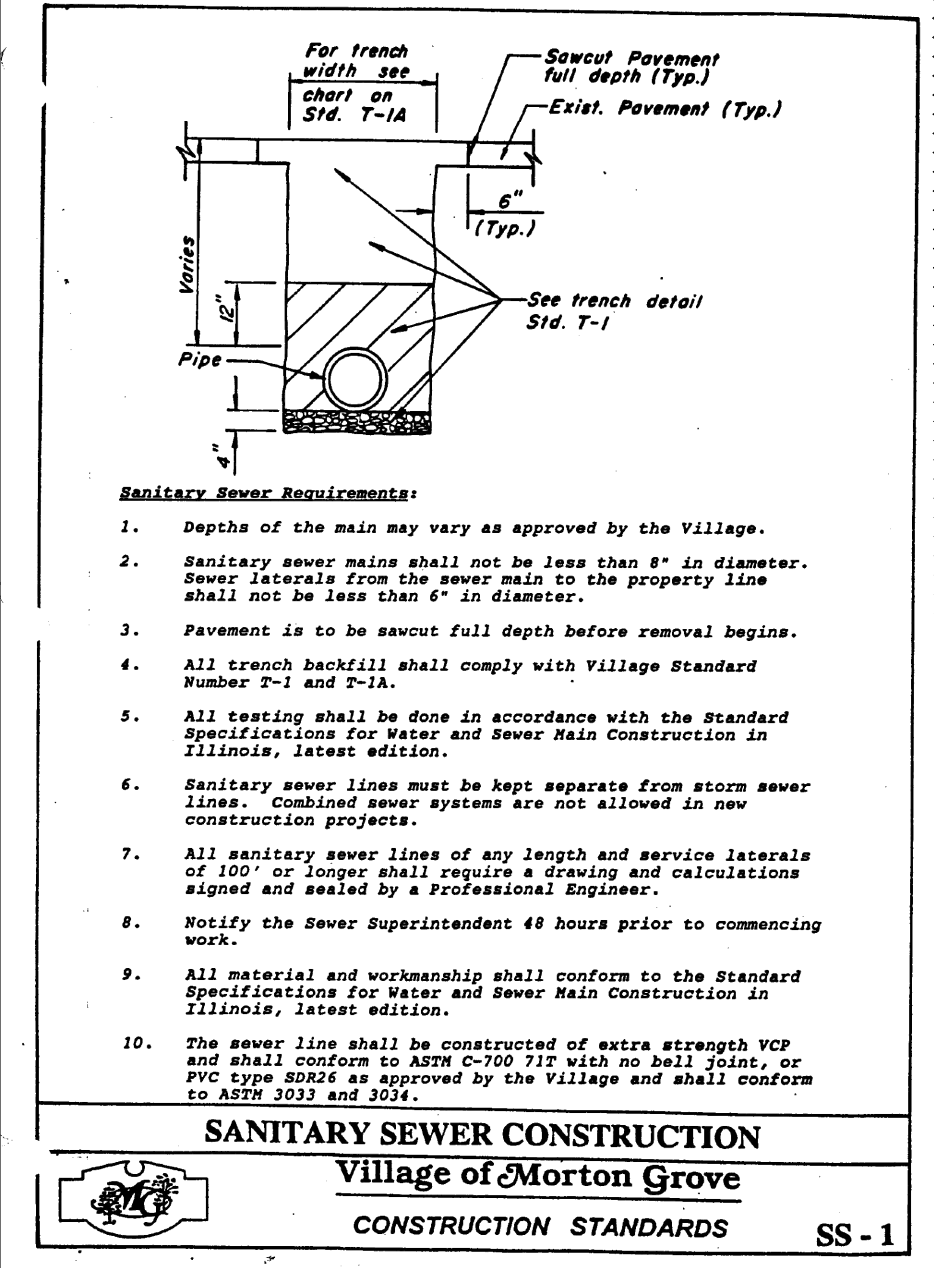
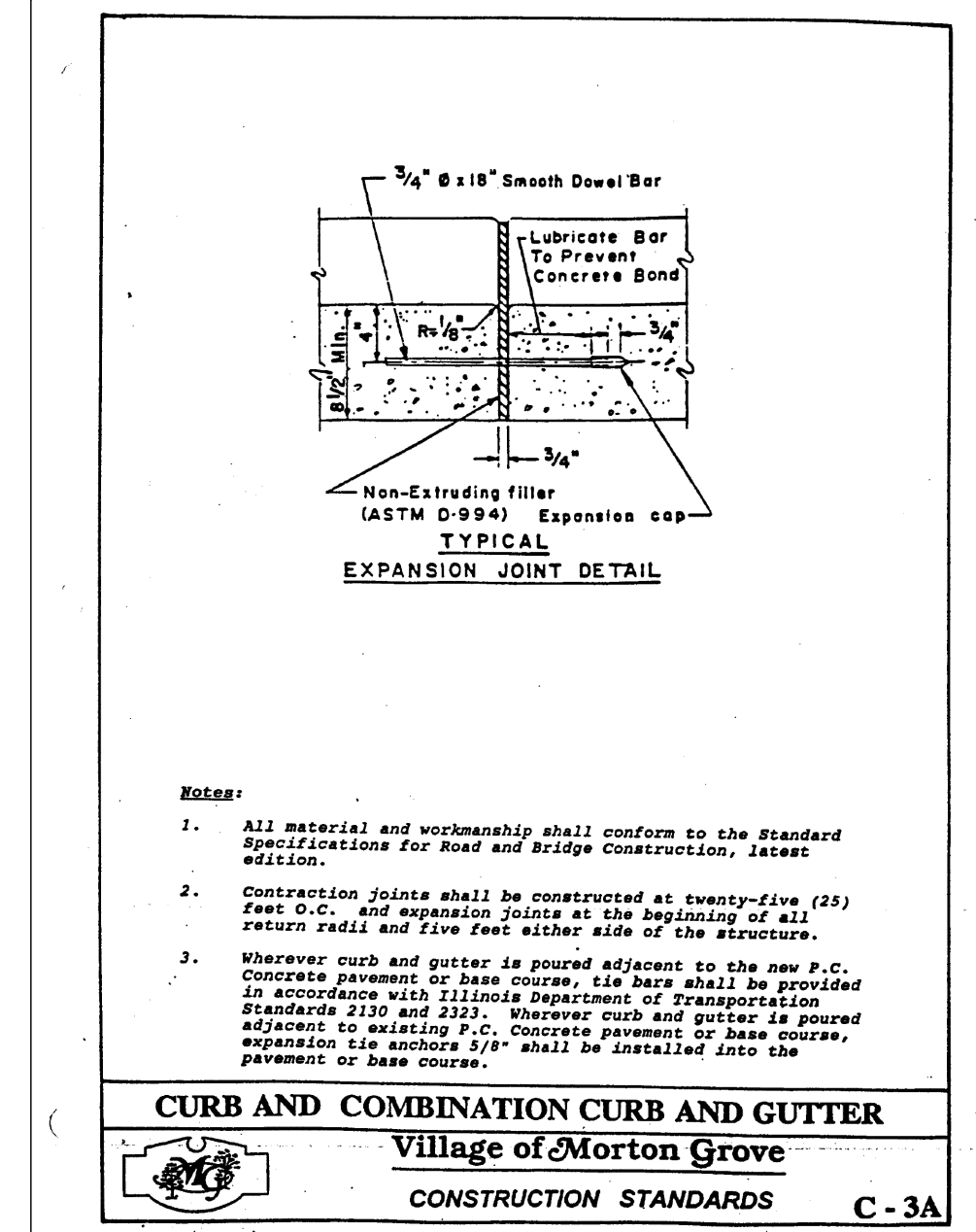
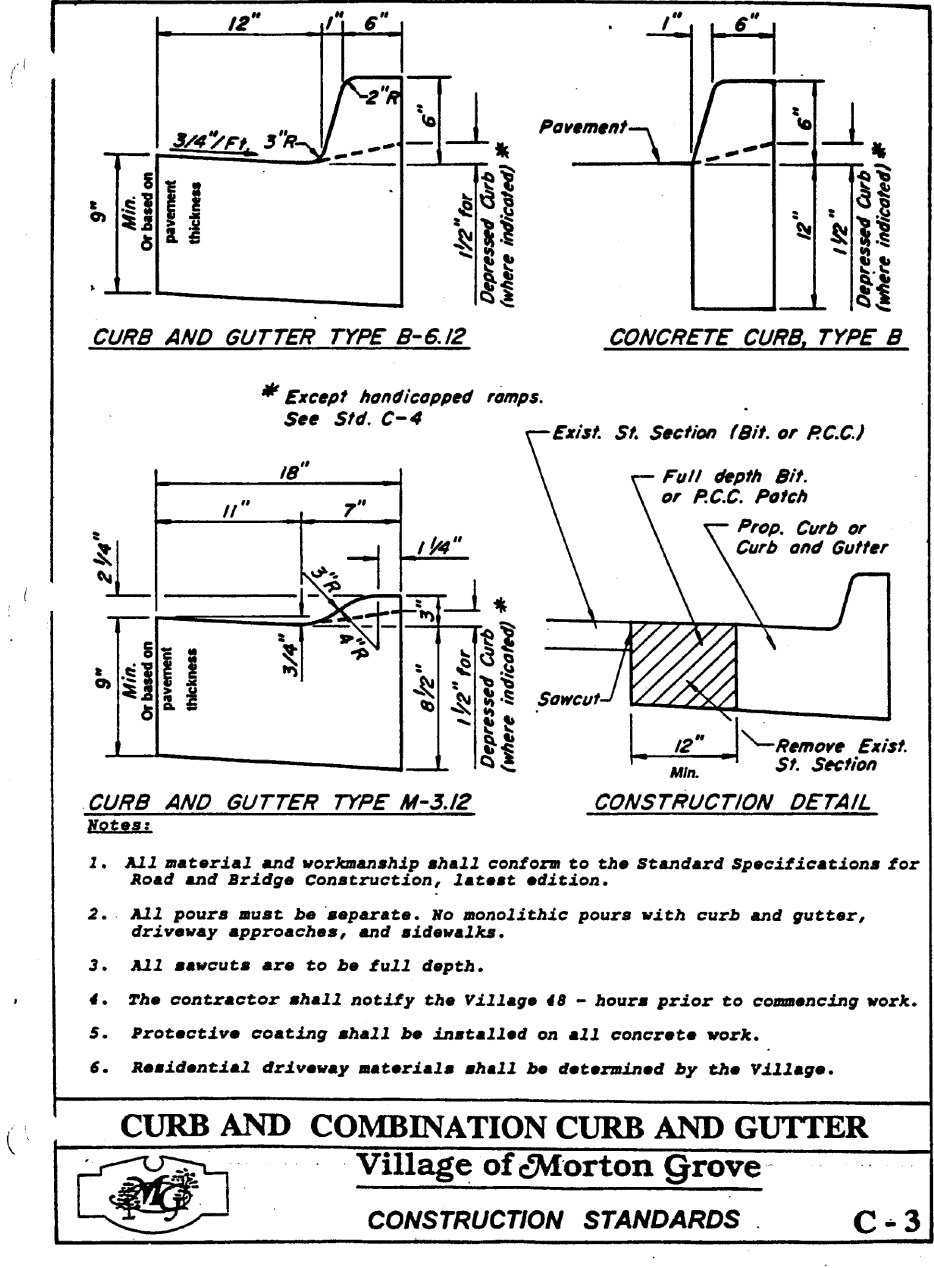
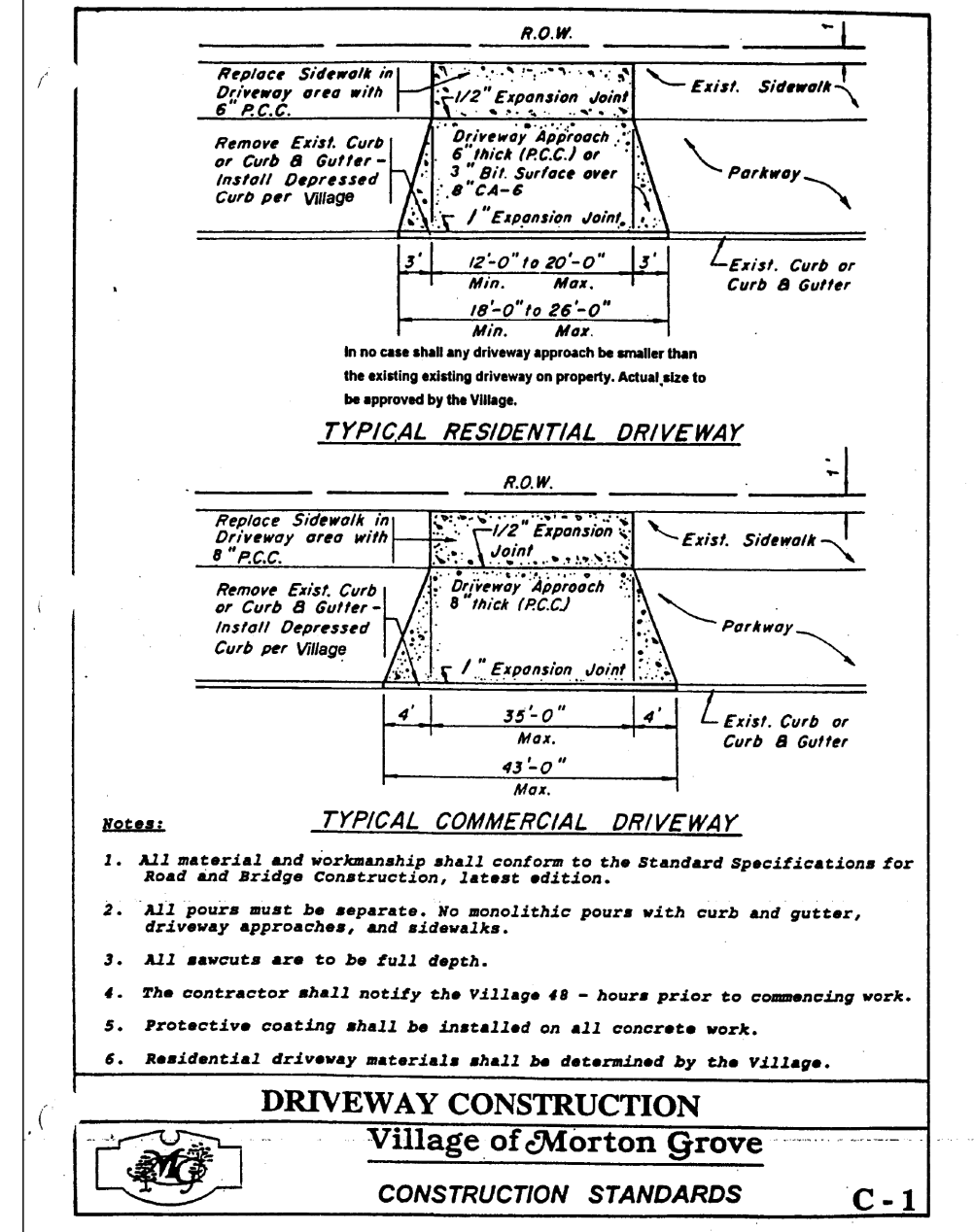
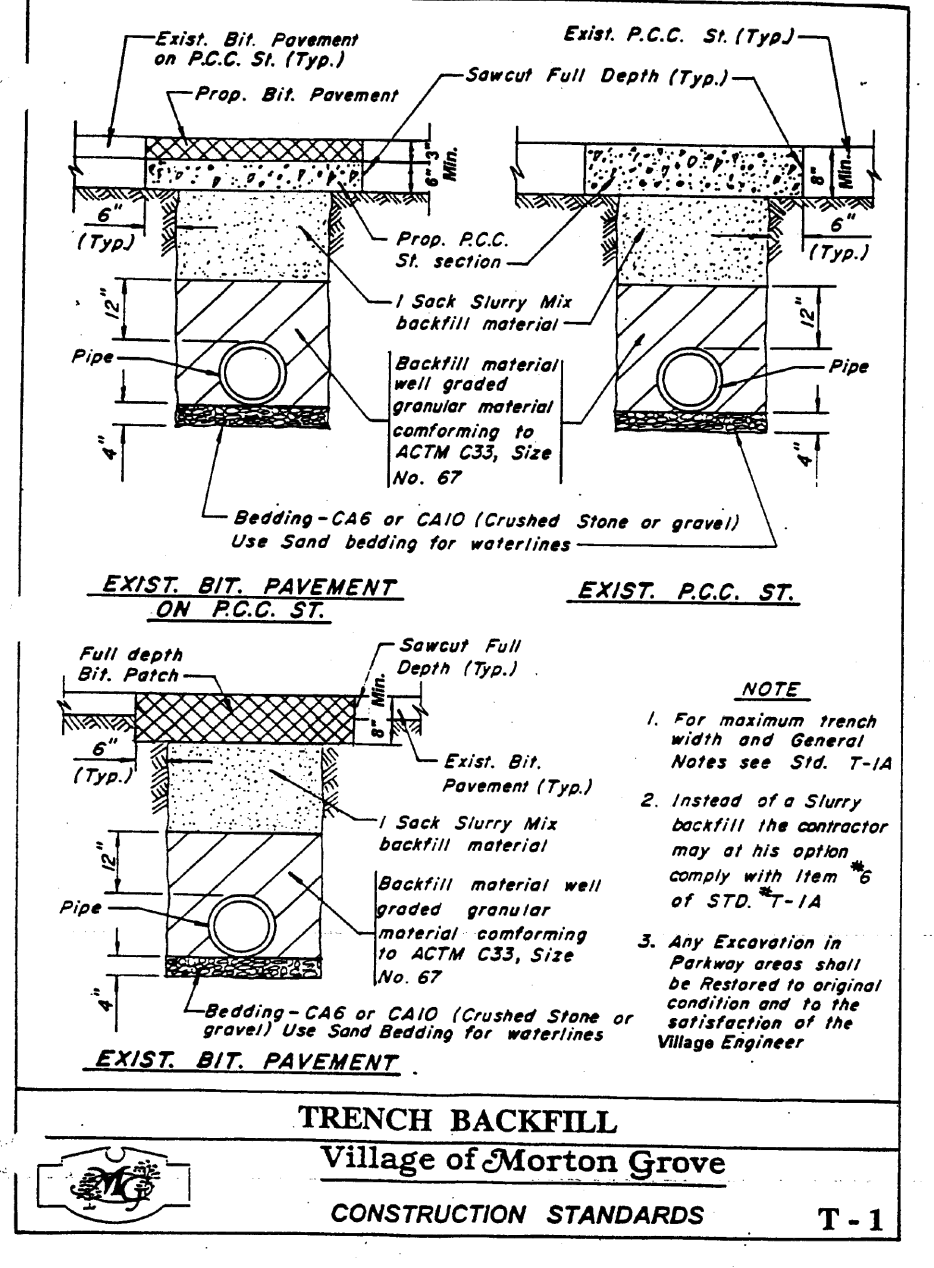


TRENCH BACKFILL
Village of Morton Grove
CONSTRUCTION STANDARDS T-1A

Notes:

- Definition of one (1) each Shurry Mix - one (1) each cement to one (1) cubic yard sand to be tamped hand and delivered.
- Contractor is to remove and dispose of all excavated material off-site.
- Contractor shall excavate six (6") inches each side of the trench for removal. All excavations shall be full depth.
- Trenches shall not exceed five (5') feet in depth without proper shoring and permission. OSHA notification will be required.
- Trench is to be excavated to firm, undisturbed soil. If over excavation is required to reach firm trench bottom, the contractor shall fill the void with old and compact to obtain proper density and grade.
- Instead of shurry backfill, the contractor at the Village's option, utilize trench backfill as specified in the 2008 "Standard Specifications for Road and Bridge Construction - Illinois, latest edition." Compaction tests shall be required in locations approved by the Village and these tests shall be paid for by the contractor. Backfill and compaction will be performed on every other lift. All lifts shall have 95% compaction or better. The contractor shall also furnish the Village with a copy of the final compaction report.
- All bituminous and portland cement concrete pavement shall meet the requirements of and be constructed in accordance with the Standard Specifications for Road and Bridge Construction, latest edition.
- Minimum thickness of pavement based on type of street.



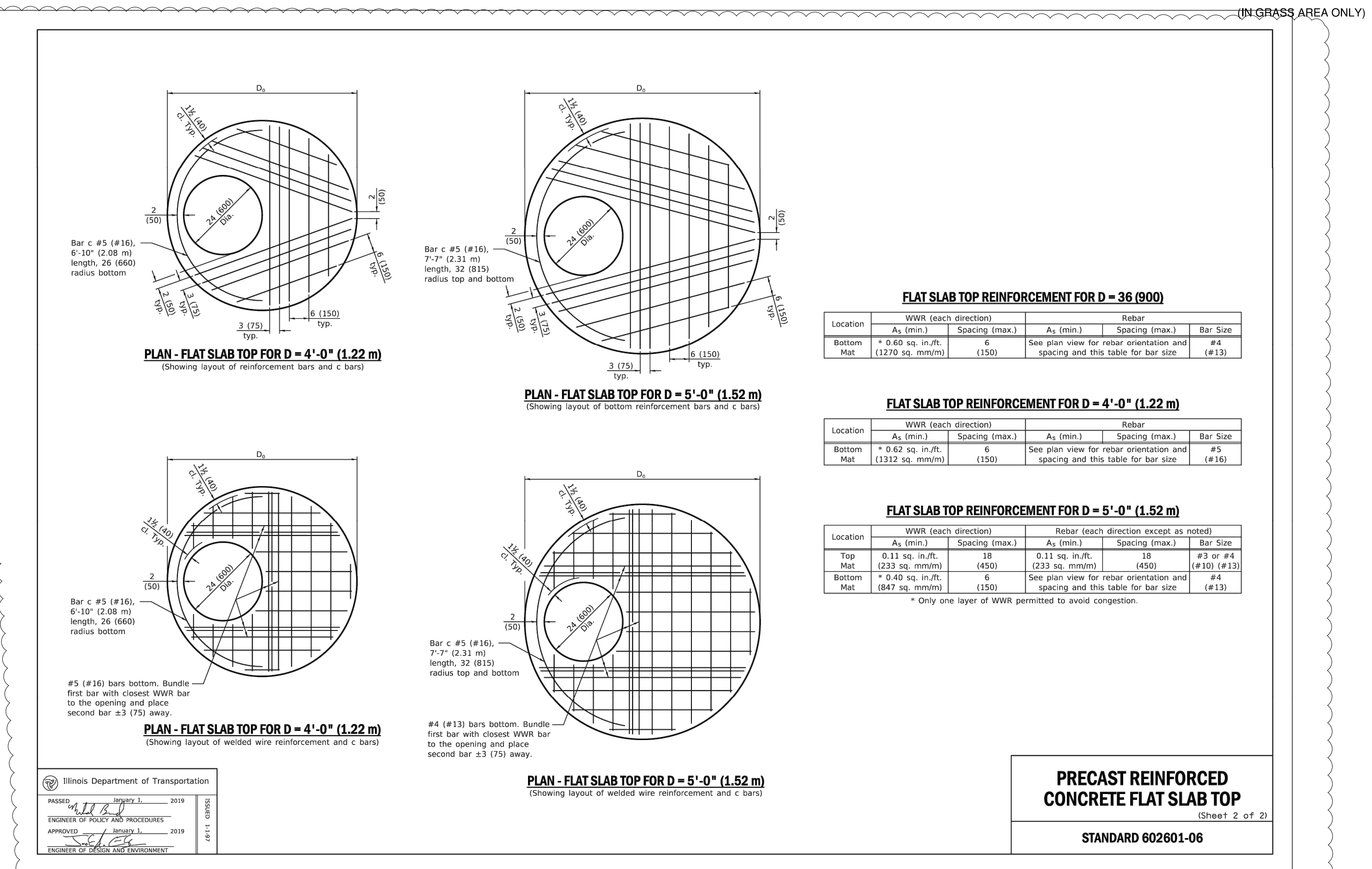
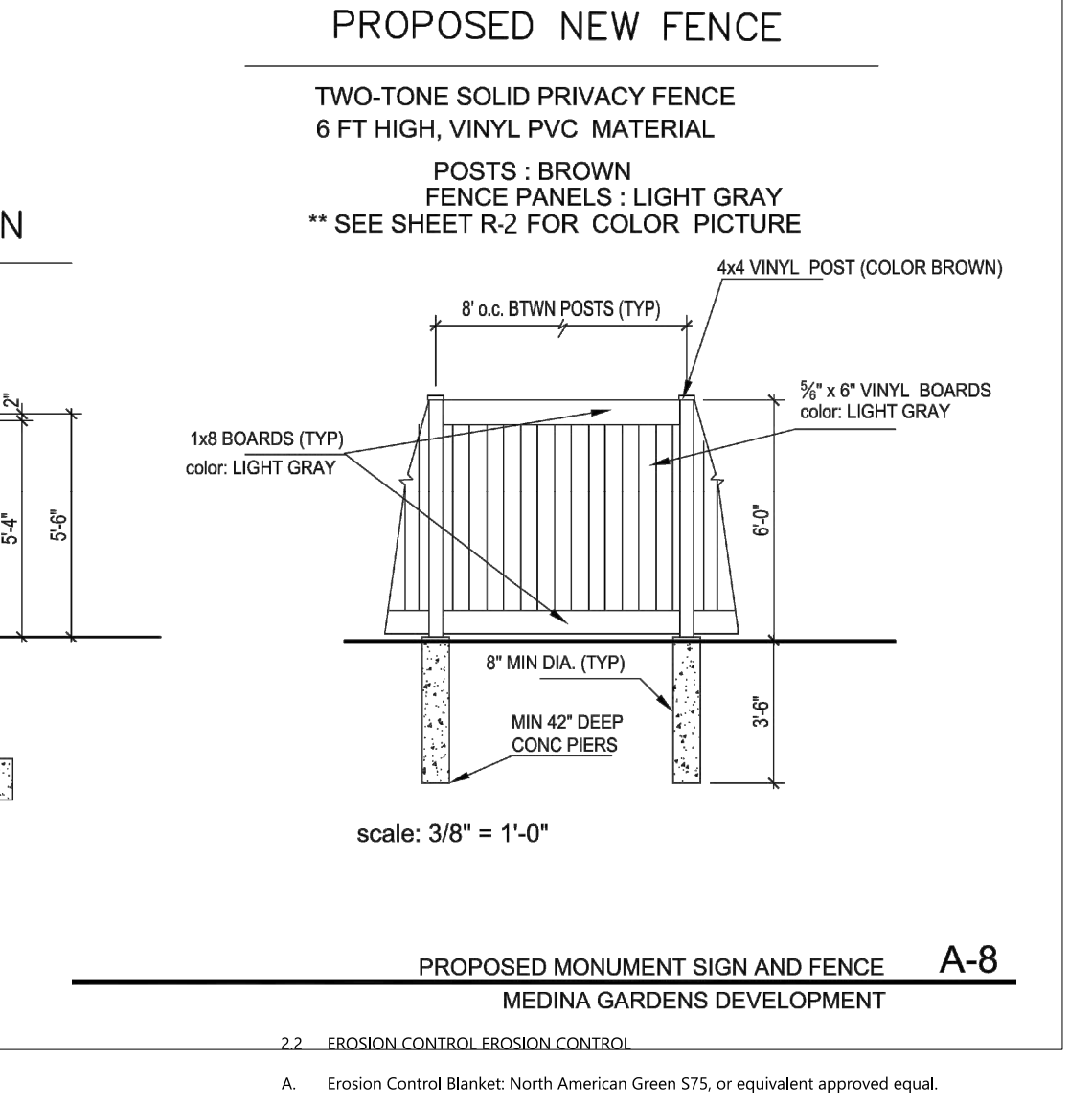
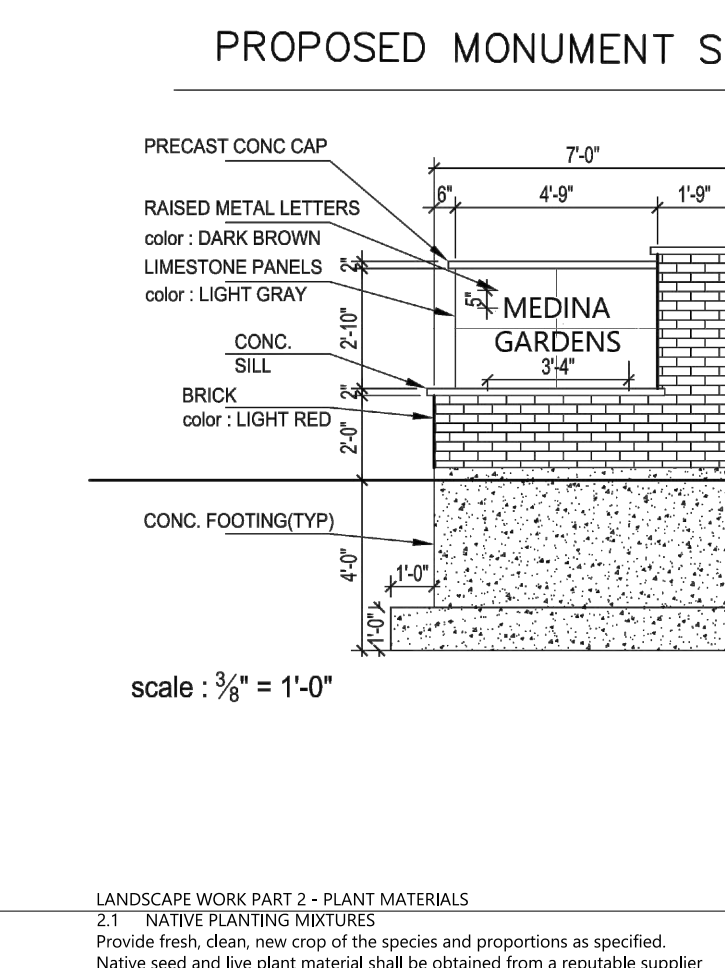
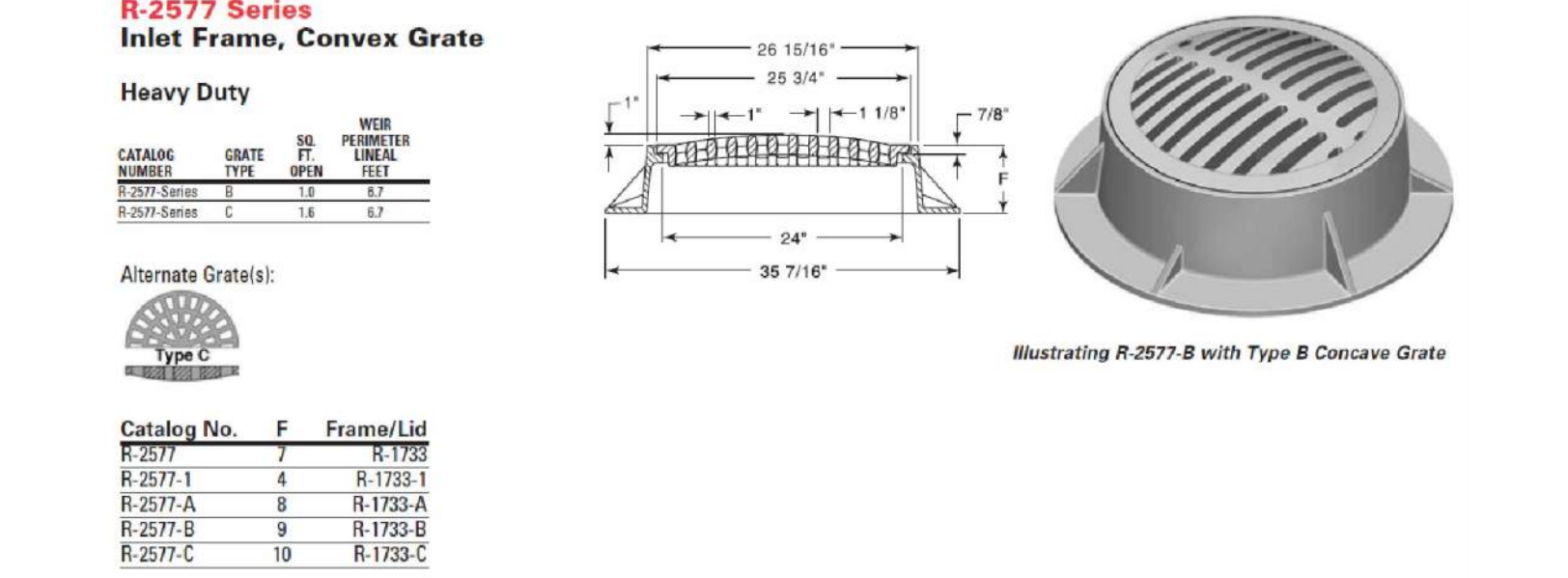
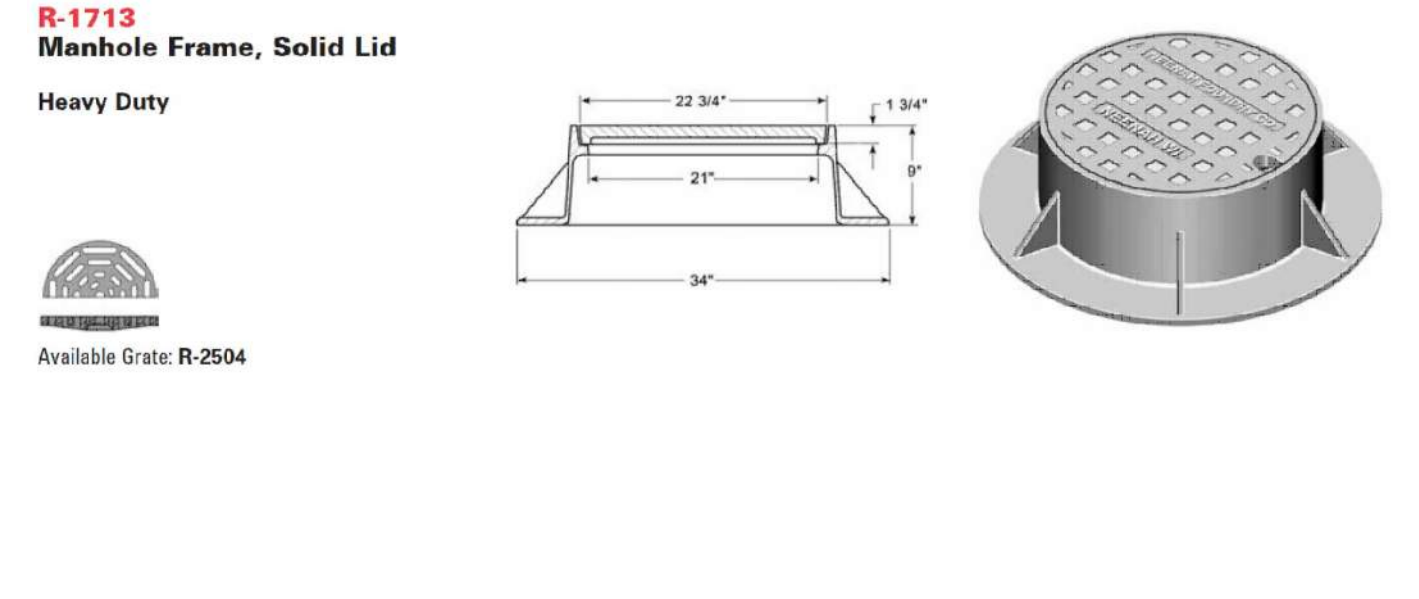
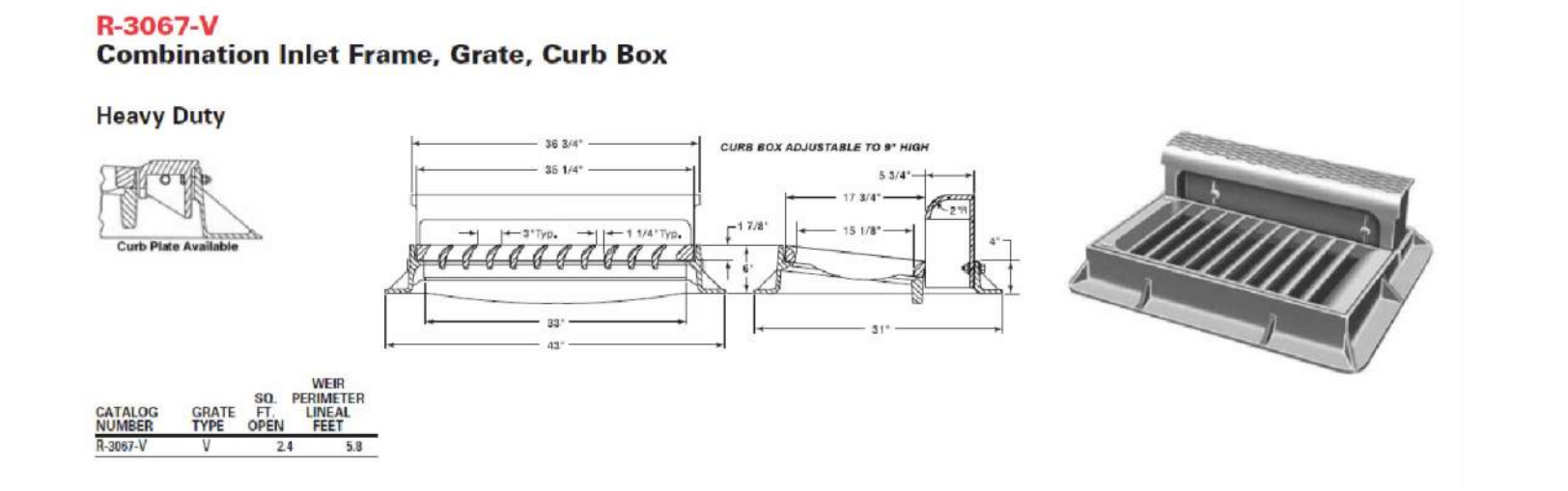
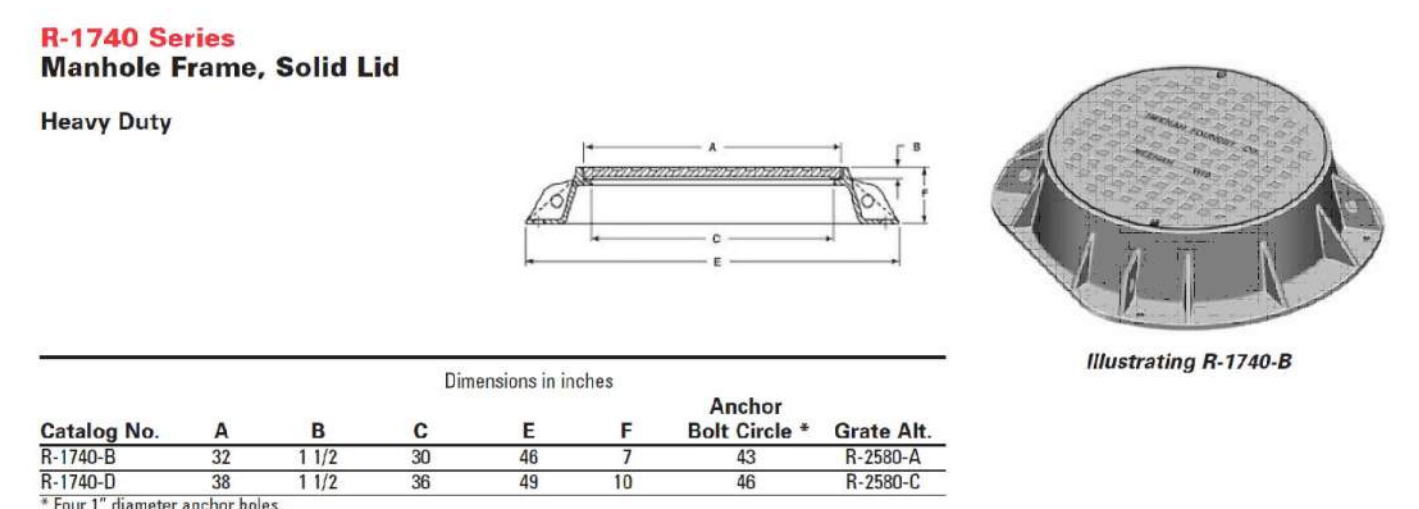
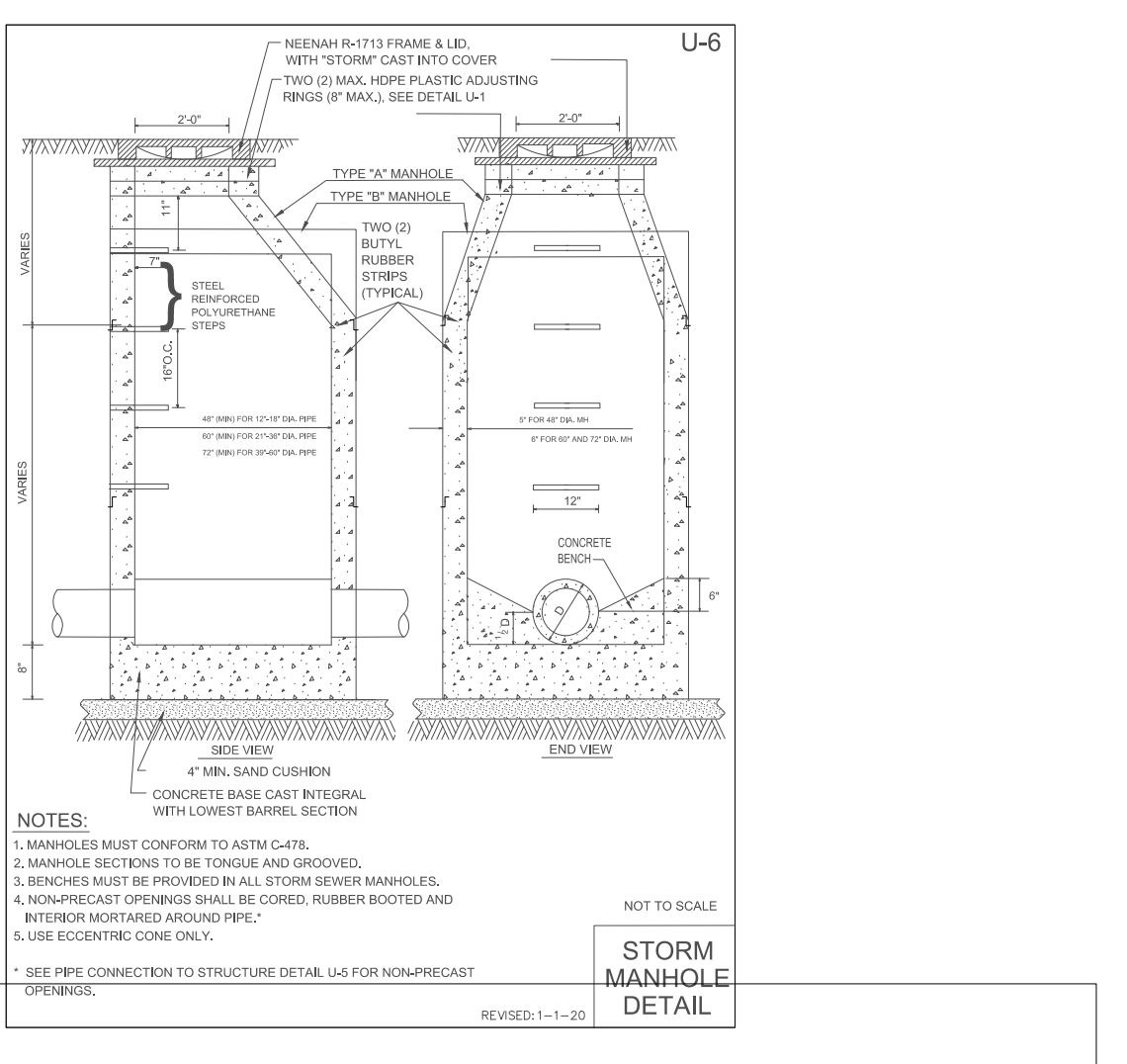
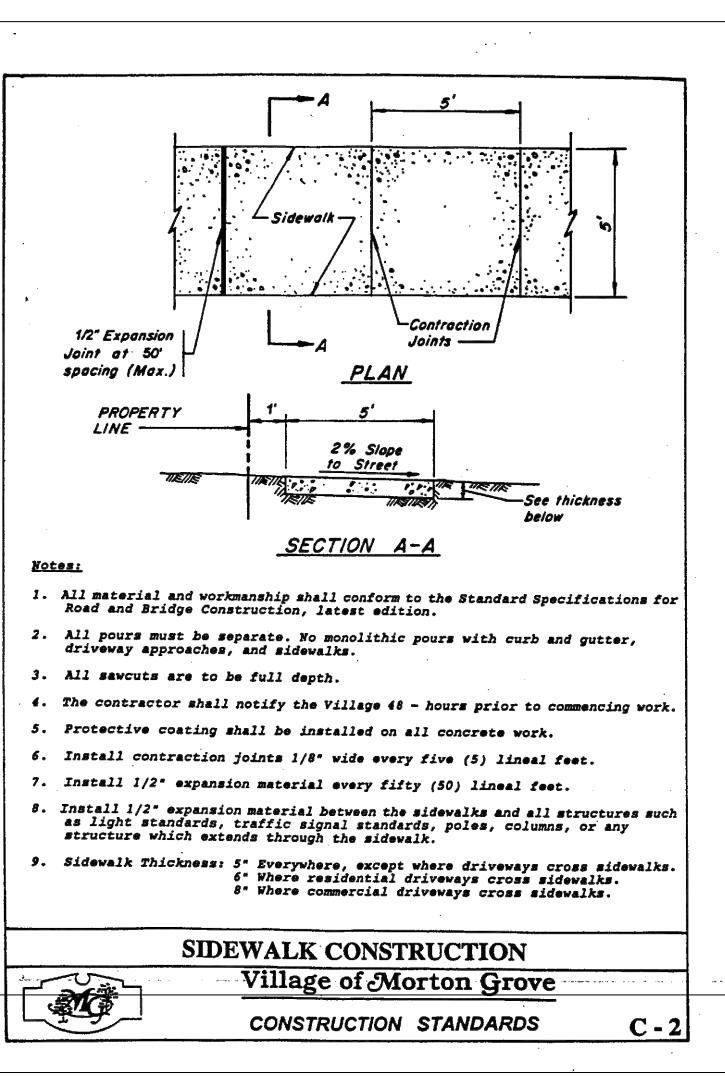
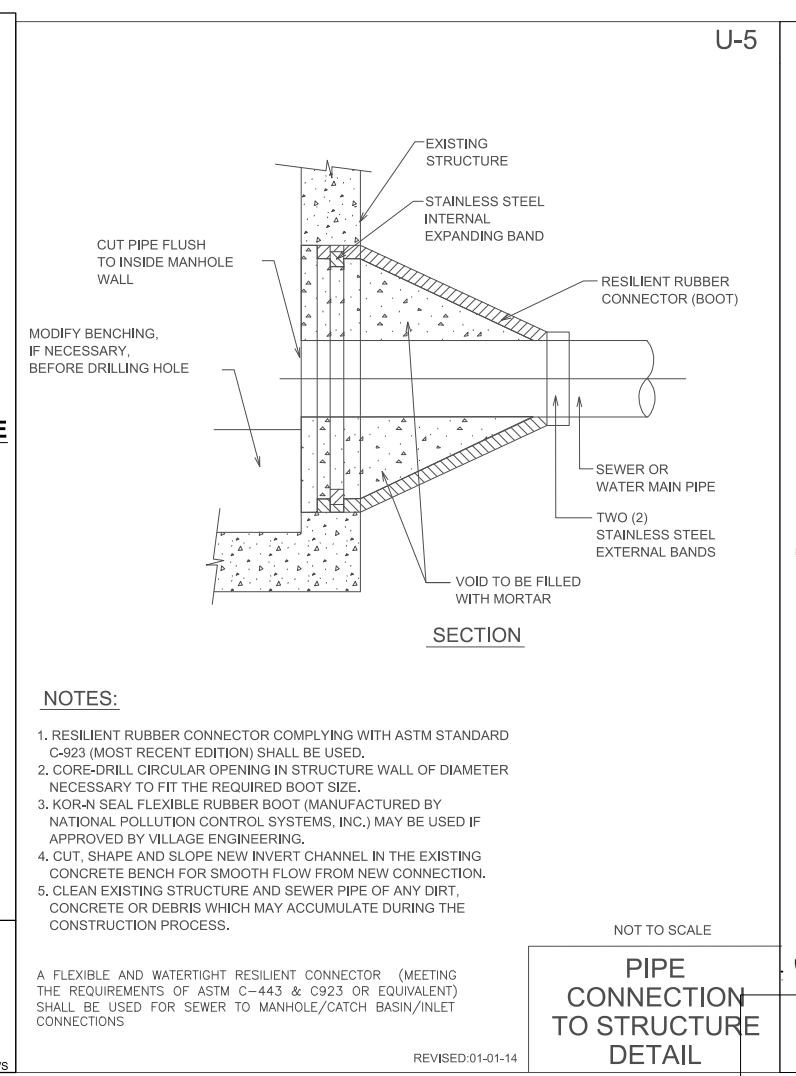
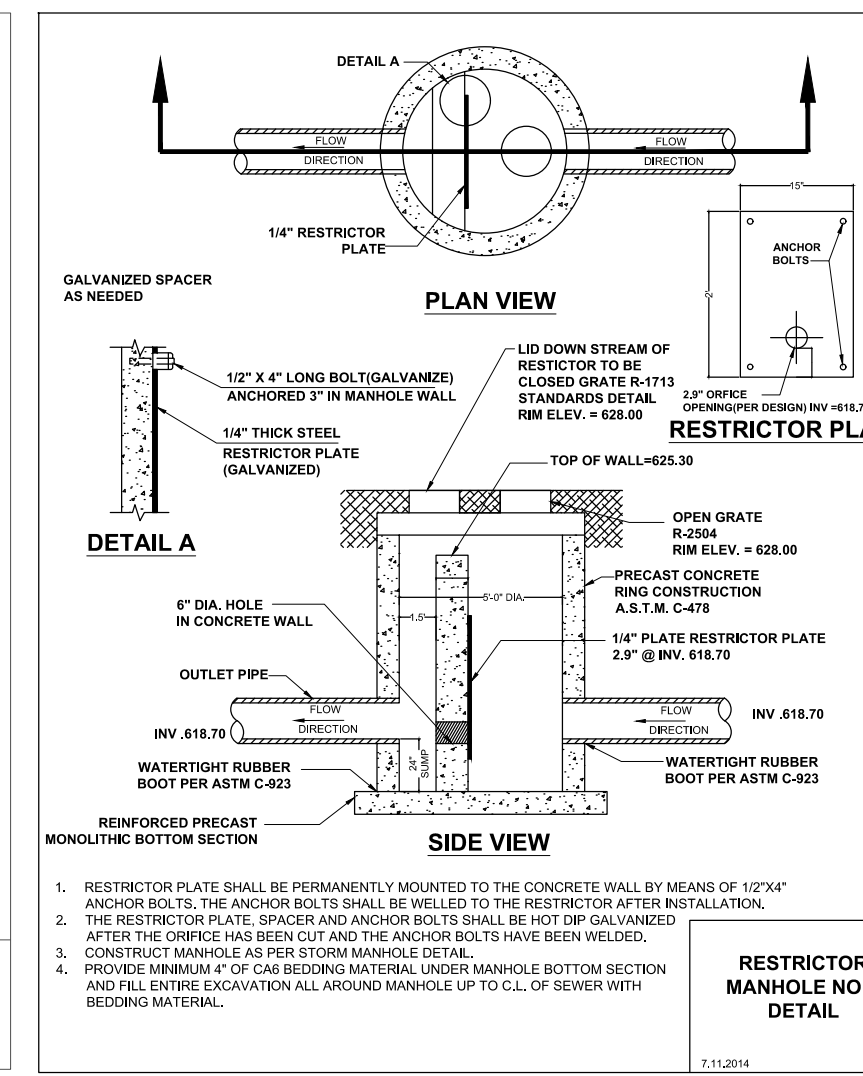
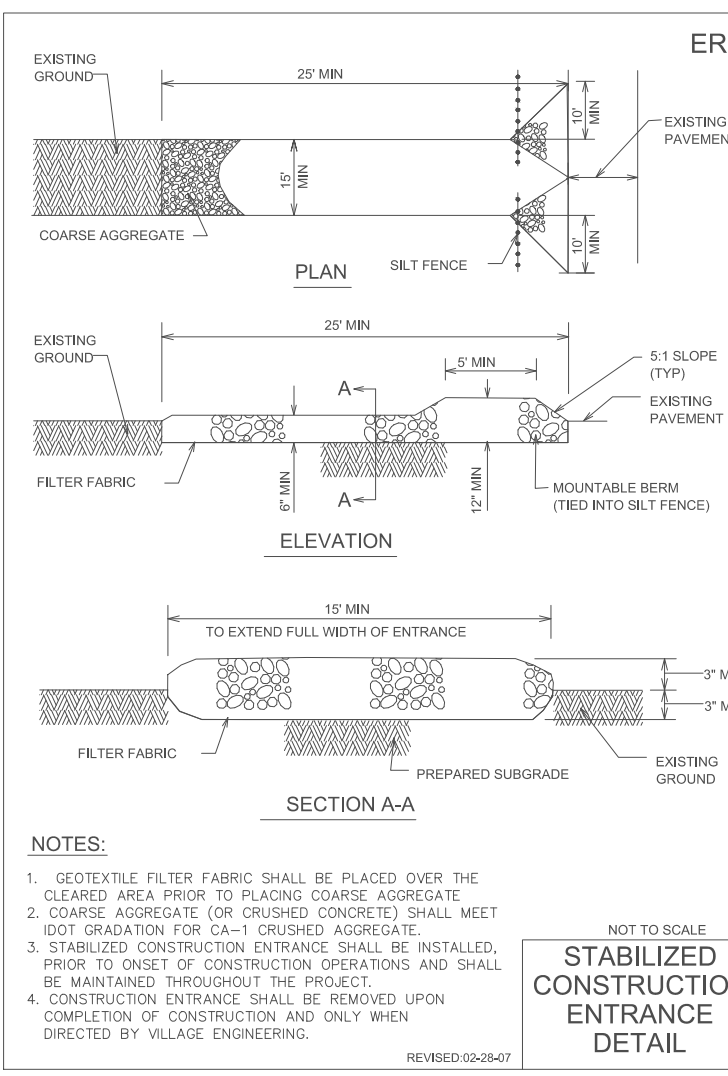
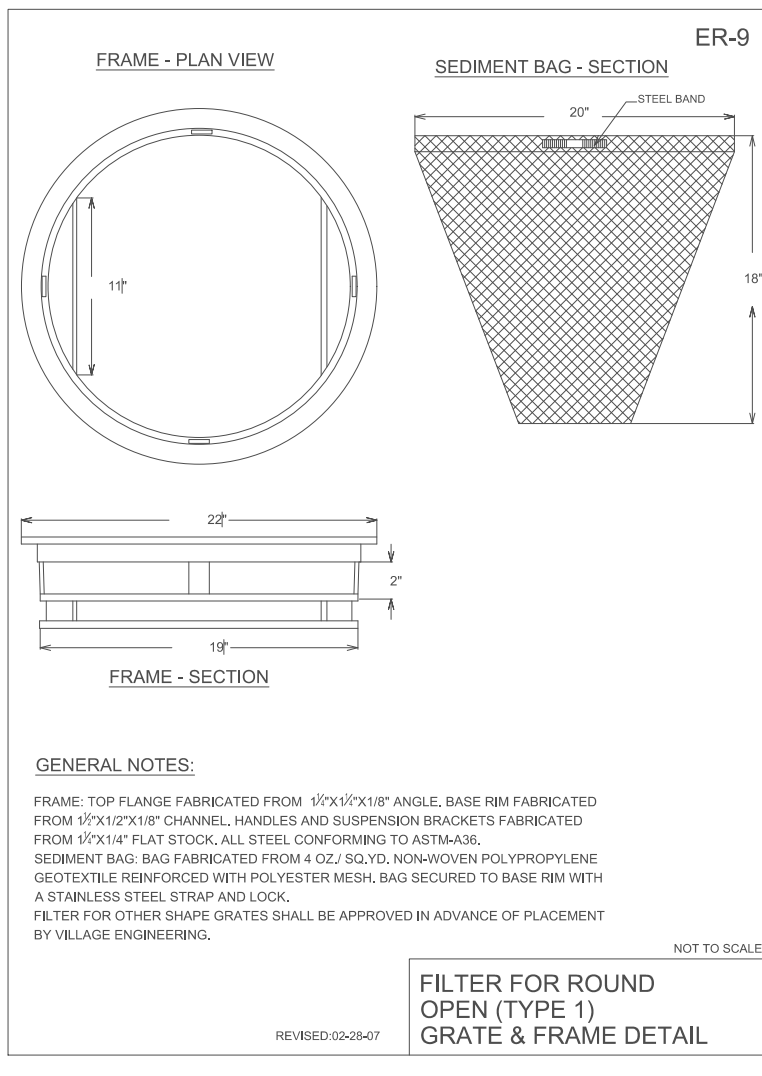
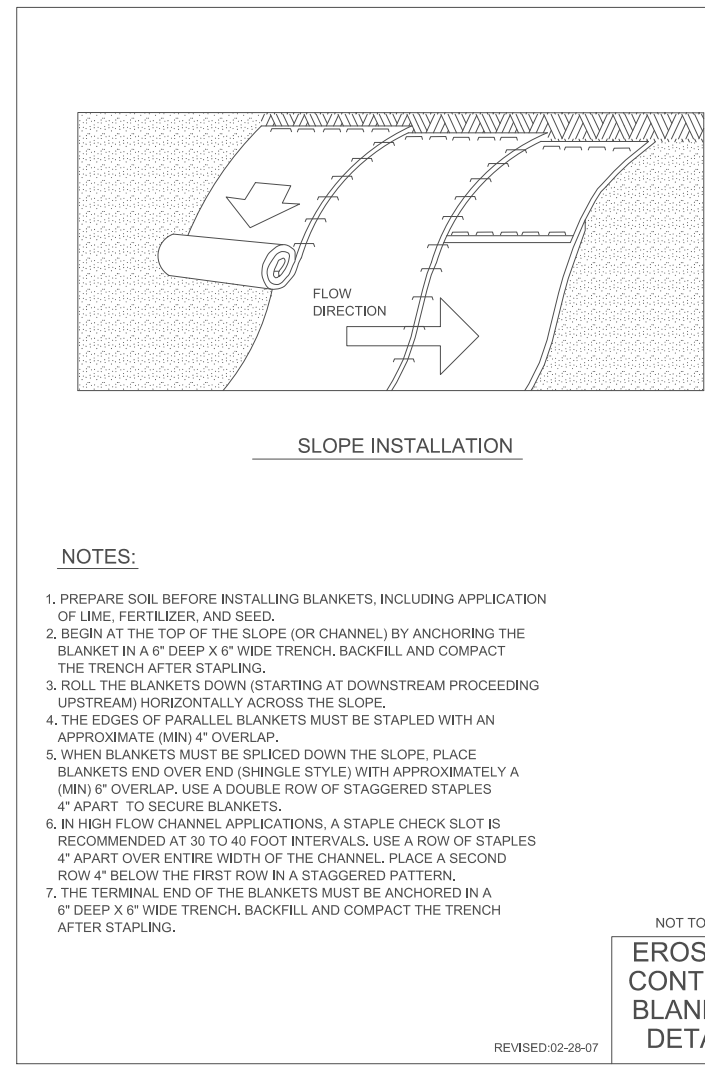
BCI BONO CONSULTING, INC.
CIVIL ENGINEERS

1018 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: (847) 823-3300
FAX: (847) 823-3303
bbono@bonoconsulting.com

REGISTERED PROFESSIONAL ENGINEER
ILLINOIS
EXP. 11-30-17

STANDARD DETAILS
MEDINA GARDENS PLANNED DEVELOPMENT
6021-6037 LINCOLN, MORTON GROVE, COOK COUNTY, IL

PROJECT NUMBER: 17239
START DATE: JUN. 10, 2017
GRAPHIC SCALE: 0
SCALE: NTS
SHEET NUMBER: 19 OF -



BCI
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CIVIL ENGINEERS

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bbono@bonoconsulting.com

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
ABHIJIT VEER
662-067076

STANDARD DETAILS
MEDINA GARDENS PLANNED DEVELOPMENT
6021-6037 LINCOLN, MORTON GROVE, COOK COUNTY, IL

PROJECT NUMBER: 17239
START DATE: JUN. 10, 2017
GRAPHIC SCALE: 0
SCALE: NTS
SHEET NUMBER: 20 OF -



EXISTING DEP STORAGE NORTH BASIN

CONTOUR	HEIGHT BETWEEN CONTOURS(FT.)	AREA OF CONTOUR (SQ.FT)	VOLUME (CU.FT)
626.41		8092	
626.2	0.21	3214	1187.09
626	0.2	1933	514.71
625.8	0.39	189	376.93
625.61	0.19	0	17.95
TOTAL DETENTION			2096.69

EXISTING DEP STORAGE SOUTH BASIN

CONTOUR	HEIGHT BETWEEN CONTOURS(FT.)	AREA OF CONTOUR (SQ.FT)	VOLUME (CU.FT)
626.41		10864	
626.2	0.21	4732	1637.59
626	0.2	1555	628.68
625.8	0.39	397	303.26
625.61	0.19	0	37.72
TOTAL DETENTION			2607.24
TOTAL EXISTING DETENTION			4703.92

STORM WATER MANAGEMENT SUMMARY:

EXISTING DEPRESSIONS STORAGE AREA UP TO ELEV. 626.41 -	4,703 CU FT
REQUIRED DETENTION PER VILLAGE OF MORTON GROVE -	18,000 CU FT
VOLUME CONTROL PER MWRD -	3,448 CU FT
TOTAL STORAGE REQUIRED -	26,151 CU FT

DATE	REVISIONS
05-20-08	

PROJECT STAFF	ISSUE
PROJECT MANAGER	B. BOARD
ENGINEER	A. VED P.E.
TECHNICIAN	JL. BALOW

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 bbono@bonoconsulting.com

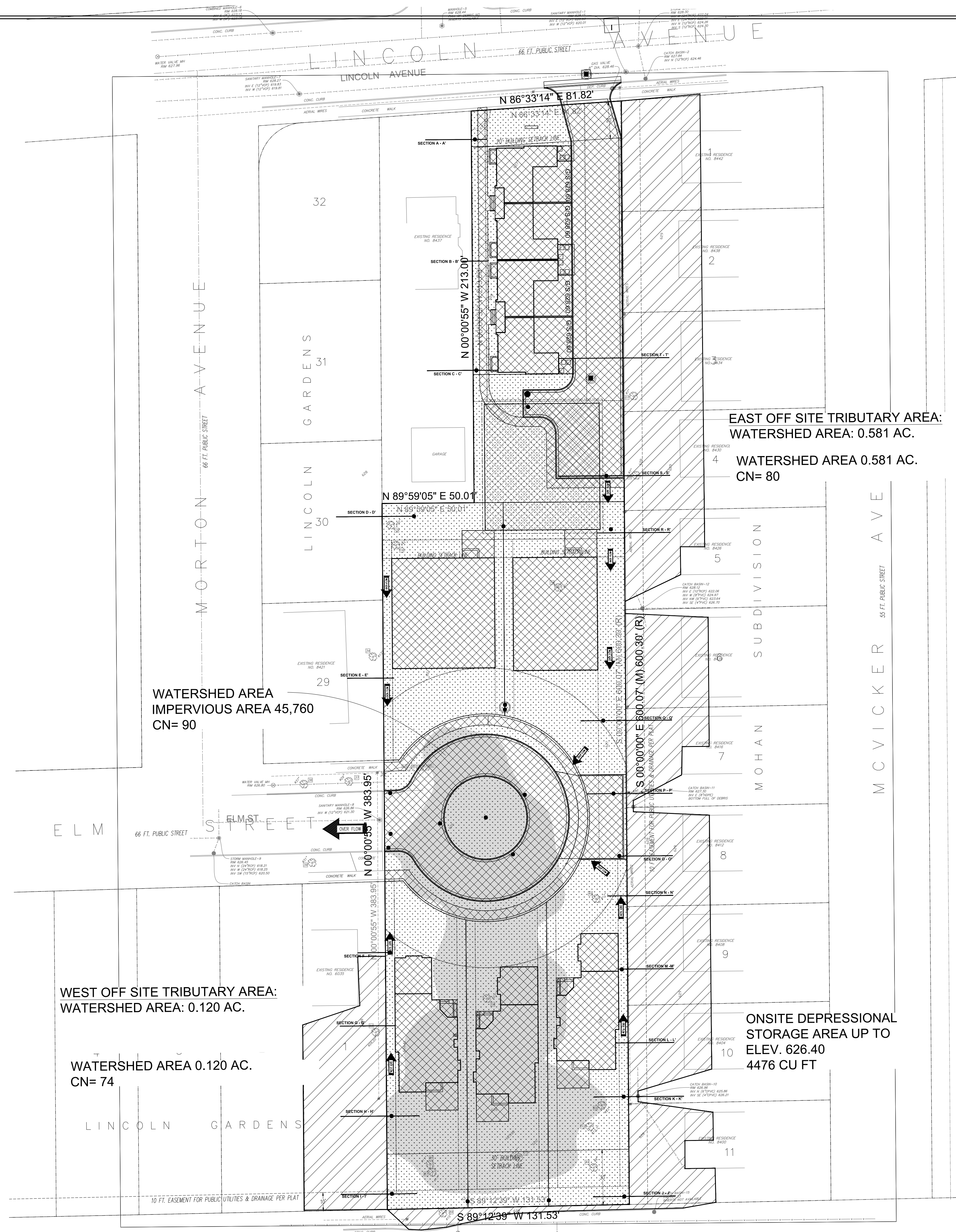
DEPRESSIONAL STORAGE AREA EXHIBIT
 MEDINA GARDENS PLANNED DEVELOPMENT
 6021-6037 LINCOLN, MORTON GROVE, COOK COUNTY, IL

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PROJECT NUMBER: 17239
 START DATE: JUN. 10, 2017
 GRAPHIC SCALE: 40 0 40
 SCALE: 1"=40'-0"
 SHEET NUMBER: 21 OF -

OFFSITE TRIBUTARY AREA
 IMPERVIOUS AREA
 PERVIOUS AREA
 EXISTING DEPRESSIONAL STORAGE AREA

EXISTING DEP STORAGE NORTH BASIN			
CONTOUR	HEIGHT BETWEEN CONTOURS (FT.)	AREA OF CONTOUR (SQ. FT)	VOLUME (CU. FT)
626.41	0.21	8092	1187.09
626.2	0.2	3214	514.71
626	0.39	1933	376.93
625.8	0.19	189	17.95
625.61	0	0	0
TOTAL DETENTION			2096.69
EXISTING DEP STORAGE SOUTH BASIN			
CONTOUR	HEIGHT BETWEEN CONTOURS (FT.)	AREA OF CONTOUR (SQ. FT)	VOLUME (CU. FT)
626.41	0.21	10864	1637.59
626.2	0.2	4732	628.68
626	0.39	1555	303.26
625.8	0.19	397	37.72
625.61	0	0	0
TOTAL DETENTION			2607.24
TOTAL EXISTING DETENTION			4703.92



EAST OFF SITE TRIBUTARY AREA:
 WATERSHED AREA: 0.581 AC.
 WATERSHED AREA 0.581 AC.
 CN= 80

WATERSHED AREA
 IMPERVIOUS AREA 45,760
 CN= 90

WEST OFF SITE TRIBUTARY AREA:
 WATERSHED AREA: 0.120 AC.

WATERSHED AREA 0.120 AC.
 CN= 74

ONSITE DEPRESSIONAL STORAGE AREA UP TO ELEV. 626.40
 4476 CU FT

DRAINAGE AREA EXHIBIT

MEDINA GARDENS PLANNED DEVELOPMENT
 6021-6037 LINCOLN, MORTON GROVE, COOK COUNTY, IL

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PROJECT NUMBER: 17239
 START DATE: JUN. 10, 2017
 GRAPHIC SCALE: 30 0 30
 SCALE: 1"=30'-0"
 SHEET NUMBER: **22** OF -

PROJECT STAFF		ISSUE	REVISIONS	DATE
PROJECT MANAGER:	B. BOND P.E.	1	ISSUE FOR PERMIT	07-27-2015
ENGINEER:	A. VED P.E.			
TECHNICIAN:	M. BROWN			

BCI
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 bbono@bonoconsulting.com

MATCH LINE SEE L.1

* ALL 5 PRIVATE DRIVEWAY SHAPES ARE ONLY HYPOTHETICAL AND WILL BE A SUBJECT OF FUTURE HOMEOWNERS DRIVEWAY CONFIGURATION DECISIONS

ELM STREET

LEGEND

GROUND COVER

HARDWOOD MULCH USE AGED MULCH ONLY
 SNOW STORAGE AREA USE AGED MULCH ONLY, APPLY 2 TO 3 INCH LAYER EXTENDING 12 INCHES PAST ALL SHRUB FOLIAGE. SHRUB TRUNK SHOULD NOT BE COVERED

	COMMON NAME	BOTANIC NAME	HEIGHT	WIDTH	QUANTITY
F1	SEASONAL PLANTS				
SHRUBS					
S1	AMERICAN BOXWOOD	BUXUS SEMPERVIRENS	18 INCH	18 INCH	30
S2	ANNABELLE HYDRANGEA	HYDRANGEA ARBOTESCENS GRANDIFLORA ANNABELLE	18 INCH	18 INCH	6
S3	BURNING BUSH	EUONYMUS ALATUS	3 FT	2 FT	11
S4	RED DOGWOOD	CORMUS BEILEYI	4 FT	3 FT	18
S5	ORNAMENTAL PERENNIAL GRASS (SWITCH, ZEBRA, PAMPASS, FOUNTAIN)		2-3 FT	3-4 FT	78
EVERGREEN TREES AND SHRUBS					
E1	WHITE FIR	ABIES CONCOLOR	6 FT		5
E2	ARBORVITAE THUJA	ARBORVITAE THUJA	5 FT	2 FT, 4 FT SPACING O.C.	18
E3	ANDORRA JUNIPER	JUNIPER HORIZONTALIS	12 INCH	2 FT, 3 FT SPACING O.C.	33
TREES					
T1	SUGAR MAPLE	ACER SACCHARUM	6 FT (2" DIA.)		2
T2	RED OAK	QUERCUS RUBRA	6 FT (2 1/2" DIA.)		1

EXISTING TREE TO REMAIN SEE PRESERVATION SURVEY FOR SIZES AND SPECIES
 FUTURE LANDSCAPING TO BE DETERMINED ONCE THE LOT IS PURCHASED

HARDWOOD MULCH AREA

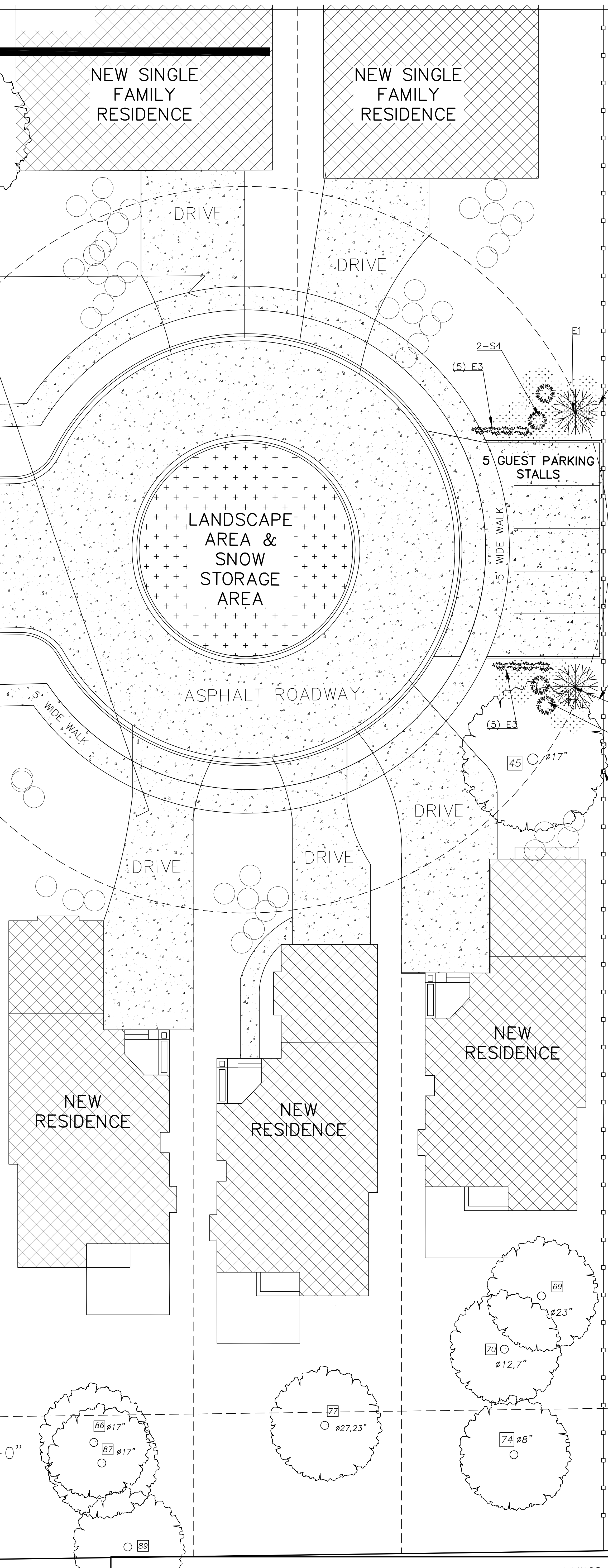
SNOW STORAGE AREA

SCALE : 3/32" = 1'-0"

BEATA M. - KOOLUBA
 BEATA KOOLUBA, ARCHITECT
 100 HOSPITAL AVE. SUITE 205
 BOSTON, MA 02118
 TEL: 617 552 8255
 info@beata.com

DATE: 01-07-2023
 TITLE: MEDINA GARDEN SUBDIVISION LANDSCAPE PLAN - SOUTH LOTS
 SCALE: AS NOTED

A5



LAYER OF MULCH AROUND SHRUBS AND BUSHES

LAYER OF MULCH AROUND SHRUBS AND BUSHES

NEW 6 FT HIGH VINYL FENCE

* THIS PLAN ILLUSTRATE THE BULK AND DENSITY OF FIVE SINGLE FAMILY DWELLINGS BUT THE INDIVIDUAL HOMES AND LANDSCAPE DESIGNS WILL BE FINALIZED BY THE FUTURE BUYERS AND WILL BE SUBJECT TO APPEARANCE COMMISSION REVIEWS

MEDINA GARDENS SUBDIVISION
 LANDSCAPE PLAN

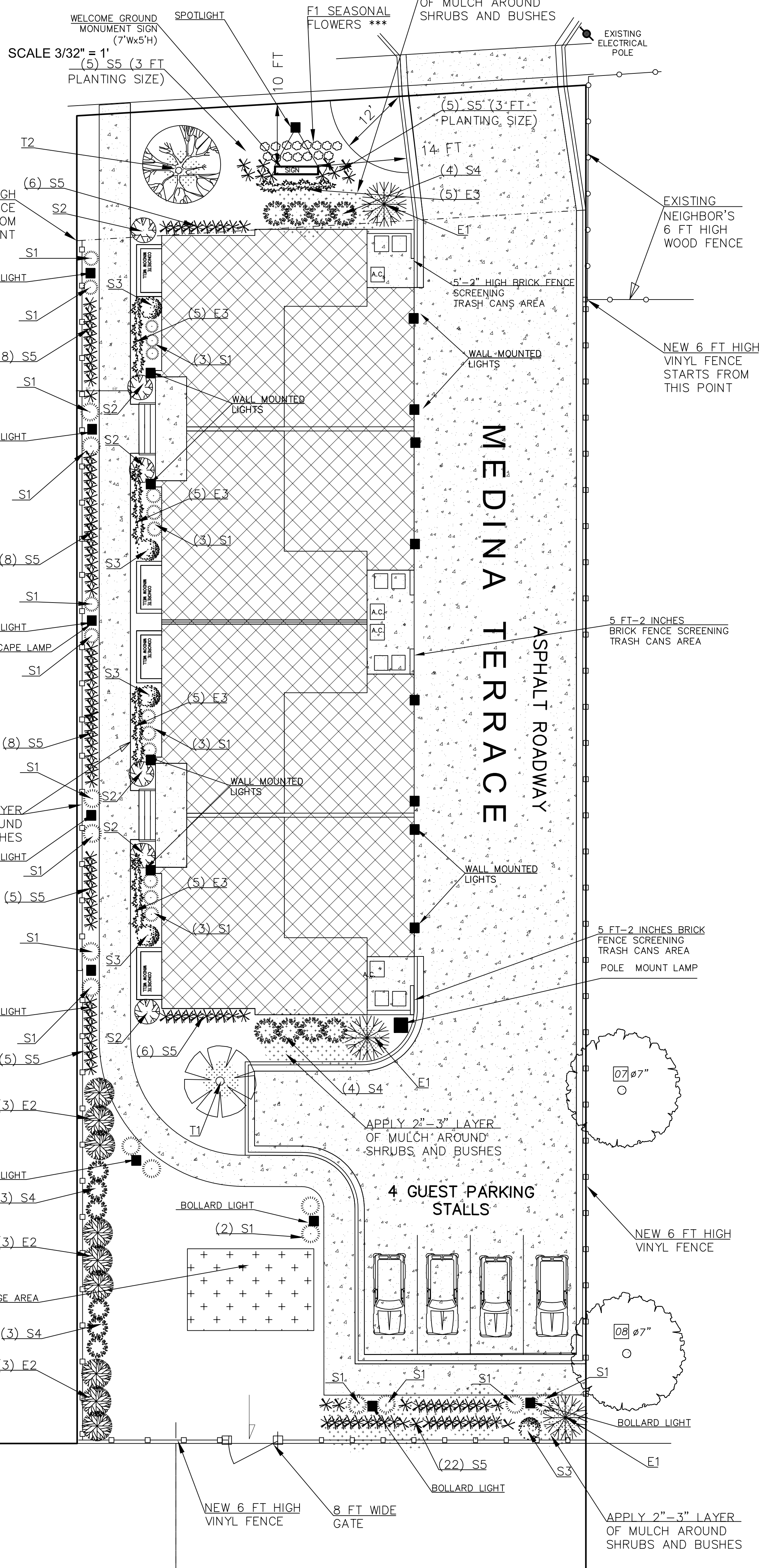
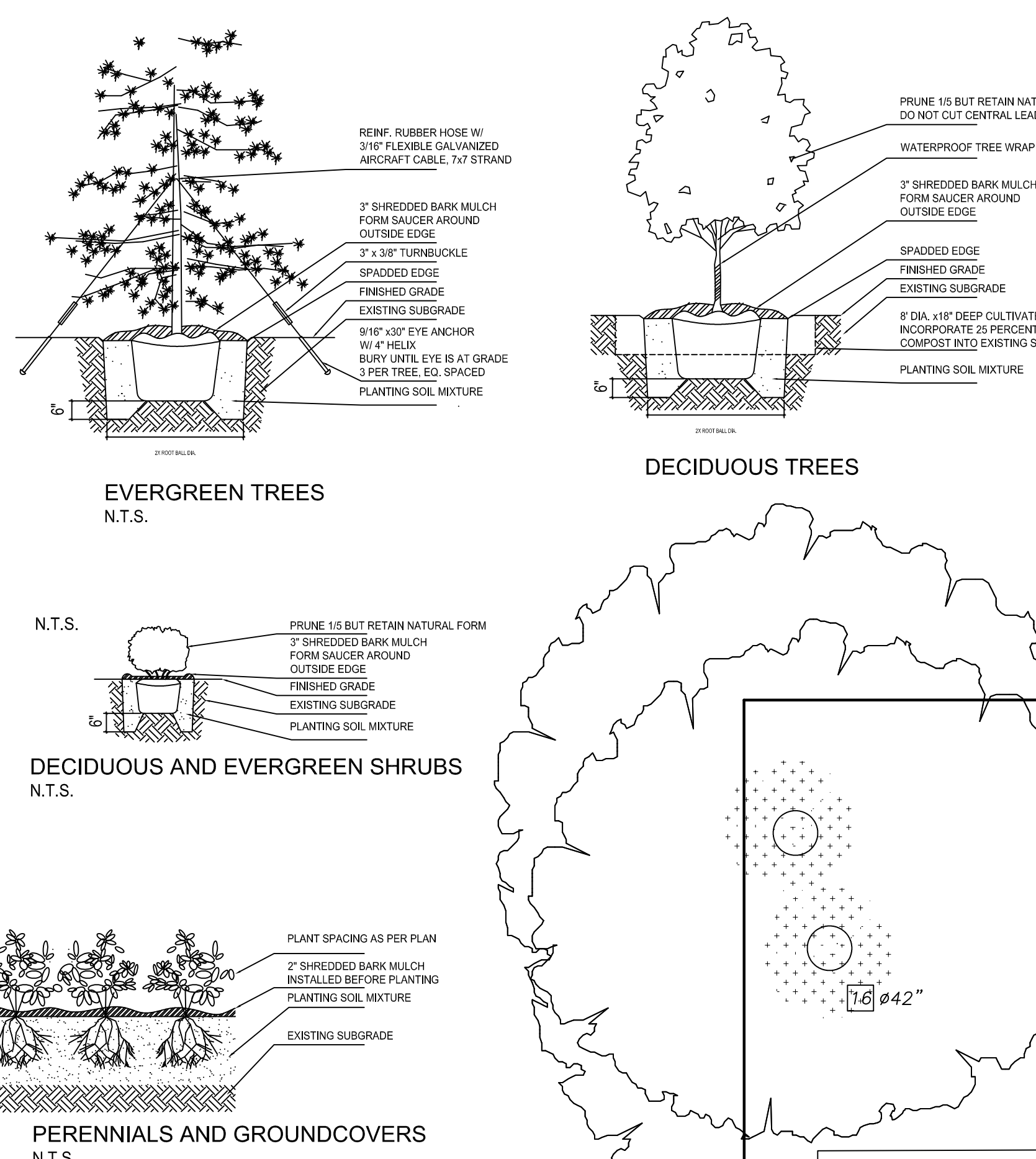
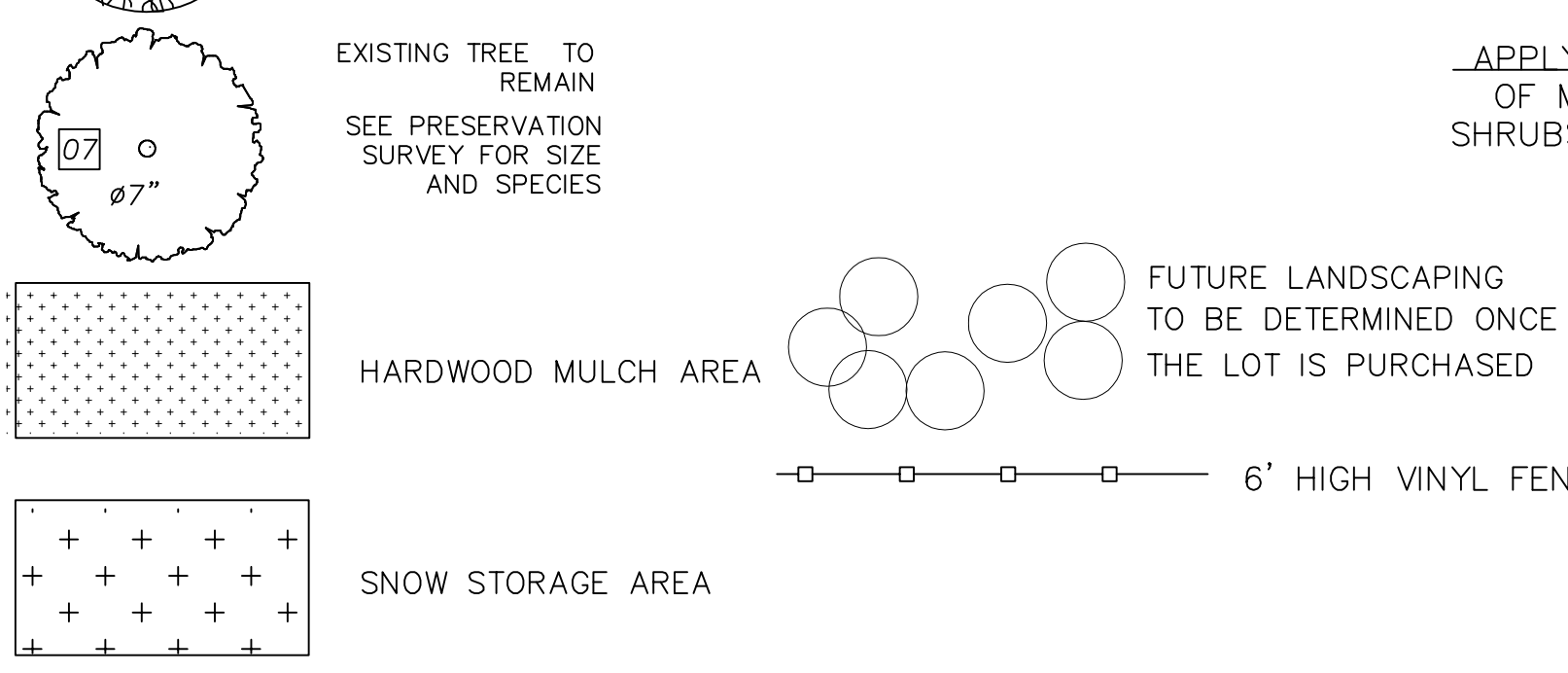
LINCOLN AVENUE

LEGEND

GROUND COVER

HARDWOOD MULCH USE AGED MULCH ONLY
 USE AGED MULCH ONLY. APPLY 2 TO 3 INCH LAYER
 EXTENDING 12 INCHES PAST ALL SHRUB FOLIAGE.
 SHRUB TRUNK SHOULD NOT BE COVERED

COMMON NAME	BOTANIC NAME	HEIGHT	WIDTH	QUANTITY	
*** SEASONAL PLANTS MUST EXTEND AT LEAST 2 FEET FROM MONUMENT BASE					
F1	SEASONAL PLANTS IN FRONT OF SIGN MONUMENT				
SHRUBS					
S1	AMERICAN BOXWOOD	BUXUS SEMPERVIRENS	18 INCH	18 INCH	30
S2	ANNABELLE HYDRANGEA	HYDRANGEA ARBOTESCENS GRANDIFLORA ANNABELLE	18 INCH	18 INCH	6
S3	BURNING BUSH	EUONYMUS ALATUS	3 FT	2 FT	5
S4	RED DOGWOOD	CORMUS BEILEYI	4 FT	3 FT	18
S5	ORNAMENTAL PERENNIAL GRASS (SWITCH, ZEBRA, PAMPASS FOUNTAIN)		2-3 FT	3-4 FT	78
EVERGREEN TREES AND SHRUBS					
E1	WHITE FIR	ABIES CONCOLOR	6 FT		5
E2	ARBORVITAE THUJA	ARBORVITAE THUJA	5 FT	2 FT, 4 FT SPACING O.C.	9
E3	ANDORRA JUNIPER	JUNIPER HORIZONTALIS	12 INCH	2 FT, 3 FT SPACING O.C.	35
TREES					
T1	SUGAR MAPLE	ACER SACCHARUM	8-10 FT (2" DIA.)		1
T2	RED OAK	QUERCUS RUBRA	8-10 FT (2 1/2" DIA.)		1



MATCH LINE SEE A-5

NEW SINGLE FAMILY RESIDENCE

NEW SINGLE FAMILY RESIDENCE

MEDINA GARDENS SUBDIVISION LANDSCAPE PLAN

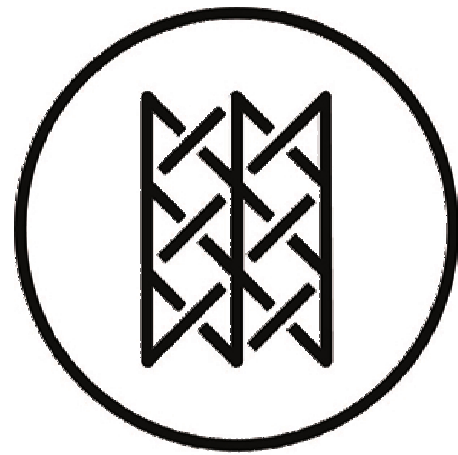
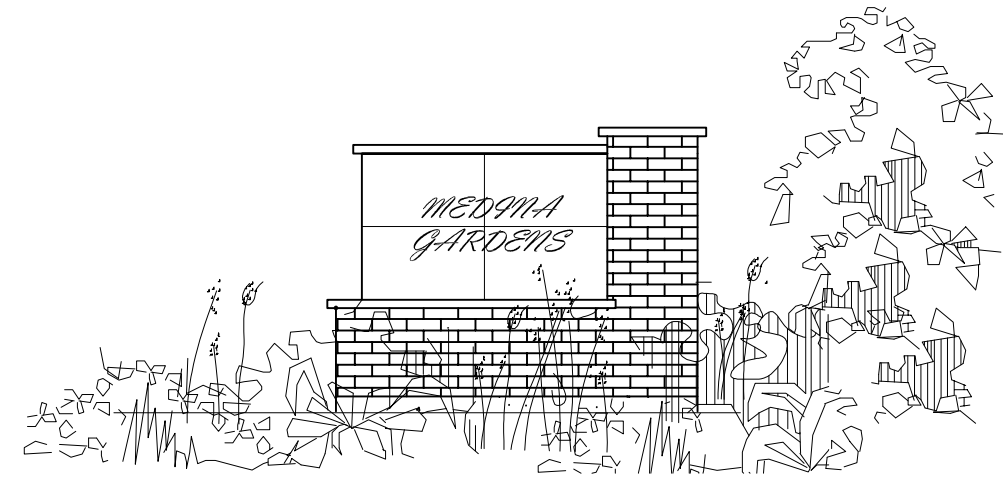
DATE: 01-07-2021
 TITLE: MEDINA GARDENS SUBDIVISION LANDSCAPE PLAN - NORTH LOT
 SCALE: AS NOTED

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 100 HAWTHORNE ST. SUITE 205
 TEL: 847 877 8228
 beata@beataarch.com

A4

MEDINA GARDENS DEVELOPMENT



BKArchitect
Illinois & Colorado

bkbuiltdesign.com

100 HIGGINS AVE., SUITE 205
PARK RIDGE IL. 60068
phone: 847 877 6255

bkbuiltdesign@gmail.com

DRAWINGS INDEX:

SP.1 - PROPOSED LAND USE

SP.2 - AERIAL VIEW OF DEVELOPMENT

A.1 - 4 UNIT TOWNHOUSE BASEMENT PLAN

A.2 - 4 UNIT TOWNHOUSE FIRST FLOOR PLAN

A.3 - 4 UNIT TOWNHOUSE SECOND FLOOR PLAN

A.4 - 4 UNIT TOWNHOUSE THIRD FLOOR PLAN

A.5 - 4 UNIT TOWNHOUSE FRONT / WEST ELEVATION

A.6 - 4 UNIT TOWNHOUSE GARAGE / EAST ELEVATION

A.7 - 4 UNIT TOWNHOUSE SOUTH & NORTH ELEVATIONS

A.8 - MONUMENT SIGN AND FENCE

R.1 - MATERIALS COLOR PALETTE

R.2 - TOWNHOUSE SIGN VIEWS

R.3 - LINCOLN AVE. TOWNHOUSE VIEWS

R.4 - TOWNHOUSE FRONT ELEVATION VIEW

R.5 - TOWNHOUSE GARAGE ELEVATION VIEW

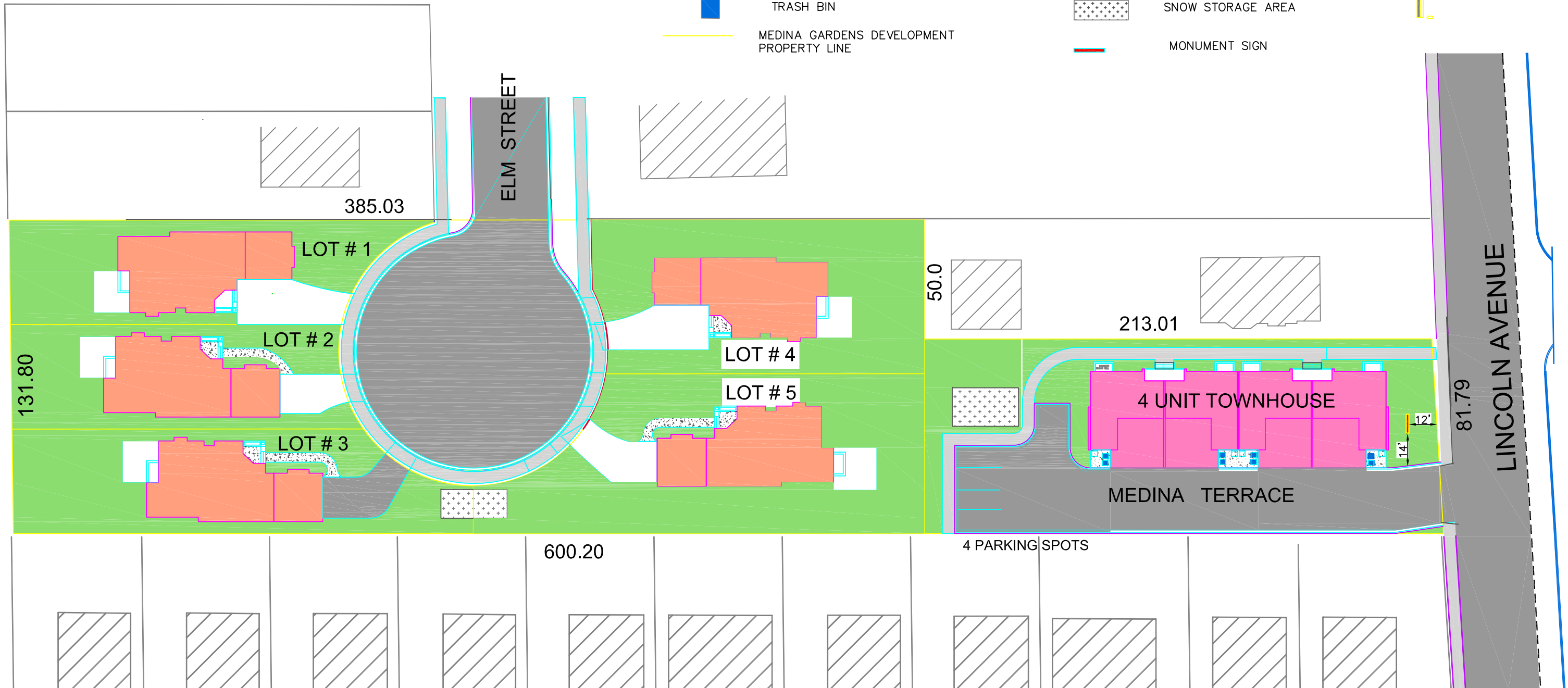
R.6 - TOWNHOUSE REAR ELEVATION VIEWS

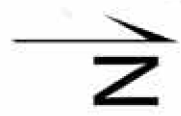
R.7 - SOUTH LOT PERSPECTIVES

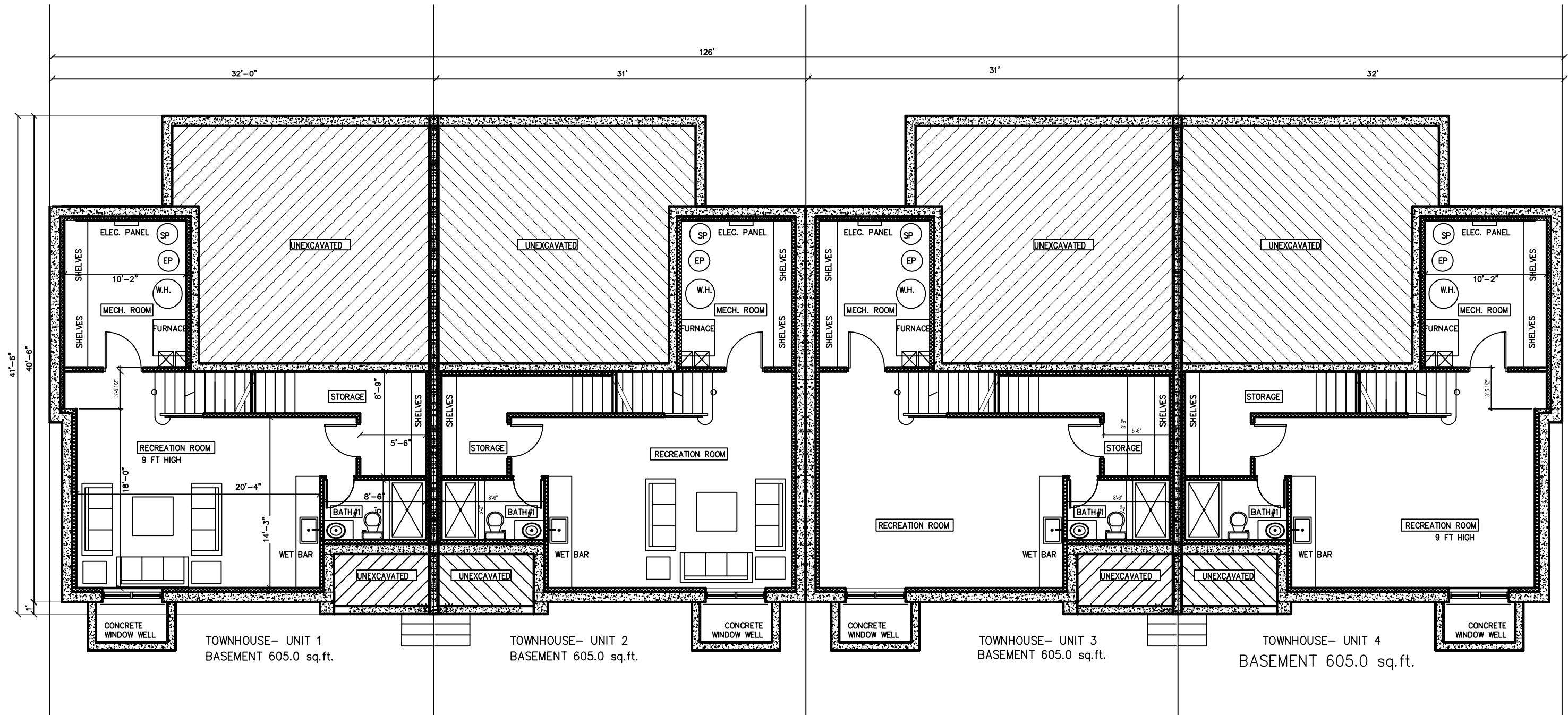
R.8 - SOUTH LOT PERSPECTIVES

LEGEND

- PROPOSED 4 UNIT TOWNHOUSE
- FUTURE HOUSE BUILDING FOOTPRINT TO BE DETERMINED ONCE LOT IS PURCHASED
- EXISTING NEIGHBORS
- TRASH BIN
- MEDINA GARDENS DEVELOPMENT PROPERTY LINE
- ASPHALT ROAD AND PARKING AREA
- CONCRETE WALK
- OPEN GREEN AREA
- SNOW STORAGE AREA
- MONUMENT SIGN



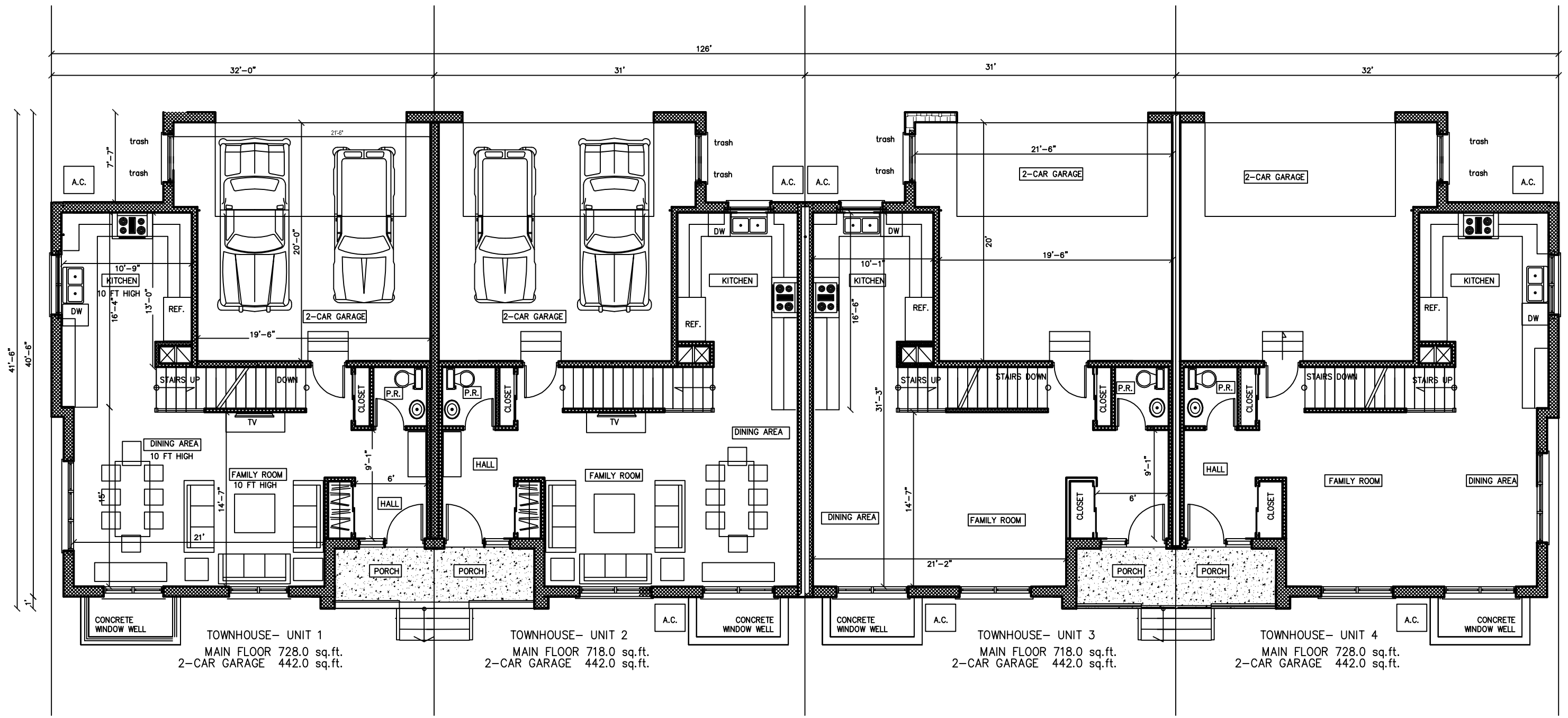




TOWN HOUSE FLOOR PLAN - BASEMENT FLOOR

A.1

MEDINA GARDENS DEVELOPMENT



TOWNHOUSE- UNIT 1
 MAIN FLOOR 728.0 sq.ft.
 2-CAR GARAGE 442.0 sq.ft.

TOWNHOUSE- UNIT 2
 MAIN FLOOR 718.0 sq.ft.
 2-CAR GARAGE 442.0 sq.ft.

TOWNHOUSE- UNIT 3
 MAIN FLOOR 718.0 sq.ft.
 2-CAR GARAGE 442.0 sq.ft.

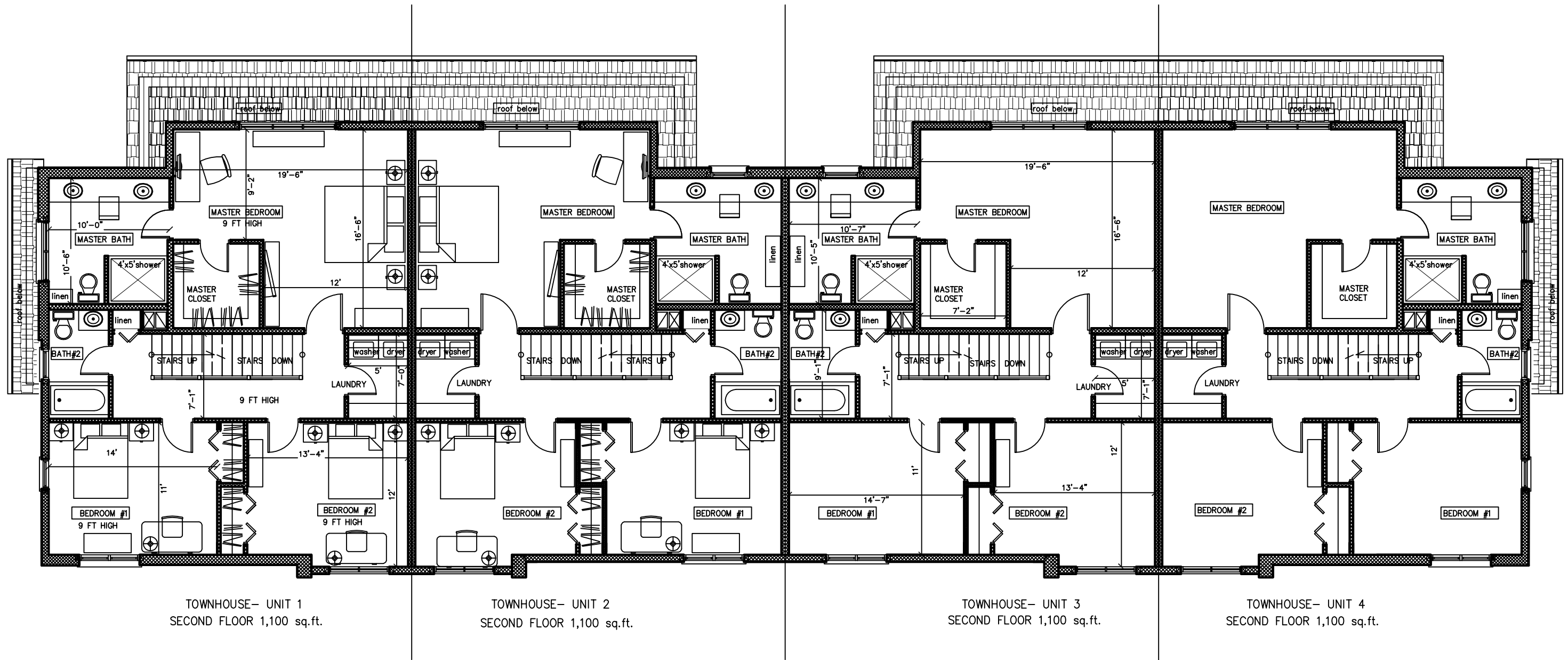
TOWNHOUSE- UNIT 4
 MAIN FLOOR 728.0 sq.ft.
 2-CAR GARAGE 442.0 sq.ft.

TOTAL FIRST FLOOR - 4,660.0 SQ.FT.

TOWN HOUSE FLOOR PLAN - FIRST FLOOR

A.2

MEDINA GARDENS DEVELOPMENT



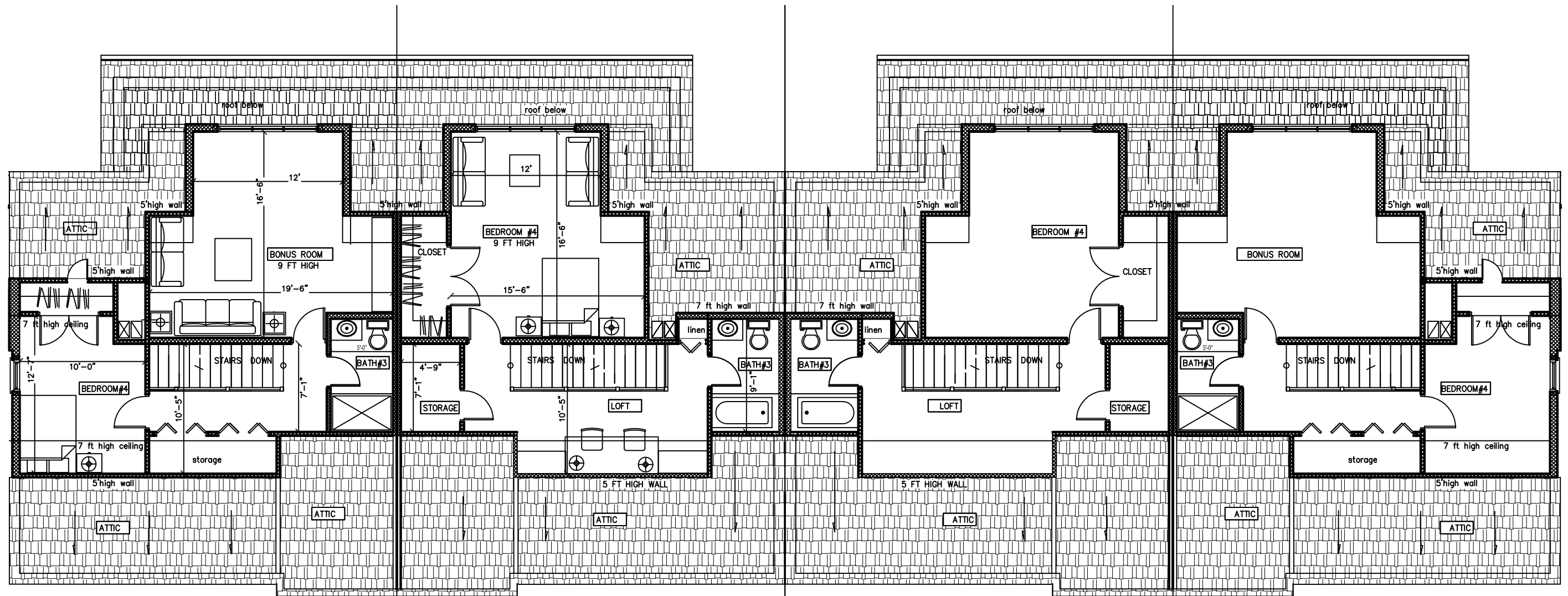
TOWNHOUSE- UNIT 1
SECOND FLOOR 1,100 sq.ft.

TOWNHOUSE- UNIT 2
SECOND FLOOR 1,100 sq.ft.

TOWNHOUSE- UNIT 3
SECOND FLOOR 1,100 sq.ft.

TOWNHOUSE- UNIT 4
SECOND FLOOR 1,100 sq.ft.

TOTAL SECOND FLOOR - 4,400.0 SQ.FT.



TOWNHOUSE- UNIT 1
THIRD FLOOR 600.0 sq.ft.

TOWNHOUSE- UNIT 2
THIRD FLOOR 600.0 sq.ft.

TOWNHOUSE- UNIT 3
THIRD FLOOR 600.0 sq.ft.

TOWNHOUSE- UNIT 4
THIRD FLOOR 600.0 sq.ft.

TOTAL THIRD FLOOR -2,400.0 SQ.FT.



ASPHALT SHINGLES
COLOR: ROYAL SLATE

ALUMINIUM GUTTER
D.S. FASCIA AND SOFFIT
COLOR: LIGHT GRAY

HARDIE PANEL
VERTICAL SIDING
COLOR: EVENING BLUE

CLAD CASEMENT
WINDOWS
COLOR: DARK BROWN

BRICK VENEER
COLOR: LIGHT RED

METAL RAILING
COLOR: PEWTER

5" HARDIE PLANK LAP
HORIZONTAL SIDING
COLOR: PEARL GRAY

TOWNHOUSE- UNIT 1
FRONT/ EAST ELEVATION

TOWNHOUSE- UNIT 2
FRONT/ EAST ELEVATION

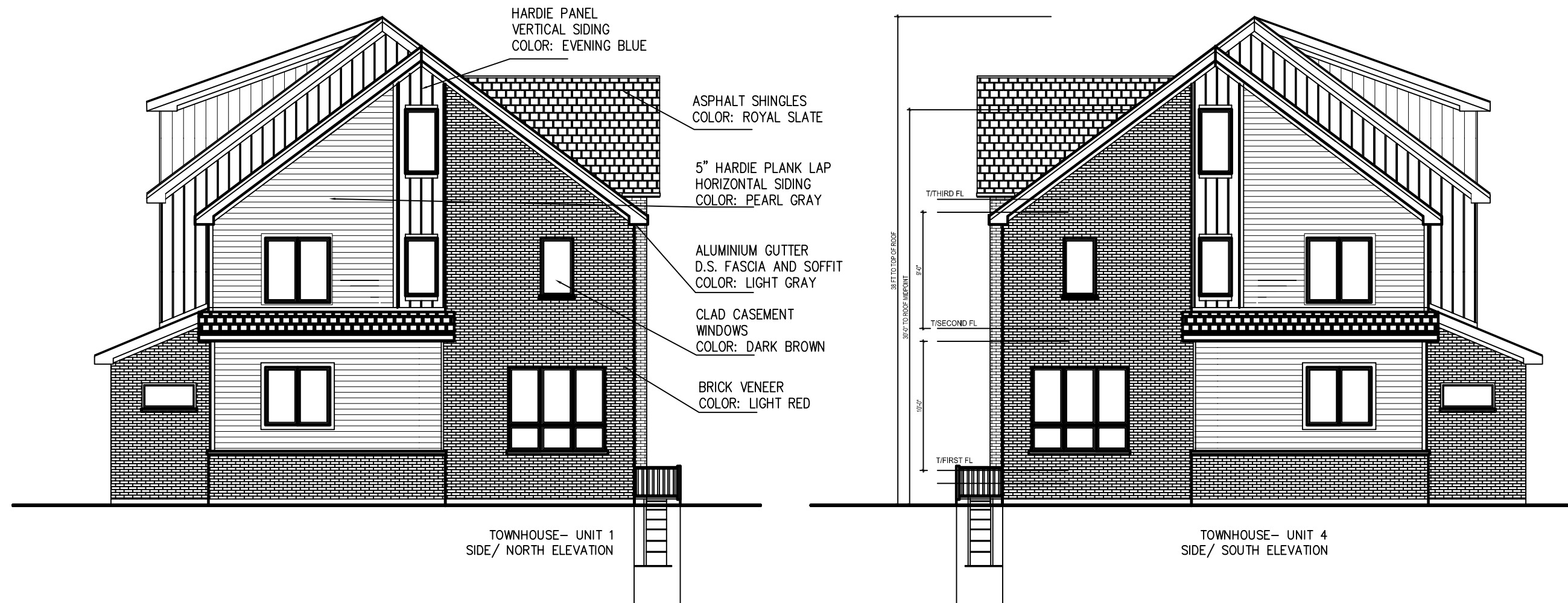
TOWNHOUSE- UNIT 3
FRONT/ EAST ELEVATION

TOWNHOUSE- UNIT 4
FRONT/ EAST ELEVATION

TOWN HOUSE FRONT/ EAST ELEVATION

A.5

MEDINA GARDENS DEVELOPMENT



TOWN HOUSE SIDE NORTH & SOUTH ELEVATIONS A.6

MEDINA GARDENS DEVELOPMENT



TOWNHOUSE- UNIT 4
REAR/WEST ELEVATION

TOWNHOUSE- UNIT 3
REAR/WEST ELEVATION

TOWNHOUSE- UNIT 2
REAR/WEST ELEVATION

METAL GARAGE DOOR
COLOR : DARK BROWN

TOWNHOUSE- UNIT 1
REAR/ WEST ELEVATION

BRICK VENEER
COLOR: LIGHT RED

ASPHALT SHINGLES
COLOR: ROYAL SLATE

CLAD CASEMENT
WINDOWS
COLOR: DARK BROWN

ALUMINIUM GUTTER
D.S. FASCIA AND SOFFIT
COLOR: LIGHT GRAY

HARDIE PANEL
VERTICAL SIDING
COLOR: EVENING BLUE

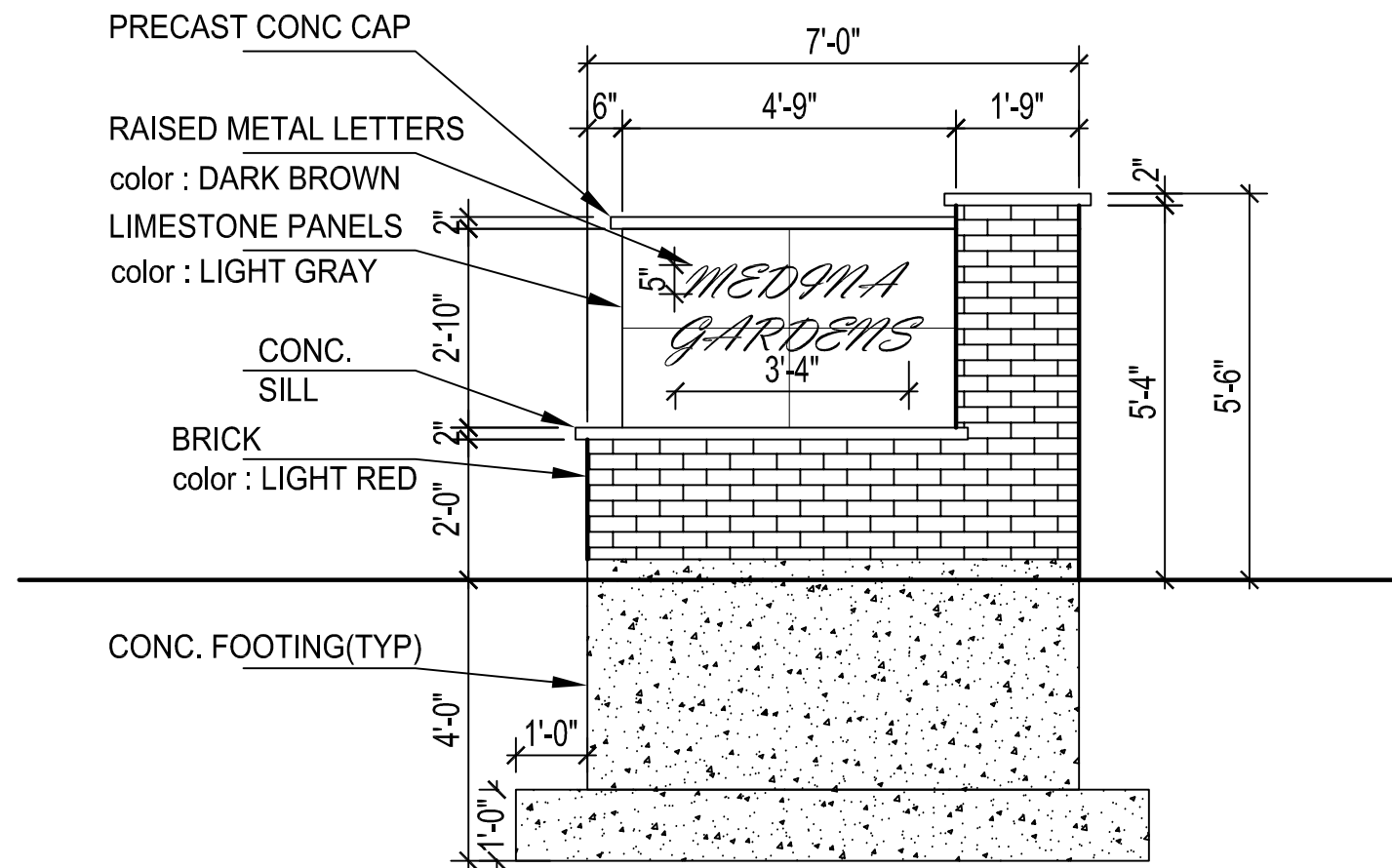
5" HARDIE PLANK LAP
HORIZONTAL SIDING
COLOR: PEARL GRAY

TOWN HOUSE GARAGE / WEST ELEVATION

A.7

MEDINA GARDENS DEVELOPMENT

PROPOSED MONUMENT SIGN

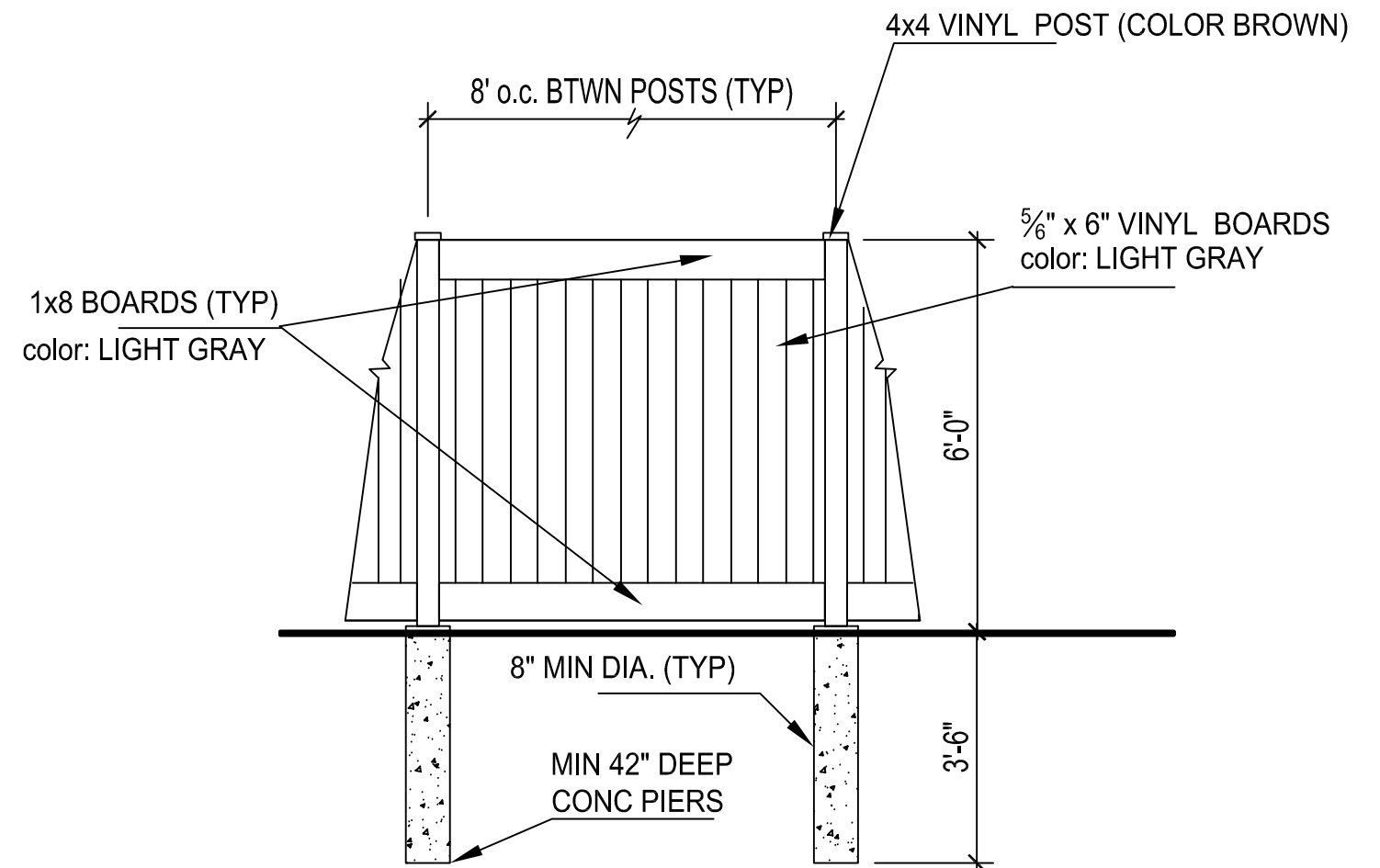


scale : $\frac{3}{8}$ " = 1'-0"

PROPOSED NEW FENCE

TWO-TONE SOLID PRIVACY FENCE
 6 FT HIGH, VINYL PVC MATERIAL

POSTS : BROWN
 FENCE PANELS : LIGHT GRAY



scale: $\frac{3}{8}$ " = 1'-0"

GUTTERS, FASCIA AND SOFFIT- LIGHT GRAY



ASPHALT SHINGLES-ARCHITECTURAL SERIES ROYAL SLATE



CASEMENT CLADDING WINDOWS- DARK BROWN



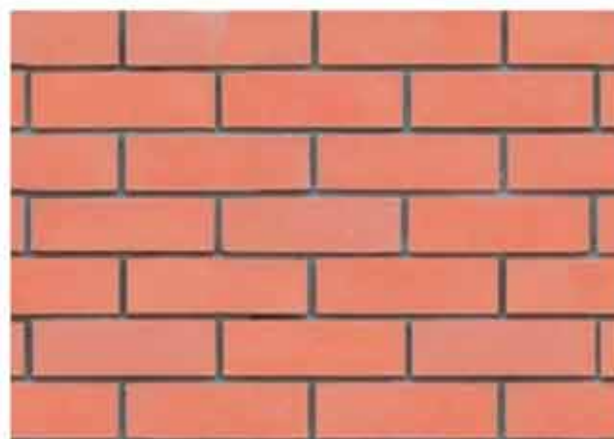
5" HARDIE PLANK LAP HORIZONTAL SIDING - PEARL GRAY



HARDIE PANEL VERTICAL SIDING- EVENING BLUE



4" BRICK VENEER- LIGHT RED





VIEW SOUTHWEST



VIEW SOUTH



VIEW SOUTH EAST





VIEW EAST



VIEW WEST

VIEW NORTH WEST



AERIAL VIEW NORTH



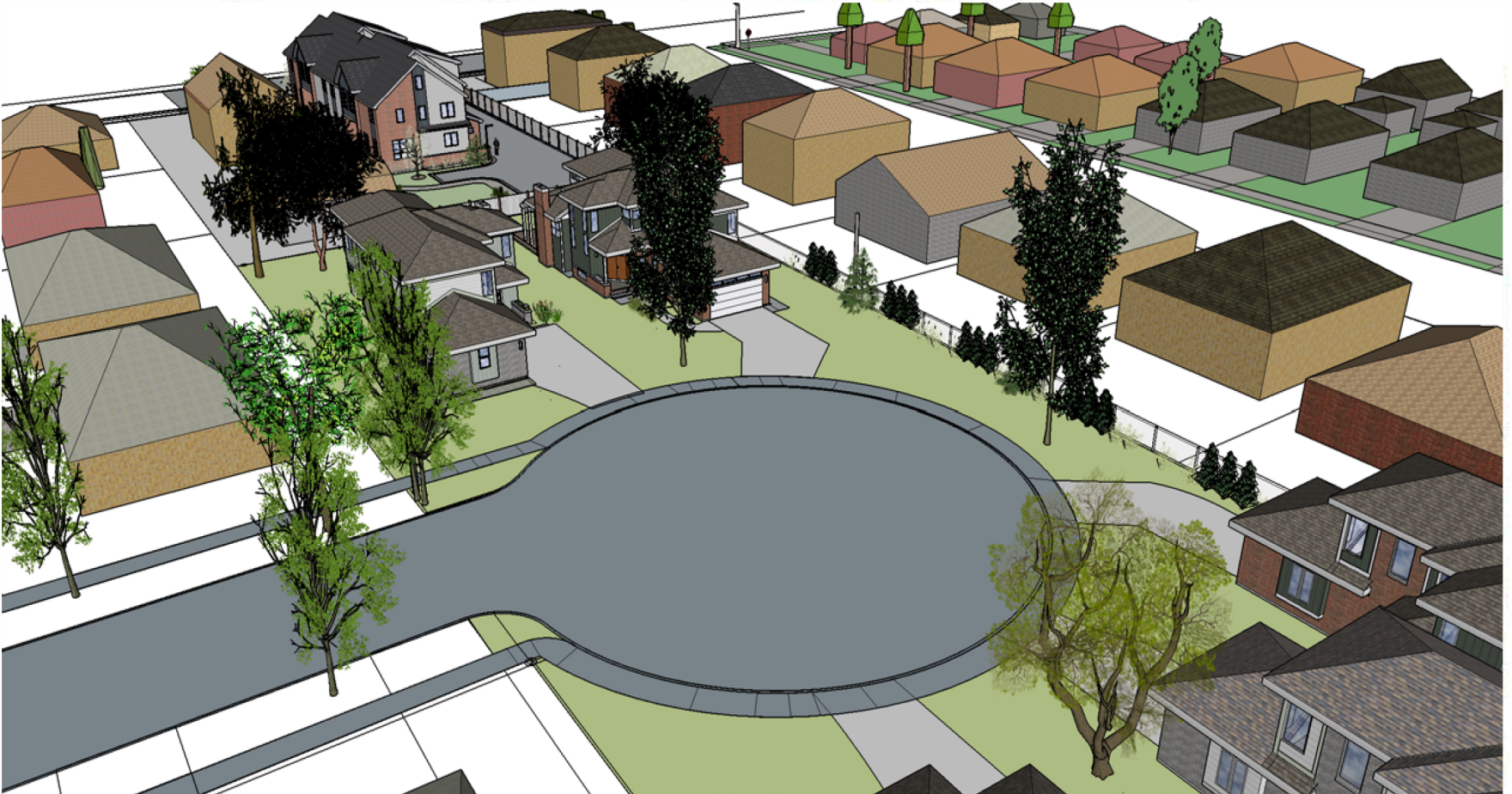
AERIAL VIEW WEST



SOUTH EAST AERIAL



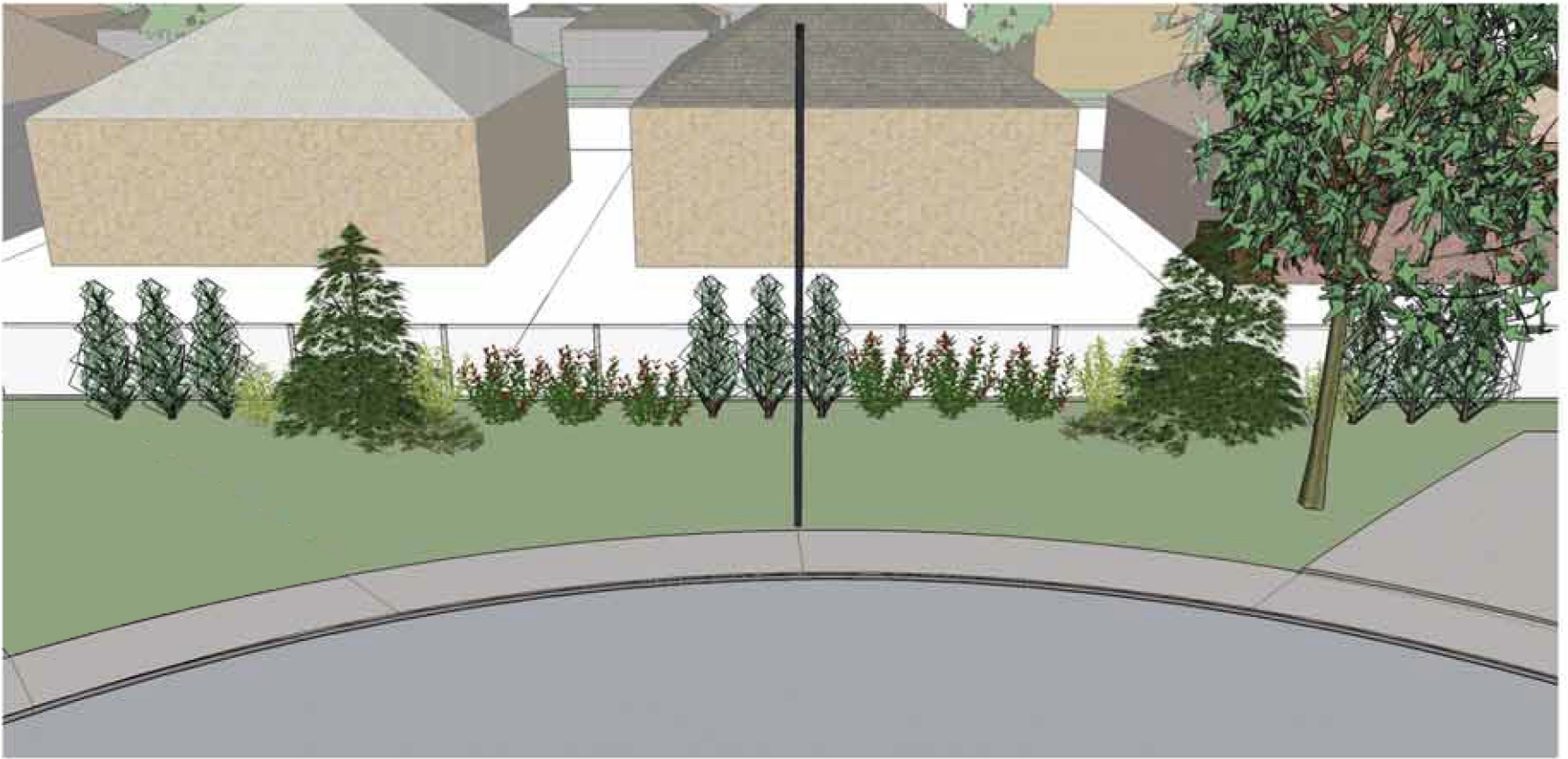
NORTH EAST AERIAL



VIEW WEST



AERIAL EAST VIEW



SOUTH WEST VIEW



NORTH VIEW



MEMORANDUM

To: **Mr. Ashraf Memon**
Medina Homes, LLC

From: Justin Opitz, AICP
Nina Zlataric, EIT

Date: August 26, 2025

Subject: Medina Garden Planned Development
6021-6037 Lincoln Avenue
Morton Grove, Illinois

Kimley-Horn, Inc. (KH) was engaged to perform a Traffic Impact Study (TIS) to evaluate the traffic operations and parking requirements and operations of the proposed residential development to be located at the currently vacant land at 6021-6037 Lincoln Avenue in Morton Grove, Illinois.

Pertinent attachments with supporting documentation and information are included at the end of this document. The subject site is highlighted on **Exhibit 1** within **Attachment 1**.

Existing Conditions

Kimley-Horn reviewed the subject site and surrounding area to collect relevant information pertaining to site context, surrounding land uses, the adjacent street system, operating conditions, lane configurations and traffic control at nearby intersections, and other key transportation characteristics.

Existing Roadway Characteristics

The site is located along the south side of Lincoln Avenue at the address of 6021-6037 Lincoln Avenue in Morton Grove, Illinois. The site is immediately bounded by Lincoln Avenue to the north and single-family residences to the east and west. A field investigation was conducted within the study area. As a result of this visit, the following information was obtained about the existing roadway network and is graphically depicted on **Exhibit 2**.

Lincoln Avenue is an east-west major collector located along the northern frontage of the site. Through the study area, Lincoln Avenue generally provides one travel lane in each direction and a posted speed limit of 25 miles per hour (MPH). Lincoln Avenue is under Village of Morton Grove jurisdiction. Public on-street parking is generally provided along both sides of Lincoln Avenue in the site vicinity. This parking is designated as 90-minute parking from 8:00 AM – 6:00 PM, except on

Saturdays, Sundays, and Holidays. Truck parking is also restricted overnight from 12:00 AM – 6:00 AM along Lincoln Avenue near the site.

Austin Avenue is a north-south major collector located approximately 400 feet east of the site. Through the study area, Austin Avenue generally provides one travel lane in each direction and a posted speed limit of 25 miles per hour (MPH). Austin Avenue is under Village of Morton Grove jurisdiction.

Morton Avenue is a north-south local street located west of the site. Through the study area, Morton Avenue generally provides one travel lane in each direction. Morton Avenue is under Village of Morton Grove jurisdiction. Public on-street parking is generally provided with some restrictions along both sides of Morton Avenue in the site vicinity. Parking is restricted from 6:00 AM – 9:00 AM on Monday through Friday, except for vehicles displaying a zone 11 permit.

Elm Street is an east-west local street that dead-ends in a cul-de-sac west of the site and connects to Morton Avenue. Through the study area, Elm Street generally provides one travel lane in each direction. Elm Street Avenue is under Village of Morton Grove jurisdiction. Public on-street parking is provided with no restrictions along both sides of Elm Street.

Pedestrian, Bicycle, and Transit Accommodations

Pedestrian accommodations are provided throughout the study area with sidewalk present on both sides of all streets. Striped crosswalks are provided on all legs of the Lincoln Avenue/Austin Avenue intersection and the south leg of the Lincoln Avenue/Morton Avenue intersection. No striped crosswalks are provided at the Morton Avenue/Elm Street intersection.

Pace operates Route 210 – Lincoln Avenue along Lincoln Avenue with stops at Morton Avenue, McVicker Avenue and Austin Avenue. This route provides weekday, early morning through early evening service from Glenview to Lincolnwood. Additionally, the Morton Grove Metra Station along the Milwaukee District-North Line, which provides service between Downtown Chicago and Fox Lake, is located roughly 1/2-mile from the site.

Traffic Count Data

In coordination with the Village of Morton Grove, weekday turning movement count data was referenced from the *Medina Gardens Impact Study* previously prepared on May 11, 2020, by Gewalt Hamilton Associates, Inc. (GHA). Turning movement count data was collected in August 2017 at the following intersections during the weekday morning (7:00-9:00 AM) and weekday evening (4:00-6:00 PM) peak periods. The traffic count data indicates that peak hour traffic volumes occur within the study area from 7:45 to 8:45am and 5:00 to 6:00pm during the typical weekday peak periods.

- Lincoln Avenue / Austin Avenue
- Lincoln Avenue / Morton Avenue

Traffic growth estimates were reviewed using data from the Chicago Metropolitan Agency for Planning (CMAP). The background annual compounded growth rate based on CMAP year 2050

traffic projections for the study network is 0.54 percent. However, for purposes of a conservative analysis, a 2.0 percent growth rate was applied to the 2017 traffic volumes for a period of 8 years to reflect traffic growth between year 2017 and year 2025. Existing Year (2025) traffic volumes are shown on **Exhibit 3**. The GHA traffic count data is provided in **Attachment 5**.

Traffic Analysis

This section of the report outlines the proposed site plan, summarizes site-specific traffic characteristics, and analyzes the traffic operations of adjacent intersections for the Existing and Existing with Medina Gardens scenarios.

Site Characteristics

The proposed Medina Gardens residential development is planned to occupy 1.56 acres of land on the south side of Lincoln Avenue at the addresses of 6021-6037 Lincoln Avenue, Morton Grove, Illinois. The southern portion of this site has plans for 5 single-family detached residences with a proposed extension to Elm Street to provide access to the single-family homes via a cul-de-sac. The northern portion of this site has plans for 4 single-family attached townhouses with proposed access to Lincoln Avenue via a new private street, Medina Terrace.

The development plans for each unit to provide a two-car garage. The townhouses are planned to provide 4 guest parking spaces to be used by the owners and visitors of the townhomes. The single-family detached residences are also planned to provide 5 guest parking spaces. A site plan is provided as **Attachment 2**.

Trip Generation

In order to estimate trip generation for the proposed site, data was referenced from the Institute of Transportation Engineers (ITE) manual titled Trip Generation, Eleventh Edition. Trip generation rates for the ITE Land Use Code (LUC) corresponding to the land use of the proposed development use are shown in **Table 1**. A copy of the ITE trip generation data is provided as **Attachment 3**.

Table 1. ITE Trip Generation Data

ITE Land Use	LUC	Unit (X)	Weekday		
			Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing	210	Dwelling Units	$\ln(T) = 0.92\ln(X)+2.68$ 50% in/50% out	$\ln(T) = 0.91\ln(X)+0.12$ 25% in/75% out	$\ln(T) = 0.94\ln(X)+0.27$ 63% in/37% out
Single-Family Attached Housing	215	Dwelling Units	$T = 7.20(X)$ 50% in/50% out	$T = 0.48(X)$ 25% in/75% out	$T = 0.57(X)$ 59% in/41% out

T = number of trips X = Dwelling Units

As summarized in **Table 2**, the trip generation estimates were calculated for weekday daily and weekday AM and PM peak hours using the ITE assumptions in Table 1.

Table 2. Site-Generated Traffic Projections

Land Use	Size	Weekday						
		Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (LUC 210)	5 DU	60	1	4	5	4	2	6
Single-Family Attached Housing (LUC 215)	4 DU	30	0	2	2	1	1	2
Net New Site Trips		90	1	6	7	5	3	8

¹ Daily trips rounded to the nearest 10

Directional Distribution

The estimated distribution of site-generated traffic on the surrounding roadway network as it approaches and departs the site is a function of several variables, such as access and parking locations, prevailing traffic volumes/patterns, characteristics of the street system, and the ease with which vehicles can travel over various sections of that system. The traffic counts indicate similar traffic volumes traveling to/from the four primary origin/destination locations. The directional distribution is displayed in **Table 3** below.

Table 3. Estimated Trip Distribution

Traveling to/from	Estimated Trip Distribution
North on Austin Avenue	25%
South on Austin Avenue	25%
West on Lincoln Avenue	25%
East on Lincoln Avenue	25%
Total	100%

Based on these assumptions, the site trip assignment is illustrated on **Exhibit 4**. Traffic projections for the Existing with Medina Gardens scenario were calculated by adding the Existing (2025) traffic volumes (Exhibit 3) to the site trips (Exhibit 4). Traffic projections for the Existing with Medina Gardens scenario are shown in **Exhibit 5**.

Capacity Analysis

Synchro capacity software was used to evaluate the operational conditions at the study intersections during the weekday peak hours for the Existing (2025) and Existing with Medina Gardens scenarios. The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS), measured in average delay per vehicle. LOS grades range from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions).

The LOS grades shown below, which are provided in the Transportation Research Board’s Highway Capacity Manual (HCM) quantify and categorize the driver’s discomfort, frustration, fuel

consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 4**.

Table 4. Level of Service Grading Descriptions¹

Level of Service	Description
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	High control delay; average travel speed no more than 33 percent of free flow speed.
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

¹Highway Capacity Manual, 7th Edition.

The range of control delay for each rating (as detailed in the HCM) is shown in **Table 5**.

Table 5. Level of Service Grading Criteria¹

Level of Service	Average Control Delay (s/veh) at:	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F ²	> 50	> 80

¹Highway Capacity Manual, 7th Edition

²All movements with a Volume to Capacity (v/c) ratio greater than 1 receive a rating of LOS F.

Based on these standards, the results of the capacity analysis for the Existing (2025) and Existing with Medina Gardens scenarios are summarized in **Table 6**. In this table, operation on each approach is quantified according to the average delay per vehicle and the corresponding level of service. The results are based on Highway Capacity Manual (HCM) 7th Edition methodology, in accordance with IDOT guidelines. Copies of the Synchro reports are included as **Attachment 4**.

Table 6. Levels of Service

Intersection	Existing				Existing with Medina Gardens			
	Weekday AM Peak		Weekday PM Peak		Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Lincoln Ave / Morton Ave △								
Northbound	12	B	13	B	12	B	14	B
Westbound (Left Turn)	8	A	8	A	8	A	8	A
Eastbound (Left Turn)	<1	A	8	A	<1	A	8	A
Southbound	12	B	14	B	12	B	14	B
Lincoln Ave / Austin Ave ★								
Eastbound	25	C	21	C	25	C	21	C
Westbound	26	C	21	C	26	C	21	C
Northbound	29	C	29	C	29	C	29	C
Southbound	37	D	24	C	37	D	24	C
<i>Intersection</i>	30	C	24	C	30	C	24	C
Lincoln Ave / Medina Terrace △								
Northbound	N/A		N/A		10+	B	11	B
Westbound (Left Turn)	N/A		N/A		<1	A	<1	A

★ -Signalized Intersection

△ -Minor-Leg Stop-Controlled Intersection

Unsignalized Intersections

The unsignalized Lincoln Avenue and Morton Avenue intersection currently operates acceptably with all approaches at LOS B or better during both weekday peak hours. The intersection is expected to continue to operate acceptably with the addition of the residential development traffic with all approaches remaining at LOS B or better. The 95th percentile queues for all movements at this intersection are currently less than one vehicle and are projected to remain less than one vehicle with the addition of site traffic.

The Lincoln Avenue and Medina Terrace site access is projected to operate acceptably with all movements at LOS B or better during both weekday peak hours. All 95th percentile queues are projected to be less than one vehicle.

Lincoln Avenue / Austin Avenue

The signalized Lincoln Avenue and Austin Avenue intersection currently operates acceptably with all approaches at LOS C or better for both weekday peak hours, with the exception of the southbound approach, which operates at LOS D during the morning peak hour. With the addition of site traffic, the intersection is expected to continue to operate acceptably with the same level of service for all approaches during both weekday peak hours. All 95th percentile queues are contained within their provided storage and taper for both weekday peak hours under Existing and Existing with Medina Gardens conditions.

Traffic Evaluation

Kimley-Horn determined the anticipated traffic to be generated by the site for comparison to recently collected annual average daily traffic (AADT) volumes along Lincoln Avenue by the Illinois Department of Transportation (IDOT). This comparison is qualitative in nature and is meant to provide context around the development’s potential traffic impact along the segment of Lincoln Avenue.

Kimley-Horn obtained traffic volumes along Lincoln Avenue from IDOT's Traffic Count Database System (TCDS) using the most recent year (2022) for bi-directional through movement traffic counts. Based on the referenced TCDS counts and the trip generation estimates in Table 2 above, **Table 7** summarizes existing and future anticipated traffic conditions on Lincoln Avenue. The IDOT count data is included as **Attachment 5**.

Table 7. Existing and Future Traffic Volume Comparison

Future Development	Weekday		
	Daily	AM Peak	PM Peak
Existing Volumes			
Existing Counts ¹	8,253	482	759
Proposed Development Trip Generation			
Single-Family Detached Housing	60	5	6
Single-Family Attached Housing (Townhomes)	30	2	2
Future Total EXISTING + PROPOSED	8,343	489	767
% Increase EXISTING VS. FUTURE	+1.09%	+1.45%	+1.05%

¹ Referenced from IDOT’s Traffic Count Database System

The addition of traffic related to the proposed development is estimated to increase trips by approximately one percent during a typical weekday and both AM and PM peak hours.

Per the Highway Capacity Manual (HCM), Lincoln Avenue has a capacity of about 10,000 vehicles per day before significant congestion and delay are expected to occur. As noted in Table 3, with the addition of the proposed residential development traffic, Lincoln Avenue is anticipated to carry approximately 8,343 vehicles per day. Thus, Lincoln Avenue is projected to have capacity for approximately 1,657 additional daily trips before this segment of the roadway nears the limit for efficient traffic operations. The projected increase in traffic is not anticipated to significantly impact operations along Lincoln Avenue.

It should be noted that Pace operates Route 210 along Lincoln Avenue through Morton Grove and the Morton Grove Metra Station is located approximately 1/2-mile west of the site. These nearby public transit options could reduce the overall trips generated by the proposed development.

Parking Evaluation

Kimley-Horn reviewed two metrics to evaluate the adequacy of the proposed parking supply for the residential development to be located at 6021-6037 Lincoln Avenue:

1. Parking requirements based on Village Code.
2. Estimated parking demand based on national industry resources.

Parking at the residential development at 6021-6037 Lincoln Avenue is planned to be provided via 27 off-street parking spaces designated as such:

- 5 single-family detached residences: 10 off-street parking spaces via two-car garages at each unit plus 5 guest parking spaces for a total of 15 parking spaces.
- 4 single-family attached townhomes: 8 off-street parking spaces via two-car garages at each unit plus 4 guest parking spaces for a total of 12 parking spaces.

Part 1. Village Code Requirements

Table 8 summarizes the parking requirements per the Village of Morton Grove Unified Development Code for the proposed uses. For these uses, the Village code defines parking requirements based on dwelling units.

Based on Village code, 18 off-street parking spaces are required for the proposed uses. The proposed supply of 27 off-street parking spaces meets the 18-space requirement with a surplus of 9 spaces.

Table 8. Off-Street Parking Requirements

Code Categorization / Land Use	Size	Required Space by Use	Required Spaces	Proposed Spaces
Single Family Detached Housing	5 DU	2.0 spaces per 1 dwelling unit	10	10 Garage Spaces ^{2,3} + 5 Guest Spaces
Single Family Attached Housing	4 DU	2.0 spaces per 1 dwelling unit ¹	8	8 Garage Spaces ² + 4 Guest Spaces
Total Required Off-Street Parking Spaces			18	27

¹ Guest parking is not required as the use provides less than 10 single-family attached dwelling units.

² Each unit provides a two-car garage

³ Each unit provides a two-car driveway (not included in proposed spaces)

Part 2. National Industry Resources

Kimley-Horn reviewed parking demand data provided in the Institute of Transportation Engineers (ITE) Parking Generation Manual, 6th Edition, to determine off-street parking demand for the proposed uses per industry research. The ITE Parking Generation Manual does not specifically provide data for Single Family Detached Housing, and therefore, LUC 215 (Single-Family Attaching Housing) was selected as most closely representative of the operational characteristics of single-family detached homes. A copy of the ITE trip generation data is provided as **Attachment 6**.

Table 9. ITE Parking Demand Projections

Use	ITE Land Use	Size	Monday-Friday			
			Average Peak Demand		85th% Peak Demand	
			ITE Rate	Projection	ITE Rate	Projection
Single Family Homes	Single-Family Attached Housing (LUC 215)	5 DU	S = 1.41(X)	7 Spaces	S = 2.27(X)	11 spaces
Townhomes	Single-Family Attached Housing (LUC 215)	4 DU	S = 1.41(X)	6 spaces	S = 2.27(X)	9 spaces
Total Projected Peak Parking Demand				13 spaces		20 spaces

X = Dwelling Units

As shown in **Table 9**, based on ITE parking demand data, the parking supply exceeds the ITE projected peak demand by 14 spaces when considering average peak parking demand and 7 spaces when considering 85th percentile peak parking demand.

Conclusion

Kimley-Horn evaluated the traffic characteristics, parking requirements, and projected operations of the proposed approximate 1.56-acre residential development site to be located at the 6021-6037 Lincoln Avenue in Morton Grove, Illinois.

All study intersections are expected to continue to operate with acceptable levels of service with the addition of site-generated traffic. Installation of a stop sign and stop bar on the north leg of the existing Morton Avenue and Elm Street intersection, as well as pedestrian crosswalk striping on the north and east legs, should be considered as the proposed single-family detached homes will slightly increase vehicular and pedestrian traffic through the intersection. No modifications along Lincoln Avenue, such as turn lanes or pavement striping modifications, are recommended.

Outbound traffic at the proposed private street (Medina Terrace) serving the 4 single-family attached townhomes should operate under minor-leg stop control operations with Lincoln Avenue and provide a stop sign and stop bar. As the site design progresses, care should be taken with landscaping, signage, and monumentation at the private street access with Lincoln Avenue to ensure that adequate horizontal sight distance is maintained. Additionally, the proposed parking supply exceeds Village parking requirements and is expected to accommodate owner and guest parking demand.

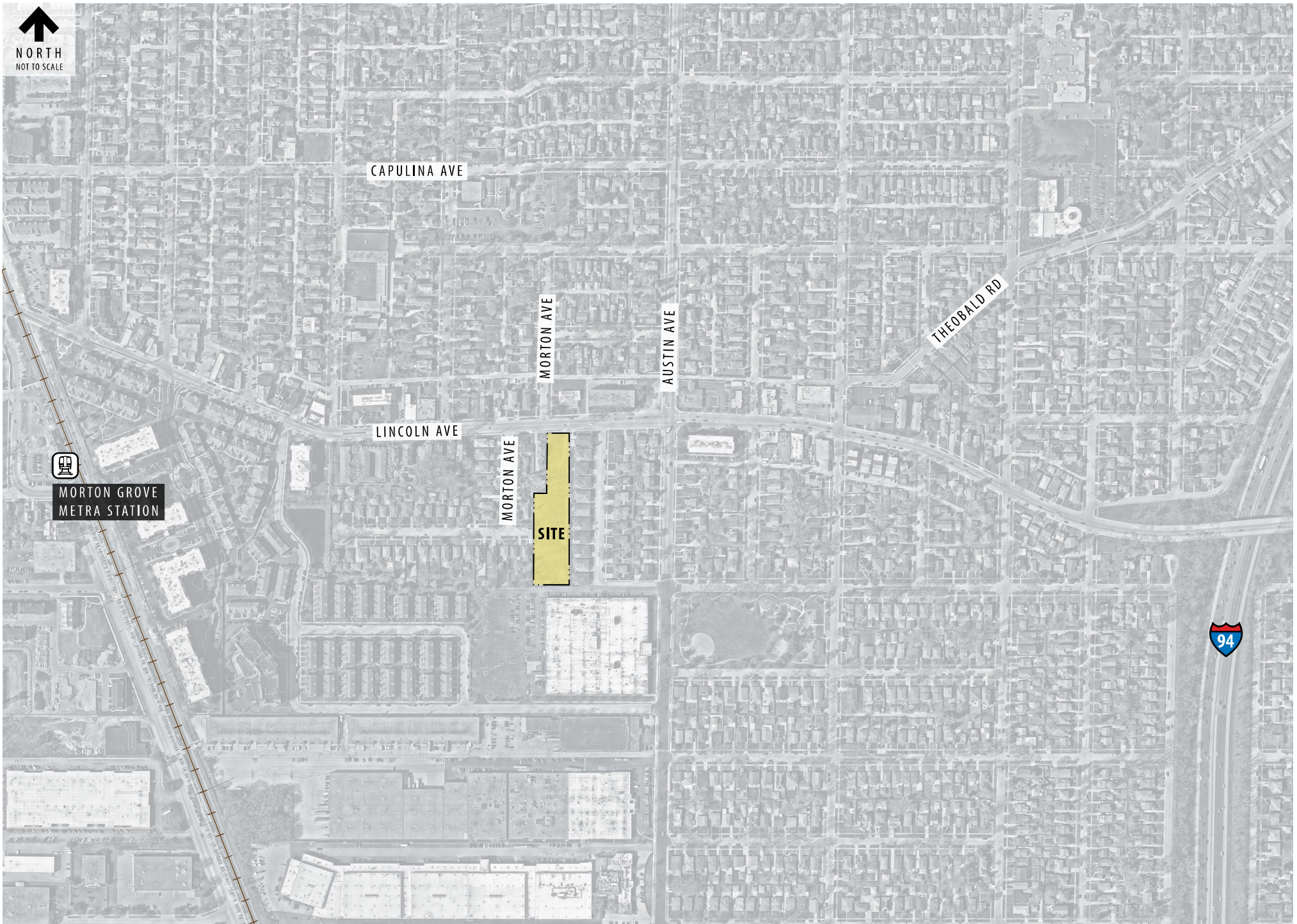
ATTACHMENTS

1. Exhibits
2. Site Plan
3. ITE Trip Generation Manual, 11th Edition Excerpts
4. Synchro Reports
5. GHA and IDOT Traffic Volume Data
6. ITE Parking Generation Manual, 6th Edition Excerpts

EXHIBITS

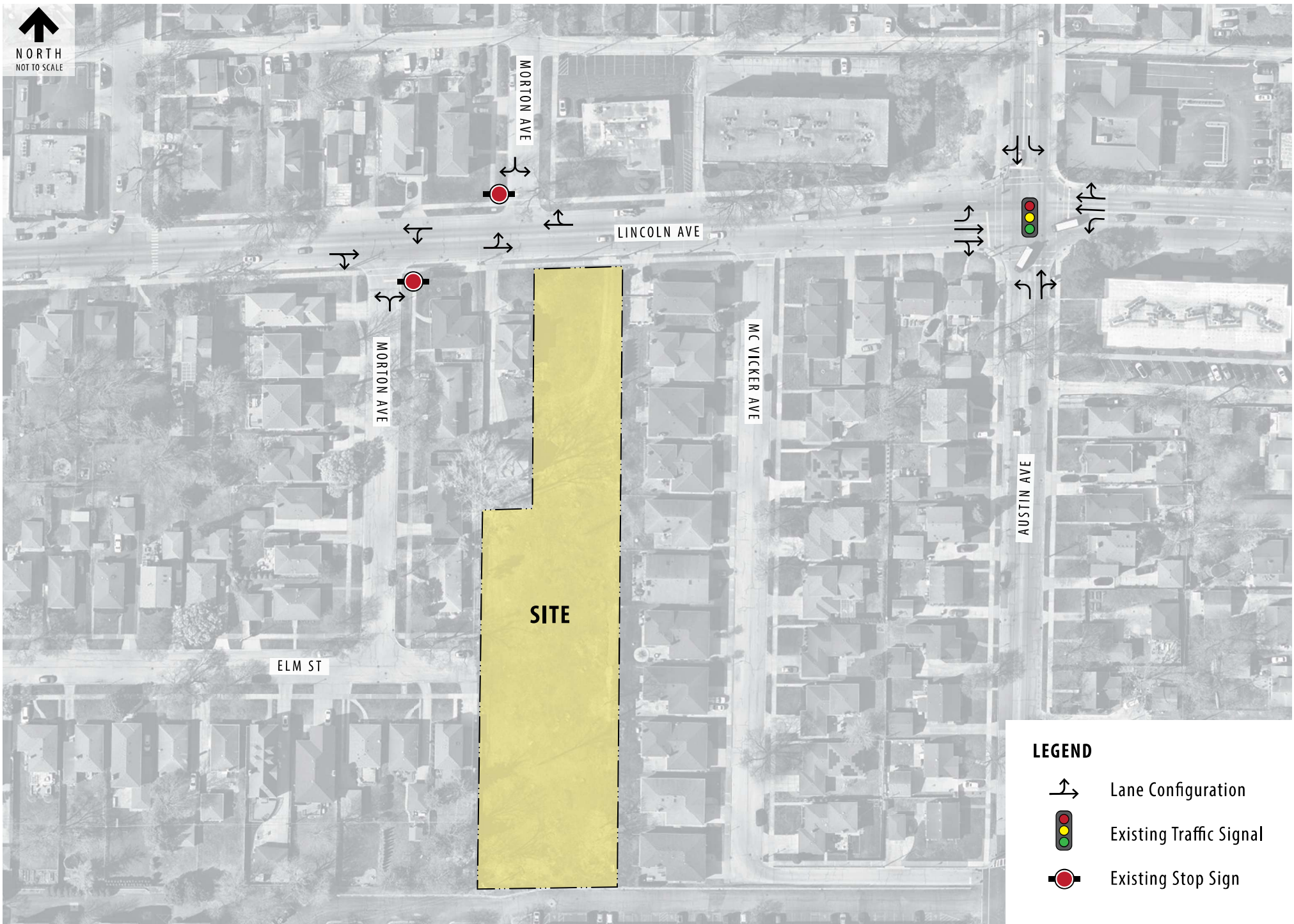


NORTH
NOT TO SCALE






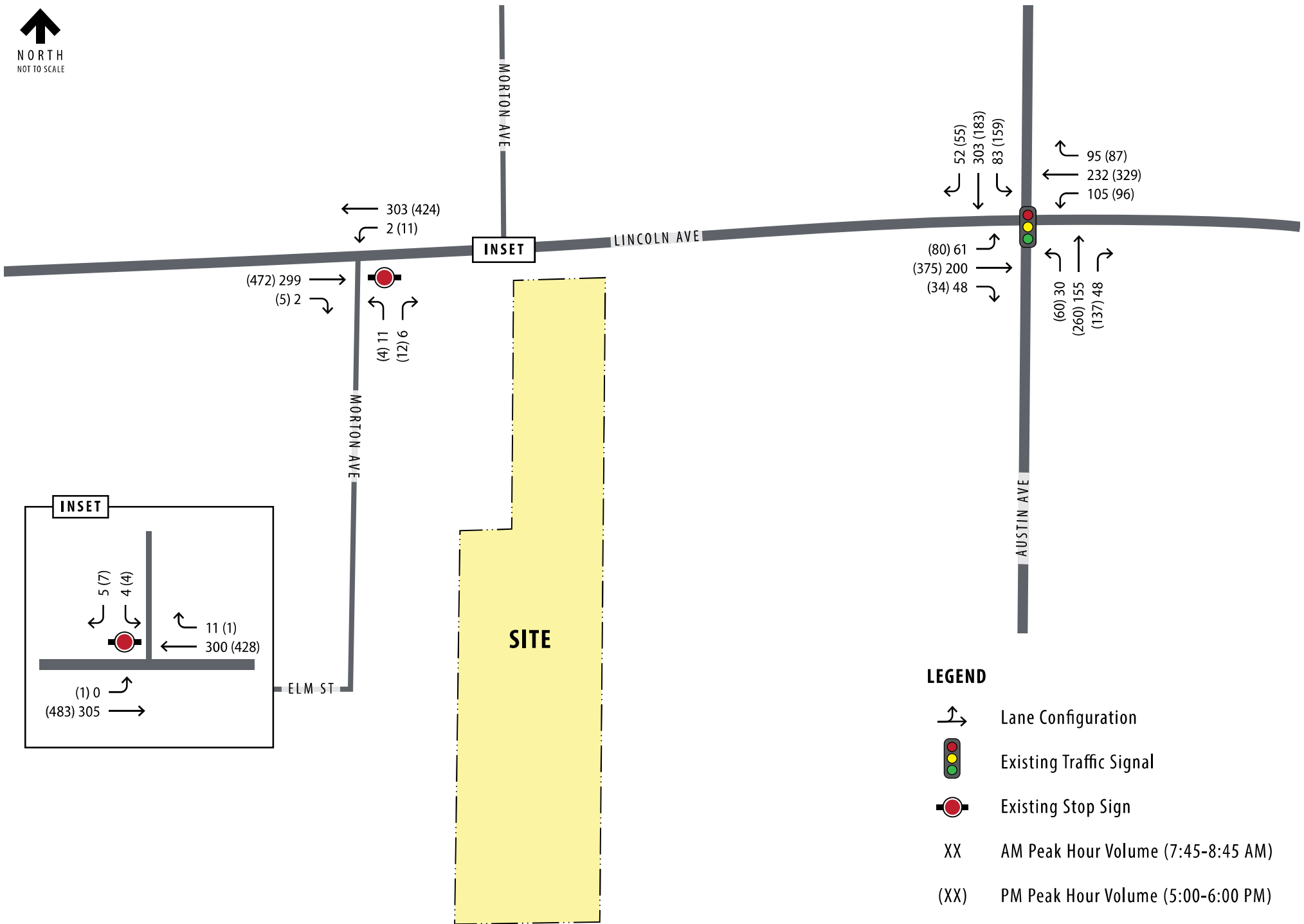


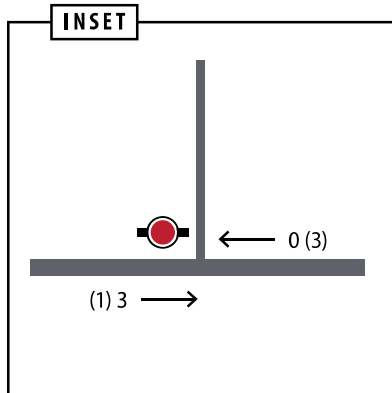
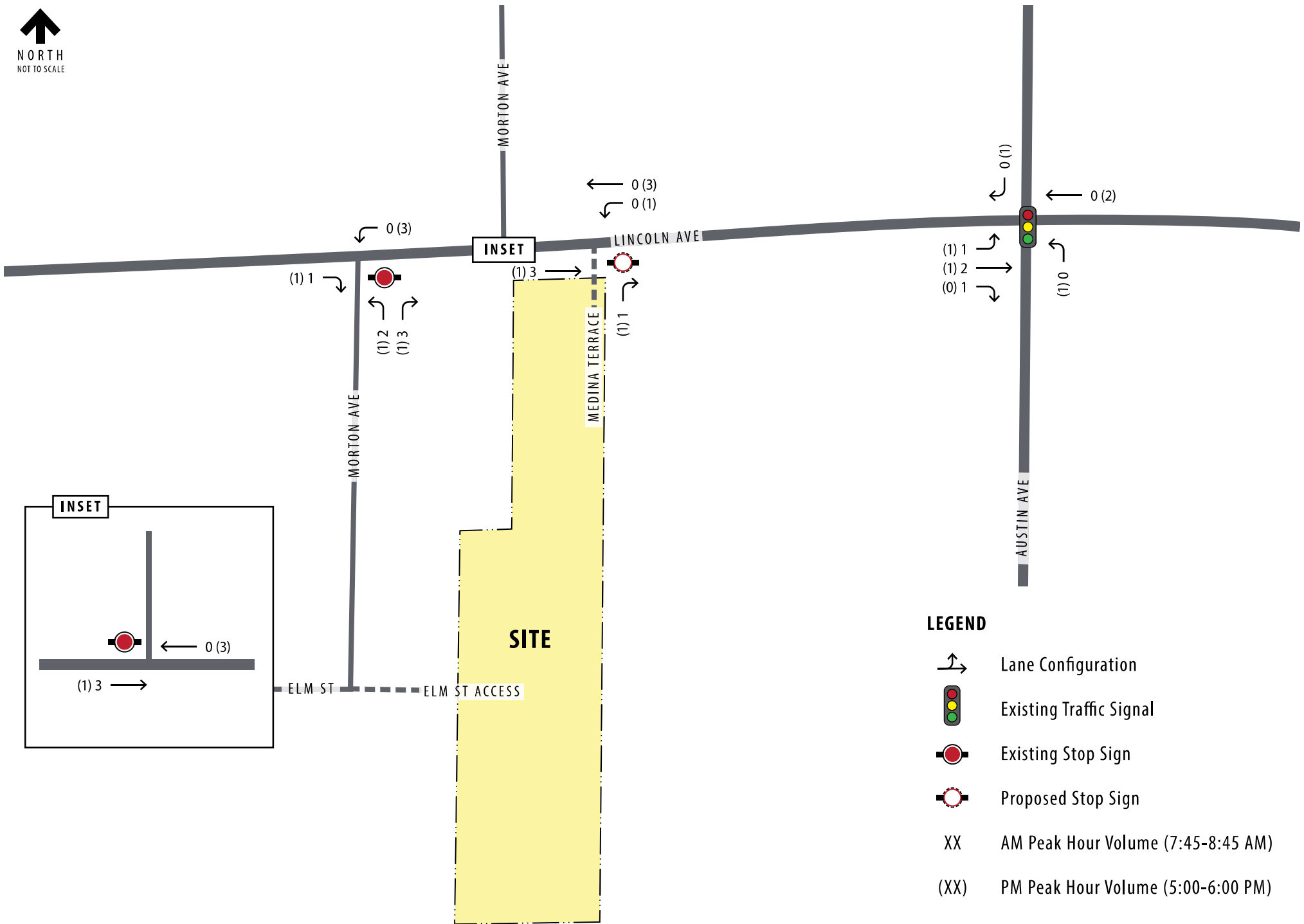
NORTH
NOT TO SCALE







LEGEND

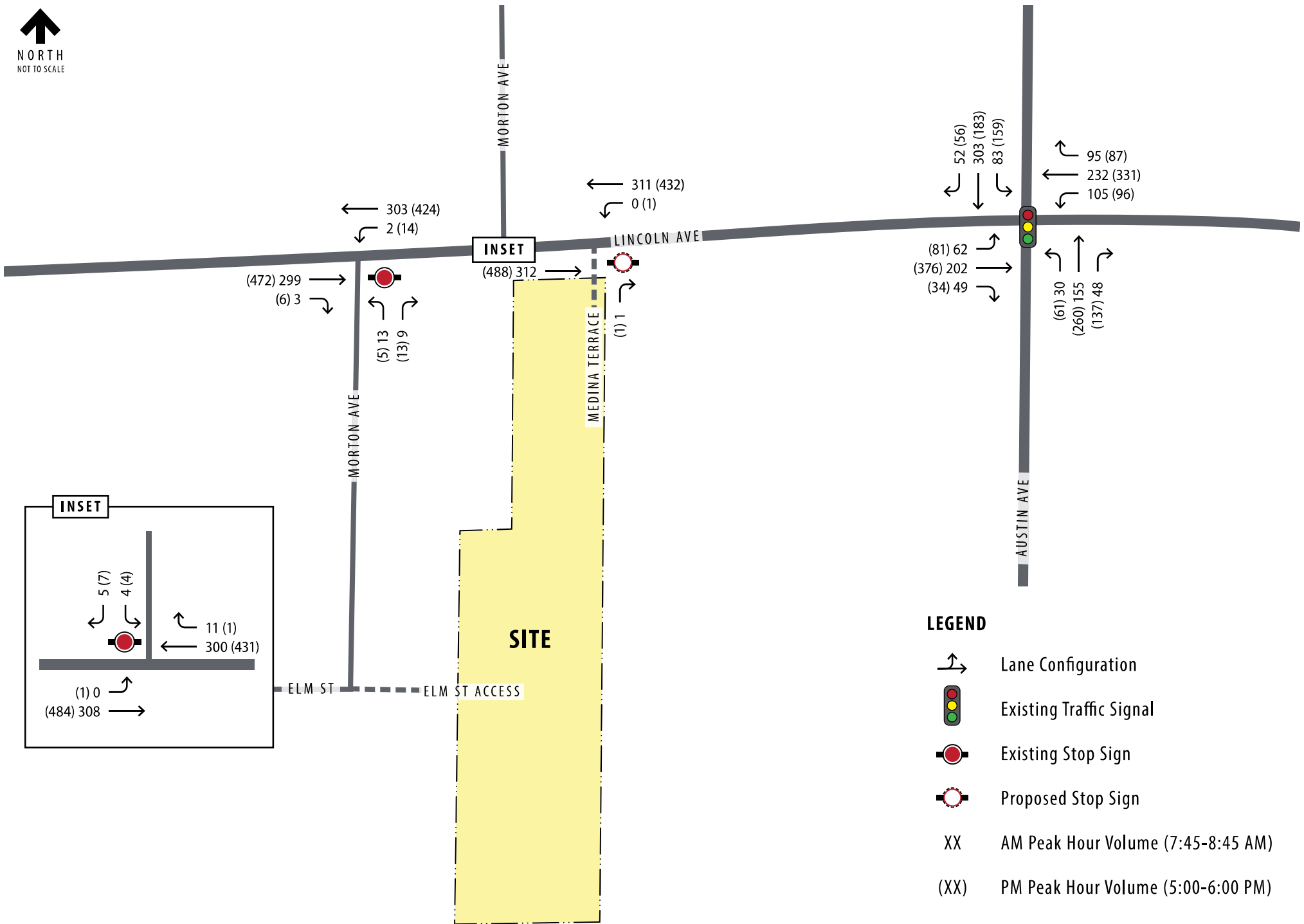
-  Lane Configuration
-  Existing Traffic Signal
-  Existing Stop Sign





LEGEND

-  Lane Configuration
-  Existing Traffic Signal
-  Existing Stop Sign
-  Proposed Stop Sign
- XX AM Peak Hour Volume (7:45-8:45 AM)
- (XX) PM Peak Hour Volume (5:00-6:00 PM)



LEGEND



Lane Configuration



Existing Traffic Signal



Existing Stop Sign



Proposed Stop Sign

XX

AM Peak Hour Volume (7:45-8:45 AM)

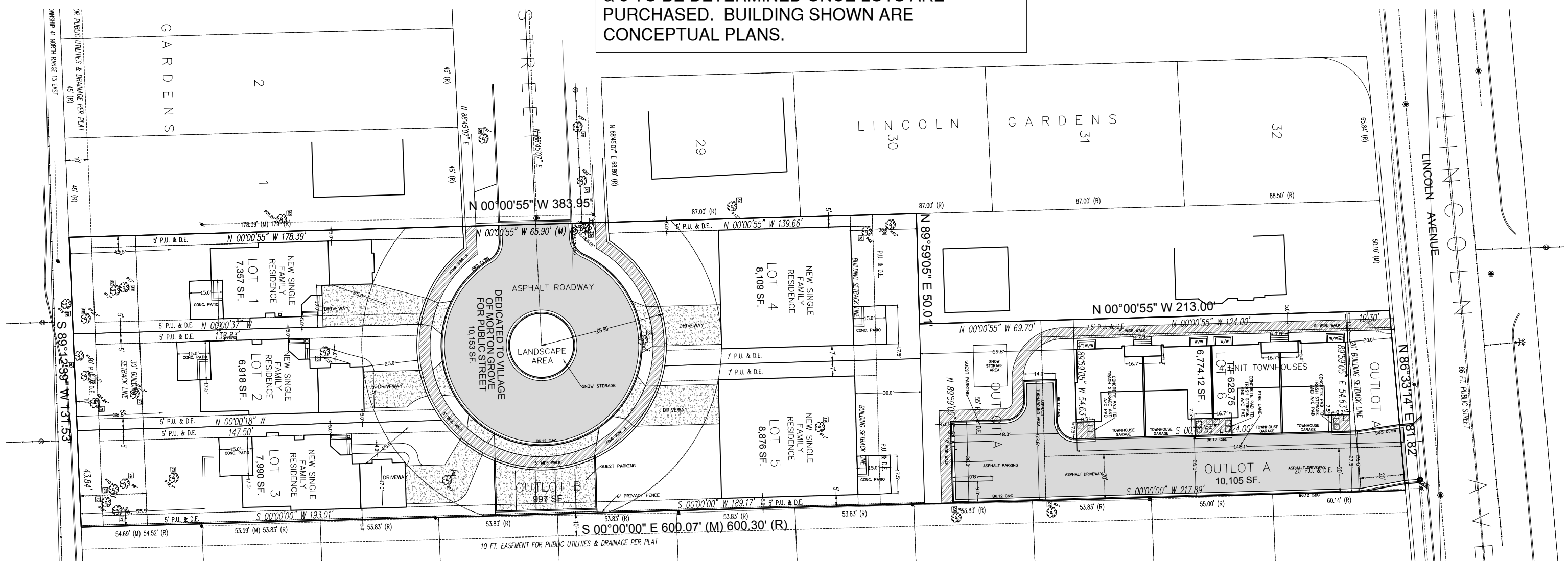
(XX)

PM Peak Hour Volume (5:00-6:00 PM)

SITE PLAN



EXACT BUILDING FOOT PRINT FOR LOT 1, 2, 3, 4, & 5 TO BE DETERMINED ONCE LOTS ARE PURCHASED. BUILDING SHOWN ARE CONCEPTUAL PLANS.



PAVEMENT LEGEND	
	STANDARD DUTY PAVEMENT 2" BITUMINOUS SURFACE COURSE, HOT-MIX ASPHALT, MIX D, N50 2" BITUMINOUS BINDER COURSE, HOT-MIX ASPHALT, IL-19, N50 8" AGGREGATE BASE COURSE CA-6, TYPE B
	CONCRETE APRON 8" CONCRETE PAVEMENT (W/6X6 W/1.4 WWF, IF ALLOWED IN ROW)* 4" COMPACTED AGGREGATE BASE CA-6, TYPE B
	SIDEWALKS 5" PORTLAND CEMENT CONCRETE (8" PCC THROUGH DRIVEWAYS) 4" COMPACTED AGGREGATE BASE COURSE, TYPE B
*REFER TO CONCRETE JOINT DETAILS (IF ANY).	

NOT FOR CONSTRUCTION

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PROJECT NUMBER: 17239

START DATE: JUN. 10, 2017

GRAPHIC SCALE

SCALE: 1"=30'-0"

14 OF SHEET NUMBER

PRELIMINARY SITE PLAN & GEOMETRIC PLAN

MEDINA GARDENS PLANNED DEVELOPMENT

6021-6037 LINCOLN, MORTON GROVE, COOK COUNTY, IL

BONO CONSULTING, INC.
 CIVIL ENGINEERS

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PROJECT STAFF	ISSUE	REVISIONS	DATE
PROJECT MANAGER: B. BONO P.E.	1A	PRELIMINARY PLAN	12-10-2018
ENGINEER: A. VEER P.E.	1A	PRELIMINARY PLAN FOR VILLAGE REVIEW	08-30-2019
ENGINEER: W. HEPBURN	1B	PRELIMINARY PLAN FOR VILLAGE REVIEW	05-11-2019
TECHNICIAN:	1C	PRELIMINARY PLAN FOR VILLAGE REVIEW	06-24-2020



ITE TRIP GENERATION MANUAL, 11TH EDITION EXCERPTS

Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 174

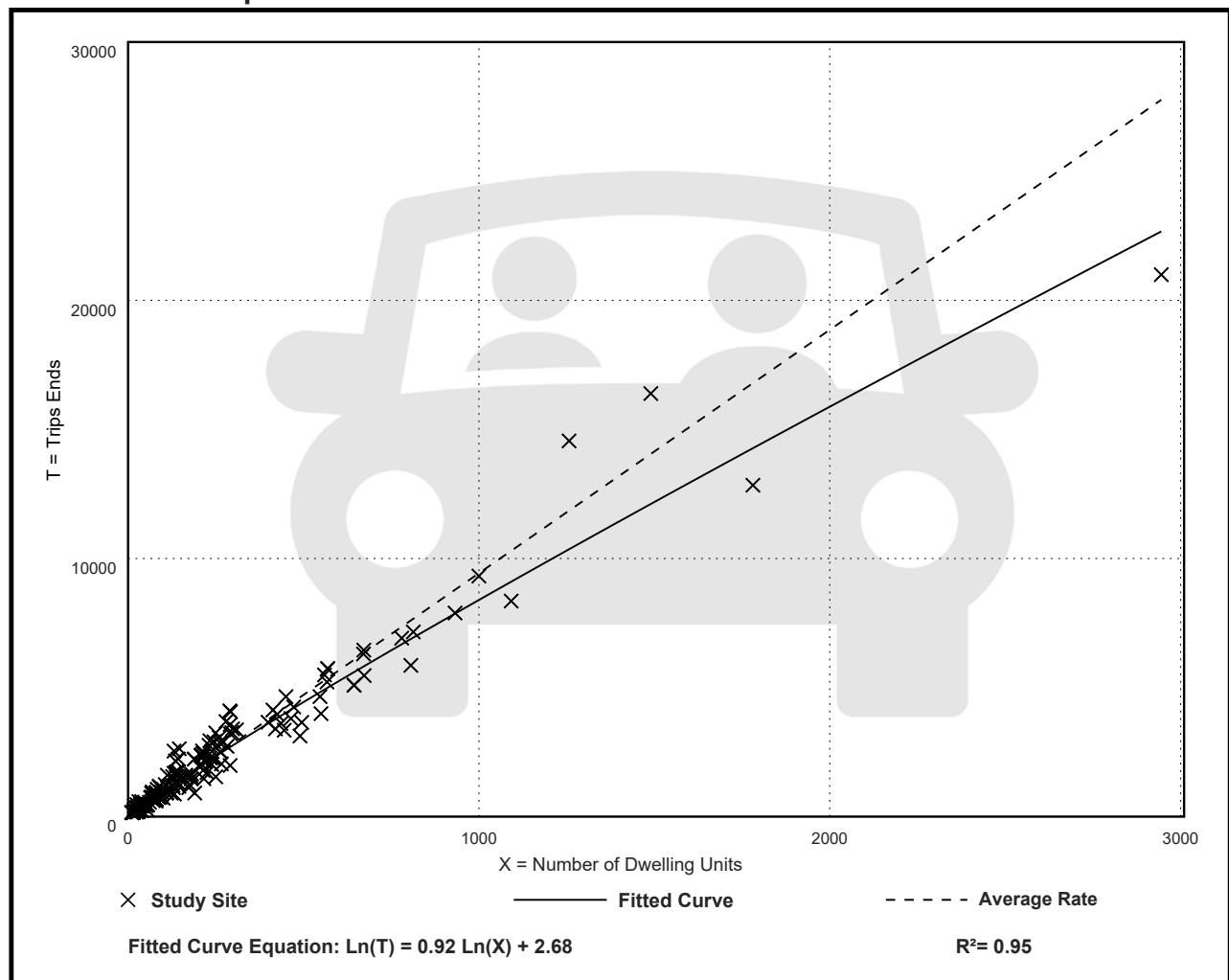
Avg. Num. of Dwelling Units: 246

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

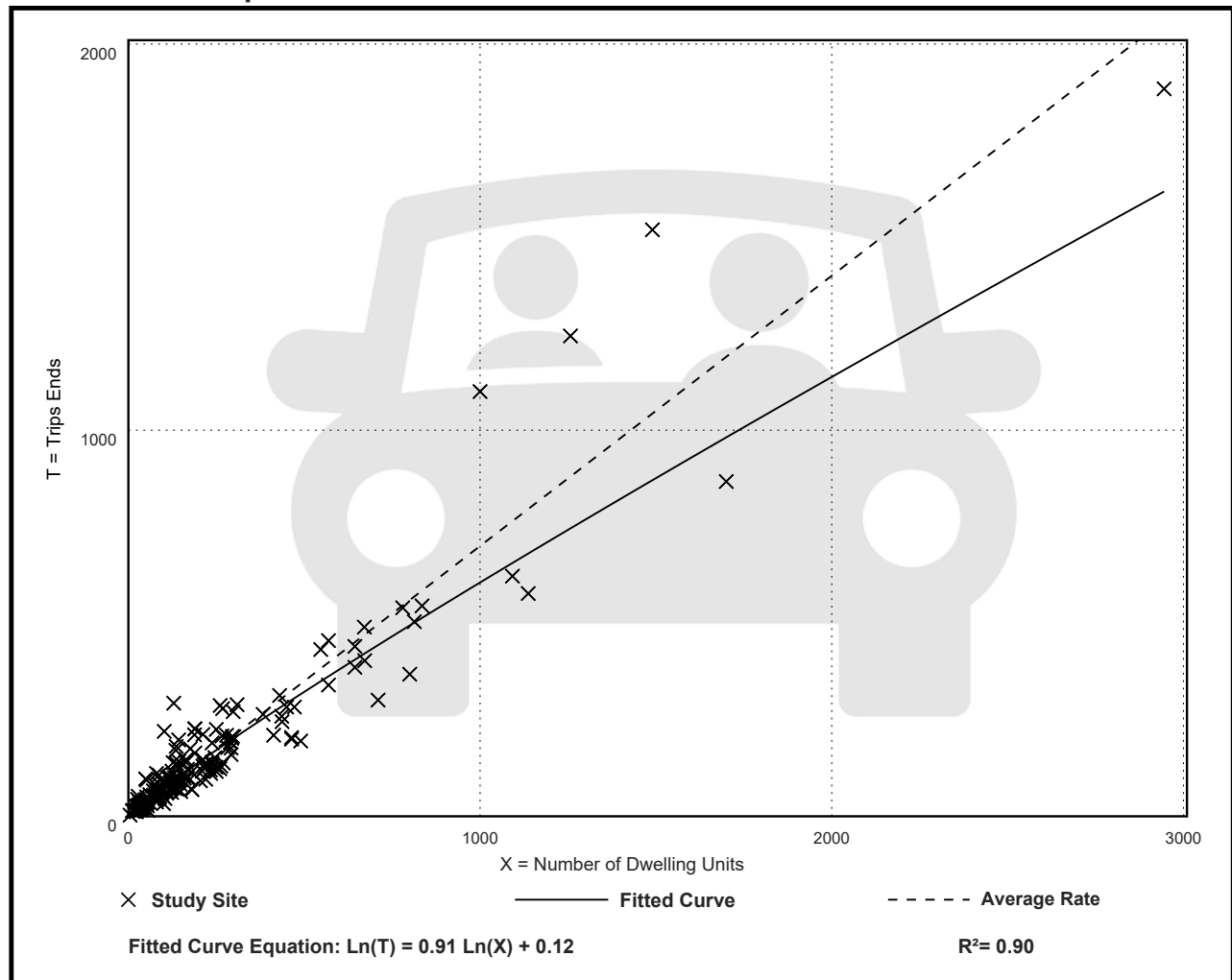
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

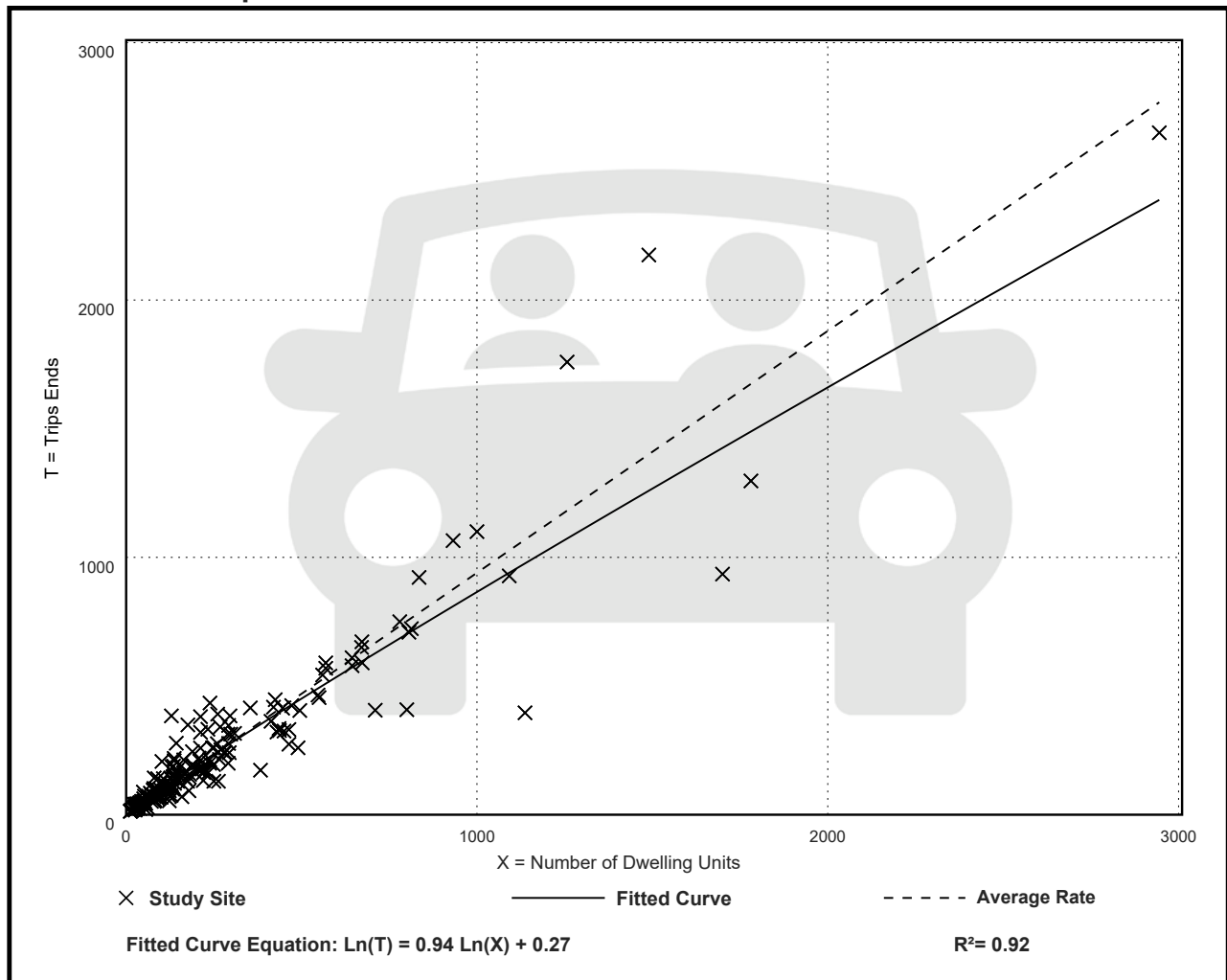
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Land Use: 215

Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

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

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

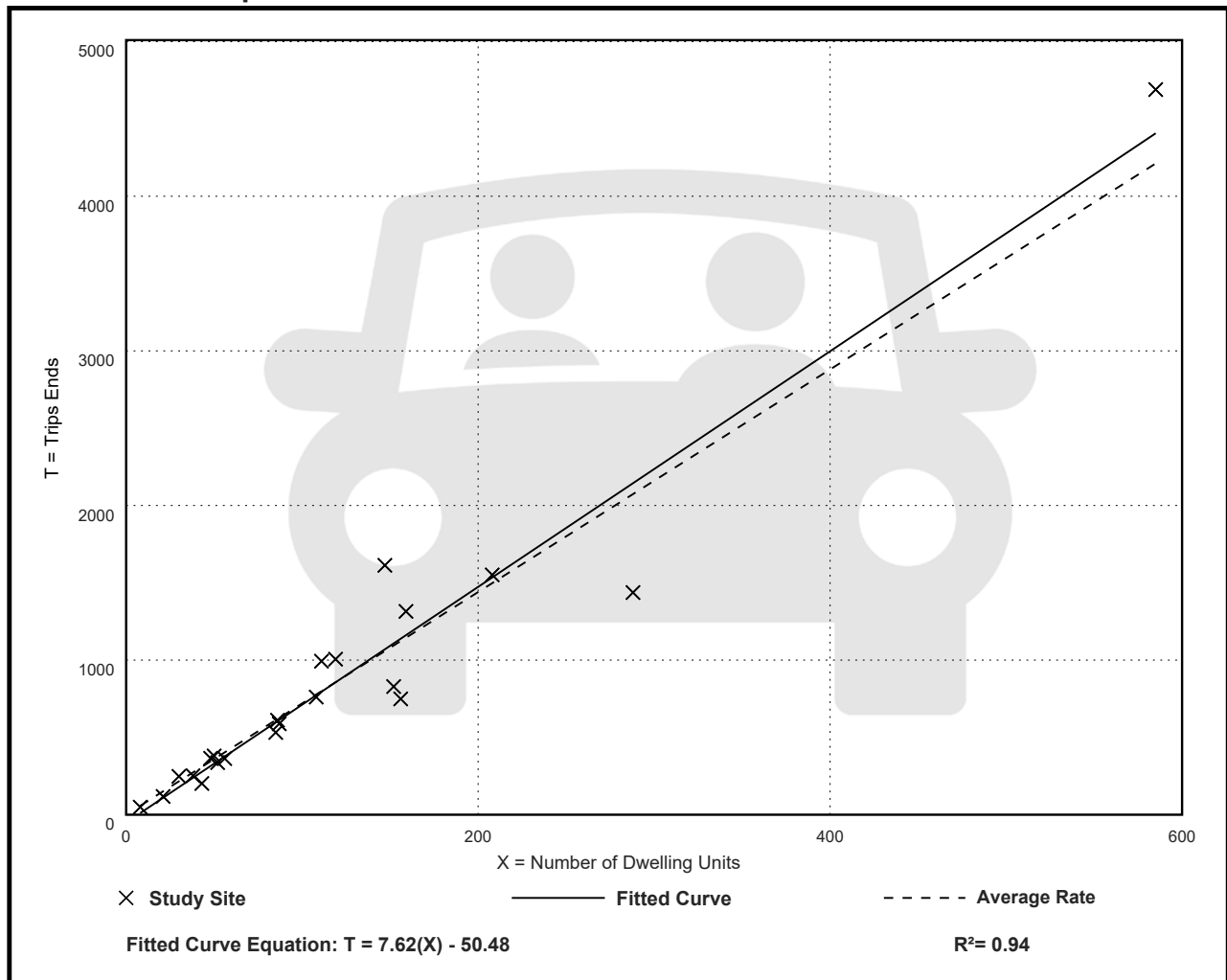
Avg. Num. of Dwelling Units: 120

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: **Weekday,**

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 46

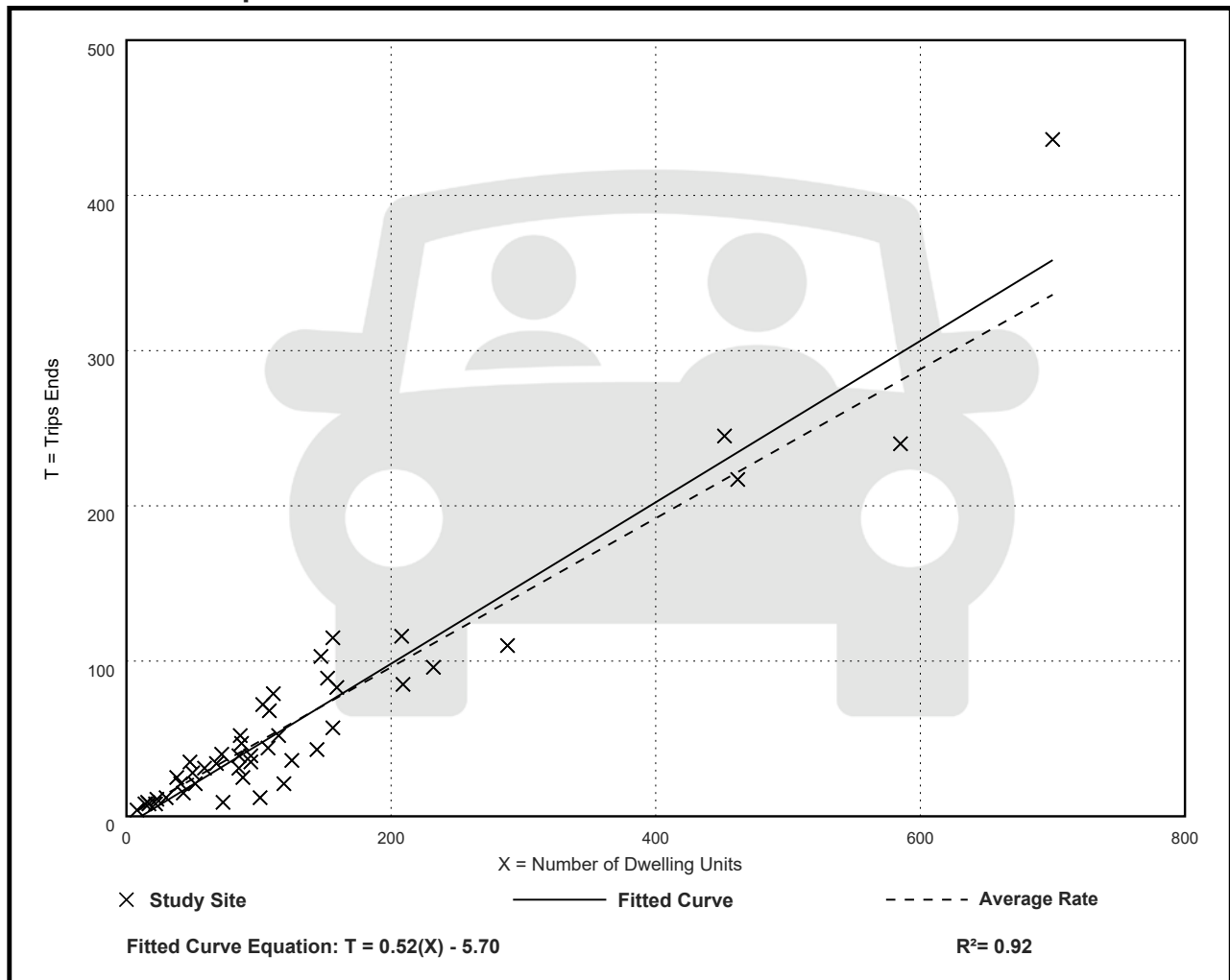
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

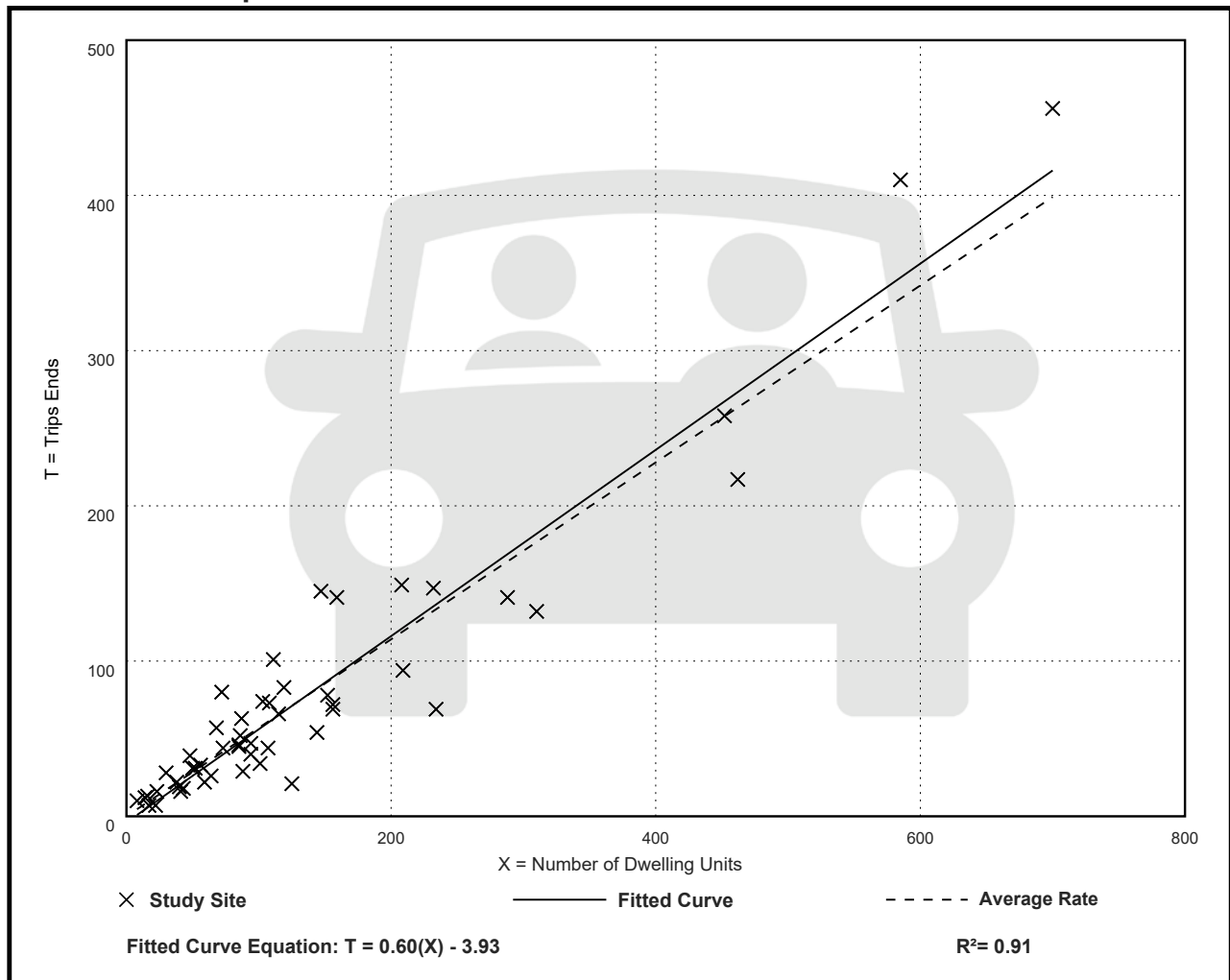
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



SYNCHRO REPORTS

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T			T	T	
Traffic Vol, veh/h	299	2	2	303	11	6
Future Vol, veh/h	299	2	2	303	11	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	2	2	319	12	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	317	0	639
Stage 1	-	-	-	-	316
Stage 2	-	-	-	-	323
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1243	-	440
Stage 1	-	-	-	-	739
Stage 2	-	-	-	-	734
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1243	-	439
Mov Cap-2 Maneuver	-	-	-	-	439
Stage 1	-	-	-	-	739
Stage 2	-	-	-	-	732

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.05	12.31
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	510	-	-	12	-
HCM Lane V/C Ratio	0.035	-	-	0.002	-
HCM Control Delay (s/veh)	12.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	4		4	
Traffic Vol, veh/h	0	305	300	11	4	5
Future Vol, veh/h	0	305	300	11	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	321	316	12	4	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	327	0	-	0	643 322
Stage 1	-	-	-	-	322 -
Stage 2	-	-	-	-	321 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1232	-	-	-	438 719
Stage 1	-	-	-	-	735 -
Stage 2	-	-	-	-	735 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1232	-	-	-	438 719
Mov Cap-2 Maneuver	-	-	-	-	438 -
Stage 1	-	-	-	-	735 -
Stage 2	-	-	-	-	735 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11.54
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	560
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s/veh)	0	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th Signalized Intersection Summary

300: Austin Ave & Lincoln Ave

08/20/2025























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (veh/h)	61	200	48	105	232	95	30	155	48	83	303	52
Future Volume (veh/h)	61	200	48	105	232	95	30	155	48	83	303	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1870	1870	1870	1841	1841	1752	1856	1841	1870
Adj Flow Rate, veh/h	64	211	51	111	244	100	32	163	51	87	319	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	7	2	2	2	4	4	10	3	4	2
Cap, veh/h	505	776	184	545	675	269	384	366	115	505	416	72
Arrive On Green	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27
Sat Flow, veh/h	1781	2851	674	1781	2481	988	1753	1344	421	1767	1530	264
Grp Volume(v), veh/h	64	130	132	111	173	171	32	0	214	87	0	374
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1693	1753	0	1765	1767	0	1793
Q Serve(g_s), s	2.0	5.2	5.4	3.6	7.1	7.4	1.0	0.0	9.0	2.8	0.0	17.3
Cycle Q Clear(g_c), s	2.0	5.2	5.4	3.6	7.1	7.4	1.0	0.0	9.0	2.8	0.0	17.3
Prop In Lane	1.00		0.39	1.00		0.58	1.00		0.24	1.00		0.15
Lane Grp Cap(c), veh/h	505	484	476	545	484	461	384	0	480	505	0	488
V/C Ratio(X)	0.13	0.27	0.28	0.20	0.36	0.37	0.08	0.00	0.45	0.17	0.00	0.77
Avail Cap(c_a), veh/h	505	484	476	545	484	461	384	0	480	505	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	25.7	25.8	17.5	26.4	26.5	18.2	0.0	27.1	17.5	0.0	30.1
Incr Delay (d2), s/veh	0.5	1.4	1.4	0.8	2.1	2.3	0.4	0.0	3.0	0.7	0.0	10.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	4.2	4.3	2.8	5.8	5.8	0.8	0.0	7.5	2.2	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.6	27.1	27.2	18.3	28.5	28.8	18.6	0.0	30.1	18.3	0.0	41.1
LnGrp LOS	B	C	C	B	C	C	B		C	B		D
Approach Vol, veh/h		326			455			246				461
Approach Delay, s/veh		25.3			26.1			28.6				36.8
Approach LOS		C			C			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5				
Max Green Setting (Gmax), s	11.5	24.5	11.5	24.5	11.5	24.5	11.5	24.5				
Max Q Clear Time (g_c+I1), s	5.6	7.4	4.8	11.0	4.0	9.4	3.0	19.3				
Green Ext Time (p_c), s	0.1	1.3	0.1	1.0	0.1	1.8	0.0	1.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				29.6								
HCM 7th LOS				C								

HCM 7th Signalized Intersection Capacity Analysis

300: Austin Ave & Lincoln Ave

08/20/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	200	48	105	232	95	30	155	48	83	303	52
Future Volume (veh/h)	61	200	48	105	232	95	30	155	48	83	303	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1796	1870	1870	1870	1841	1841	1752	1856	1841	1870
Adj Flow Rate, veh/h	64	211	51	111	244	100	32	163	51	87	319	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	7	2	2	2	4	4	10	3	4	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	505	776	184	545	675	269	384	366	115	505	416	72
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.6	27.1	27.2	18.3	28.5	28.8	18.6	0.0	30.1	18.3	0.0	41.1
Ln Grp LOS	B	C	C	B	C	C	B		C	B		D
Approach Vol, veh/h		326			455			246				461
Approach Delay, s/veh		25.3			26.1			28.6				36.8
Approach LOS		C			C			C				D
Timer:												
		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0			
Phs Duration (G+Y+Rc), s		15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0			
Change Period (Y+Rc), s		3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5			
Max Green (Gmax), s		11.5	24.5	11.5	24.5	11.5	24.5	11.5	24.5			
Max Allow Headway (MAH), s		3.9	5.3	3.9	5.5	3.8	5.5	3.9	5.4			
Max Q Clear (g_c+I1), s		5.6	7.4	4.8	11.0	4.0	9.4	3.0	19.3			
Green Ext Time (g_e), s		0.1	1.3	0.1	1.0	0.1	1.8	0.0	1.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1767		1781		1753				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2851		1344		2481		1530			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			674		421		988		264			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis
 300: Austin Ave & Lincoln Ave

08/20/2025

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	111	0	87	0	64	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1767	0	1781	0	1753	0
Q Serve Time (g_s), s	3.6	0.0	2.8	0.0	2.0	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	2.8	0.0	2.0	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1117	0	1158	0	1037	0	993	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.5	0.0	24.5	0.0	24.5	0.0	24.5	0.0
Perm LT Serve Time (g_u), s	19.1	0.0	15.5	0.0	17.1	0.0	7.2	0.0
Perm LT Q Serve Time (g_ps), s	0.6	0.0	0.7	0.0	0.5	0.0	0.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	545	0	505	0	505	0	384	0
V/C Ratio (X)	0.20	0.00	0.17	0.00	0.13	0.00	0.08	0.00
Avail Cap (c_a), veh/h	545	0	505	0	505	0	384	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.5	0.0	17.5	0.0	17.1	0.0	18.2	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	0.0	0.5	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.3	0.0	18.3	0.0	17.6	0.0	18.6	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.1	0.0	0.8	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	2.8	0.0	2.2	0.0	1.6	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.45	0.00	0.57	0.00	0.36	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	130	0	0	0	173	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	7.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	7.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	484	0	0	0	484	0	0
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	484	0	0	0	484	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.7	0.0	0.0	0.0	26.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	2.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.1	0.0	0.0	0.0	28.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.0	0.0	3.0	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	0.0	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.50	0.00	0.00	0.00	0.47	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	132	0	214	0	171	0	374
Grp Sat Flow (s), veh/h/ln	0	1749	0	1765	0	1693	0	1793
Q Serve Time (g_s), s	0.0	5.4	0.0	9.0	0.0	7.4	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	9.0	0.0	7.4	0.0	17.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.39	0.00	0.24	0.00	0.58	0.00	0.15
Lane Grp Cap (c), veh/h	0	476	0	480	0	461	0	488
V/C Ratio (X)	0.00	0.28	0.00	0.45	0.00	0.37	0.00	0.77
Avail Cap (c_a), veh/h	0	476	0	480	0	461	0	488
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.8	0.0	27.1	0.0	26.5	0.0	30.1
Incr Delay (d2), s/veh	0.0	1.4	0.0	3.0	0.0	2.3	0.0	10.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.2	0.0	30.1	0.0	28.8	0.0	41.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	3.8	0.0	3.0	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.4	0.0	0.3	0.0	1.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	7.5	0.0	5.8	0.0	13.7
%ile Storage Ratio (RQ%)	0.00	0.51	0.00	1.03	0.00	0.47	0.00	1.55
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	29.6
HCM 7th LOS	C

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T			T	T	
Traffic Vol, veh/h	472	5	11	424	4	12
Future Vol, veh/h	472	5	11	424	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	497	5	12	446	4	13

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	502	0	969 499
Stage 1	-	-	-	-	499 -
Stage 2	-	-	-	-	469 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1062	-	281 571
Stage 1	-	-	-	-	610 -
Stage 2	-	-	-	-	629 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1062	-	277 571
Mov Cap-2 Maneuver	-	-	-	-	277 -
Stage 1	-	-	-	-	610 -
Stage 2	-	-	-	-	620 -

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.21	13.28
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	451	-	-	46	-
HCM Lane V/C Ratio	0.037	-	-	0.011	-
HCM Control Delay (s/veh)	13.3	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	4		4	
Traffic Vol, veh/h	1	483	428	1	4	7
Future Vol, veh/h	1	483	428	1	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	508	451	1	4	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	452	0	-	0	962
Stage 1	-	-	-	-	451
Stage 2	-	-	-	-	511
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1109	-	-	-	284
Stage 1	-	-	-	-	642
Stage 2	-	-	-	-	603
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	284
Mov Cap-2 Maneuver	-	-	-	-	284
Stage 1	-	-	-	-	641
Stage 2	-	-	-	-	603

Approach	EB	WB	SB
HCM Control Delay, s/v	0.02	0	13.61
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	4	-	-	-	430
HCM Lane V/C Ratio	0.001	-	-	-	0.027
HCM Control Delay (s/veh)	8.2	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th Signalized Intersection Summary

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



















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (veh/h)	80	375	34	96	329	87	60	260	137	159	183	55
Future Volume (veh/h)	80	375	34	96	329	87	60	260	137	159	183	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1856	1841	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	395	36	101	346	92	63	274	144	167	193	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	4	2	2	2	2	2	2	2	2
Cap, veh/h	414	1062	96	415	898	235	440	372	196	308	445	134
Arrive On Green	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32
Sat Flow, veh/h	1781	3295	299	1753	2785	731	1781	1154	607	1781	1381	415
Grp Volume(v), veh/h	84	212	219	101	219	219	63	0	418	167	0	251
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1753	1777	1739	1781	0	1761	1781	0	1796
Q Serve(g_s), s	2.3	7.0	7.1	2.9	7.2	7.4	1.7	0.0	16.0	4.5	0.0	8.4
Cycle Q Clear(g_c), s	2.3	7.0	7.1	2.9	7.2	7.4	1.7	0.0	16.0	4.5	0.0	8.4
Prop In Lane	1.00		0.16	1.00		0.42	1.00		0.34	1.00		0.23
Lane Grp Cap(c), veh/h	414	573	586	415	573	561	440	0	568	308	0	579
V/C Ratio(X)	0.20	0.37	0.37	0.24	0.38	0.39	0.14	0.00	0.74	0.54	0.00	0.43
Avail Cap(c_a), veh/h	414	573	586	415	573	561	440	0	568	308	0	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.6	19.8	19.8	15.8	19.9	20.0	15.6	0.0	22.9	19.0	0.0	20.3
Incr Delay (d2), s/veh	1.1	1.8	1.8	1.4	1.9	2.0	0.7	0.0	8.3	6.7	0.0	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	5.5	5.6	2.3	5.8	5.8	1.4	0.0	12.2	4.5	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.8	21.7	21.7	17.2	21.8	22.0	16.2	0.0	31.2	25.7	0.0	22.6
LnGrp LOS	B	C	C	B	C	C	B		C	C		C
Approach Vol, veh/h		515			539			481				418
Approach Delay, s/veh		20.9			21.0			29.2				23.9
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	30.0	8.0	30.0	8.0	30.0	8.0	30.0				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5				
Max Green Setting (Gmax), s	4.5	24.5	4.5	24.5	4.5	24.5	4.5	24.5				
Max Q Clear Time (g_c+I1), s	4.9	9.1	6.5	18.0	4.3	9.4	3.7	10.4				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.5	0.0	2.4	0.0	1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				23.6								
HCM 7th LOS				C								

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	375	34	96	329	87	60	260	137	159	183	55
Future Volume (veh/h)	80	375	34	96	329	87	60	260	137	159	183	55
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1856	1841	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	395	36	101	346	92	63	274	144	167	193	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	4	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	414	1062	96	415	898	235	440	372	196	308	445	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.8	21.7	21.7	17.2	21.8	22.0	16.2	0.0	31.2	25.7	0.0	22.6
Ln Grp LOS	B	C	C	B	C	C	B		C	C		C
Approach Vol, veh/h		515			539			481				418
Approach Delay, s/veh		20.9			21.0			29.2				23.9
Approach LOS		C			C			C				C
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0			
Phs Duration (G+Y+Rc), s		8.0	30.0	8.0	30.0	8.0	30.0	8.0	30.0			
Change Period (Y+Rc), s		3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5			
Max Green (Gmax), s		4.5	24.5	4.5	24.5	4.5	24.5	4.5	24.5			
Max Allow Headway (MAH), s		3.9	5.3	3.9	5.5	3.8	5.5	3.9	5.5			
Max Q Clear (g_c+I1), s		4.9	9.1	6.5	18.0	4.3	9.4	3.7	10.4			
Green Ext Time (g_e), s		0.0	2.2	0.0	1.5	0.0	2.4	0.0	1.3			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1753		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3295		1154		2785		1381			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			299		607		731		415			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

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Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	101	0	167	0	84	0	63	0
Grp Sat Flow (s), veh/h/ln	1753	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.9	0.0	4.5	0.0	2.3	0.0	1.7	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	4.5	0.0	2.3	0.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	942	0	969	0	951	0	1129	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.5	0.0	24.5	0.0	24.5	0.0	24.5	0.0
Perm LT Serve Time (g_u), s	17.4	0.0	8.5	0.0	17.1	0.0	16.1	0.0
Perm LT Q Serve Time (g_ps), s	0.8	0.0	4.1	0.0	0.7	0.0	0.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	415	0	308	0	414	0	440	0
V/C Ratio (X)	0.24	0.00	0.54	0.00	0.20	0.00	0.14	0.00
Avail Cap (c_a), veh/h	415	0	308	0	414	0	440	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.8	0.0	19.0	0.0	15.6	0.0	15.6	0.0
Incr Delay (d2), s/veh	1.4	0.0	6.7	0.0	1.1	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.2	0.0	25.7	0.0	16.8	0.0	16.2	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	1.9	0.0	0.9	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.6	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	2.3	0.0	4.5	0.0	1.8	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	1.13	0.00	0.42	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	212	0	0	0	219	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	7.0	0.0	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	0.0	0.0	7.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	573	0	0	0	573	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.38	0.00	0.00
Avail Cap (c_a), veh/h	0	573	0	0	0	573	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.0	0.0	1.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	0.0	0.0	21.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.0	0.0	2.9	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.5	0.0	0.0	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.65	0.00	0.00	0.00	0.46	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	219	0	418	0	219	0	251
Grp Sat Flow (s), veh/h/ln	0	1817	0	1761	0	1739	0	1796
Q Serve Time (g_s), s	0.0	7.1	0.0	16.0	0.0	7.4	0.0	8.4
Cycle Q Clear Time (g_c), s	0.0	7.1	0.0	16.0	0.0	7.4	0.0	8.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.34	0.00	0.42	0.00	0.23
Lane Grp Cap (c), veh/h	0	586	0	568	0	561	0	579
V/C Ratio (X)	0.00	0.37	0.00	0.74	0.00	0.39	0.00	0.43
Avail Cap (c_a), veh/h	0	586	0	568	0	561	0	579
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	22.9	0.0	20.0	0.0	20.3
Incr Delay (d2), s/veh	0.0	1.8	0.0	8.3	0.0	2.0	0.0	2.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	31.2	0.0	22.0	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	6.4	0.0	2.9	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.3	0.0	0.3	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.59	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.6	0.0	12.2	0.0	5.8	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.67	0.00	1.65	0.00	0.47	0.00	0.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			4	3	
Traffic Vol, veh/h	299	3	2	303	13	9
Future Vol, veh/h	299	3	2	303	13	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	315	3	2	319	14	9

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	318	0	639
Stage 1	-	-	-	-	316
Stage 2	-	-	-	-	323
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1242	-	440
Stage 1	-	-	-	-	739
Stage 2	-	-	-	-	734
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1242	-	439
Mov Cap-2 Maneuver	-	-	-	-	439
Stage 1	-	-	-	-	739
Stage 2	-	-	-	-	732

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.05	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	523	-	-	12	-
HCM Lane V/C Ratio	0.044	-	-	0.002	-
HCM Control Delay (s/veh)	12.2	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	4		4	
Traffic Vol, veh/h	0	308	300	11	4	5
Future Vol, veh/h	0	308	300	11	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	324	316	12	4	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	327	0	-	0	646 322
Stage 1	-	-	-	-	322 -
Stage 2	-	-	-	-	324 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1232	-	-	-	436 719
Stage 1	-	-	-	-	735 -
Stage 2	-	-	-	-	733 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1232	-	-	-	436 719
Mov Cap-2 Maneuver	-	-	-	-	436 -
Stage 1	-	-	-	-	735 -
Stage 2	-	-	-	-	733 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11.56
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	558
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s/veh)	0	-	-	-	11.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (veh/h)	62	202	49	105	232	95	30	155	48	83	303	52
Future Volume (veh/h)	62	202	49	105	232	95	30	155	48	83	303	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1796	1870	1870	1870	1841	1841	1752	1856	1841	1870
Adj Flow Rate, veh/h	65	213	52	111	244	100	32	163	51	87	319	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	7	2	2	2	4	4	10	3	4	2
Cap, veh/h	505	775	185	544	675	269	384	366	115	505	416	72
Arrive On Green	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27
Sat Flow, veh/h	1781	2845	680	1781	2481	988	1753	1344	421	1767	1530	264
Grp Volume(v), veh/h	65	131	134	111	173	171	32	0	214	87	0	374
Grp Sat Flow(s),veh/h/ln	1781	1777	1748	1781	1777	1693	1753	0	1765	1767	0	1793
Q Serve(g_s), s	2.0	5.2	5.4	3.6	7.1	7.4	1.0	0.0	9.0	2.8	0.0	17.3
Cycle Q Clear(g_c), s	2.0	5.2	5.4	3.6	7.1	7.4	1.0	0.0	9.0	2.8	0.0	17.3
Prop In Lane	1.00		0.39	1.00		0.58	1.00		0.24	1.00		0.15
Lane Grp Cap(c), veh/h	505	484	476	544	484	461	384	0	480	505	0	488
V/C Ratio(X)	0.13	0.27	0.28	0.20	0.36	0.37	0.08	0.00	0.45	0.17	0.00	0.77
Avail Cap(c_a), veh/h	505	484	476	544	484	461	384	0	480	505	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.1	25.7	25.8	17.5	26.4	26.5	18.2	0.0	27.1	17.5	0.0	30.1
Incr Delay (d2), s/veh	0.5	1.4	1.5	0.8	2.1	2.3	0.4	0.0	3.0	0.7	0.0	10.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	4.2	4.3	2.8	5.8	5.8	0.8	0.0	7.5	2.2	0.0	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.7	27.1	27.3	18.3	28.5	28.8	18.6	0.0	30.1	18.3	0.0	41.1
LnGrp LOS	B	C	C	B	C	C	B		C	B		D
Approach Vol, veh/h		330			455			246				461
Approach Delay, s/veh		25.3			26.1			28.6				36.8
Approach LOS		C			C			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5				
Max Green Setting (Gmax), s	11.5	24.5	11.5	24.5	11.5	24.5	11.5	24.5				
Max Q Clear Time (g_c+I1), s	5.6	7.4	4.8	11.0	4.0	9.4	3.0	19.3				
Green Ext Time (p_c), s	0.1	1.3	0.1	1.0	0.1	1.8	0.0	1.1				
Intersection Summary												
HCM 7th Control Delay, s/veh			29.6									
HCM 7th LOS			C									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↗		↙	↗		↙	↗		↙	↗	
Traffic Volume (veh/h)	62	202	49	105	232	95	30	155	48	83	303	52
Future Volume (veh/h)	62	202	49	105	232	95	30	155	48	83	303	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1796	1870	1870	1870	1841	1841	1752	1856	1841	1870
Adj Flow Rate, veh/h	65	213	52	111	244	100	32	163	51	87	319	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	7	2	2	2	4	4	10	3	4	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	505	775	185	544	675	269	384	366	115	505	416	72
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27	0.13	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.7	27.1	27.3	18.3	28.5	28.8	18.6	0.0	30.1	18.3	0.0	41.1
Ln Grp LOS	B	C	C	B	C	C	B		C	B		D
Approach Vol, veh/h		330			455			246				461
Approach Delay, s/veh		25.3			26.1			28.6				36.8
Approach LOS		C			C			C				D
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0			
Phs Duration (G+Y+Rc), s		15.0	30.0	15.0	30.0	15.0	30.0	15.0	30.0			
Change Period (Y+Rc), s		3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5			
Max Green (Gmax), s		11.5	24.5	11.5	24.5	11.5	24.5	11.5	24.5			
Max Allow Headway (MAH), s		3.9	5.3	3.9	5.5	3.8	5.5	3.9	5.4			
Max Q Clear (g_c+I1), s		5.6	7.4	4.8	11.0	4.0	9.4	3.0	19.3			
Green Ext Time (g_e), s		0.1	1.3	0.1	1.0	0.1	1.8	0.0	1.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1767		1781		1753				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2845		1344		2481		1530			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			680		421		988		264			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

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Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	111	0	87	0	65	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1767	0	1781	0	1753	0
Q Serve Time (g_s), s	3.6	0.0	2.8	0.0	2.0	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	2.8	0.0	2.0	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1114	0	1158	0	1037	0	993	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.5	0.0	24.5	0.0	24.5	0.0	24.5	0.0
Perm LT Serve Time (g_u), s	19.1	0.0	15.5	0.0	17.1	0.0	7.2	0.0
Perm LT Q Serve Time (g_ps), s	0.6	0.0	0.7	0.0	0.5	0.0	0.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	544	0	505	0	505	0	384	0
V/C Ratio (X)	0.20	0.00	0.17	0.00	0.13	0.00	0.08	0.00
Avail Cap (c_a), veh/h	544	0	505	0	505	0	384	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.5	0.0	17.5	0.0	17.1	0.0	18.2	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	0.0	0.5	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.3	0.0	18.3	0.0	17.7	0.0	18.6	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.1	0.0	0.8	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	2.8	0.0	2.2	0.0	1.6	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.45	0.00	0.57	0.00	0.37	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	131	0	0	0	173	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	7.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	7.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	484	0	0	0	484	0	0
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	484	0	0	0	484	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.7	0.0	0.0	0.0	26.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	2.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.1	0.0	0.0	0.0	28.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	3.0	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	0.0	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.50	0.00	0.00	0.00	0.47	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	134	0	214	0	171	0	374
Grp Sat Flow (s), veh/h/ln	0	1748	0	1765	0	1693	0	1793
Q Serve Time (g_s), s	0.0	5.4	0.0	9.0	0.0	7.4	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	9.0	0.0	7.4	0.0	17.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.39	0.00	0.24	0.00	0.58	0.00	0.15
Lane Grp Cap (c), veh/h	0	476	0	480	0	461	0	488
V/C Ratio (X)	0.00	0.28	0.00	0.45	0.00	0.37	0.00	0.77
Avail Cap (c_a), veh/h	0	476	0	480	0	461	0	488
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.8	0.0	27.1	0.0	26.5	0.0	30.1
Incr Delay (d2), s/veh	0.0	1.5	0.0	3.0	0.0	2.3	0.0	10.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.3	0.0	30.1	0.0	28.8	0.0	41.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	3.8	0.0	3.0	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.4	0.0	0.3	0.0	1.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.55
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	7.5	0.0	5.8	0.0	13.7
%ile Storage Ratio (RQ%)	0.00	0.52	0.00	1.03	0.00	0.47	0.00	1.55
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	29.6
HCM 7th LOS	C

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T			T	T	
Traffic Vol, veh/h	312	0	0	311	0	1
Future Vol, veh/h	312	0	0	311	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	328	0	0	327	0	1

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	328	0	656	328
Stage 1	-	-	-	-	328	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1231	-	430	713
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	730	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1231	-	430	713
Mov Cap-2 Maneuver	-	-	-	-	430	-
Stage 1	-	-	-	-	730	-
Stage 2	-	-	-	-	730	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.06
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1231	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Control Delay (s/veh)	10.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	T			T	T	
Traffic Vol, veh/h	472	6	14	424	5	13
Future Vol, veh/h	472	6	14	424	5	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	497	6	15	446	5	14

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	503	0	976
Stage 1	-	-	-	-	500
Stage 2	-	-	-	-	476
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1061	-	279
Stage 1	-	-	-	-	609
Stage 2	-	-	-	-	625
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1061	-	273
Mov Cap-2 Maneuver	-	-	-	-	273
Stage 1	-	-	-	-	609
Stage 2	-	-	-	-	614

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.27	13.58
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	438	-	-	58	-
HCM Lane V/C Ratio	0.043	-	-	0.014	-
HCM Control Delay (s/veh)	13.6	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	4		4	
Traffic Vol, veh/h	1	484	431	1	4	7
Future Vol, veh/h	1	484	431	1	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	509	454	1	4	7

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	455	0	-	0	966 454
Stage 1	-	-	-	-	454 -
Stage 2	-	-	-	-	512 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1106	-	-	-	282 606
Stage 1	-	-	-	-	640 -
Stage 2	-	-	-	-	602 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1106	-	-	-	282 606
Mov Cap-2 Maneuver	-	-	-	-	282 -
Stage 1	-	-	-	-	639 -
Stage 2	-	-	-	-	602 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.02	0	13.66
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	4	-	-	-	427
HCM Lane V/C Ratio	0.001	-	-	-	0.027
HCM Control Delay (s/veh)	8.3	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗		↘	↗↗		↘	↗		↘	↗	
Traffic Volume (veh/h)	81	376	34	96	331	87	61	260	137	159	183	56
Future Volume (veh/h)	81	376	34	96	331	87	61	260	137	159	183	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1856	1841	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	396	36	101	348	92	64	274	144	167	193	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	4	2	2	2	2	2	2	2	2
Cap, veh/h	413	1062	96	414	899	234	439	372	196	308	443	135
Arrive On Green	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32
Sat Flow, veh/h	1781	3295	298	1753	2789	727	1781	1154	607	1781	1375	420
Grp Volume(v), veh/h	85	213	219	101	220	220	64	0	418	167	0	252
Grp Sat Flow(s),veh/h/ln	1781	1777	1817	1753	1777	1739	1781	0	1761	1781	0	1795
Q Serve(g_s), s	2.4	7.0	7.1	2.9	7.3	7.5	1.8	0.0	16.0	4.5	0.0	8.4
Cycle Q Clear(g_c), s	2.4	7.0	7.1	2.9	7.3	7.5	1.8	0.0	16.0	4.5	0.0	8.4
Prop In Lane	1.00		0.16	1.00		0.42	1.00		0.34	1.00		0.23
Lane Grp Cap(c), veh/h	413	573	586	414	573	561	439	0	568	308	0	579
V/C Ratio(X)	0.21	0.37	0.37	0.24	0.38	0.39	0.15	0.00	0.74	0.54	0.00	0.44
Avail Cap(c_a), veh/h	413	573	586	414	573	561	439	0	568	308	0	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	19.8	19.8	15.8	19.9	20.0	15.6	0.0	22.9	19.0	0.0	20.3
Incr Delay (d2), s/veh	1.1	1.8	1.8	1.4	1.9	2.1	0.7	0.0	8.3	6.7	0.0	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	5.5	5.7	2.3	5.8	5.8	1.4	0.0	12.2	4.5	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.8	21.7	21.7	17.2	21.9	22.0	16.3	0.0	31.2	25.7	0.0	22.7
LnGrp LOS	B	C	C	B	C	C	B		C	C		C
Approach Vol, veh/h		517			541			482				419
Approach Delay, s/veh		20.9			21.1			29.2				23.9
Approach LOS		C			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	30.0	8.0	30.0	8.0	30.0	8.0	30.0				
Change Period (Y+Rc), s	3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5				
Max Green Setting (Gmax), s	4.5	24.5	4.5	24.5	4.5	24.5	4.5	24.5				
Max Q Clear Time (g_c+I1), s	4.9	9.1	6.5	18.0	4.4	9.5	3.8	10.4				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.5	0.0	2.4	0.0	1.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				23.6								
HCM 7th LOS				C								

HCM 7th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	81	376	34	96	331	87	61	260	137	159	183	56
Future Volume (veh/h)	81	376	34	96	331	87	61	260	137	159	183	56
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1856	1841	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	396	36	101	348	92	64	274	144	167	193	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	3	4	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	413	1062	96	414	899	234	439	372	196	308	443	135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32	0.06	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.8	21.7	21.7	17.2	21.9	22.0	16.3	0.0	31.2	25.7	0.0	22.7
Ln Grp LOS	B	C	C	B	C	C	B		C	C		C
Approach Vol, veh/h		517			541			482				419
Approach Delay, s/veh		20.9			21.1			29.2				23.9
Approach LOS		C			C			C				C
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0			
Phs Duration (G+Y+Rc), s		8.0	30.0	8.0	30.0	8.0	30.0	8.0	30.0			
Change Period (Y+Rc), s		3.5	5.5	3.5	5.5	3.5	5.5	3.5	5.5			
Max Green (Gmax), s		4.5	24.5	4.5	24.5	4.5	24.5	4.5	24.5			
Max Allow Headway (MAH), s		3.9	5.3	3.9	5.5	3.8	5.5	3.9	5.5			
Max Q Clear (g_c+I1), s		4.9	9.1	6.5	18.0	4.4	9.5	3.8	10.4			
Green Ext Time (g_e), s		0.0	2.2	0.0	1.5	0.0	2.4	0.0	1.3			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1753		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3295		1154		2789		1375			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			298		607		727		420			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

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Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	101	0	167	0	85	0	64	0
Grp Sat Flow (s), veh/h/ln	1753	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.9	0.0	4.5	0.0	2.4	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	4.5	0.0	2.4	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	941	0	969	0	949	0	1128	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.5	0.0	24.5	0.0	24.5	0.0	24.5	0.0
Perm LT Serve Time (g_u), s	17.4	0.0	8.5	0.0	17.0	0.0	16.1	0.0
Perm LT Q Serve Time (g_ps), s	0.9	0.0	4.1	0.0	0.7	0.0	0.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	414	0	308	0	413	0	439	0
V/C Ratio (X)	0.24	0.00	0.54	0.00	0.21	0.00	0.15	0.00
Avail Cap (c_a), veh/h	414	0	308	0	413	0	439	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	15.8	0.0	19.0	0.0	15.7	0.0	15.6	0.0
Incr Delay (d2), s/veh	1.4	0.0	6.7	0.0	1.1	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.2	0.0	25.7	0.0	16.8	0.0	16.3	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	1.9	0.0	0.9	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.6	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	2.3	0.0	4.5	0.0	1.9	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	1.13	0.00	0.43	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	213	0	0	0	220	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	7.0	0.0	0.0	0.0	7.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	0.0	0.0	7.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	573	0	0	0	573	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.38	0.00	0.00
Avail Cap (c_a), veh/h	0	573	0	0	0	573	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.0	0.0	1.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	0.0	0.0	21.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.0	0.0	2.9	0.0	0.0

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2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.5	0.0	0.0	0.0	5.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.65	0.00	0.00	0.00	0.47	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	219	0	418	0	220	0	252
Grp Sat Flow (s), veh/h/ln	0	1817	0	1761	0	1739	0	1795
Q Serve Time (g_s), s	0.0	7.1	0.0	16.0	0.0	7.5	0.0	8.4
Cycle Q Clear Time (g_c), s	0.0	7.1	0.0	16.0	0.0	7.5	0.0	8.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.34	0.00	0.42	0.00	0.23
Lane Grp Cap (c), veh/h	0	586	0	568	0	561	0	579
V/C Ratio (X)	0.00	0.37	0.00	0.74	0.00	0.39	0.00	0.44
Avail Cap (c_a), veh/h	0	586	0	568	0	561	0	579
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	22.9	0.0	20.0	0.0	20.3
Incr Delay (d2), s/veh	0.0	1.8	0.0	8.3	0.0	2.1	0.0	2.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	0.0	31.2	0.0	22.0	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	6.4	0.0	2.9	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.3	0.0	0.3	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.59	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.7	0.0	12.2	0.0	5.8	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.67	0.00	1.65	0.00	0.47	0.00	0.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	1			1	1	
Traffic Vol, veh/h	488	0	1	432	0	1
Future Vol, veh/h	488	0	1	432	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	514	0	1	455	0	1

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	514	0	971
Stage 1	-	-	-	-	514
Stage 2	-	-	-	-	457
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1052	-	281
Stage 1	-	-	-	-	601
Stage 2	-	-	-	-	638
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1052	-	280
Mov Cap-2 Maneuver	-	-	-	-	280
Stage 1	-	-	-	-	601
Stage 2	-	-	-	-	637

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.02	11.43
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	561	-	-	4	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s/veh)	11.4	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

GHA AND IDOT TRAFFIC VOLUME DATA

Turning Movement Data

Start Time	Austin Ave Southbound						Lincoln Ave Westbound						Austin Ave Northbound						Lincoln Ave Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 AM	1	20	9	0	0	30	8	12	7	0	0	27	1	13	1	0	0	15	5	14	1	0	1	20	92
6:15 AM	6	28	7	0	1	41	8	19	11	0	0	38	5	12	4	0	0	21	0	14	4	0	0	18	118
6:30 AM	8	31	11	0	0	50	13	22	6	0	1	41	5	21	0	0	1	26	4	25	8	0	1	37	154
6:45 AM	6	56	12	0	1	74	17	34	14	0	0	65	9	23	5	0	1	37	8	19	4	0	0	31	207
Hourly Total	21	135	39	0	2	195	46	87	38	0	1	171	20	69	10	0	2	99	17	72	17	0	2	106	571
7:00 AM	6	50	12	0	2	68	10	30	12	0	1	52	8	13	4	0	1	25	8	34	6	0	1	48	193
7:15 AM	10	45	16	0	0	71	15	57	17	0	0	89	9	23	5	0	0	37	8	35	12	0	0	55	252
7:30 AM	10	64	16	0	3	90	17	41	12	0	0	70	20	27	6	0	1	53	8	34	13	0	1	55	268
7:45 AM	11	54	27	0	0	92	21	56	28	0	2	105	13	30	4	0	5	47	15	51	11	0	2	77	321
Hourly Total	37	213	71	0	5	321	63	184	69	0	3	316	50	93	19	0	7	162	39	154	42	0	4	235	1034
8:00 AM	5	73	12	0	2	90	18	51	24	0	0	93	11	42	6	0	0	59	10	41	17	0	0	68	310
8:15 AM	14	68	17	0	1	99	17	47	18	0	0	82	7	28	8	0	1	43	6	33	11	0	0	50	274
8:30 AM	14	64	15	0	1	93	25	44	20	0	0	89	10	32	8	0	0	50	10	46	13	0	1	69	301
8:45 AM	7	43	29	0	0	79	22	39	16	0	1	77	14	41	7	0	2	62	7	26	11	0	0	44	262
Hourly Total	40	248	73	0	4	361	82	181	78	0	1	341	42	143	29	0	3	214	33	146	52	0	1	231	1147
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	11	30	26	0	3	67	28	51	25	0	1	104	19	69	6	0	1	94	6	41	14	0	1	61	326
4:15 PM	6	47	32	0	2	85	28	49	7	0	1	84	16	29	9	0	6	54	2	48	17	0	3	67	290
4:30 PM	9	53	25	0	2	87	27	52	19	0	3	98	28	61	5	0	2	94	8	42	10	0	1	60	339
4:45 PM	11	32	24	0	1	67	32	51	18	0	1	101	18	45	10	0	0	73	8	56	12	0	1	76	317
Hourly Total	37	162	107	0	8	306	115	203	69	0	6	387	81	204	30	0	9	315	24	187	53	0	6	264	1272
5:00 PM	12	31	35	0	3	78	22	84	26	0	10	132	34	65	16	0	0	115	9	65	18	0	1	92	417
5:15 PM	14	38	26	0	7	78	14	69	17	0	2	100	29	65	11	0	0	105	5	96	23	0	2	124	407
5:30 PM	10	41	39	0	2	90	15	56	18	0	3	89	17	44	13	0	0	74	7	67	8	0	2	82	335
5:45 PM	11	46	36	0	1	93	23	72	21	0	0	116	37	48	11	0	3	96	8	92	19	0	0	119	424
Hourly Total	47	156	136	0	13	339	74	281	82	0	15	437	117	222	51	0	3	390	29	320	68	0	5	417	1583
6:00 PM	15	37	31	0	1	83	18	58	11	0	1	87	15	58	8	0	5	81	10	63	13	0	1	86	337
6:15 PM	15	33	19	0	4	67	20	45	18	0	0	83	12	45	11	0	1	68	4	50	11	0	2	65	283
6:30 PM	18	39	18	0	4	75	26	35	12	0	0	73	21	42	7	0	1	70	8	49	10	0	0	67	285
6:45 PM	8	33	18	0	1	59	18	37	14	0	0	69	11	31	9	0	0	51	5	53	8	0	0	66	245
Hourly Total	56	142	86	0	10	284	82	175	55	0	1	312	59	176	35	0	7	270	27	215	42	0	3	284	1150
Grand Total	238	1056	512	0	42	1806	462	1111	391	0	27	1964	369	907	174	0	31	1450	169	1094	274	0	21	1537	6757
Approach %	13.2	58.5	28.3	0.0	-	-	23.5	56.6	19.9	0.0	-	-	25.4	62.6	12.0	0.0	-	-	11.0	71.2	17.8	0.0	-	-	-
Total %	3.5	15.6	7.6	0.0	-	26.7	6.8	16.4	5.8	0.0	-	29.1	5.5	13.4	2.6	0.0	-	21.5	2.5	16.2	4.1	0.0	-	22.7	-
Lights	238	1036	506	0	-	1780	453	1091	384	0	-	1928	357	894	172	0	-	1423	163	1078	273	0	-	1514	6645
% Lights	100.0	98.1	98.8	-	-	98.6	98.1	98.2	98.2	-	-	98.2	96.7	98.6	98.9	-	-	98.1	96.4	98.5	99.6	-	-	98.5	98.3
Mediums	0	19	6	0	-	25	9	20	5	0	-	34	11	11	1	0	-	23	4	16	1	0	-	21	103
% Mediums	0.0	1.8	1.2	-	-	1.4	1.9	1.8	1.3	-	-	1.7	3.0	1.2	0.6	-	-	1.6	2.4	1.5	0.4	-	-	1.4	1.5
Articulated Trucks	0	1	0	0	-	1	0	0	2	0	-	2	1	2	1	0	-	4	2	0	0	0	-	2	9

% Articulated Trucks	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.5	-	-	0.1	0.3	0.2	0.6	-	-	0.3	1.2	0.0	0.0	-	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	-	9	-	-	-	-	-	11	-	-	-	-	-	12	-	-	-	-	-	5	-	-
% Bicycles on Crosswalk	-	-	-	-	21.4	-	-	-	-	-	40.7	-	-	-	-	-	38.7	-	-	-	-	-	23.8	-	-
Pedestrians	-	-	-	-	33	-	-	-	-	-	16	-	-	-	-	-	19	-	-	-	-	-	16	-	-
% Pedestrians	-	-	-	-	78.6	-	-	-	-	-	59.3	-	-	-	-	-	61.3	-	-	-	-	-	76.2	-	-

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

Vernon Hills, Illinois, United States 60061
(847) 478-9700 poster@gha-engineers.com

Count Name: Lincoln Ave & Austin Ave
Site Code:
Start Date: 08/09/2017
Page No: 4

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Austin Ave Southbound						Lincoln Ave Westbound						Austin Ave Northbound						Lincoln Ave Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:45 AM	11	54	27	0	0	92	21	56	28	0	2	105	13	30	4	0	5	47	15	51	11	0	2	77	321
8:00 AM	5	73	12	0	2	90	18	51	24	0	0	93	11	42	6	0	0	59	10	41	17	0	0	68	310
8:15 AM	14	68	17	0	1	99	17	47	18	0	0	82	7	28	8	0	1	43	6	33	11	0	0	50	274
8:30 AM	14	64	15	0	1	93	25	44	20	0	0	89	10	32	8	0	0	50	10	46	13	0	1	69	301
Total	44	259	71	0	4	374	81	198	90	0	2	369	41	132	26	0	6	199	41	171	52	0	3	264	1206
Approach %	11.8	69.3	19.0	0.0	-	-	22.0	53.7	24.4	0.0	-	-	20.6	66.3	13.1	0.0	-	-	15.5	64.8	19.7	0.0	-	-	-
Total %	3.6	21.5	5.9	0.0	-	31.0	6.7	16.4	7.5	0.0	-	30.6	3.4	10.9	2.2	0.0	-	16.5	3.4	14.2	4.3	0.0	-	21.9	-
PHF	0.786	0.887	0.657	0.000	-	0.944	0.810	0.884	0.804	0.000	-	0.879	0.788	0.786	0.813	0.000	-	0.843	0.683	0.838	0.765	0.000	-	0.857	0.939
Lights	44	248	69	0	-	361	79	194	88	0	-	361	37	127	25	0	-	189	38	168	51	0	-	257	1168
% Lights	100.0	95.8	97.2	-	-	96.5	97.5	98.0	97.8	-	-	97.8	90.2	96.2	96.2	-	-	95.0	92.7	98.2	98.1	-	-	97.3	96.8
Mediums	0	11	2	0	-	13	2	4	1	0	-	7	3	5	0	0	-	8	1	3	1	0	-	5	33
% Mediums	0.0	4.2	2.8	-	-	3.5	2.5	2.0	1.1	-	-	1.9	7.3	3.8	0.0	-	-	4.0	2.4	1.8	1.9	-	-	1.9	2.7
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	1	0	1	0	-	2	2	0	0	0	-	2	5
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.1	-	-	0.3	2.4	0.0	3.8	-	-	1.0	4.9	0.0	0.0	-	-	0.8	0.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	66.7	-	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	33.3	-	-

Gewalt Hamilton Associates Inc.
625 Forest Edge Drive

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Count Name: Lincoln Ave & Austin Ave
Site Code:
Start Date: 08/09/2017
Page No: 6

Turning Movement Peak Hour Data (5:00 PM)



Start Time	Austin Ave Southbound						Lincoln Ave Westbound						Austin Ave Northbound						Lincoln Ave Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
5:00 PM	12	31	35	0	3	78	22	84	26	0	10	132	34	65	16	0	0	115	9	65	18	0	1	92	417
5:15 PM	14	38	26	0	7	78	14	69	17	0	2	100	29	65	11	0	0	105	5	96	23	0	2	124	407
5:30 PM	10	41	39	0	2	90	15	56	18	0	3	89	17	44	13	0	0	74	7	67	8	0	2	82	335
5:45 PM	11	46	36	0	1	93	23	72	21	0	0	116	37	48	11	0	3	96	8	92	19	0	0	119	424
Total	47	156	136	0	13	339	74	281	82	0	15	437	117	222	51	0	3	390	29	320	68	0	5	417	1583
Approach %	13.9	46.0	40.1	0.0	-	-	16.9	64.3	18.8	0.0	-	-	30.0	56.9	13.1	0.0	-	-	7.0	76.7	16.3	0.0	-	-	-
Total %	3.0	9.9	8.6	0.0	-	21.4	4.7	17.8	5.2	0.0	-	27.6	7.4	14.0	3.2	0.0	-	24.6	1.8	20.2	4.3	0.0	-	26.3	-
PHF	0.839	0.848	0.872	0.000	-	0.911	0.804	0.836	0.788	0.000	-	0.828	0.791	0.854	0.797	0.000	-	0.848	0.806	0.833	0.739	0.000	-	0.841	0.933
Lights	47	155	136	0	-	338	74	279	79	0	-	432	117	220	50	0	-	387	28	316	68	0	-	412	1569
% Lights	100.0	99.4	100.0	-	-	99.7	100.0	99.3	96.3	-	-	98.9	100.0	99.1	98.0	-	-	99.2	96.6	98.8	100.0	-	-	98.8	99.1
Mediums	0	1	0	0	-	1	0	2	2	0	-	4	0	1	1	0	-	2	1	4	0	0	-	5	12
% Mediums	0.0	0.6	0.0	-	-	0.3	0.0	0.7	2.4	-	-	0.9	0.0	0.5	2.0	-	-	0.5	3.4	1.3	0.0	-	-	1.2	0.8
Articulated Trucks	0	0	0	0	-	0	0	0	1	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	1.2	-	-	0.2	0.0	0.5	0.0	-	-	0.3	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	8	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	46.2	-	-	-	-	-	53.3	-	-	-	-	-	66.7	-	-	-	-	-	20.0	-	-
Pedestrians	-	-	-	-	7	-	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	53.8	-	-	-	-	-	46.7	-	-	-	-	-	33.3	-	-	-	-	-	80.0	-	-



Volume Count Report

LOCATION INFO	
Location ID	016 5451
Type	LINK
Funct'l Class	5
Located On	Lincoln Ave
From Road	Ferris Ave
To Road	Edens Expwy
Direction	2-WAY
County	Cook
Community	MORTON GROVE
MPO ID	
HPMS ID	
Agency	Illinois DOT

COUNT DATA INFO	
Count Status	Accepted
Holiday	No
Start Date	Wed 7/20/2022
End Date	Thu 7/21/2022
Start Time	12:00:00 AM
End Time	12:00:00 AM
Direction	2-WAY
Notes	
Station	LINCOLN AVE
Study	
Speed Limit	
Description	
Sensor Type	NA
Source	CombineVolumeCountsIncremental
Latitude,Longitude	

INTERVAL:60-MIN	
Time	Hourly Count
 0:00-1:00	39
1:00-2:00	30
2:00-3:00	11
3:00-4:00	14
4:00-5:00	35
5:00-6:00	80
6:00-7:00	198
7:00-8:00	464
8:00-9:00	472
9:00-10:00	446
10:00-11:00	407
11:00-12:00	482
12:00-13:00	522
13:00-14:00	545
14:00-15:00	595
15:00-16:00	605
16:00-17:00	698
17:00-18:00	759
18:00-19:00	576
19:00-20:00	440
20:00-21:00	346
21:00-22:00	240
22:00-23:00	164
23:00-24:00 	85
Total	8,253
AM Peak	11:00-12:00 482
PM Peak	17:00-18:00 759



ITE PARKING GENERATION MANUAL, 6TH EDITION EXCERPTS

Land Use: 215 Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space. This land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

Land Use Subcategory

Data are separated into two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less. There are no study sites in the current database for the “close to rail transit” subcategory.

Time-of-Day Distribution for Parking Demand

The following table presents a Time-of-Day distribution of parking demand on a weekday for five study sites in a general urban/suburban setting.

Hour Beginning	Percent of Weekday Peak Parking Demand
12:00-4:00 a.m.	100
5:00 a.m.	98
6:00 a.m.	97
7:00 a.m.	85
8:00 a.m.	78
9:00 a.m.	70
10:00 a.m.	70
11:00 a.m.	63
12:00 p.m.	64
1:00 p.m.	64
2:00 p.m.	59
3:00 p.m.	60
4:00 p.m.	66
5:00 p.m.	70
6:00 p.m.	81
7:00 p.m.	84
8:00 p.m.	92
9:00 p.m.	96
10:00 p.m.	97
11:00 p.m.	99

Additional Data

The average parking supply ratio for the seven study sites in a general urban/suburban setting and with parking supply information is 1.7 spaces per dwelling unit. The average peak parking occupancy at these seven sites is 73 percent. None of the seven sites is located close to rail transit service.

The sites were surveyed in the 2010s and the 2020s in Alberta (CAN), California, Maine, Ontario (CAN), and Oregon.

Source Numbers

604, 610, 611, 617, 620, 631

Single-Family Attached Housing Not Close to Rail Transit (215)

Peak Period Parking Demand vs: Dwelling Units

On a: Weekday (Monday - Friday)

Setting/Location: General Urban/Suburban

Number of Studies: 10

Avg. Num. of Dwelling Units: 36

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.41	0.90 - 2.55	1.26 / 2.27	***	0.39 (28%)

Data Plot and Equation

