



CONDITIONAL USE PERMIT

Application submittals must include all documents on this checklist as well as this page. Please use the reference guide (pgs. 3-4) included in this packet for more information on each submittal item.

All applications shall be submitted electronically to epermitcenter@adcogov.org. If the submittal is too large to email as an attachment, the application may be sent as an unlocked OneDrive link. Alternatively, the application may be delivered on a flash drive to the One-Stop Customer Service Center. All documents should be combined in a single PDF. Once a complete application has been received, fees will be invoiced and payable online at <https://permits.adcogov.org/CitizenAccess/>.

- ☒ 1. Development Application Form (pg. 5)
- ☒ 2. Application Fees (see pg. 2)
- ☒ 3. Written Explanation of the Project
- ☒ 4. Site Plan Showing Proposed Development
- ☒ 5. Proof of Ownership (warranty deed or title policy)
- ☒ 6. Proof of Water and Sewer Services
- ☒ 7. Proof of Utilities (e.g. electric, gas)
- ☒ 8. Legal Description
- ☒ 9. Certificate of Taxes Paid
- ☒ 10. Certificate of Notice to Mineral Estate Owners/and Lessees (pg. 7)
- ☒ 11. Certificate of Surface Development (pg. 8-10)

Supplemental Items (if applicable) *Contact County staff for supplemental forms

- ☒ 1. Traffic Impact Study
- ☐ 2. Neighborhood Meeting Summary
- ☐ 3. Solid waste transfer station*
- ☐ 4. Solid waste composting facility*
- ☐ 5. Scrap tire recycling facility*
- ☐ 6. Inert fill*

Application Fees	Amount	Due
Conditional Use Permit	\$1,000 (\$300 per additional residential request/ \$500 per additional non-residential)	After complete application received
Tri-County Health	\$360 (TCHD Level 3)	After complete application received



DEVELOPMENT APPLICATION FORM

Application Type:

<input type="checkbox"/> Conceptual Review	<input type="checkbox"/> Preliminary PUD	<input type="checkbox"/> Temporary Use
<input type="checkbox"/> Subdivision, Preliminary	<input type="checkbox"/> Final PUD	<input type="checkbox"/> Variance
<input checked="" type="checkbox"/> Subdivision, Final	<input type="checkbox"/> Rezone	<input checked="" type="checkbox"/> Conditional Use
<input type="checkbox"/> Plat Correction/ Vacation	<input type="checkbox"/> Special Use	<input type="checkbox"/> Other: _____

PROJECT NAME:

APPLICANT

Name(s): Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

OWNER

Name(s): Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)

Name: Phone #:

Address:

City, State, Zip:

2nd Phone #: Email:

DESCRIPTION OF SITE

Address:	301 W 60th Place
City, State, Zip:	Denver, CO 80216
Area (acres or square feet):	11.2649 acres
Tax Assessor Parcel Number	Parcel ID: 01825.10.2.00.040, Tax ID: R0103486
Existing Zoning:	I-3 Heavy Industrial
Existing Land Use:	Heavy Industrial
Proposed Land Use:	Heavy Industrial - Recycling Center

Have you attended a Conceptual Review? YES ☒ NO ☐

If Yes, please list PRE#:

I hereby certify that I am making this application as owner of the above described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.


Name: Date:

Owner's Printed Name

Name:

Owner's Signature

William
Plessman

 Digitally signed by William Plessman
DN: cn=William Plessman, o=M-L Holdings
Company, ou=VP Risk & Real Estate,
email=wplessman@mlholdings.com, c=US
Date: 2021.12.20 13:20:50 -07'00'

Project description

Purpose of the Project:

Presently no C&D waste processing facilities are operating in Colorado. High Plains Disposal (HPD) is seeking a Conditional Use Permit to build a mobile C&D Recycling Center in Adams County at the interstate triangle of I-76, I-25, and I-70 in North Denver. Plant design includes installing a mixed C&D sorting line with a combination of mechanized and manual sorting stations that will have the capacity to process at least 200,000 annual tons of C&D waste into 187,000 annual tons of renewed materials.

Approximately 35% of Colorado's waste is C&D material "with no indication of slowing down." The proposed mechanized and automated C&D recycling center serving the Colorado front range will achieve a 67% diversion rate in year one involving twelve renewable materials. Through continued research and end market development, High Plains Disposal will raise the diversion rate from 67% in year one to 93% in year three of operation by creating end markets for asphalt shingles, Grade B wood, and carpet. The proposed facility will help the FRWD and CDPHE realize their waste diversion goals of 39% by 2026, and 51% by 2036.

The vision for the planned High Plains Disposal C&D Recycling Center is to enable recycling-oriented contractors to load their job site waste into single containers versus material-specific containers for processing while also providing ease of use benefits to those contractors who send their construction waste directly to area landfills. By using state-of-the-art equipment (see attached schematic) designed specifically to divert end market commodities away from local area landfills, HPD will be able to sort comingled C&D debris from any job site cost-effectively. Those materials include the following.

1. Aggregates
2. Grade A wood (untreated)
3. Grade B wood (treated)
4. Cardboard (OCC)
5. Paper
6. Glass
7. Ferrous metals
8. Nonferrous metal
9. Plastics (HDPE)
10. Plastics (PET)
11. Gypsum
12. Tile
13. Organics (yard waste)

To begin with, aggregates will be moved from the site to be crushed by others. In the future, aggregates would be crushed on site, but only in amounts that can be moved off site within 72 hrs of crushing.

The canopy structures attach directly to the mobile processing equipment and can be seen in photographs attached to this application. The purpose of the canopy structures is to protect the workers on the sort lines from the environment. i.e wind, rain, snow, sun.

The modular office building is a typical modular office one might find on any jobsite. It rolls in on wheels and detaches from the truck pulling it. It then can be hooked up to site utilities from there and serve as a mobile office structure for staff operating the facility. A typical photo is attached.

Operation and Environmental Information

Facility will be open from 7:00 am to 5: pm Monday through Friday and will be open on Saturdays from 7:00am to 12:00 PM The expected run times per month for generators will be 220 hrs. the noise rating is insignificant, between 60 and 70 decibels, somewhere between a dishwasher and vacuum cleaner.

Interior road will not be paved at this time. A water Truck will be utilized.

The conveyor sorting will be both manual and equipment based. AS depicted in earlier diagrams, the material will be pre shredded for size and directly sorted by size and dimension after shredding. From this equipment it will then be separated by hand using a manual separation with employees with robotic sorting planned in the future. The equipment is manufactured with hose attachments for self-contained dust suppression at the source.

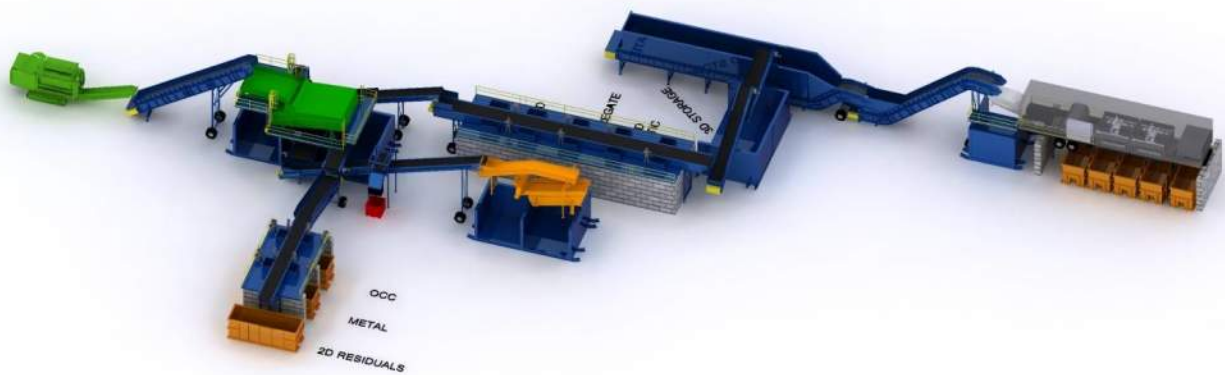
Applicant will train employees in asbestos awareness classes for visual confirmation of asbestos containing materials. Signs and placards will be posted detailing what material is accepted and what is not accepted. Asbestos and hazardous materials will be listed as unacceptable. CDPHE requires that every demolition in the state of Colorado be inspected for asbestos AND abated prior to demolition of the structure. Only known contractors will be dumping at the facility. Contractors poor track records for following the rules will not be permitted to dispose at the facility. Visual inspections of all loads prior to dumping will be a last line of defense. Any material that is found not to be recyclable will be rejected from the facility.

If hazardous materials are discovered, proper cleanup and disposal per state regulations will be followed. Areas that are contaminated will be cordoned off and the public will not be allowed to access until the hazard has been mitigated.

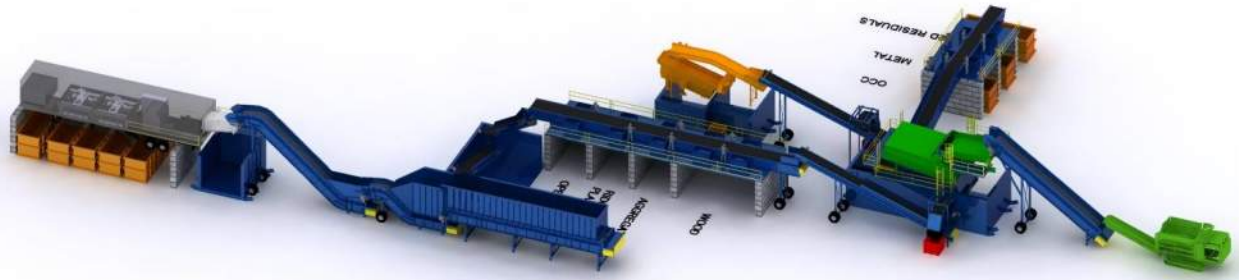
Included are writeups describing the Nuisance Control Plan and Air Pollution Emission Notice that will be included as this project progresses.

Time Frame:

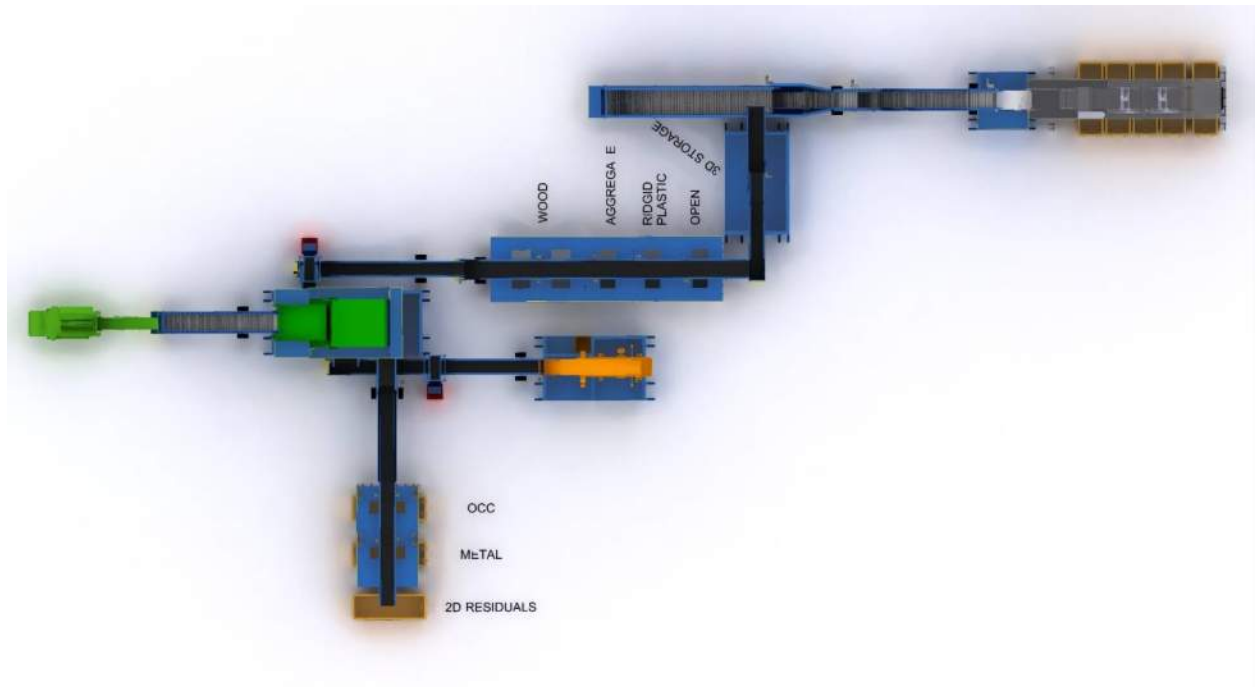
High Plains Disposal would open for business in the spring/summer of 2022 after a Conditional Use Permit is granted and design and install of the facility can be completed.

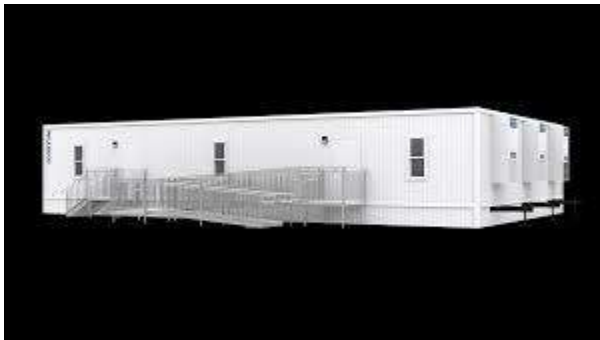












Memorandum

Date: August 16, 2021
To: Adams County Community and Economic Development Department
From: Anthony Der Tatevasion, Air Quality Specialist
Subject: High Plains Disposal, 301 W. 60th Place, Denver, Colorado, Colorado Department of Public Health and Environment Air Pollution Control Division, Air Pollution Emission Notice and Permit Analysis

Introduction

R & R Engineers – Surveyors (R&R) has requested that Pinyon Environmental (Pinyon) complete an evaluation for the High Plains Disposal to be constructed at 301 West 60th Place, Denver, Colorado (Facility) applicability to Colorado Department of Public Health and Environment (CDPHE) Air Pollution Emission Notice (APEN) and permit requirements. As noted in the Concept Review Package submitted to the Adams County Community and Economic Development Department (ADCO) in February 2021, the proposed project is a construction and demolition material recycling and sorting facility.

After review of the Concept Review Package, ADCO requested in their Document Review Team Comments additional details be provided regarding additional air compliance details; this memorandum is in response to that request.

Regulatory Background

CDPHE Regulation 3 outlines the applicability and requirements for stationary source permits and APENs. Certain facilities and emissions sources are exempt from APEN and permit requirements based on their purpose, agency-determined emissions impact, and size.

Should an emission source not fall into one of the 84 listed exempted sources, APEN and permit applicability depends on emissions from criteria and non-criteria reportable pollutants such as:

- Nitrogen Oxides (NO_x) – criteria pollutant
- Carbon Monoxide (CO) – criteria pollutant
- Volatile Organic Compounds (VOC) – criteria pollutant
- Particulate Matter less than 10 micrometers and less than 2.5 micrometers (PM₁₀ and PM_{2.5}) – criteria pollutant
- Total Suspended Particulate (TSP) – criteria pollutant
- Sulfur Dioxide (SO₂) – criteria pollutant
- Lead – criteria pollutant

High Plains Disposal

- Non-criteria reportable pollutants including, but not limited to sulfuric acid (H_2SO_4), nitric acid (HNO_3), and hydrochloric acid (HCl).

Regulation 3 Section II.B.3 states that APENs are required if any of the following conditions are met:

- For nonattainment areas, each individual emission point with uncontrolled actual emissions of one ton per year or more of any individual criteria pollutant for which the area is nonattainment
- For attainment areas, each individual emission point in an attainment or attainment/maintenance area with uncontrolled actual emissions of two tons per year or more of any individual criteria pollutant
- Each individual emission point with uncontrolled actual emissions of lead greater than 100 pounds per year
- Each individual emission point with uncontrolled actual emissions of 250 pounds or more per year of any non-criteria reportable pollutant

Regulation 3 Section II.D.2 and Section II.D.3 states that construction permits are required if total facility uncontrolled actual emissions equal or exceed the following thresholds depending on if the facility is located in a nonattainment or attainment/maintenance area:

Pollutant	Nonattainment Area Permit Threshold	Attainment Area Permit Threshold
NO_x	5 tons per year	10 tons per year
CO	5 tons per year	10 tons per year
VOC	2 tons per year	5 tons per year
PM_{10}	1 ton per year	5 tons per year
$\text{PM}_{2.5}$	1 ton per year	5 tons per year
TSP	5 tons per year	10 tons per year
SO_2	5 tons per year	10 tons per year
Lead	200 pounds per year	200 pounds per year

Facility Description

The Facility will be located in Denver, Colorado within Denver County. Denver County is a nonattainment area for ozone which is formed by NO_x and VOC emissions in the atmosphere. The Site will be purposed as a construction and demolition material recycling and sorting facility.

Based on Pinyon's preliminary analysis of the proposed operations, the following processes and equipment will be evaluated for APEN submittals.

- Two (2) Caterpillar 3406B Generator Engines (Engines – compression ignition APEN: Form APCD-233)
- Crushing Operations Emissions (Crusher/Screen APEN: Form APCD-221)

High Plains Disposal

- Unpaved Road Emissions (General APEN – Form APCD-200)
- Two (2) Diesel Generator Fuel Tanks (Insignificant Source)
- One (1) Heavy Machinery Fuel Tank (Insignificant Source)

Site Analysis to APEN and Permit Requirements

Based on the above CDPHE guidelines, the Facility and its associated equipment will be evaluated to determine the potential applicability to APEN and/or permit requirements. The following four-step approach will be taken:

- Determine if the Facility and its sources fall into the APEN/permit exempt categories
- Calculate uncontrolled actual emissions for criteria and non-criteria reportable pollutants
- Compare uncontrolled actual emissions against APEN thresholds and permit thresholds
- Submit and secure CDPHE approval on APENs and air permits if required

In accordance with CDPHE permitting requirements, the facility will not undergo unapproved construction nor startup until the above approach is completed and the facility is in compliance with all applicable CDPHE regulations.

July 28, 2021

Nuisance Control Plan

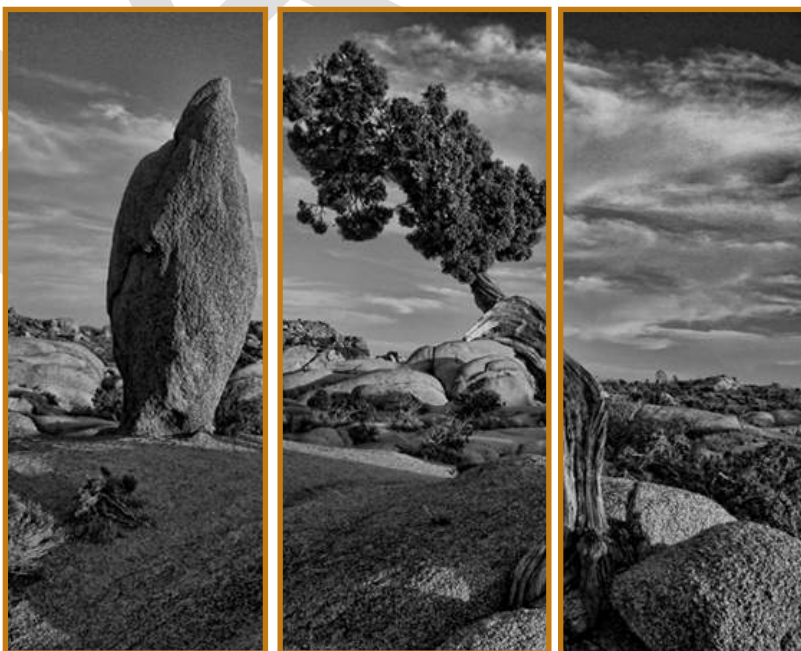
High Plains Disposal
301 West 60th Place
Denver, Colorado 80216

Prepared for:

R&R Engineers-Surveyors
1635 W 13th Avenue, Suite 310
Denver, CO

Pinyon Project No.:

1/21-1132-01



July 28, 2021

Nuisance Control Plan

High Plains Disposal
301 West 60th Place
Denver, Colorado 80216

Prepared for:

R&R Engineers-Surveyors
1635 W 13th Avenue, Suite 310
Denver, CO

Pinyon Project No.:

1/21-1132-01

Prepared by:

Michelle Marin
Technical Group Manager

Reviewed by:

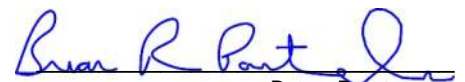

Brian Partington
Principal

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I. Introduction

In accordance with Adams County Community and Economic Development (ADCO) requirements, Pinyon Environmental, Inc. (Pinyon), has completed a Nuisance Control Plan (NCP) for the planned High Plains Disposal facility (Figure 1). Pinyon understands that 301 West 60th Place LLC plans to open a Construction and Demolition (C&D) operation located at 301 West 60th Avenue, Denver, Colorado (site; Figure 2). This NCP will be incorporated into a Facility Operations Plan, which will be completed at a later date by 301 West 60th Place LLC or their designated preparer.

The Facility Operations Plan will contain additional information regarding the operator, the purpose of the planned development, and more detailed operational information.

I.1 Site Information

The site is located in Adams County, Colorado. 301 West 60th Place LLC owns three adjoining parcels, however only two of these parcels (Parcels J and K) will be utilized for the C&D operation. Information regarding the site parcels is presented in the table below (Figure 3).

Table I-1. Site Information

Parcel/Address	Owner	Zoning	Parcel Size	Development
0182510200048 301 West 60 th Place	301 W. 60 th Place LLC	I-3	2.491 acres	None
0182510200040 301 West 60 th Place	Mail: 500 E 62 nd Avenue Denver, CO 80216	I-3	11.118 acres	None

Source: Adams County Assessor Online Website, 2021

The Fisher Ditch runs adjacent to the south of the site and a retention pond is located on the northwest corner of the site. Copeland Lake is located approximately 1,500 feet to the east of the site. The site is located at approximately 5,200 feet above mean sea level and slopes slightly to the east.

I.2 Regulatory Oversight

Recycling activities will be conducted under the Colorado Department of Public Health and Environment (CDPHE) Hazardous Materials and Waste Management Division 6 CCR 1007-2, Part 1 Regulations Pertaining to Solid Waste Sites and Facilities Section 8 Recycling and Beneficial Use regulations, as well as Adams County Development Standards and Regulations applicable to development of recycling facilities. More specifically, Pinyon has assumed that the site will be regulated under 6 CCR 1007-2 Section 8.5 Industrial Recycling Operations, which includes the recycling of construction and demolition debris. Section 8.5 requires the following:

- Prior to receiving recyclable materials, the owner/operator of this industrial recycling operation will submit, for CDPHE review and approval, an Industrial Material Recycling Facility Initial Registration Form.
- Submittal to the CDPHE and ADCO, for review and approval, an Industrial Recycling Facility Operations Plan (IRFO) detailing how the facility will operate in accordance with § 30-20-102(5), C.R.S., prior to the importation of recyclable materials. This requires maintenance of documentation that proves recyclable

Nuisance Control Plan

High Plains Disposal
301 West 60th Place, Denver, CO

materials are being recycled at the site at a rate that approximately equals the rate at which recyclable materials are being collected. An Industrial Recycling Facility Design and Operations Plan will not be required as liquid or leachable materials are not planned to be accepted. The IRFO will include:

- A physical description of the facility and the types of recyclable materials managed.
- Methods to prevent unauthorized vehicle traffic and illegal dumping by adequate fencing or other security means.
- Procedures for preventing receipt of unauthorized waste and procedures for safely managing and properly disposing of unauthorized waste.
- An initial accumulation plan that includes a time frame for the initial accumulation of recyclable materials and the maximum volume and weight of the recyclable materials to be received during the initial accumulation period. This time frame may differ for individual recyclable materials as approved by the Department.
- A closure plan including a plan for the disposition of collected materials on-site at the time of closure.
- Facility operation in accordance with accumulation requirements and the approved IFRO.
- Completion of the Recycling Facility Annual Reporting Form for submission to the CDPHE by March 1st of each year for the previous calendar year.
- Records must be maintained onsite for at least three years.

2. Operations

High Plains Disposal plans to develop the site with a portable C&D material recycling and sorting facility. The site improvements would include multiple industrial machines required for processing material, truck scales, processing yards, a modular office, and portable toilets. Concrete pads will be proposed for machinery to rest on. Traffic is expected to enter the site from West 60th Place to the east and exit the site via Huron Street to the west. A combination of paved and gravel drive aisles are proposed to circulate truck traffic throughout the site.

Electrical service is planned to be provided by onsite generators with generator fuel stored in above ground tanks. No sewer services are planned due to the expected portable toilet usage. Water is planned to be accessed from a water line along West 60th Place.

The general planned order of operations for the site is as follows (Figure 3):

- Trucks are expected to enter the site from West 60th Place onto the east side of the site, where they will travel to the south and east along a paved road.
- Trucks will stop at a guard booth and scale, which will be manned by an asbestos-trained individual. The individual will inspect and weigh the load; the load will then either be directed to the tipping floor for unloading, directly to the yard if sorting/handling is not required, or rejected.
- If directed to the tipping floor, trucks will unload onto the floor, where the load will be sorted and/or shredded, as appropriate. A low velocity shredder will be used to minimize material movement; material will then be automatically sorted by fines, 2D and 3D materials. Materials will then be further sorted; sorting can be accomplished both manually and through a robotic process. After shredding and sorting, materials will be stored in concrete-walled bunkers prior to being loaded onto trucks and being moved off-site.
- If directed to the yard, materials will be unloaded into short-term stockpiles prior to being moved off-site.

2.1 Waste Streams

Recyclable materials accepted at the site will include typical materials generated during construction and demolition activities including concrete, wood, and asphalt. Liquid, leachable and non-solid materials will not be accepted. Recyclable materials will be accepted in accordance with CDPHE guidelines.

2.1.1 Waste Stream Management

Waste streams will arrive onsite in a covered and secured manner. The goal of the system is to move materials through quickly. Trucks will be directed to the tipping floor or yard as they arrive on-site; storage of trucks or bins is not planned. Expected turnaround time of materials is planned to be less than three business days.

2.1.2 Solid Waste

It is expected that only *de minimis* amounts of solid waste (non-recyclable) will be received onsite, as loads will be screened prior to acceptance. Solid waste will be separated out into a dumpster and removed to a permitted landfill daily. The landfill to be used had not been selected as of the date of this Plan.

Nuisance Control Plan

High Plains Disposal
301 West 60th Place, Denver, CO

2.2 Security

The site will accept loads during normal business hours. To enter the site, loads must pass through a manned guard booth. Public roadways do not pass by the site and it is expected this will minimize the likelihood of illegal dumping; West 60th Place terminates on the east side of the site and Huron Street terminates on the west side of the site.

Operating hours and the facility name will be posted at the facility entrance.

2.3 Equipment

Additional equipment located at the site will include loaders to push materials onto the tipping floor, a truck scale, and two 250-kilowatt generators. At the time of completion of this Plan, the following information regarding oil storage at the site is planned:

- Three aboveground storage tanks (ASTs) will be located at the Site. Two diesel ASTs will be 5,000 gallons or less and be located adjacent to the two 250-kilowatt generators. The ASTs will be double-walled, and aboveground piping will transfer fuel from the ASTs to the generators. One off road diesel AST of less than 2,000 gallons in size will be located at the Site and will be used for fueling on-site equipment.
- The location of the ASTs has not been finalized at the time of this memorandum, but based on previous communications from ADCO, Pinyon understands that it is preferred that the ASTs and generators are not located adjacent to the retention pond.

2.4 Closure Plan

High Plains Disposal understands that a Closure Plan is required for recycling facilities regulated under 6 CCR 1007-2, Part I Section 8. In accordance with the Closure Requirements in section 8.5 Industrial Recycling Operations, the following actions will be taken:

- The CDPHE will be notified of the closure in writing at least sixty (60) calendar days in advance of the closure date.
- Prior to completing the closure activities, all recyclable materials and solid waste will be processed, reclaimed, or recycled so that potential off-site odors, groundwater contamination, and nuisance conditions shall be addressed. It is understood that any material remaining on-site following closure renders the site a solid waste disposal site.
- Closure shall be completed within one hundred eighty (180) calendar days of initiating closure activities.
- A final report will be submitted to the CDPHE within ninety (90) calendar days of completing closure.

3. Nuisance Control

It is expected that nuisances including windblown debris, noise, odor, dust, and vectors will be managed in accordance with applicable Adams County regulations for nuisance control, including those stated in Chapter 4 Design Requirements and Performance Standards Section 4-14 Operational Standards and Section 4-11-02-04-07 Heavy Industry – Recycling Facilities, including Scrap Tire. Details regarding control of these nuisances are presented in the following report sections.

3.1 Windblown Debris

Based on the methodology planned for recycling operations, it is not expected that windblown debris will be generated by site activities. If windblown debris is generated by site activities, these issues will be addressed by site management personnel.

3.2 Noise, Odor and Dust Control

High Plains Disposal plans to control noise, odor, and dust in accordance with Adams County regulations and to minimize impacts to properties in the site vicinity.

- The facility plans to accept loads during normal business hours. Robotic sorting operations may occur up to 22 hours per day. Industrial or vacant properties are located adjacent to the site and noise impacts to these properties are not expected.
- Facility interior roadways will be paved from the entrance on the east side of the site until the tipping floor. If dust is generated by trucks, the affected areas will be sprayed as necessary by a water truck and hose. It is not expected that dust will be generated by recycling operations; however, if dust is generated by recycling operations, this issue will be addressed by site management personnel.
- Based on the type of waste to be accepted at the site, it is not expected that odors will be generated by site operations.

3.3 Vector Control

Based on the types of materials expected to be received and managed at the site, as well as the relatively short timeframe that materials will be stored at the site, it is not expected that vectors will be an issue at the facility.

3.4 Fire Protection

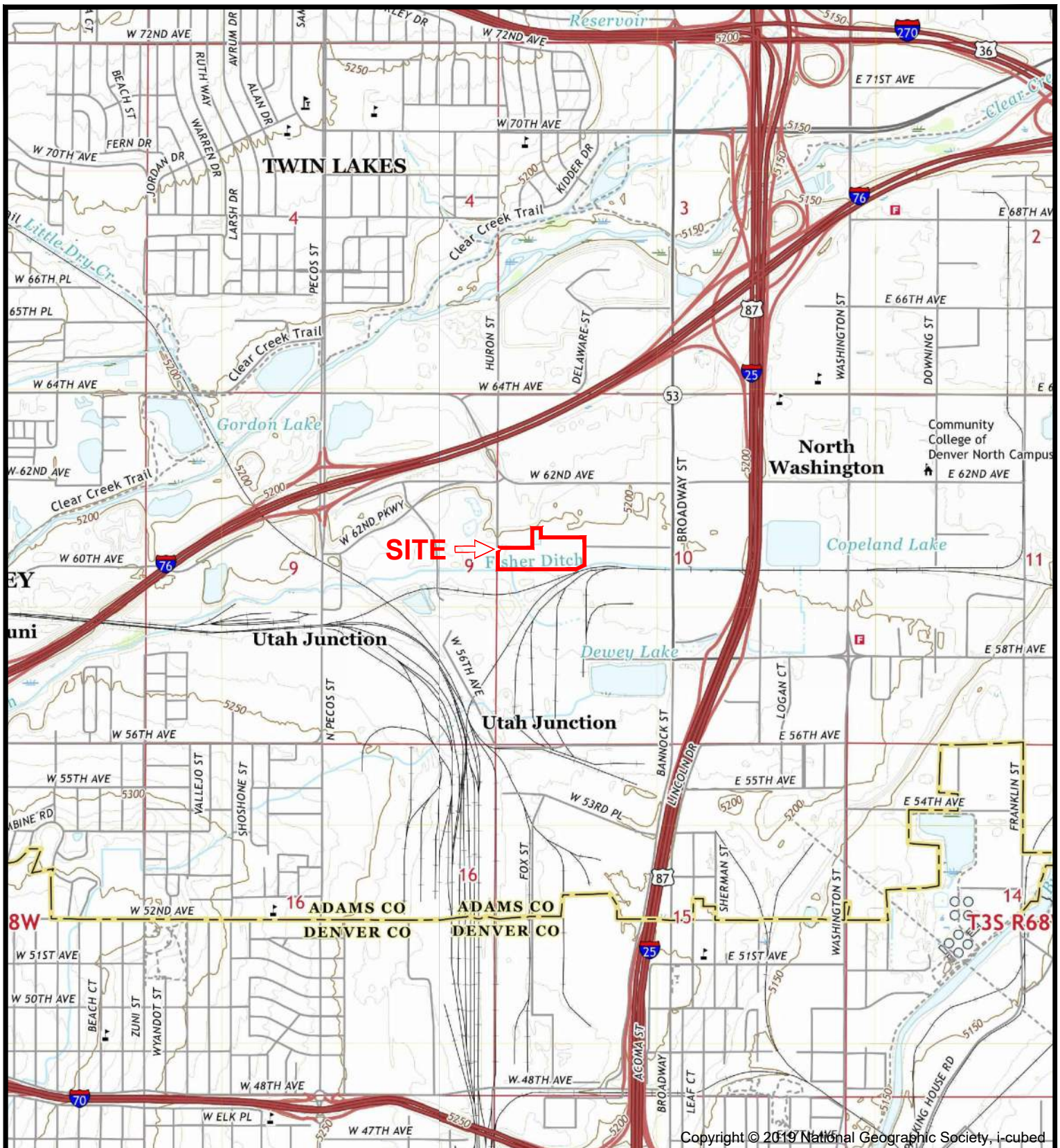
Fire protection requirements will be evaluated for the site. At a minimum, fire extinguishers with a facility-appropriate rating will be located at multiple points throughout the facility.

Figures

DRAFT

PLOT DATE: 7/26/2021

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SITE → **Fisher Ditch**

LEGEND



Site Boundary

USGS 7.5' Topographic Map Quad
Commerce City, Colorado, 2019

0 2000' 4000'

SCALE: 1" = 2000'



SITE LOCATION

High Plains Disposal
301 West 60th Place
Denver, Colorado

Site Location: Section 9, T 3S, R 68W, 6th Principal Meridian

Pinyon Project Number: 1/21-1132-01.REG011

Drawn By: SJA

Figure: 1

Reviewed By: MIM

Date: 7/26/2021

Coordinate System: NAD83 COLORADO STATE PLANES, CENTRAL ZONE, US FOOT CO83-CF

PLOT DATE: 7/26/2021

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LEGEND



Site Boundary



SITE PLAN

*High Plains Disposal
301 West 60th Place
Denver, Colorado*

Site Location: Section 9, T 3S, R 68W, 6th Principal Meridian

Pinyon Project Number: 1/21-1132-01.REG011

Drawn By: SJA

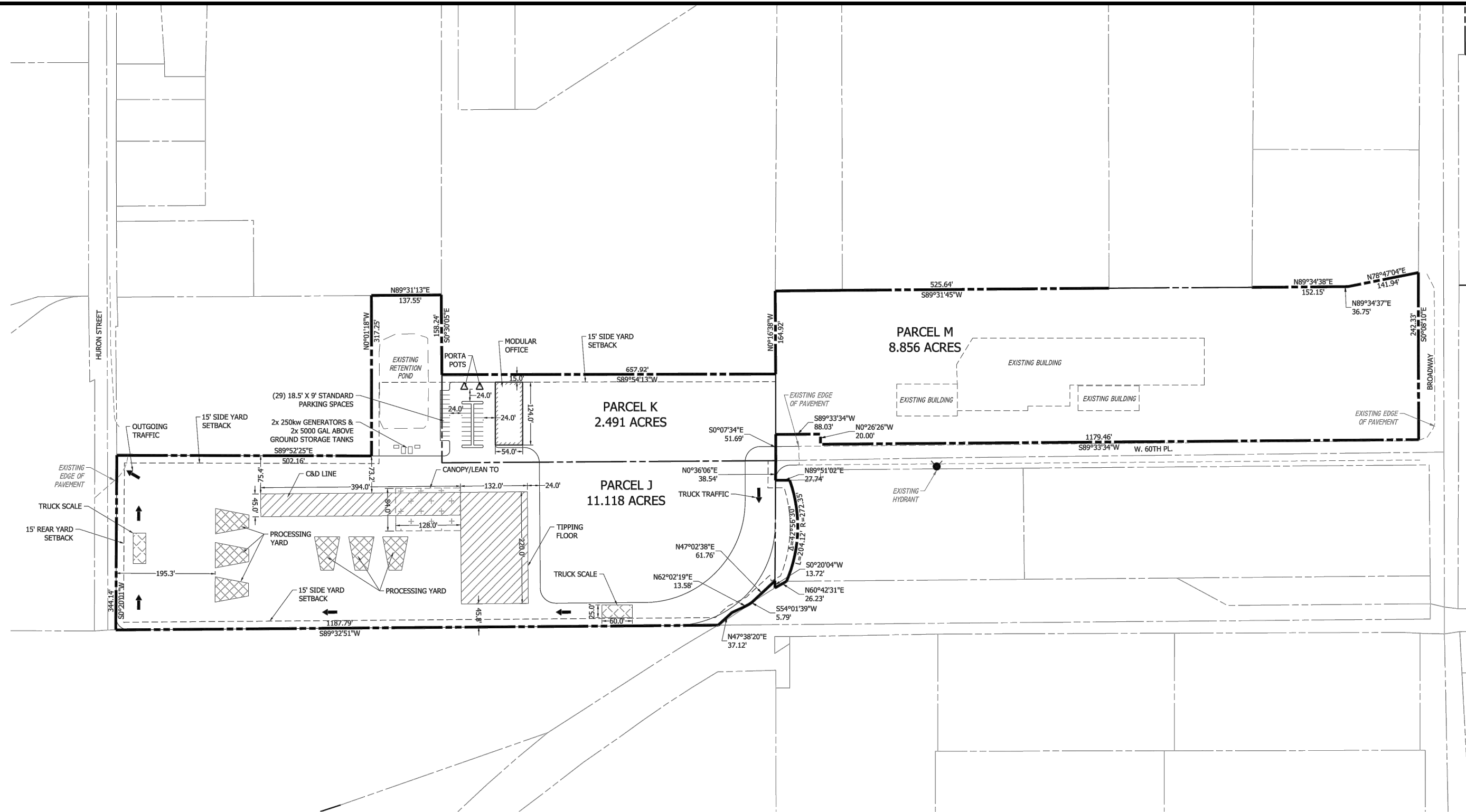
Figure: 2

Reviewed By: MIM

Date: 7/26/2021

PLOT DATE: 7/26/2021

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LEGEND

Site Boundary



SITE DETAIL

High Plains Disposal
301 West 60th Place
Denver, Colorado

Drawn By: SJA	Figure: 3
Reviewed By: MIM	Date: 7/26/2021

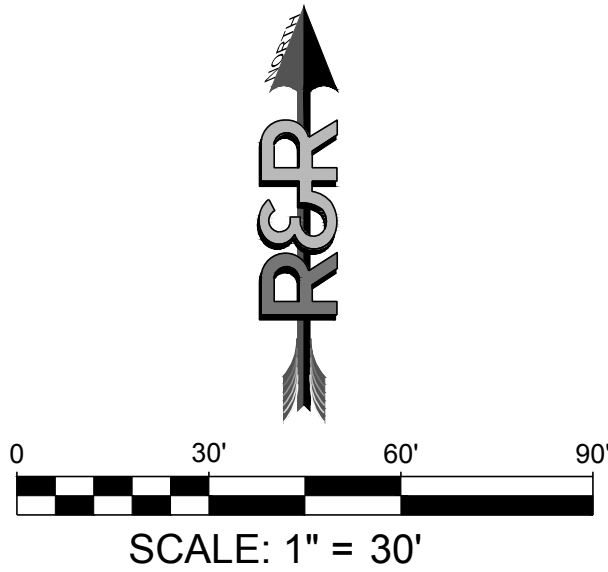
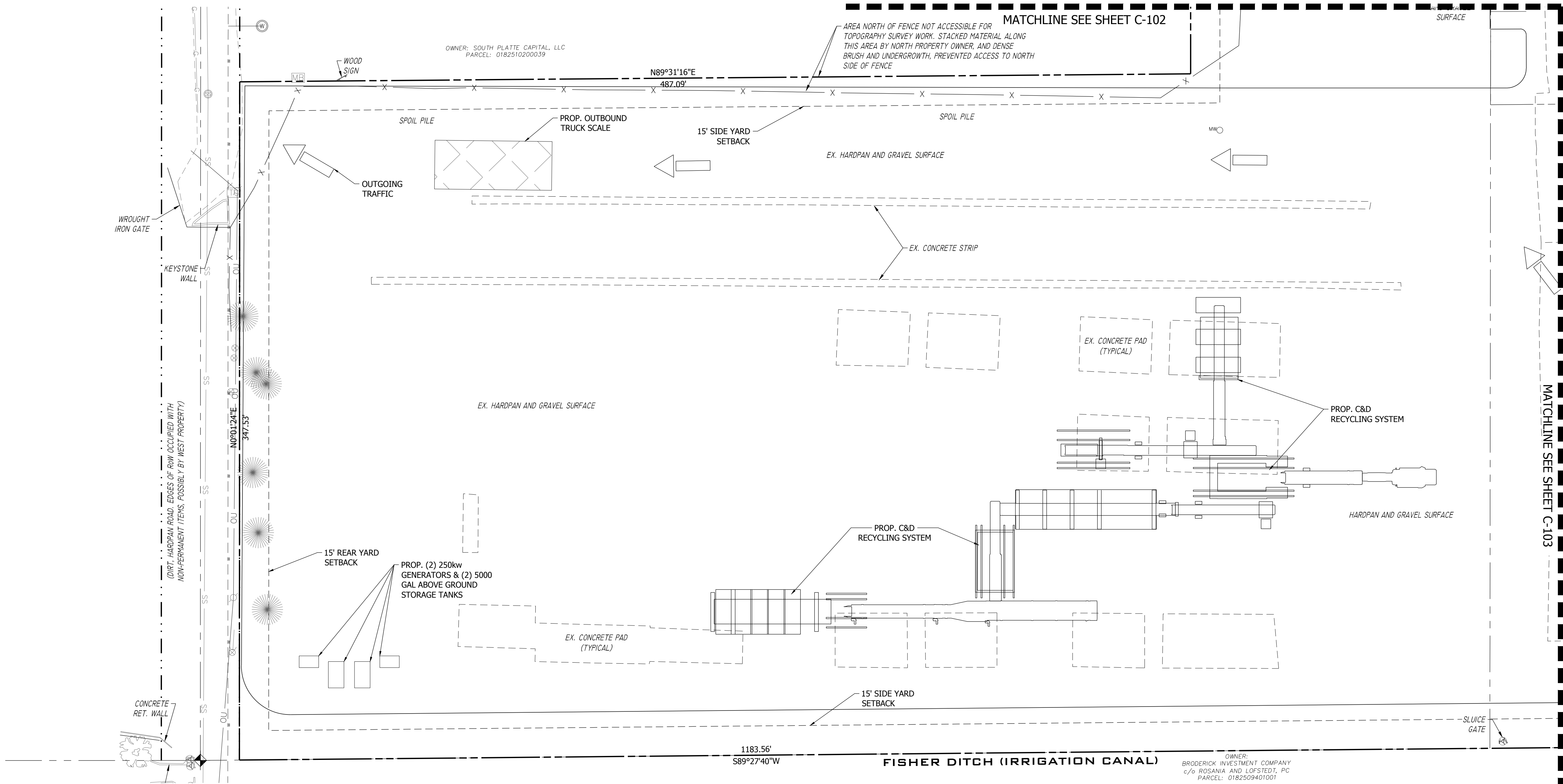
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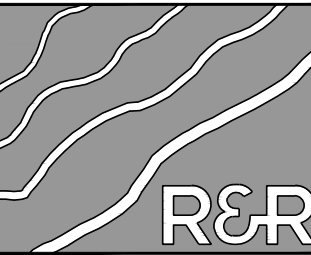
Coordinate System: NAD83 COLORADO STATE PLANES, CENTRAL ZONE, US FOOT CO83-CF

HIGH PLAINS DISPOSAL CONDITIONAL USE PERMIT

PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 10,
TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ADAMS (UNINCORPORATED), STATE OF COLORADO



NO.	REVISION	BY	DATE



**ENGINEERS
SURVEYORS**
INC.

R&R ENGINEERS-SURVEYORS, INC.
 1635 WEST 13TH AVENUE, SUITE 310
 DENVER, COLORADO 80204
 PHONE: 303-753-6730

WWW.RRENGINEERS.COM

HIGH PLAINS DISPOSAL

SITE ADDRESS:
 301 W. 60TH PLACE
 DENVER, CO 80216

PREPARED FOR:
 RACEE AND PATRICK BLAIR
 13901 DOWNING STREET
 BRIGHTON, CO 80602

CONDITIONAL USE PERMIT			
JOB NO.	HC21033		
ORG. SUBM. DATE	1/28/2021		
DWN:	EJ	CHKD:	JL
NAME			

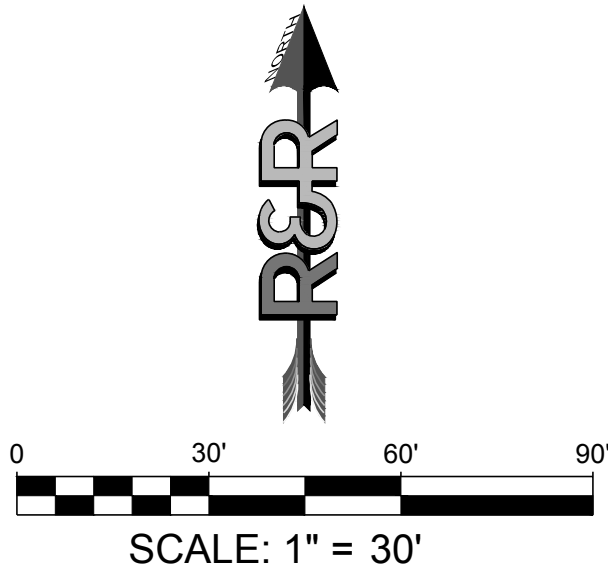
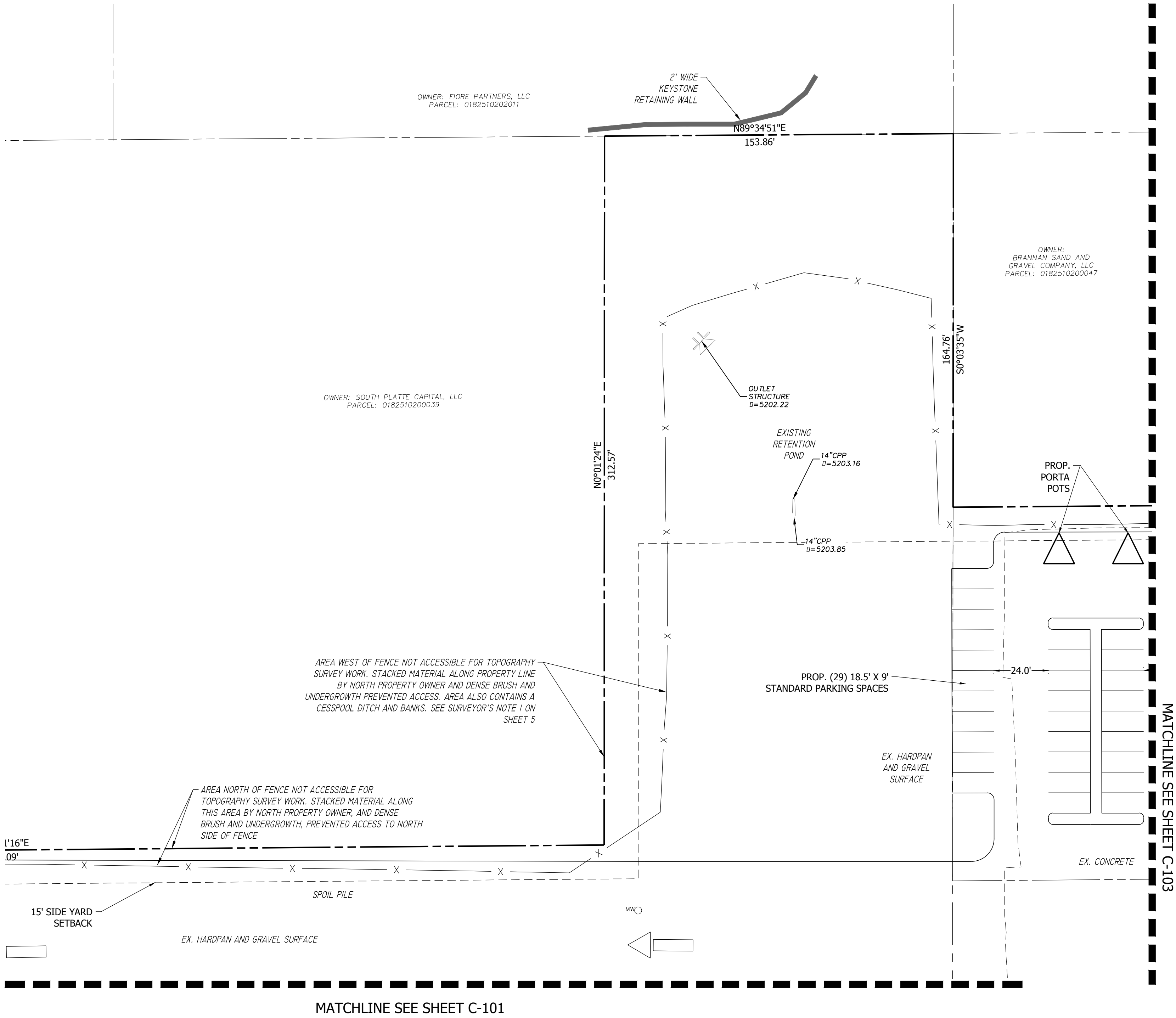
SITE PLAN

NO.
C-101

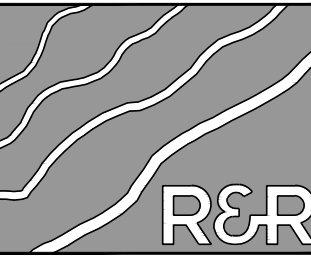
PATH: P:\VC21033_CAD\RECYCLING\ENGINEERING\4. DRAWINGS\PLANS\CONDITIONAL USE PERMIT\VC21033 - SITE.DWG PLOT DATE: 1/28/2022 9:53:34 AM BY: LIZ JONES

HIGH PLAINS DISPOSAL CONDITIONAL USE PERMIT

PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 10,
TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ADAMS (UNINCORPORATED), STATE OF COLORADO



NO.		REVISION		BY	DATE



R&R ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

ENGINEERS-SURVEYORS
INC.

WWW.RRENGINEERS.COM

HIGH PLAINS DISPOSAL	
SITE ADDRESS: 301 W. 60TH PLACE DENVER, CO 80216	PREPARED FOR: RACEE AND PATRICK BLAIR 13901 DOWNING STREET BRIGHTON, CO 80602

CONDITIONAL USE PERMIT	
JOB NO.	HC21033
ORG. SUBM. DATE	1/28/2021
DWN:	EJ
NAME	CHKD: JL
SITE PLAN	
NO.	C-102

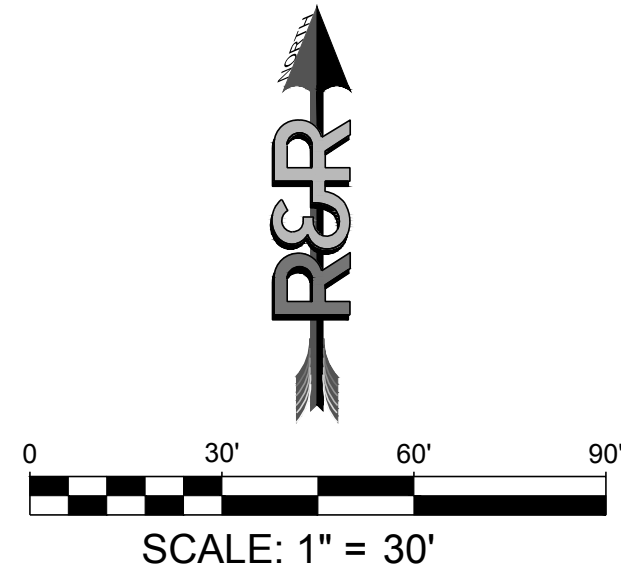
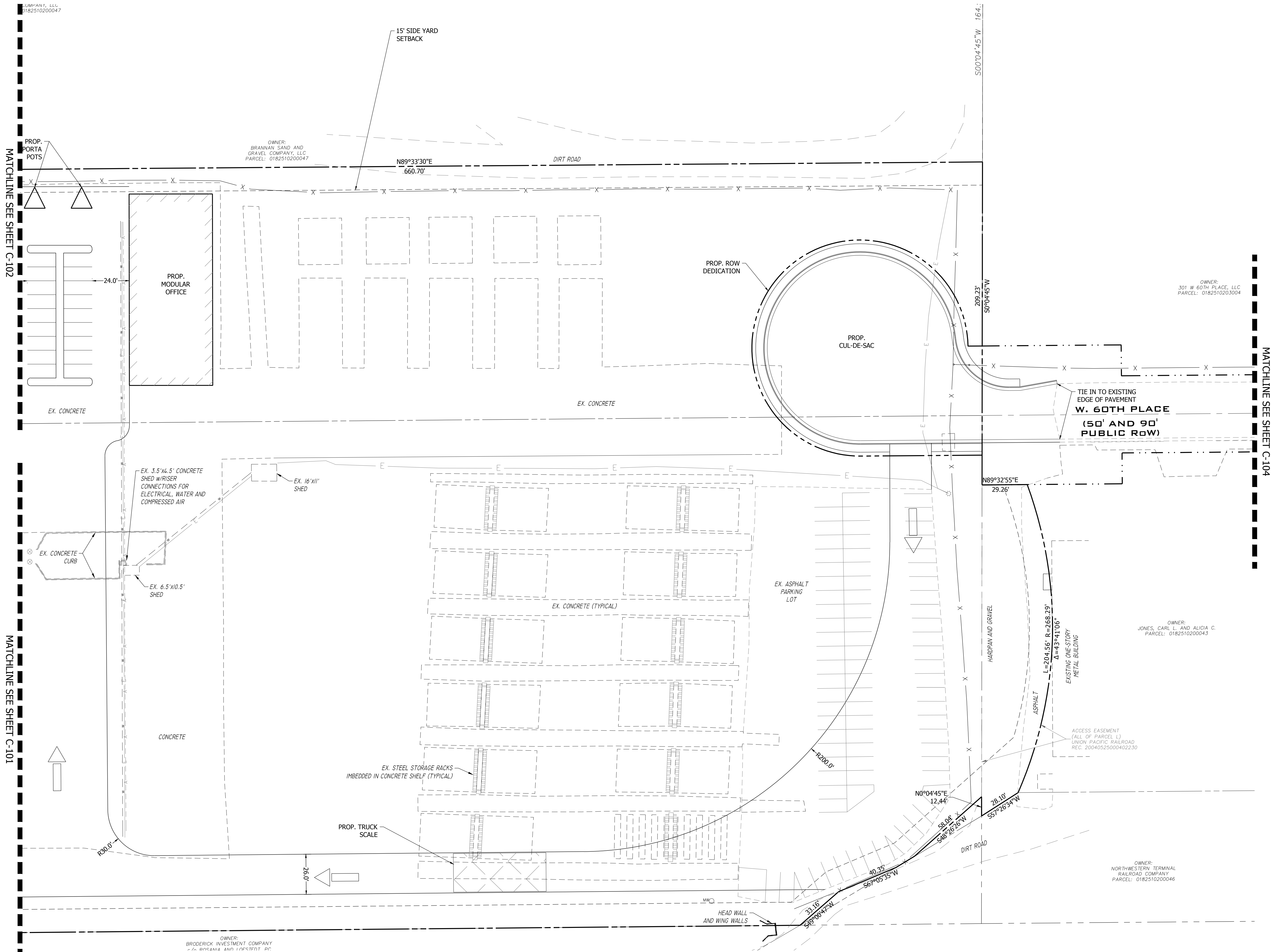
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MATCHLINE SEE SHEET C-102

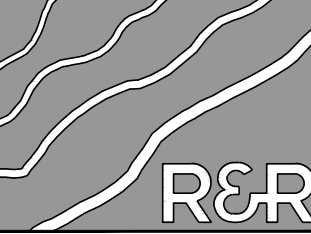
MATCHLINE SEE SHEET C-101

HIGH PLAINS DISPOSAL CONDITIONAL USE PERMIT

PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 10,
TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ADAMS (UNINCORPORATED), STATE OF COLORADO



NO.	REVISION	BY	DATE



R&R ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

HIGH PLAINS DISPOSAL

SITE ADDRESS:	301 W. 60TH PLACE DENVER, CO 80216
PREPARED FOR:	RACEE AND PATRICK BLAIR 13901 DOWNING STREET BRIGHTON, CO 80602

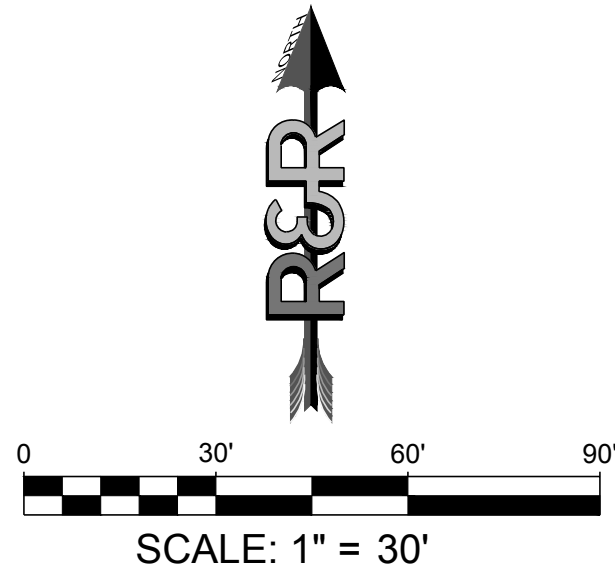
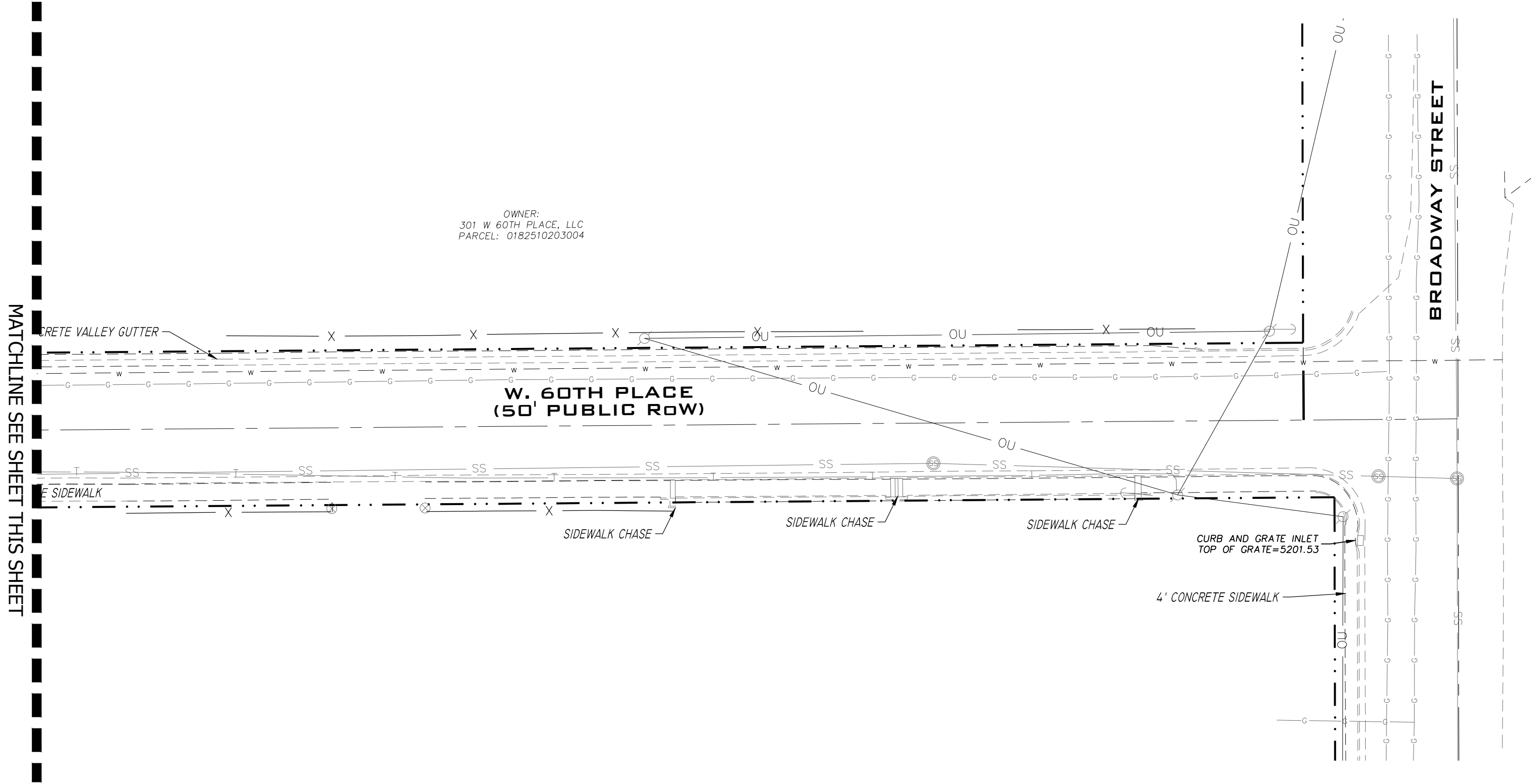
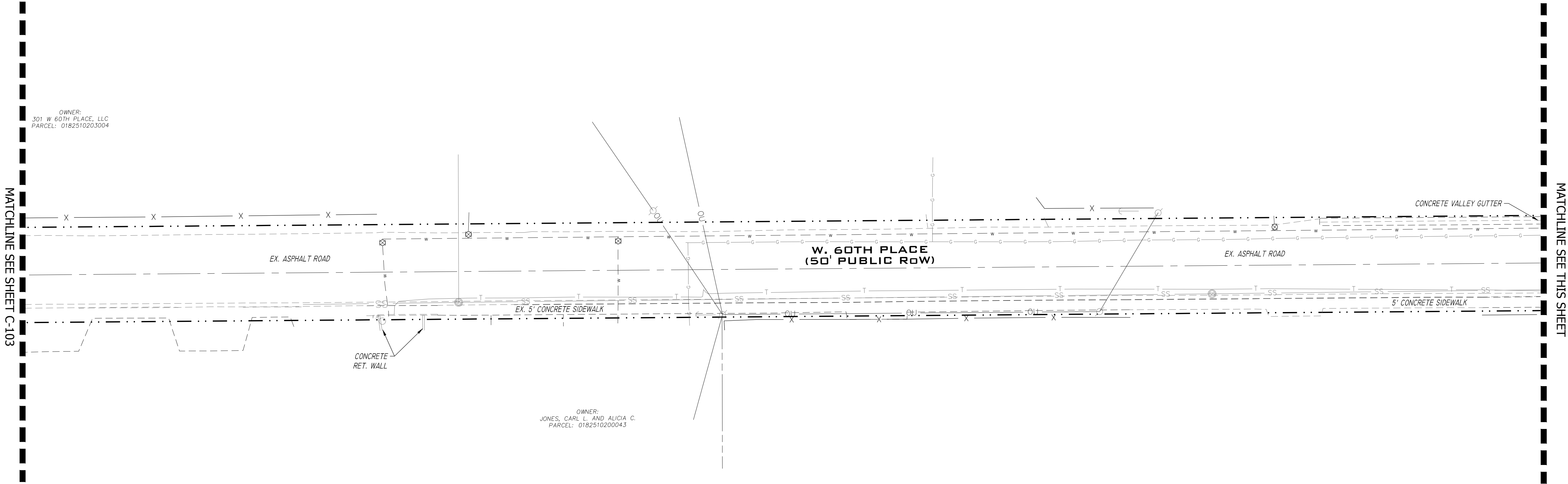
CONDITIONAL USE PERMIT			
JOB NO.	HC21033	ORG. SUBM. DATE	1/28/2021
DWN:	EJ	CHKD:	JL
NAME			

SITE PLAN

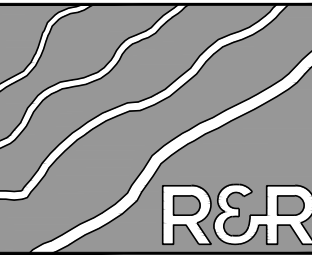
NO.
C-103

HIGH PLAINS DISPOSAL CONDITIONAL USE PERMIT

PART OF THE SOUTH HALF OF THE NORTHWEST QUARTER OF SECTION 10,
TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN,
COUNTY OF ADAMS (UNINCORPORATED), STATE OF COLORADO



NO.	REVISION	BY	DATE



ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

WWW.RRENGINEERS.COM

HIGH PLAINS DISPOSAL

SITE ADDRESS:	301 W. 60TH PLACE DENVER, CO 80216
PREPARED FOR:	RACEE AND PATRICK BLAIR 13901 DOWNING STREET BRIGHTON, CO 80602

CONDITIONAL USE PERMIT	
JOB NO.	HC21033
ORG. SUBM. DATE	1/28/2021
DWN:	EJ
NAME	CHKD: JL

SITE PLAN

NO.
C-104



500 E. 62nd Avenue
Denver, CO 80216

2/15/2021

Adams County Colorado
Planning & Development
4430 South Adams County Parkway
Suite W2000
Brighton, CO 80601-8204

Re: Conceptual Review Application, High Plains Disposal, Racee and Patrick Blair

To Whom It Concerns:

M-L Holdings Company, its wholly owned real estate holding of 301 W 60th Place LLC, its subsidiary companies of Komptech Americas and the ML Environmental Group wish to join High Plains Disposal in exploring the use of vacant I-3 land owned by 301 W 60th Place LLC at the physical address of 301 W 60th Place, Denver, Colorado, 80216, within the boundary of Unincorporated Adams County Colorado. Our real estate holding at this location encompasses a total of 22.7710 acres and four parcels.

High Plains Disposal desires to submit a Conceptual Review Application to explore a proposed portable construction and demolition material recycling and sorting operation.

The parcel under use consideration is 0182510200040, 11.2649 acres in size.



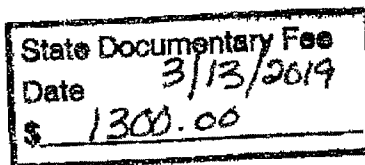
Attached hereto is a copy of the Special Warranty Deed, Adams County Property Profile, and Adams County Treasurer Receipts of Tax Payments respective to proof of ownership. It is our pleasure to work with High Plains Disposal in exploring this effort. Please accept this letter as the Owner Authorization.

Respectfully submitted,

William Plessman

William "Willie" Plessman
V.P. Risk Management & Real Estate

When recorded return to:
Robinson Waters O'Dorisio, P.C.
1099 18th Street, Suite 2600
Denver, CO 80202
Attn: Juli E. Lapin
juli@rwolaw.com



SPECIAL WARRANTY DEED
[Statutory Form – C.R.S. § 38-30-115]

Rocky Mountain Prestress, LLC, a Colorado limited liability company ("Grantor"), whose street address is 5801 Pecos Street, Denver, CO 80221, for Ten and 00/100 Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby sells and conveys to 301 West 60th Place, LLC, a Colorado limited liability company, whose address is 500 E. 62nd Avenue, Denver, CO 80216, Attn.: David Matz, the real property in the County of Adams and State of Colorado described on **Exhibit A** attached hereto and made a part hereof (the "Property"), with all its appurtenances, so long as, for a period of twenty (20) years after the date hereof, the Property or any portion thereof is not used for the manufacture, fabrication, assembly, storage, sale or distribution of prestressed concrete products, including, without limitation, all concrete products created by pre-tensioning, post-tensioning and bonded post-tensioning construction methods. Grantor warrants the title to the Property against all persons claiming under Grantor, subject to the matters set forth on **Exhibit B** attached hereto and made a part hereof.

The street address for the foregoing property is: 301 W. 60th Place, Denver, Colorado 80216.

Signed as of this 13th day of March, 2019

SIGNATURES ON FOLLOWING PAGE



76609278

**Rocky Mountain Prestress, LLC,
a Colorado limited liability company**

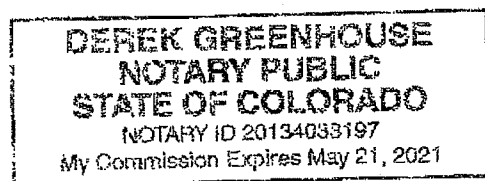
By: V. David Holsteen
Name: V. David Holsteen
Title: General Manager


STATE OF COLORADO)
) ss.
CITY AND COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 11 day of March, 2019, by V. David Holsteen, as General Manager of Rocky Mountain Prestress, LLC, a Colorado limited liability company.

Witness my hand and official seal.

My commission expires: 05/21/2021




Notary Public

**EXHIBIT A
TO
SPECIAL WARRANTY DEED**

PARCEL J:

A PARCEL OF LAND LOCATED IN THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF THE SOUTH LINE OF THE NORTHWEST 1/4 OF SAID SECTION 10, AND THE EAST LINE OF HURON ST. WHICH POINT IS 20.0 FEET EAST OF THE WEST ONE-QUARTER CORNER OF SAID SECTION 10;
THENCE NORTH, ALONG THE EAST LINE OF HURON ST. A DISTANCE OF 347.0 FEET;
THENCE EAST, PARALLEL WITH THE NORTH LINE OF THE N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 487.09 FEET;
THENCE NORTH, PARALLEL WITH THE EAST LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 313.0 FEET TO A POINT ON THE NORTH LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE EAST, ALONG THE NORTH LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 154.06 FEET TO THE NORTHEAST CORNER OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE SOUTH, ALONG THE EAST LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 330.0 FEET TO THE SOUTHEAST CORNER OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE EAST, ALONG THE NORTH LINE OF SAID S1/2 S1/2 SW1/4 NW1/4 OF SAID SECTION 10, A DISTANCE OF 660.3 FEET TO THE NORTHEAST CORNER OF SAID S1/2 S1/2 SW1/4 NW1/4;
THENCE SOUTH, ALONG THE EAST LINE OF SAID S1/2 S1/2 SW1/4 NW1/4, A DISTANCE OF 255.62 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF THE DENVER & RIO GRANDE WESTERN RAILROAD COMPANY;
THENCE SOUTH 58°58' WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 144.17 FEET TO A POINT ON THE SOUTH LINE OF THE SW1/4 NW1/4 OF SAID SECTION 10;
THENCE WEST, ALONG THE SOUTH LINE OF THE SW1/4 NW1/4 OF SAID SECTION 10, A DISTANCE OF 1199.55 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

EXCEPT THAT PART DESCRIBED IN DEED RECORDED MAY 25, 2004 UNDER RECEPTION NO.
20040525000402220.

PARCEL K:

THE SOUTH ONE-HALF (S1/2) OF THE NORTH ONE-HALF (N1/2) OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF THE NORTHWEST ONE-QUARTER (NW1/4) OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO.

PARCEL L:

A TRACT OR PARCEL OF LAND WITHIN THE SOUTHEAST 1/4 OF THE NORTHWEST ONE-QUARTER OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WEST LINE OF SAID SE1/4 NW1/4 LOCATED 74.33 FEET NORTH FROM THE SW CORNER THEREOF;

THENCE NORTH ALONG SAID WEST LINE 209.92 FEET;

THENCE EAST 30 FEET, MORE OR LESS TO A POINT 10 FEET EASTERLY AT RIGHT ANGLES FROM THE CENTERLINE OF THE DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY'S I.C.C. TRACK NO. 31C;

THENCE SOUTHERLY PARALLEL WITH SAID TRACK 200 FEET, MORE OR LESS, TO A POINT IN SAID RAILROAD COMPANY'S NORTHERLY RIGHT-OF-WAY LINE;

THENCE SOUTHWESTERLY ALONG SAID RIGHT-OF-WAY LINE 23 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

PARCEL M:

LOT 1, BLOCK 1, PHELPS-TOINTON 60TH PLACE MINOR SUBDIVISION, COUNTY OF ADAMS, STATE OF COLORADO.

**EXHIBIT B
TO
SPECIAL WARRANTY DEED**

1. TAXES FOR THE YEAR 2019, A LIEN NOT YET DUE AND PAYABLE.
2. THAT CERTAIN UNRECORDED LEASE AGREEMENT BETWEEN 301 WEST 60TH PLACE LLC, AS LANDLORD, AND LAN COLORADO, LLC, AS TENANT.
3. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO, FOR ELECTRIC TRANSMISSION LINES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED JANUARY 28, 1955, IN BOOK 533 AT PAGE 570.
4. RESERVATION OF RIGHTS-OF-WAY OR EASEMENTS FOR THE CONTINUED USE OF EXISTING SEWER, GAS, WATER OR SIMILAR PIPE LINES AND APPURTENANCES AND FOR ELECTRIC, TELEPHONE AND SIMILAR LINES AND APPURTENANCES WITHIN THE VACATED RIGHTS OF WAY OF A PORTION OF WEST 60TH PLACE, BY THE BOARD OF COUNTY COMMISSIONERS, COUNTY OF ADAMS, AS SET FORTH IN RESOLUTION RECORDED JULY 18, 1967 IN BOOK 1375 AT PAGE 351.
5. NOTICE OF UNDERGROUND FACILITIES INFORMATION FILING PURSUANT TO SECTION 9-1.5 – 103 COLORADO REVISED STATUTES, 1973 AS AMENDED, BY THE NORTH PECOS WATER AND SANITATION DISTRICT AS OPERATOR OF UNDERGROUND WATER AND SANITATION FACILITIES, IN INSTRUMENT RECORDED MARCH 15, 1993 IN BOOK 4038 AT PAGE 101.
6. TERMS, PROVISIONS AND CONDITIONS OF RESERVATION OF ALL MINERALS AND ALL MINERAL RIGHTS OF EVERY KIND AND CHARACTER NOW KNOWN TO EXIST OR HEREAFTER DISCOVERED UNDERLYING THE PROPERTY, INCLUDING WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, OIL, AND GAS AND RIGHTS THERETO, AS RESERVED IN DEED RECORDED MAY 17, 2001 UNDER RECEPTION NO. C0801890.
7. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN EASEMENT DEED RECORDED MAY 02, 2004 UNDER RECEPTION NO. 20040525000402230.
8. CERTIFICATION OF NOTICE TO MINERAL ESTATE OWNERS, RECORDED DECEMBER 20, 2012, UNDER RECEPTION NO. 2012000096676.
9. EASEMENTS, CONDITIONS, COVENANTS, RESTRICTIONS, RESERVATIONS AND NOTES ON THE PLAT OF PHELPS-TOINTON 60TH PLACE MINOR SUBDIVISION RECORDED MAY 07, 2013 UNDER RECEPTION NO. 2013000038822.
10. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN RESOLUTION FOR ZONING HEARING DECISION - CASE PLT2012-

00024 PHELPS TOINTON, INC. BY THE BOARD OF COUNTY COMMISSIONERS FOR
ADAMS COUNTY RECORDED JUNE 04, 2013 UNDER RECEPTION NO. 2013000047739.

11. ANY BOUNDARY DISCREPANCY DUE TO THE LACK OF AN EXACT
LEGAL DESCRIPTION FOR THAT PART OF THE UNION PACIFIC RAILROAD
COMPANY'S (FORMERLY THE DENVER AND RIO GRANDE WESTERN RAILROAD
COMPANY) TRACK, AND RIGHT, TITLE OR INTEREST WHICH MAY BE CLAIMED
BY SAID RAILROAD IF IT IS DETERMINED THERE IS A DISCREPANCY, AS
DESCRIBED IN DEED RECORDED MAY 17, 2001 UNDER RECEPTION NO. C0801890.

12. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR
ARISE BY REASON OF THE FOLLOWING FACTS SHOWN ON ALTA/NSPS LAND
TITLE SURVEY DATED NOVEMBER 16, 2018 PREPARED BY NV5, JOB #223518-
0000060.00:

A. THE FENCE LOCATED IN GENERAL ALONG THE BOUNDARIES OF
PARCELS J AND K DOES NOT COINCIDE WITH SAID BOUNDARY LINES.

B. THE NORTHWESTERLY CORNER OF PARCEL J IS BEING USED FOR
ACCESS TO AND FROM THE LAND ADJACENT TO THE NORTH.

C. OVERHEAD UTILITY LINES AND SUPPORTS LOCATED ALONG THE
NORTHERLY LINE OF PARCEL M, BUT NOT WITHIN A RECORDED
EASEMENT FOR SUCH PURPOSE.

D. POSSIBLE ENCROACHMENT OF A BUILDING ONTO PARCEL L AND ANY
ASSOCIATES RIGHTS WHICH MAY EXIST TO MAINTAIN SAID BUILDING.

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0181461	Local #:	Parcel #: 0182510203004
Tax Year: 2020	Levy: 99.96	# of Imps: 1
Tax Dist: 038	Map #:	LEA: 497WA
PUC:	Initials: SMUNOZ	Acct Type: Industrial
Assign To: SWHEELER		Created On: 09/30/2013
		Active On: 03/15/2017
		Inactive On:
		Last Updated: 07/24/2020

Owner's Name and Address

301 W 60TH PLACE LLC
500 E 62ND AVE
DENVER, CO 80216 - 1133

Property Address

Street: 301 W 60TH PL
City:

Sales Summary

Sale Date	Sale Price	Deed Type	Reception #	Book	Page #	Grantor
03/14/2019	\$13,000,000	Special Warranty Deed	2019000018494			ROCKY MOUNTAIN PRESTRESS INC; ROCKY MOUNTAIN PRESTRESS LLC
04/21/2017	\$585,500	Blanket Deed	2017000035300			PHELPS-TOINTON INC

Legal

PHELPS TOINTON 60TH PLACE MINOR SUBD BLK 1 LOT 1

Section	Township	Range	Qtr	QtrQtr	Government Lot	Government Tract
10	3	68	NW4			

Subdivision Information

Sub Name	Block	Lot	Tract
PHELPS TOINTON 60TH PLACE MINOR SUBD	1	1	

Land Valuation Summary

Land Type	Abst Cd	Value By	Net SF	Measure	# of Units	Value/Unit	Actual Val	Asmt %	Assessed Val
Industrial	3112	Market	385,770	Square Feet	385,770.000000	\$7.00	\$2,700,390	29.00%	\$783,113
Class				Sub Class					
Land Subtotal:					8.86		\$2,700,390		\$783,113

Land Attributes

Attribute	Description	Adjustment
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Improvement Valuation Summary

Imp #	Property Type	Abst Code	Occupancy	Class	Actual Value	Asmt %	Assessed Val*
1	Commercial	3212	Distribution Warehouse	Masonry	\$3,830,462	29.00%	\$1,110,834
Improvement Subtotal:					\$3,830,462		\$1,110,834

Total Property Value

Total Value:	\$6,530,852	\$1,893,940
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*Approximate Assessed Value

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0181461	Local #:	Parcel #: 0182510203004
Imp #: 1		Landscaping \$: 0
Property Type: Commercial		
Quality: Average		
Condition: Average	Nbhd: 5	
Perimeter: 1714	Nbhd Ext: 00	
% Complete: 100.00%	Nbhd Adj: 1	

Occupancy Summary

Occupancy: Distribution Warehouse	Occ %: 100%
--	--------------------

Built As Summary

Built As: Distribution Warehouse	Year Built: 1984
---	-------------------------

Construction Type:	Year Remodeled:
---------------------------	------------------------

HVAC: Space Heater	
Interior Finish:	% Remodeled: 0
Roof Cover:	Adj Year Blt: 1984
Built As SF: 69096	Effective Age:
# of Baths: 0	
# of Bdrms: 0	
# of Stories: 1	
Story Height: 22	
Sprinkler SF: 0	Diameter:
Capacity:	Height:

Improvement Summary

Improvement	Units	Units Price	RCN	Actual Value
User				
SUB5497	1	\$0.00	\$0.00	\$0.00

Improvements Value Summary

IMPNO: 1		
RCN Cost/SF: \$52.49	Design Adj: 0	Func Obs %: 0
Total RCN: \$3,626,849.00	Exterior Adj: 0	Econ Obs %: 0
Phys Depr %: 0.42	Interior Adj: 0	Other Obs %: 0
Phys Depr \$: \$1,523,277.00	Amateur Adj: 0	
RCNLD \$: \$2,103,572.00	RCNLD Cost/\$: \$30.44	Market/SF: \$27.57

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0103486	Local #:	Parcel #: 0182510200040
Tax Year: 2020	Levy: 99.96	# of Imps:
Tax Dist: 038	Map #:	LEA: 497WA
PUC:	Initials: SMUNOZ	Acct Type: Commercial
Assign To: SWHEELER		Created On:
		Active On: 02/06/2017
		Inactive On:
		Last Updated: 07/24/2020

Owner's Name and Address

301 W 60TH PLACE LLC
500 E 62ND AVE
DENVER, CO 80216 - 1133

Property Address

Street: 0
City:

Sales Summary

Sale Date	Sale Price	Deed Type	Reception #	Book	Page #	Grantor
03/14/2019	\$13,000,000	Special Warranty Deed	2019000018494			ROCKY MOUNTAIN PRESTRESS INC; ROCKY MOUNTAIN PRESTRESS LLC
04/21/2017	\$585,500	Blanket Deed	2017000035300			PHELPS-TOINTON INC

Legal

SECT,TWN,RNG:10-3-68 DESC: BEG 20 FT E OF W4 COR SEC 10 TH N 347 FT TH E 487/09 FT TH N 313 FT TH E 154/06 FT TH S 330 FT TH E 660/3 FT TH S 255/62 FT TO PT ON NWLY ROW LN OF DRGW RR CO TH S 58D 58

Section	Township	Range	Qtr	QtrQtr	Government Lot	Government Tract
10	3	68				

Subdivision Information

Sub Name	Block	Lot	Tract
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Land Valuation Summary

Land Type	Abst Cd	Value By	Net SF	Measure	# of Units	Value/Unit	Actual Val	Asmt %	Assessed Val
Commercial	0200	Market	490,701	Square Feet	490,700.530000	\$1.75	\$858,726	29.00%	\$249,031
Class				Sub Class					
Land Subtotal:					11.26		\$858,726		\$249,031

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0103486

Local #:

Parcel #: 0182510200040

Land Attributes

Attribute	Description	Adjustment
Location	Interior Lot	-0.25
Size	Excess	-0.5

Improvement Valuation Summary

Imp #	Property Type	Abst Code	Occupancy	Class	Actual Value	Asmt %	Assessed Val*
Improvement Subtotal:					\$0		\$0

Total Property Value

Total Value:	\$858,726	\$249,030
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*Approximate Assessed Value

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0103491	Local #:	Parcel #: 0182510200048
Tax Year: 2020	Levy: 99.96	# of Imps:
Tax Dist: 038	Map #:	LEA: 497WA
PUC:	Initials: SMUNOZ	Acct Type: Commercial
Assign To: SWHEELER		Created On:
		Active On: 04/13/2009
		Inactive On:
		Last Updated: 07/24/2020

Owner's Name and Address	Property Address
301 W 60TH PLACE LLC	Street: 0
500 E 62ND AVE	City:
DENVER, CO 80216 - 1133	

Sales Summary

Sale Date	Sale Price	Deed Type	Reception #	Book	Page #	Grantor
03/14/2019	\$13,000,000	Special Warranty Deed	2019000018494			ROCKY MOUNTAIN PRESTRESS INC; ROCKY MOUNTAIN PRESTRESS LLC
04/21/2017	\$585,500	Blanket Deed	2017000035300			PHELPS-TOINTON INC

Legal

SECT,TWN,RNG:10-3-68 DESC: S2 N2 SE4 SW4 NW4 2/50A

Section	Township	Range	Qtr	QtrQtr	Government Lot	Government Tract
10	3	68				

Subdivision Information

Sub Name	Block	Lot	Tract

Land Valuation Summary

Land Type	Abst Cd	Value By	Net SF	Measure	# of Units	Value/Unit	Actual Val	Asmt %	Assessed Val
Commercial	0200	Market	108,900	Square Feet	108,900.000000	\$3.50	\$381,150	29.00%	\$110,534
Class				Sub Class					
Land Subtotal:					2.50		\$381,150		\$110,534

Land Attributes

Attribute	Description	Adjustment
Location	Interior Lot	-0.5

Improvement Valuation Summary

Imp #	Property Type	Abst Code	Occupancy	Class	Actual Value	Asmt %	Assessed Val*
Improvement Subtotal:					\$0		\$0

Total Property Value

Total Value:	\$381,150	\$110,530
*Approximate Assessed Value		

ADAMS COUNTY ASSESSOR PROPERTY PROFILE

Account #: R0122428	Local #:	Parcel #: 0182510200042
Tax Year: 2020	Levy: 99.96	# of Imps:
Tax Dist: 075	Map #:	LEA: 000NS
PUC:	Initials: SMUNOZ	Acct Type: Industrial
Assign To: SWHEELER		Created On:
		Active On: 09/24/2012
		Inactive On:
		Last Updated: 07/24/2020

Owner's Name and Address

301 W 60TH PLACE LLC
500 E 62ND AVE
DENVER, CO 80216 - 1133

Property Address

Street: 0
City:

Sales Summary

Sale Date	Sale Price	Deed Type	Reception #	Book	Page #	Grantor
03/14/2019	\$13,000,000	Special Warranty Deed	2019000018494			ROCKY MOUNTAIN PRESTRESS INC; ROCKY MOUNTAIN PRESTRESS LLC
04/21/2017	\$585,500	Blanket Deed	2017000035300			PHELPS-TOINTON INC
12/07/2000	\$0	Blanket Deed	C0801890	2001		UNION PACIFIC RAILROAD COMPANY

Legal

SECT,TWN,RNG:10-3-68 DESC: BEG 74/33 FT N OF SW COR SE4 NW4 SEC 10 TH N 209/92 FT TH E 30 FT M/L TO PT 10 FT ELY AT R/A FROM THE C/L OF THE DRGW RR CO ICC TRACK NO 31C TH SLY // WITH SD TRACK 200

Section	Township	Range	Qtr	QtrQtr	Government Lot	Government Tract
10	3	68				

Subdivision Information

Sub Name	Block	Lot	Tract
----------	-------	-----	-------

Land Valuation Summary

Land Type	Abst Cd	Value By	Net SF	Measure	# of Units	Value/Unit	Actual Val	Asmt %	Assessed Val
Industrial	0800	Market	6,534	Acres	0.150000	\$3,333.33	\$500	29.00%	\$145
Class				Sub Class					
Land Subtotal:					0.15		\$500		\$145

Land Attributes

Attribute	Description	Adjustment
-----------	-------------	------------

Improvement Valuation Summary

Imp #	Property Type	Abst Code	Occupancy	Class	Actual Value	Asmt %	Assessed Val*
Improvement Subtotal:					\$0		\$0

Total Property Value

Total Value:	\$500	\$150
---------------------	-------	-------

*Approximate Assessed Value



Adams County Treasurer

Receipt of Tax Payment

Account	Parcel Number	Receipt Date	Effective Date	Receipt Number
R0181461	0182510203004	Jul 28, 2020	Apr 30, 2020	2020-07-24-MG-12838

ROCKY MOUNTAIN PRESTRESS LLC
5801 PECOS ST
DENVER, CO 80221-6644

Situs Address
301 W 60TH PL 000000000

Payor
ROCKY MOUNTAIN PRESTRESS LLC
5801 PECOS ST
DENVER, CO 80221-6644

Legal Description

PHELPS TOINTON 60TH PLACE MINOR SUBD BLK 1 LOT 1

Property Code	Actual	Assessed	Year	Area	Mill Levy
IND LND CTRCT/SERV - 3112	2,700,390	783,110	2019	038	99.96
CONTRACTING/SER - 3212	3,830,462	1,110,830	2019	038	99.96

Payments Received

Check \$189,318.24

Check Number 5578

Payor M-L HOLDINGS COMPANY

Payments Applied

Year	Charges	Billed	Prior Payments	New Payments	Balance
2019	Tax Charge	\$189,318.24	\$0.00	\$189,318.24	\$0.00
				\$189,318.24	\$0.00

Balance Due as of Apr 30, 2020

\$0.00

WE ARE EXPANDING TO SERVE YOU BETTER! WATCH FOR NEW LOCATIONS ON OUR WEBSITE!

4430 S ADAMS COUNTY PKWY C2436
BRIGHTON CO 80601
[Stay Safe! Please use website services www.adcotax.com]

Email: treasurer@adcogov.org
Telephone: 720-523-6160

ALL CHECKS ARE SUBJECT TO FINAL COLLECTION. THANK YOU FOR YOUR PAYMENT!



Adams County Treasurer

Receipt of Tax Payment

Account	Parcel Number	Receipt Date	Receipt Number
R0103486	0182510200040	Jul 23, 2020	2020-07-23-WEB-31499

301 W 60TH PLACE LLC
ATTN: DAVID MATZ
500 E 62ND AVE
DENVER, CO 80216-1133

Situs Address	Payor
0	Karen Viola

Legal Description

SECT,TWN,RNG:10-3-68 DESC: BEG 20 FT E OF W4 COR SEC 10 TH N 347 FT TH E 487/09 FT TH N 313 FT TH E 154/06 FT TH S 330 FT TH E 660/3 FT TH S 255/62 FT TO PT ON NWLY ROW LN OF DRGW RR CO TH S 58D 58M W ALG SD ROW LN 144/17 FT TH W 1199/55 FT M/L TO POB EXC RAILROAD 11/276A

Property Code	Actual	Assessed	Year	Area	Mill Levy
VACANT COMMERCIAL LD - 0200	858,726	249,030	2019	038	99.96

Payments Received

E-check	\$25,639.83
---------	-------------

Payments Applied

Year	Charges	Billed	Prior Payments	New Payments	Balance
2019	Interest Charge	\$746.79	\$0.00	\$746.79	\$0.00
2019	Tax Charge	\$24,893.04	\$0.00	\$24,893.04	\$0.00
				\$25,639.83	\$0.00
Balance Due as of Jul 23, 2020					\$0.00

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4430 S ADAMS COUNTY PKWY C2436
BRIGHTON CO 80601
[Stay Safe! Please use website services www.adcotax.com]

Email: treasurer@adcogov.org
Telephone: 720-523-6160

ALL CHECKS ARE SUBJECT TO FINAL COLLECTION. THANK YOU FOR YOUR PAYMENT!



Adams County Treasurer

Receipt of Tax Payment

Account	Parcel Number	Receipt Date	Receipt Number
R0103491	0182510200048	Jul 23, 2020	2020-07-23-WEB-31507

301 W 60TH PLACE LLC
ATTN: DAVID MATZ
500 E 62ND AVE
DENVER, CO 80216-1133

Situs Address	Payor
0	Karen Viola

Legal Description

SECT,TWN,RNG:10-3-68 DESC: S2 N2 SE4 SW4 NW4 2/50A

Property Code	Actual	Assessed	Year	Area	Mill Levy
VACANT COMMERCIAL LD - 0200	381,150	110,530	2019	038	99.96

Payments Received

E-check	\$11,380.04
---------	-------------

Payments Applied

Year	Charges	Billed	Prior Payments	New Payments	Balance
2019	Interest Charge	\$331.46	\$0.00	\$331.46	\$0.00
2019	Tax Charge	\$11,048.58	\$0.00	\$11,048.58	\$0.00
				\$11,380.04	\$0.00

Balance Due as of Jul 23, 2020

\$0.00

WE ARE EXPANDING TO SERVE YOU BETTER! WATCH FOR NEW LOCATIONS ON OUR WEBSITE!

4430 S ADAMS COUNTY PKWY C2436
BRIGHTON CO 80601
[Stay Safe! Please use website services www.adcotax.com]

Email: treasurer@adcogov.org
Telephone: 720-523-6160

ALL CHECKS ARE SUBJECT TO FINAL COLLECTION. THANK YOU FOR YOUR PAYMENT!



Adams County Treasurer

Receipt of Tax Payment

Account	Parcel Number	Receipt Date	Receipt Number
R0122428	0182510200042	Feb 26, 2019	2019-02-26-GMA-4606

ROCKY MOUNTAIN PRESTRESS LLC
5801 PECOS ST
DENVER, CO 80221-6644

Situs Address	Payor
0 000000000	ROCKY MOUNTAIN PRESTRESS

Legal Description

SECT,TWN,RNG:10-3-68 DESC: BEG 74/33 FT N OF SW COR SE4 NW4 SEC 10 TH N 209/92 FT TH E 30 FT M/L TO PT 10 FT ELY AT R/A FROM THE C/L OF THE DRGW RR CO ICC TRACK NO 31C TH SLY // WITH SD TRACK 200 FT M/L TO PT IN SD RR CO NLY ROW LN THE SWLY ALG SD ROW LN 23 FT M/L TO POB 0/15A

Property Code	Actual	Assessed	Year	Area	Mill Levy
0800 - 0800	500	150	2018	075	105.86

Payments Received

Check	Multi-Account Payment
Check Number 18343	

Payments Applied

Year	Charges	Billed	Prior Payments	New Payments	Balance
2018	Tax Charge	\$15.88	\$0.00	\$15.88	\$0.00
2018	Refund	\$0.00	\$0.00	\$15.88	(\$15.88)
				\$31.76	(\$15.88)
				Balance Due as of Feb 26, 2019	\$0.00

WE ARE EXPANDING TO SERVE YOU BETTER!

4430 S ADAMS COUNTY PKWY C2436
BRIGHTON CO 80601
MON - FRI 7 AM - 5 PM

11860 PECOS STREET
WESTMINSTER CO 80234
MON - THUR 7:30 AM - 5 PM

720-523-6160

ALL CHECKS ARE SUBJECT TO FINAL COLLECTION. THANK YOU FOR YOUR PAYMENT!

**NORTH PECOS
WATER & SANITATION
DISTRICT**

6900 Pecos Street
Denver, Colorado 80221
(303) 429-5770
Fax (303) 650-8863

December 3, 2021

Adams County
Planning & Development
4430 South Adams County Parkway
First Floor, Suite W2000A
Brighton, CO 80601

Re: Will Serve
301 West 60th Place, Denver, Colorado 80221- Parcel J

To: Adams County Planning Commission

North Pecos Water & Sanitation District has the capacity to serve the property known as 301 West 60th Place, Denver, Colorado, 80221 – Parcel J, as it is currently platted (as is shown in the attached exhibit), with:

☐

Water

☐

Sanitary Sewer

It is understood that, at the present time, the occupant of Parcel J, is planning on using a completely portable operation and will not have an immediate need to tie into North Pecos Water & Sanitation District facilities. It is also understood that there may be a need in the future to connect to our facilities. Connection to North Pecos Water & Sanitation District facilities will require main extensions or upsizing of mains; the property owner and/or developer will be responsible for any and all contracting fees, consultant fees and/or material costs to supply such services. Any main extension must adhere to all North Pecos Water & Sanitation District standards. Any alterations or additions to the District's existing lines must be approved by the North Pecos Water & Sanitation District prior to construction. The landowner/developer will be required to install and/or upsize any water and sanitary sewer mains in accordance with any approved plans; any deviation from the approved plans must be approved prior to the work taking place. Should any taps, upgrades to existing or new, be required the property owner is responsible for all charges and fees applicable for such development. All fees and charges must be paid before review and/or construction can begin. Also, if necessary, all easements must be conveyed to the District and recorded before construction can begin.

Note: future subdivisions may require additional review and individual will serve letter(s).

If you have any questions or concerning this matter, please contact the District office.

Sincerely,



Courtney Salazar
North Pecos Water & Sanitation District



0 100' 200' 300'

SCALE: 1" = 100'

CONCEPT SITE
PLAN

DATE: 11/10/2012

SITE ADDRESS: _____

PREPARED FOR: _____

301 W. 60TH PLACE
DENVER, CO 80216

GERRY CREEK RECYCLING
12500 FIRST ST UNIT 1
THORNTON, CO 80241

R&R ENGINEERS-SURVEYORS, INC.
1635 WEST 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PHONE: 303-753-6730

ENGINEERS
SURVEYORS

[illegible]



WILL SERVE LETTER

November 15, 2021

301 W. 60th Place
Adams County
Colorado

Re: Will Serve

Dear William,

This letter is to confirm that Xcel Energy is your utility provider for natural gas and electric service. In accordance with our tariffs, on file with and approved by the Colorado Public Utilities Commission, gas and electric facilities can be made available to serve the project at 301 W. 60th Place Adams County. The cost, and whether any reinforcements or extensions are required, for the Company to provide those facilities will be determined by your designer upon receipt of application and project plans.

Your utility service(s) will be provided after the following steps are completed:

- ***Application submitted to Xcel Energy's "Builders Call Line (BCL)"*** – once your application is accepted you will be assigned a design department representative who will be your primary point of contact
- ***Utility design is completed*** – you must provide your design representative with the site plan, the one - line diagrams, and panel schedules for electric and gas loads if applicable
- ***All documents provided by design representative are signed and returned***
- ***Payment is received*** (Residential Service Laterals if applicable)
- ***Required easements are granted*** - you must sign and return applicable easement documents to your Right-of-Way agent
- ***Site is ready for utility construction*** - the site ready information can be found on our website at may be viewed at [Construction and Inspection | Xcel Energy](https://www.xcelenergy.com/ConstructionAndInspection).

An estimated scheduled in-service date will be provided once these requirements have been met. It is important to keep in mind that the terms and conditions of utility service, per our tariffs, require that you provide adequate space and an easement on your property for all gas and electric facilities required to serve your project, including but not limited to gas and electrical lines and meters, transformers, and pedestals. General guidelines for requirements can be found on our website at [xcelenergy.com/InstallAndConnect](https://www.xcelenergy.com/InstallAndConnect).

Xcel Energy looks forward to working with you on your project and if I can be of further assistance, please contact me at the phone number or email listed below.

Sincerely,

Tony Pietras
Xcel Energy Builder and Developer Representative

Mailing address: Xcel Energy
1123 W 3rd Ave
Denver, CO 80231

PARCEL J:

A parcel of land located in the South 1/2 of the Southwest 1/4 of the Northwest 1/4 of Section 10, Township 3 South, Range 68 West of the 6th P.M., County of Adams, State of Colorado, being more particularly described as follows:

Beginning at the point of intersection of the South line of the Northwest 1/4 of said Section 10, and the East line of Huron St. which point is 20.0 feet East of the West One-quarter corner of said Section 10; thence North, along the East line of Huron St. a distance of 347.0 feet; thence East, parallel with the North line of the N1/2 SW1/4 SW1/4 NW1/4, a distance of 487.09 feet; thence North, parallel with the East line of said N1/2 SW1/4 SW1/4 NW1/4, a distance of 313.0 feet to a point on the North line of said N1/2 SW1/4 SW1/4 NW1/4; thence East, along the North line of said N1/2 SW1/4 SW1/4 NW1/4, a distance of 154.06 feet to the Northeast corner of said N1/2 SW1/4 SW1/4 NW1/4; thence South, along the East line of said N1/2 SW1/4 SW1/4 NW1/4, a distance of 330.0 feet to the Southeast corner of said N1/2 SW1/4 SW1/4 NW1/4; thence East, along the North line of said S1/2 S1/2 SW1/4 NW1/4 of said Section 10, a distance of 660.3 feet to the Northeast corner of said S1/2 S1/2 SW1/4 NW1/4; thence South, along the East line of said S1/2 S1/2 SW1/4 NW1/4, a distance of 255.62 feet to a point on the northwesterly Right-of-Way line of the Denver & Rio Grande Western Railroad Company; thence South 58°58' West along said northwesterly Right-of-Way line, a distance of 144.17 feet to a point on the South line of the SW1/4 NW1/4 of said Section 10; thence West, along the South line of the SW1/4 NW1/4 of said Section 10, a distance of 1199.55 feet, more or less, to the point of beginning.

EXCEPT that part described in Deed recorded May 25, 2004 under Reception No. 20040525000402220.

PARCEL K:

The South One-half (S1/2) of the North One-half (N1/2) of the Southeast One-quarter (SE1/4) of the Southwest One-quarter (SW1/4) of the Northwest One-quarter (NW1/4) of Section 10, Township 3 South, Range 68 West of the 6th p.m., County of Adams, State of Colorado.

PARCEL L:

A tract or parcel of land within the Southeast 1/4 of the Northwest One-quarter of Section 10, Township 3 South, Range 68 West of the 6th P.M., County of Adams, State of Colorado, more particularly described as follows:

Beginning at a point in the West line of said SE1/4 NW1/4 located 74.33 feet North from the SW corner thereof; thence North along said West line 209.92 feet; thence East 30 feet, more or less to a point 10 feet easterly at right angles from the centerline of the Denver and Rio Grande Western Railroad Company's I.C.C. Track No. 31C; thence southerly parallel with said Track 200 feet, more or less, to a point in said railroad company's northerly Right-of-Way line; thence southwesterly along said Right-of-Way line 23 feet, more or less, to the point of beginning.

CERTIFICATION OF NOTICE TO MINERAL ESTATE OWNERS

I/We, 301 W 60TH PLACE, LLC
(the "Applicant") by signing below, hereby declare and certify as follows:

With respect to the property located at:

Physical Address: 301 W 60th Place, Denver, CO, 80216

Legal Description: See attached Warranty Deed for complete description

Parcel #(s): 0182510200040

(PLEASE CHECK ONE):

 On the day of , 20 , which is not less than thirty days
before the initial public hearing, notice of application for surface development was provided
to mineral estate owners pursuant to section 24-65.5-103 of the Colorado Revised Statutes;

or

 X I/We have searched the records of the Adams County Tax Assessor and the Adams County
Clerk and Recorder for the above identified parcel and have found that no mineral estate
owner is identified therein.

Date: 12/9/2021

Applicant: 301 W 60TH PLACE, LLC

By: William Plessman

Print Name: William Plessman

Address: 500 East 62nd Avenue

Denver, CO 80216

STATE OF COLORADO)

)

COUNTY OF ADAMS)

AMANDA BEAMAN
NOTARY PUBLIC - STATE OF COLORADO
Notary ID #20194041959
My Commission Expires 11/6/2023

Subscribed and sworn to before me this 9 day of December, 2021, by
William Plessman.

Witness my hand and official seal.

My Commission expires: 11.6.2023

Amanda Beaman
Notary Public

After Recording Return To:

Name and Address of Person Preparing Legal Description:

**A recorded copy of this Certification shall be submitted to the Adams County Community and
Economic Development Department with all applicable land use applications.**

APPLICANT'S CERTIFICATION CONCERNING QUALIFYING SURFACE DEVELOPMENT,
PURSUANT TO C.R.S. §24-65.5-103.3 (1)(b)

I/We, 301 W 60TH PLACE, LLC, (the "Applicant") by signing below, hereby declare and certify as follows:

Concerning the property located at:

Physical Address: 301 W 60th Place, Denver, CO 80216

Legal Description: _____

Parcel #(s): 0182510200040

With respect to qualifying surface developments, that (PLEASE CHECK ONE):

 X No mineral estate owner has entered an appearance or filed an objection to the proposed application for development within thirty days after the initial public hearing on the application; or


 The Applicant and any mineral estate owners who have filed an objection to the proposed application for development or have otherwise filed an entry of appearance in the initial public hearing regarding such application no later than thirty days following the initial public hearing on the application have executed a surface use agreement related to the property included in the application for development, the provisions of which have been incorporated into the application for development or are evidenced by a memorandum or otherwise recorded in the records of the clerk and recorder of the county in which the property is located so as to provide notice to transferees of the Applicant, who shall be bound by such surface use agreements; or

 The application for development provides:

- (i) Access to mineral operations, surface facilities, flowlines, and pipelines in support of such operations existing when the final public hearing on the application for development is held by means of public roads sufficient to withstand trucks and drilling equipment or thirty-foot-wide access easements;
- (ii) An oil and gas operations area and existing well site locations in accordance with section 24-65.5-103.5 of the Colorado Revised Statutes; and
- (iii) That the deposit for incremental drilling costs described in section 24-65.5-103.7 of the Colorado Revised Statutes has been made.

Date: 12/9/2021 Applicant: 301 W 60TH PLACE, LLC

After Recording Return To:

By: 
Print Name: William Plessman
Address: 500 East 62nd Avenue
Denver, CO 80216

STATE OF COLORADO)
)
COUNTY OF ADAMS)



Subscribed and sworn to before me this 9 day of December, 2021, by
William Plessman.

Witness my hand and official seal.

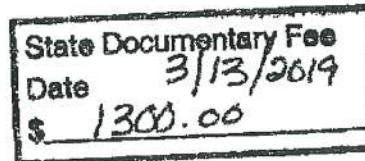
My Commission expires: 11.6.2023


Notary Public

Name and Address of Person Preparing Legal Description:

A recorded copy of this Certification shall be submitted to the Adams County Community and Economic Development Department within thirty days after the initial public hearing on all applicable land use applications.

When recorded return to:
Robinson Waters O'Dorisio, P.C.
1099 18th Street, Suite 2600
Denver, CO 80202
Attn: Juli E. Lapin
juli@rwolaw.com



SPECIAL WARRANTY DEED
[Statutory Form – C.R.S. § 38-30-115]

Rocky Mountain Prestress, LLC, a Colorado limited liability company ("Grantor"), whose street address is 5801 Pecos Street, Denver, CO 80221, for Ten and 00/100 Dollars (\$10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby sells and conveys to 301 West 60th Place, LLC, a Colorado limited liability company, whose address is 500 E. 62nd Avenue, Denver, CO 80216, Attn.: David Matz, the real property in the County of Adams and State of Colorado described on **Exhibit A** attached hereto and made a part hereof (the "Property"), with all its appurtenances, so long as, for a period of twenty (20) years after the date hereof, the Property or any portion thereof is not used for the manufacture, fabrication, assembly, storage, sale or distribution of prestressed concrete products, including, without limitation, all concrete products created by pre-tensioning, post-tensioning and bonded post-tensioning construction methods. Grantor warrants the title to the Property against all persons claiming under Grantor, subject to the matters set forth on **Exhibit B** attached hereto and made a part hereof.

The street address for the foregoing property is: 301 W. 60th Place, Denver, Colorado 80216.

Signed as of this 13th day of March, 2019

SIGNATURES ON FOLLOWING PAGE



76609278

**EXHIBIT A
TO
SPECIAL WARRANTY DEED**

PARCEL J:

A PARCEL OF LAND LOCATED IN THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE POINT OF INTERSECTION OF THE SOUTH LINE OF THE NORTHWEST 1/4 OF SAID SECTION 10, AND THE EAST LINE OF HURON ST. WHICH POINT IS 20.0 FEET EAST OF THE WEST ONE-QUARTER CORNER OF SAID SECTION 10;
THENCE NORTH, ALONG THE EAST LINE OF HURON ST. A DISTANCE OF 347.0 FEET;
THENCE EAST, PARALLEL WITH THE NORTH LINE OF THE N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 487.09 FEET;
THENCE NORTH, PARALLEL WITH THE EAST LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 313.0 FEET TO A POINT ON THE NORTH LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE EAST, ALONG THE NORTH LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 154.06 FEET TO THE NORTHEAST CORNER OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE SOUTH, ALONG THE EAST LINE OF SAID N1/2 SW1/4 SW1/4 NW1/4, A DISTANCE OF 330.0 FEET TO THE SOUTHEAST CORNER OF SAID N1/2 SW1/4 SW1/4 NW1/4;
THENCE EAST, ALONG THE NORTH LINE OF SAID S1/2 S1/2 SW1/4 NW1/4 OF SAID SECTION 10, A DISTANCE OF 660.3 FEET TO THE NORTHEAST CORNER OF SAID S1/2 S1/2 SW1/4 NW1/4;
THENCE SOUTH, ALONG THE EAST LINE OF SAID S1/2 S1/2 SW1/4 NW1/4, A DISTANCE OF 255.62 FEET TO A POINT ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF THE DENVER & RIO GRANDE WESTERN RAILROAD COMPANY;
THENCE SOUTH 58°58' WEST ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 144.17 FEET TO A POINT ON THE SOUTH LINE OF THE SW1/4 NW1/4 OF SAID SECTION 10;
THENCE WEST, ALONG THE SOUTH LINE OF THE SW1/4 NW1/4 OF SAID SECTION 10, A DISTANCE OF 1199.55 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

EXCEPT THAT PART DESCRIBED IN DEED RECORDED MAY 25, 2004 UNDER RECEPTION NO. 20040525000402220.

PARCEL K:

THE SOUTH ONE-HALF (S1/2) OF THE NORTH ONE-HALF (N1/2) OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF THE NORTHWEST ONE-QUARTER (NW1/4) OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO.

PARCEL L:

A TRACT OR PARCEL OF LAND WITHIN THE SOUTHEAST 1/4 OF THE NORTHWEST ONE-QUARTER OF SECTION 10, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF ADAMS, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WEST LINE OF SAID SE1/4 NW1/4 LOCATED 74.33 FEET NORTH FROM THE SW CORNER THEREOF;

THENCE NORTH ALONG SAID WEST LINE 209.92 FEET;

THENCE EAST 30 FEET, MORE OR LESS TO A POINT 10 FEET EASTERLY AT RIGHT ANGLES FROM THE CENTERLINE OF THE DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY'S I.C.G. TRACK NO. 31C;

THENCE SOUTHERLY PARALLEL WITH SAID TRACK 200 FEET, MORE OR LESS, TO A POINT IN SAID RAILROAD COMPANY'S NORTHERLY RIGHT-OF-WAY LINE;

THENCE SOUTHWESTERLY ALONG SAID RIGHT-OF-WAY LINE 23 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

PARCEL M:

LOT 1, BLOCK 1, PHELPS-TOINTON 60TH PLACE MINOR SUBDIVISION, COUNTY OF ADAMS, STATE OF COLORADO.

TRAFFIC IMPACT STUDY

For

**High Plains Disposal
Adams County, Colorado**

January 2022

Prepared for:

R&R Engineers & Surveyors, Inc.
1625 West 13th Avenue, Suite 130
Denver, Colorado 80204

Prepared by:



SM ROCHA, LLC
TRAFFIC AND TRANSPORTATION CONSULTANTS

8703 Yates Drive, Suite 210
Westminster, Colorado 80031
(303) 458-9798

6 South Tejon Street, Suite 515
Colorado Springs, Colorado 80903
(719) 203-6639

Project Engineer:
Brandon Wilson, EIT

Engineer in Responsible Charge:
Fred Lantz, PE



21-031400

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	SIGNAL TIMING INFORMATION
APPENDIX B	LEVEL OF SERVICE DEFINITIONS
APPENDIX C	CAPACITY WORKSHEETS

I. Introduction

Project Overview

This traffic impact study addresses the capacity, geometric, and control requirements associated with the development entitled High Plains Disposal.

This proposed industrial development consists of a construction and demolition disposal and recycling center facility. The development is located between Huron Street and Broadway, west of the intersection of W 60th Place and Broadway, in Adams County, Colorado.

Study Area Boundaries

The study area to be examined in this analysis encompasses the Broadway and W 62nd Avenue intersection west to the W 62nd Parkway and Huron Street intersection, south to the Broadway and W 60th Place intersection, and proposed site access.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently occupied by storage materials for the adjacent Winslow Crane Service Company and surrounded by a mix of industrial and commercial land uses.

The proposed development is understood to entail the new build of a construction and demolition disposal and recycling center facility supporting one operations bay.

Proposed access to the development is provided at the following locations: one full-movement access on Broadway via W 60th Place serving as the development's enter-only access, and one full-movement access onto Huron Street (referred to as Site Access) serving as the development's exit-only access.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2023.

A conceptual site plan, as prepared by R&R Engineers & Surveyors, Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.



Not to Scale



HIGH PLAINS DISPOSAL
Traffic Impact Study

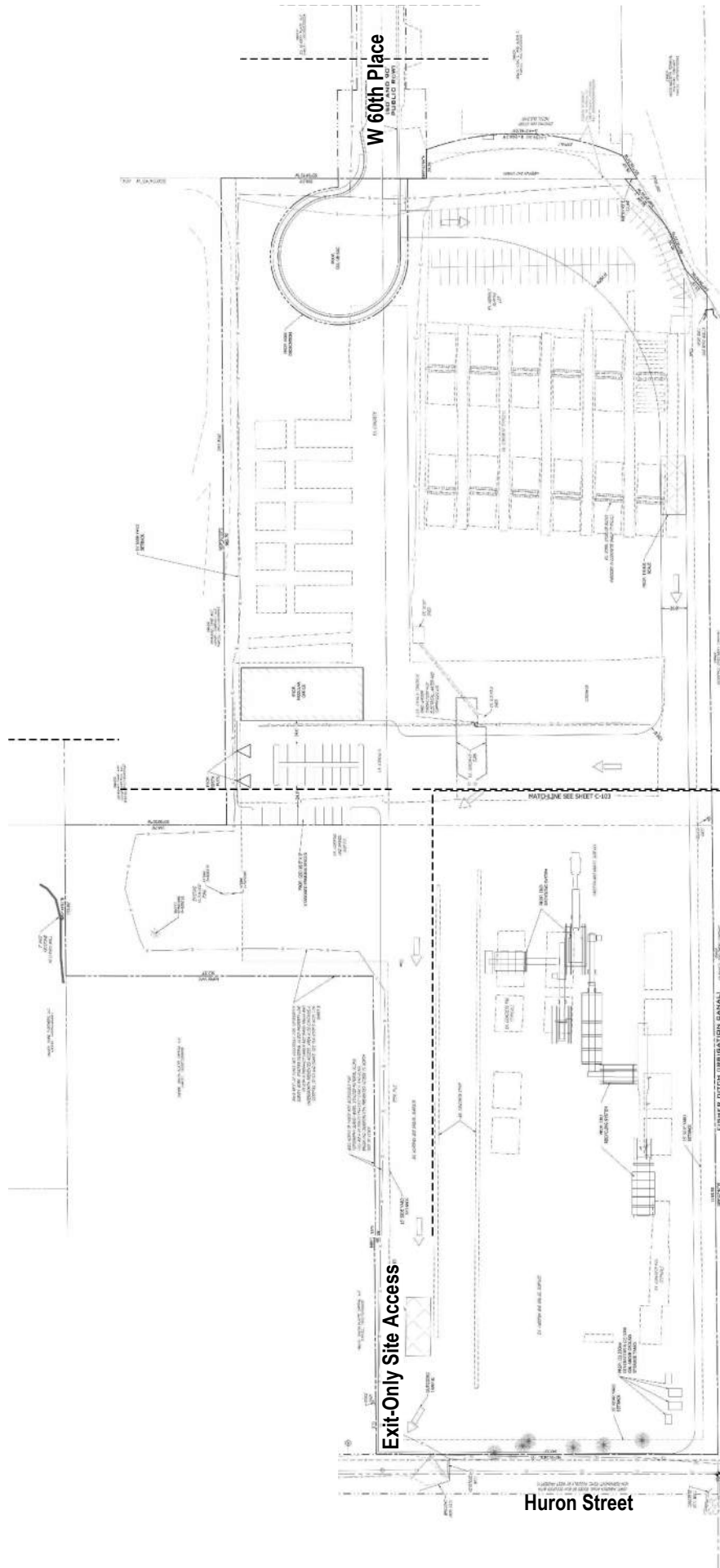
Figure 1
SITE LOCATION

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Page 2



Not to Scale



HIGH PLAINS DISPOSAL
Traffic Impact Study

Figure 2
SITE PLAN

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Existing and Committed Surface Transportation Network

Within the study area, Broadway is the primary roadway that will accommodate traffic to and from the proposed development. Secondary roadways include W 62nd Avenue, W 62nd Parkway, W 60th Place, and Huron Street. A brief description of each roadway, based on the County's Transportation Plan¹ and the County's Development Standards and Regulations², is provided below:

Broadway is a north-south Major Collector roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. The Colorado Department of Transportation (CDOT) categorizes the adjacent segment of Broadway (State Highway 53) as a Non-Rural Arterial (NR-B) and provides a posted speed limit of 35 MPH.

W 62nd Avenue is an east-west Minor Collector roadway having two through lanes (one lane in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. W 62nd Avenue provides a posted speed limit of 30 MPH.

W 62nd Parkway is an east-west roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. W 62nd Parkway is unclassified in County's transportation plan. However, per Section 7-01-03, Table 7.2 of the County's standards and regulations versus the roadway's estimated right-of-way (ROW) width, similarities to W 62nd Avenue, and 30 MPH posted speed limit, W 62nd Parkway is assumed to be classified as a Minor Collector roadway.

W 60th Place is an east-west roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. W 60th Place provides a posted speed limit of 10 MPH. W 60th Place is unclassified in County's transportation plan. However, per Section 7-01-03, Table 7.2 of the County's standards and regulations versus the roadway's estimated ROW width and connection to Broadway, W 60th Place is assumed to be classified as a Local – Industrial/Commercial roadway.

Huron Street is a north-south roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Huron Street is unclassified in County's transportation plan. However, per Section 7-01-03, Table 7.2 of the County's standards and regulations versus the roadway's connection to W 62nd Parkway and access to various industrial and commercial land uses, Huron Street is assumed to be classified as a Local – Industrial/Commercial roadway with a design speed limit of 30 MPH.

The study intersection of Broadway and W 62nd Avenue is signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

No regional or specific improvements for the above-described roadways are known to be planned or committed at this time. The study area roadways appear to be built to their ultimate cross-sections.

¹ Imagine Adams County Transportation Plan, Adams County Public Works, December 2012.

² Adams County Development Standards and Regulations, Adams County, July 2021.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of Broadway with W 62nd Avenue and W 60th Place, as well as the intersections of W 62nd Parkway with W 62nd Avenue and Huron Street. Average daily traffic (ADT) volumes were collected over a 24-hour period on Broadway and on Huron Street. Counts were collected on Tuesday, July 29, 2021, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

These counts and intersection geometry are shown on Figure 3. Traffic count data is included for reference in Appendix A.

Existing signal timing parameters for Broadway and W 62nd Avenue were obtained from CDOT and used throughout this study to the best extent possible in order to remain consistent with existing signal coordination plans. CDOT signal timing information received is included for reference in Appendix A.

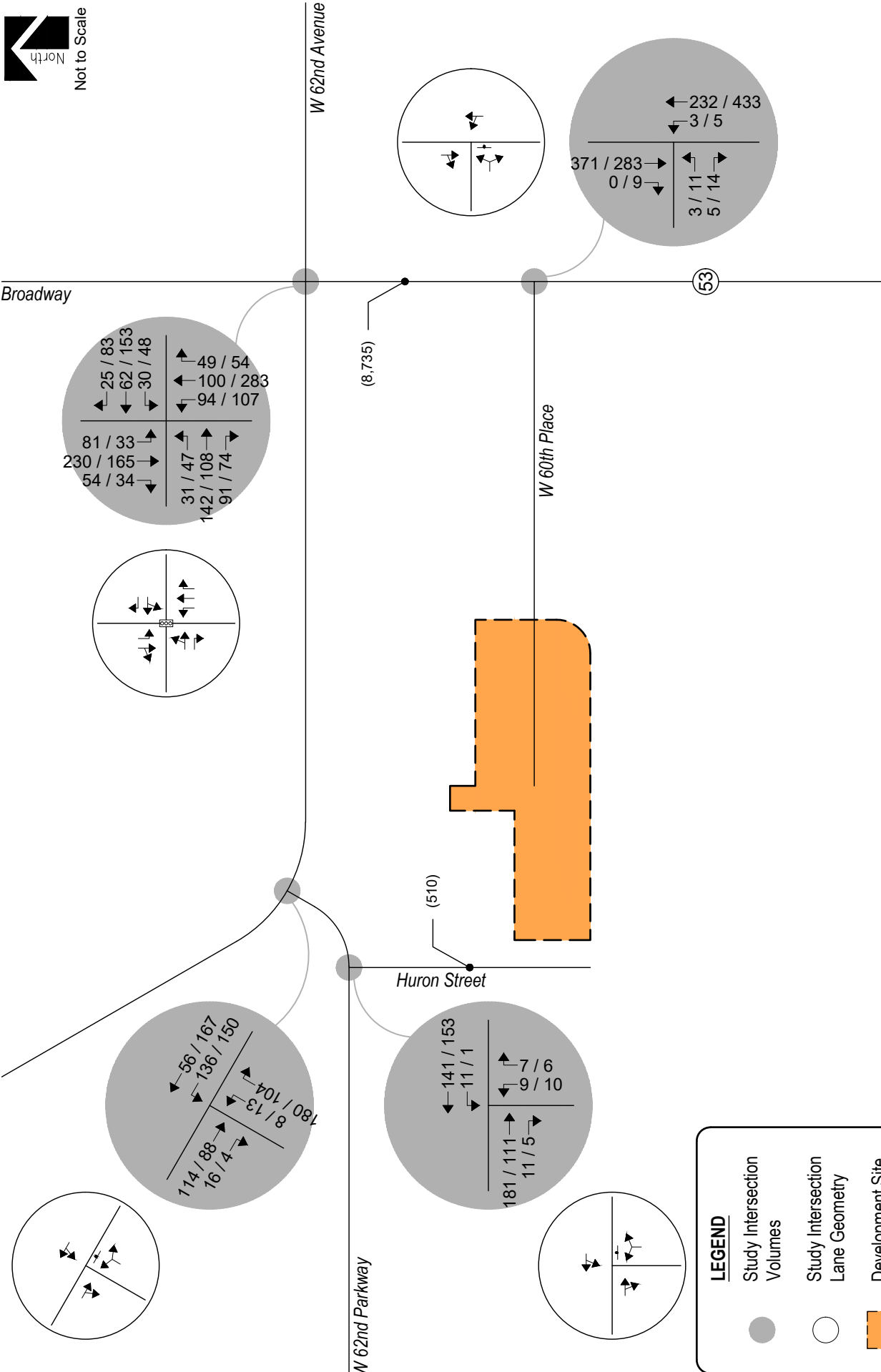


Figure 3
EXISTING TRAFFIC
 Volumes & Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic



The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM) by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Broadway / W 62nd Avenue (Signalized)	C (24.1)	C (27.8)
Broadway / W 60th Place (Stop-Controlled)		
Eastbound Left and Right	B	B
Northbound Left and Through	A	A
W 62nd Avenue / W 62nd Parkway (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B
W 62nd Parkway / Huron Street (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the signalized intersection of Broadway with W 62nd Avenue has overall operations at LOS C during both the morning and afternoon peak traffic hours.

The stop-controlled intersections within the study area have turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2023 and 2041, a compounded annual growth rate was determined using traffic data provided by CDOT's Online Transportation Information System (OTIS) along the adjacent segment of Broadway (State Highway 53), which anticipates a 20-year growth rate less than one percent. Therefore, in order to provide for a conservative analysis, a growth rate of approximately two percent was applied to existing traffic volumes.

Pursuant to the non-committed area roadway improvements discussed in Section I, Year 2023 and Year 2041 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. Year 2041 assumes existing signal timing parameters for Broadway and W 62nd Avenue with optimized intersection splits in effort to better long-term intersection performance. This assumption provides for a conservative analysis.

Projected background traffic volumes and intersection geometry for Years 2023 and 2041 are shown on Figure 4 and Figure 5, respectively.

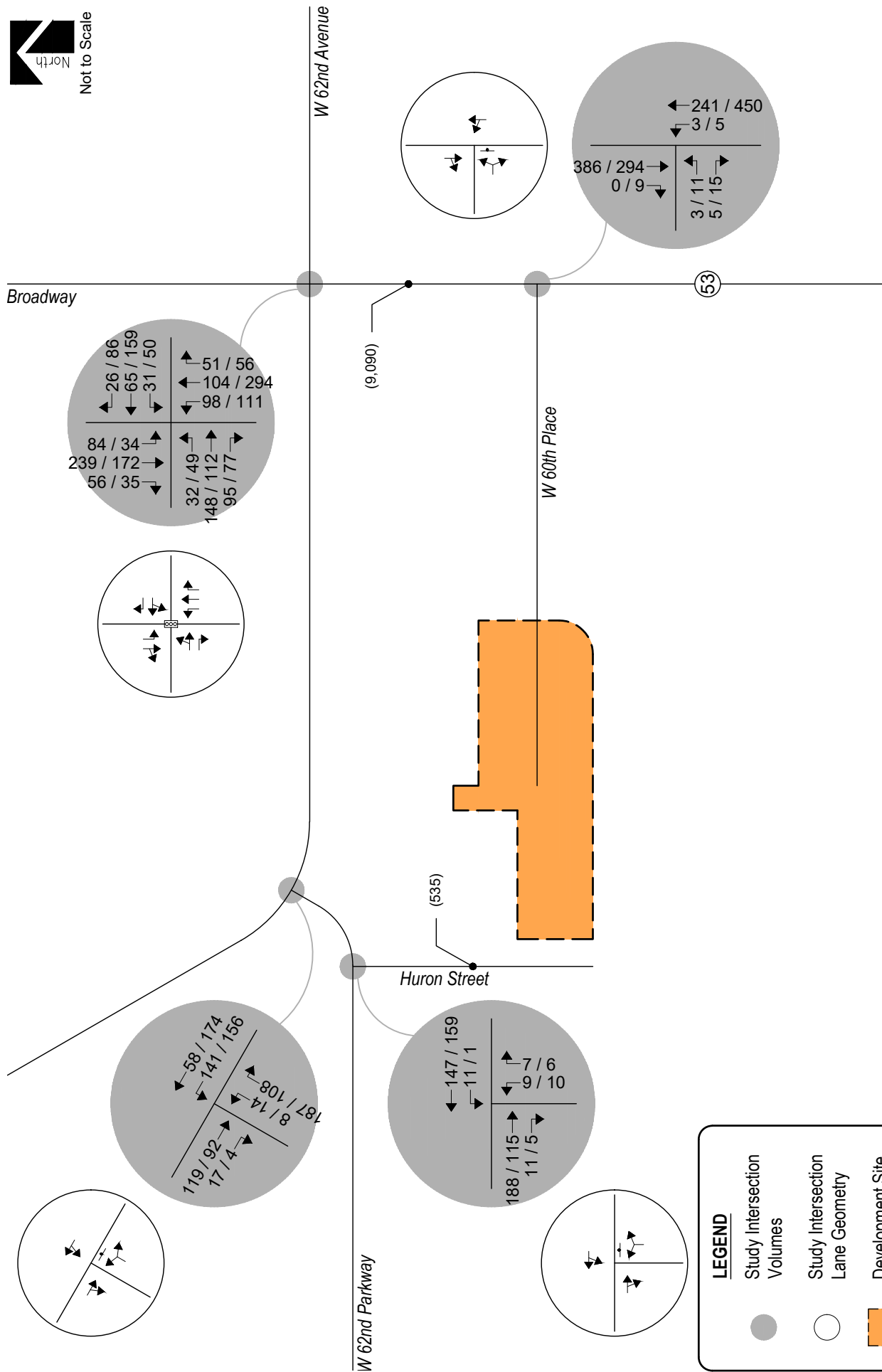
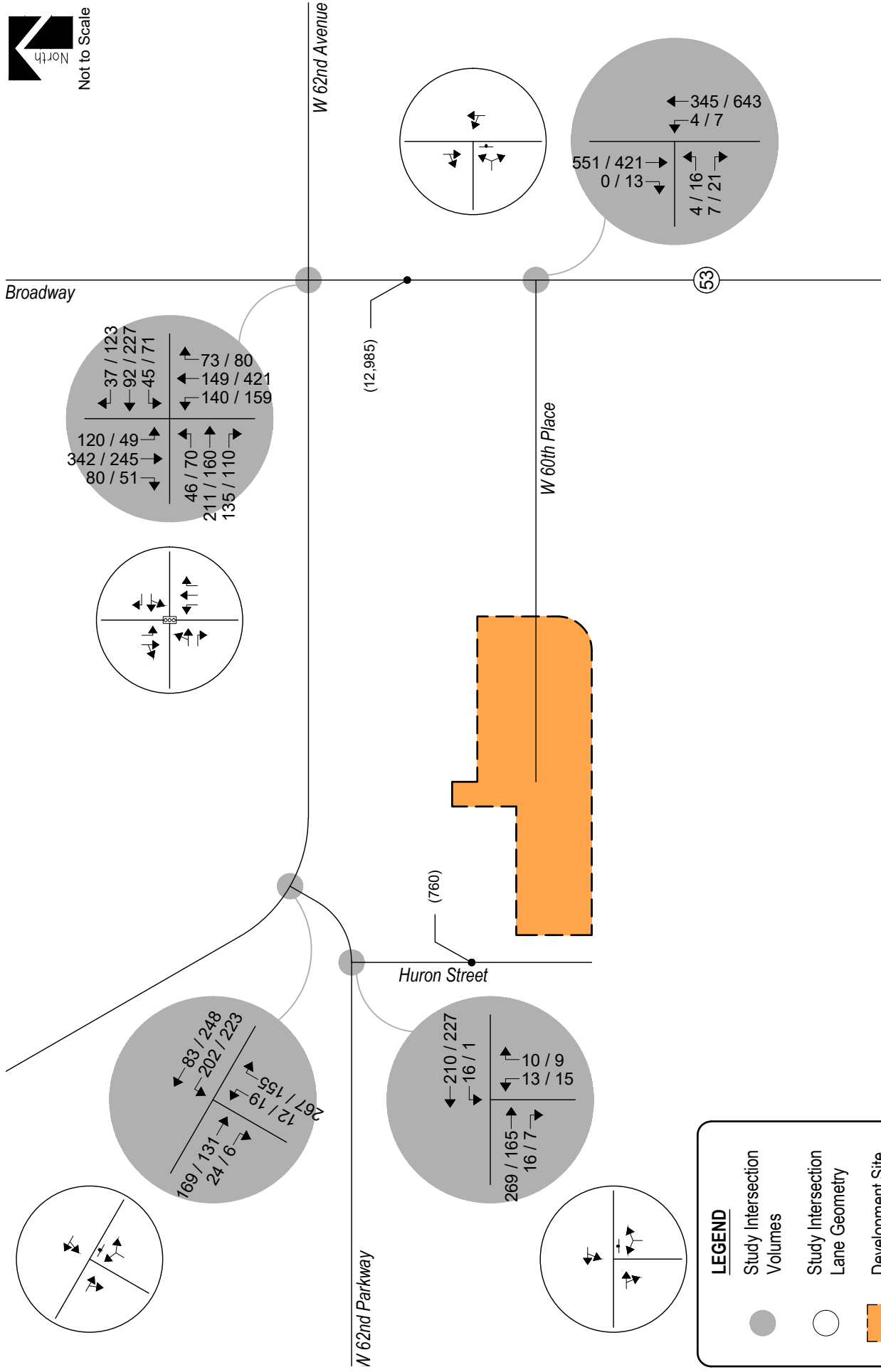


Figure 4
BACKGROUND TRAFFIC - YEAR 2023
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic



Not to Scale



LEGEND

- Study Intersection Volumes
- Study Intersection Lane Geometry
- Development Site

Figure 5
BACKGROUND TRAFFIC - YEAR 2041
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

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Traffic Impact Study



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As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2023 are listed in Table 2. Year 2041 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2023

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Broadway / W 62nd Avenue (Signalized)	C (24.6)	C (28.4)
Broadway / W 60th Place (Stop-Controlled) Eastbound Left and Right Northbound Left and Through	B A	B A
W 62nd Avenue / W 62nd Parkway (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B
W 62nd Parkway / Huron Street (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2023

Year 2023 background traffic analysis indicates that the signalized intersection of Broadway with W 62nd Avenue has overall operations at LOS C during both the morning and afternoon peak traffic hours.

All unsignalized intersections within the study area continue to show LOS B or better turning movement operations during both the morning and afternoon peak traffic hours.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2041

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Broadway / W 62nd Avenue (Signalized)	C (34.4)	D (36.2)
Broadway / W 60th Place (Stop-Controlled) Eastbound Left and Right Northbound Left and Through	C A	C A
W 62nd Avenue / W 62nd Parkway (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B
W 62nd Parkway / Huron Street (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2041

By Year 2041 and without the proposed development, the study intersection of Broadway with W 62nd Avenue experiences LOS C operations during the morning peak traffic hour and LOS D operations during the afternoon peak traffic hour.

The stop-controlled intersection of Broadway with W 60th Place projects turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

The stop-controlled intersection of W 62nd Avenue with W 60th Place anticipates turning movement operations at or better than LOS B during both peak traffic hours.

The stop-controlled intersection of W 62nd Parkway with Huron Street expects turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 10th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

However, ITE's Trip Generation Manual does not provide traffic generation information for this particular land use or similar land use. As such, proposed facility operations, as described by the developer, were evaluated to estimate average daily and weekday peak hour trip information.

Summarized facility operation information is as follows:

- One dumping station
- 5 to 6 operating days per week
- Maximum 700 tons of construction and demolition materials per day
- 5 to 10 tons per truck
- 1 truck per 10 minute cycle length
- 3 to 4 office staff
- 10 to 15 yard staff

Using the above information, the number of daily and peak hour trips likely generated by High Plains Disposal development was then calculated.

While the development's employee vehicle trips are expected to operate outside of peak traffic hours of adjacent street traffic, employee vehicle trips were included within daily and peak hour trip calculations in order to provide for a conservative analysis.

Table 4 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

Table 4 – Trip Generation Summary

LAND USE	SIZE	TOTAL TRIPS GENERATED						
		24 HOUR	AM PEAK HOUR			PM PEAK HOUR		
			ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Trucks	88	175	7	6	13	7	6	13
Employees (On-Site)	15	30	3	0	3	0	3	3
<i>Total:</i>		205	10	6	16	7	9	16

Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 4 illustrates that the proposed development has the potential to generate approximately 205 daily trips with 16 of those occurring during either peak hour peak hour.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to distribution patterns of existing traffic count data.

Overall trip distribution patterns for the development are shown on Figure 6.

Trip Assignment

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

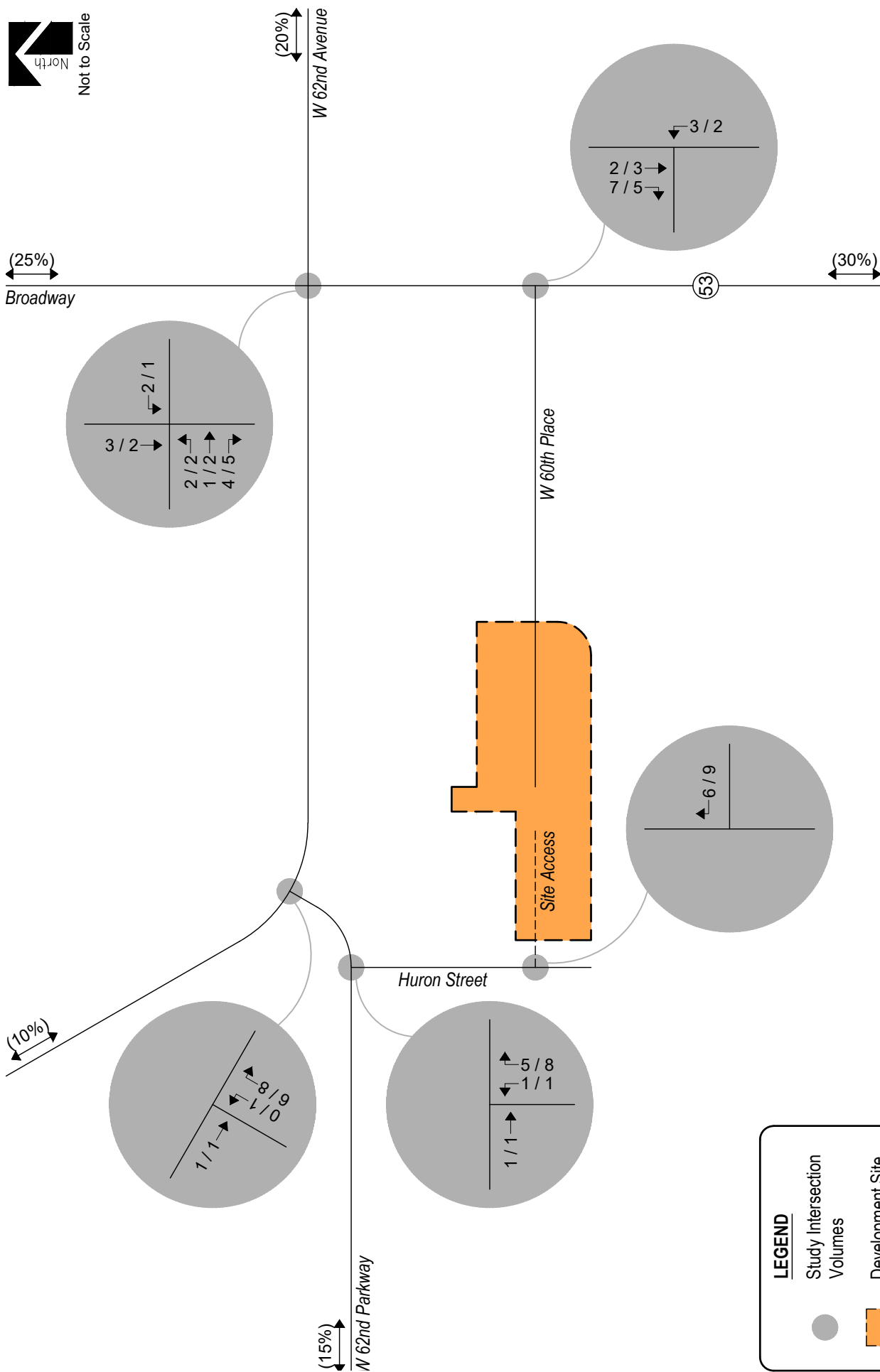


Figure 6

SITE DEVELOPMENT DISTRIBUTION (%) : Overall

SITE-GENERATED

AM / PM Peak Hour

HIGH PLAINS DISPOSAL

Traffic Impact Study



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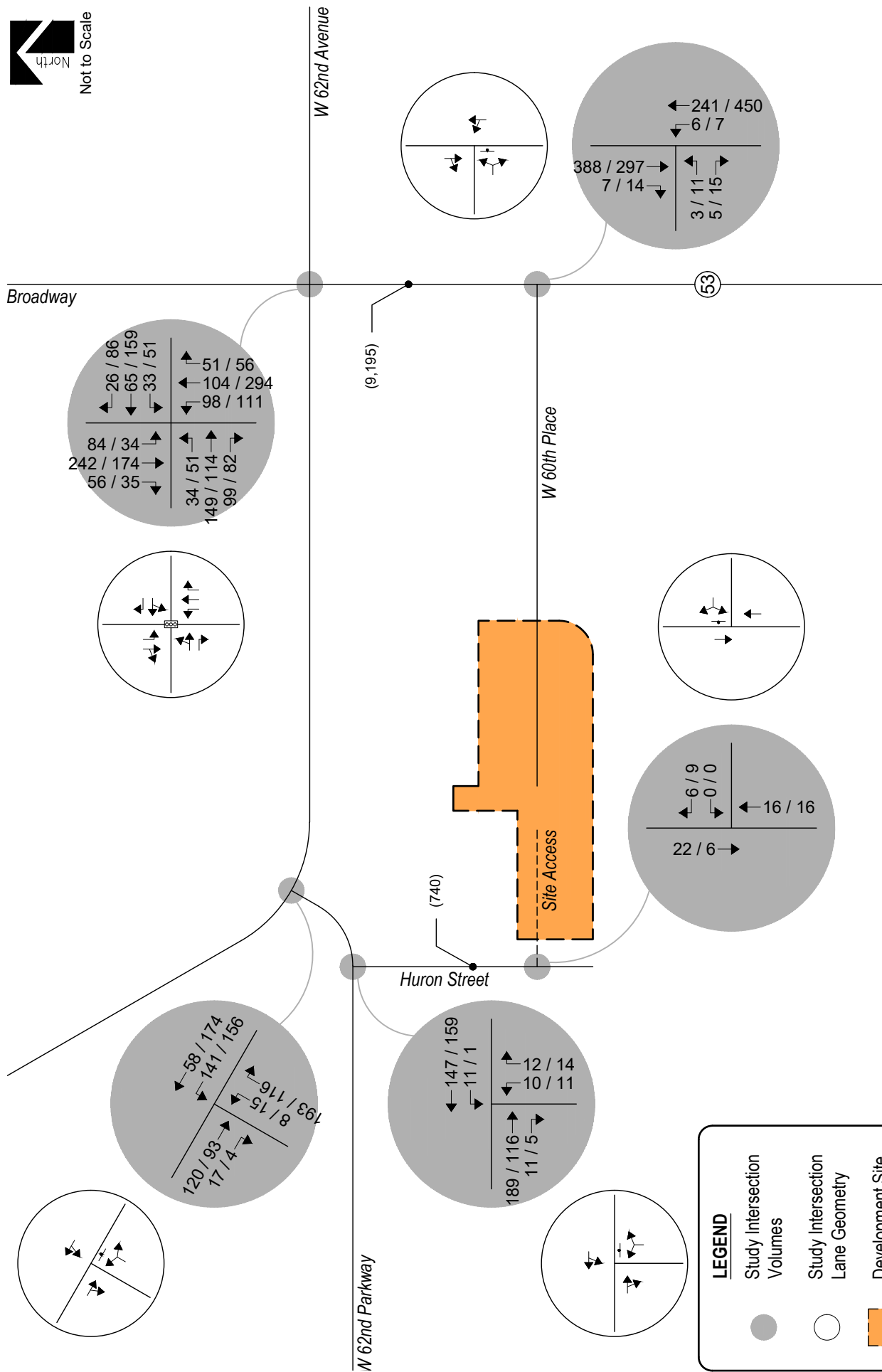
V. Future Traffic Conditions With Proposed Developments

Site-generated traffic was added to background traffic projections for Years 2023 and 2041 to develop total traffic projections. For analysis purposes, it was assumed that development construction would be completed by end of Year 2023.

Pursuant to area roadway improvement discussions provided in Section III, Year 2023 and Year 2041 total traffic conditions assume no roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

Projected Year 2023 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2041.



LEGEND

- Study Intersection Volumes
- Study Intersection Lane Geometry
- Development Site

Figure 7
TOTAL TRAFFIC - YEAR 2023
 Volumes & Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic

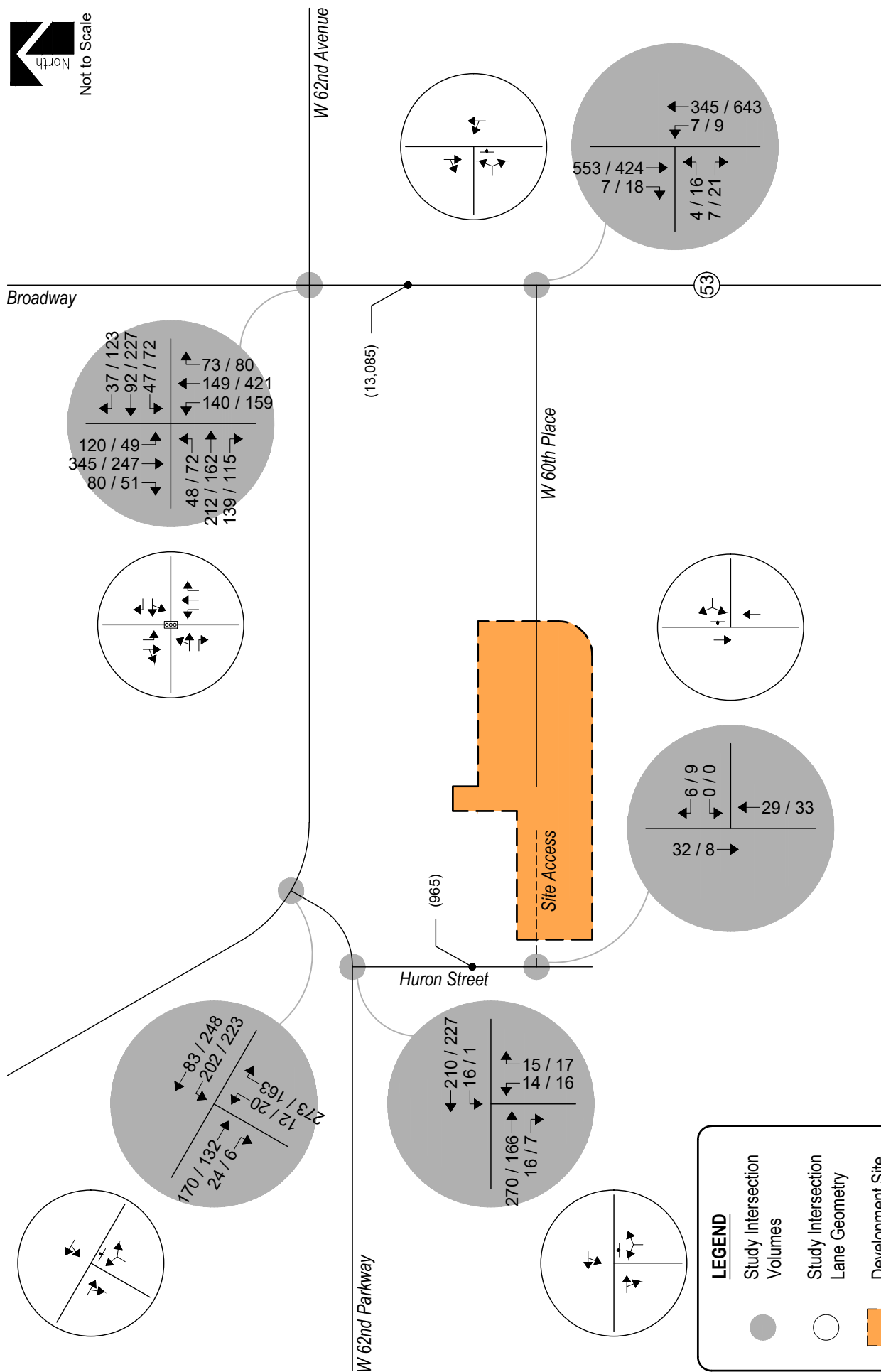


Figure 8
TOTAL TRAFFIC - YEAR 2041
 Volumes & Intersection Geometry
 AM / PM Peak Hour
 (ADT) : Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the Highway Capacity Manual (HCM) and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2023 and 2041 are summarized in Table 5 and Table 6, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 5 – Intersection Capacity Analysis Summary – Total Traffic – Year 2023

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Broadway / W 62nd Avenue (Signalized)	C (25.0)	C (28.7)
Broadway / W 60th Place (Stop-Controlled)		
Eastbound Left and Right	B	B
Northbound Left and Through	A	A
W 62nd Avenue / W 62nd Parkway (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B
W 62nd Parkway / Huron Street (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B
Huron Street / Site Access (Stop-Controlled)		
Westbound Left and Right	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service

Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2041

INTERSECTION LANE GROUPS	LEVEL OF SERVICE	
	AM PEAK HOUR	PM PEAK HOUR
Broadway / W 62nd Avenue (Signalized)	D (35.4)	D (36.7)
Broadway / W 60th Place (Stop-Controlled) Eastbound Left and Right Northbound Left and Through	C A	C A
W 62nd Avenue / W 62nd Parkway (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B
W 62nd Parkway / Huron Street (Stop-Controlled) Westbound Left and Through Northbound Left and Right	A B	A B
Huron Street / Site Access (Stop-Controlled) Westbound Left and Right	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
 Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 6 illustrates how, by Year 2041 and upon development build-out, the signalized intersection of Broadway with W 62nd Avenue shows an overall LOS D operation during both the morning and afternoon peak traffic hours. Compared to the background traffic analysis, the traffic generated by the proposed development is not expected to significantly change the operations of the study intersection.

The stop-controlled intersection of Broadway with W 60th Place continue to project turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

The stop-controlled intersection of W 62nd Avenue with W 60th Place still anticipate turning movement operations at or better than LOS B during both peak traffic hours.

The stop-controlled intersection of W 62nd Parkway with Huron Street experiences turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

The stop-controlled intersection of Huron Street with the exit-only Site Access is projected to have turning movement operations at LOS A during both the morning and afternoon peak traffic hours.

Queue Length Analysis

Queue lengths for study intersections were analyzed using Year 2041 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

No significant vehicle queues due to site-generated trips at the study intersections were indicated. The greatest queue length anticipated for stop-controlled intersections within the study area occurs during the morning peak hour at the intersection of W 62nd Parkway with W 62nd Avenue. The queue length is approximately three vehicles for the northbound left and right turn movement. Queue lengths at the signalized intersection of Broadway with W 62nd Avenue are comparable to Year 2041 background traffic conditions and are not shown to exceed the existing turn lane storage lengths available.

Auxiliary Lane Analysis

Auxiliary lanes for site development enter-only access along Broadway (State Highway 53) are to be based on CDOT's State Highway Access Code (SHAC)³.

Since site-generated trips are expected to be primarily heavy vehicles, a passenger car equivalent (PCE) was applied. Per CDOT's SHAC, a PCE of two (2) shall be used for each vehicle or combination at or greater than 20 feet in length but less than 40 feet, and a PCE of three (3) shall be used for each bus and all trucks and combinations at or greater than 40 feet in length.

For purposes of this auxiliary lane analysis, all ingress vehicle trips along Broadway at W 60th Place are assumed to be 40 feet in length or longer, providing a PCE of three vehicles.

By Year 2041, considering development build-out and passenger car equivalents, the northbound left turn volume is anticipated to be 15 and 18 PCE vehicles during the morning and afternoon peak traffic hours, respectively. As such, an evaluation of auxiliary lane requirements, pursuant to Section 3.11(4)(a) of CDOT's SHAC, reveals that a northbound left turn deceleration lane along Broadway at W 60th Avenue is not required since the projected PCE left turn ingress volume does not exceed the State's threshold of 50 vehicles per hour during peak traffic periods.

Considering development build-out and passenger car equivalents, the southbound right turn volume at W 60th Avenue is anticipated to be 19 and 27 PCE vehicles during the morning and afternoon peak traffic hours, respectively. Pursuant to Section 3.11(4)(b) of CDOT's SHAC, an evaluation of auxiliary lane requirements reveals that a southbound right turn deceleration lane along Broadway at W 60th Place is not required since the projected PCE right turn ingress volume does not exceed the State's threshold of 50 vehicles per hour during peak traffic periods.

³ State Highway Access Code, The Transportation Commission of Colorado, March 2002.

VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled High Plains Disposal. This proposed industrial development consists of a construction and demolition disposal and recycling center facility. The development is located between Huron Street and Broadway, west of the intersection of W 60th Place and Broadway, in Adams County, Colorado.

The study area examined in this analysis encompassed the Broadway and W 62nd Avenue intersection west to the W 62nd Parkway and Huron Street intersection, south to the Broadway and W 60th Place intersection, and proposed site access.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2023 and Year 2041 background traffic conditions, and Year 2023 and Year 2041 total traffic conditions.

Analysis of existing traffic conditions indicates that the signalized intersection of Broadway with W 62nd Avenue has overall operations at LOS C during both the morning and afternoon peak traffic hours. The stop-controlled intersections within the study area have turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

Without the proposed development, Year 2023 background operational analysis shows that the signalized intersection of Broadway with W 62nd Avenue has overall operations at LOS C during both the morning and afternoon peak traffic hours. All unsignalized intersections within the study area continue to show LOS B or better turning movement operations during both the morning and afternoon peak traffic hours.

By Year 2041 and without the proposed development, the study intersection of Broadway with W 62nd Avenue experiences LOS C operations during the morning peak traffic hour and LOS D operations during the afternoon peak traffic hour. All unsignalized intersections within the study area expect turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create minimal negative impact to traffic operations for the existing and surrounding roadway system. With all conservative assumptions defined in this analysis, the study intersections is projected to operate at future levels of service comparable to Year 2041 background traffic conditions. Proposed site accesses have long-term operations at LOS B or better during peak traffic periods and upon build-out.

APPENDIX A

Traffic Count Data



(303) 216-2439
www.alltrafficdata.net

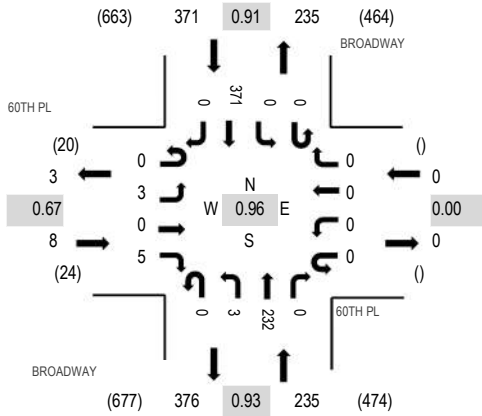
Location: 1 BROADWAY & 60TH PL AM

Date: Thursday, July 29, 2021

Peak Hour: 07:00 AM - 08:00 AM

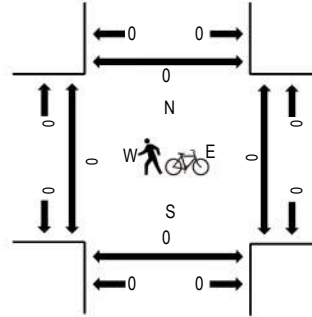
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	60TH PL Eastbound				60TH PL Westbound				BROADWAY Northbound				BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	1	0	0	0	0	0	2	57	0	0	0	89	0	149	614	0	0	0	0
7:15 AM	0	1	0	1	0	0	0	0	0	0	68	0	0	0	90	0	160	596	0	0	0	0
7:30 AM	0	1	0	2	0	0	0	0	0	0	55	0	0	0	90	0	148	575	0	0	0	0
7:45 AM	0	1	0	1	0	0	0	0	0	1	52	0	0	0	102	0	157	561	0	0	0	0
8:00 AM	0	0	0	4	0	0	0	0	1	1	53	0	0	0	72	0	131	547	0	0	0	0
8:15 AM	0	1	0	2	0	0	0	0	0	3	58	0	0	0	75	0	139		0	0	0	0
8:30 AM	0	0	0	3	0	0	0	0	0	2	62	0	0	0	67	0	134		0	0	0	0
8:45 AM	0	1	0	5	0	0	0	0	0	5	54	0	0	0	72	6	143		0	0	0	0
Count Total	0	5	0	19	0	0	0	0	1	14	459	0	0	0	657	6	1,161		0	0	0	0
Peak Hour	0	3	0	5	0	0	0	0	0	3	232	0	0	0	371	0	614		0	0	0	0



(303) 216-2439
www.alltrafficdata.net

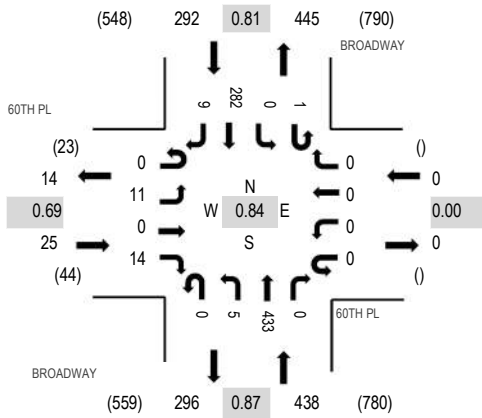
Location: 1 BROADWAY & 60TH PL PM

Date: Thursday, July 29, 2021

Peak Hour: 04:00 PM - 05:00 PM

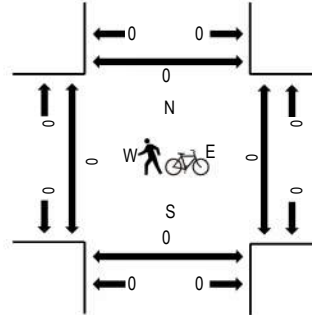
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	60TH PL Eastbound				60TH PL Westbound				BROADWAY Northbound				BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	3	0	6	0	0	0	0	0	1	125	0	0	0	87	3	225	755	0	0	0	0
4:15 PM	0	4	0	4	0	0	0	0	0	3	95	0	0	0	57	4	167	709	0	0	0	0
4:30 PM	0	1	0	2	0	0	0	0	0	0	121	0	0	0	52	2	178	722	0	0	0	0
4:45 PM	0	3	0	2	0	0	0	0	0	1	92	0	1	0	86	0	185	680	0	0	0	0
5:00 PM	0	2	0	5	0	0	0	0	0	4	103	0	0	0	64	1	179	617	0	0	0	0
5:15 PM	0	4	0	5	0	0	0	0	0	0	113	0	0	0	58	0	180		0	0	0	0
5:30 PM	0	2	0	0	0	0	0	0	0	2	63	0	0	0	67	2	136		0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	57	0	0	0	64	0	122		0	0	0	0
Count Total	0	20	0	24	0	0	0	0	0	11	769	0	1	0	535	12	1,372		0	0	0	0
Peak Hour	0	11	0	14	0	0	0	0	0	5	433	0	1	0	282	9	755		0	0	0	0



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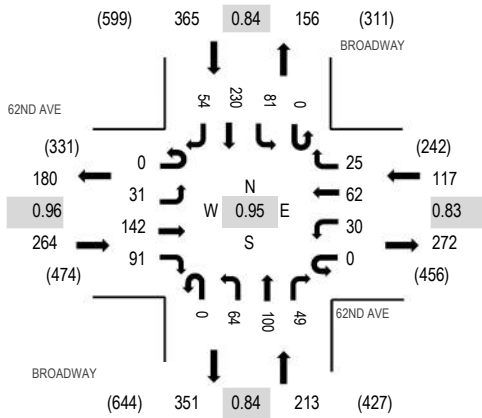
Location: 2 BROADWAY & 62ND AVE AM

Date: Thursday, July 29, 2021

Peak Hour: 07:00 AM - 08:00 AM

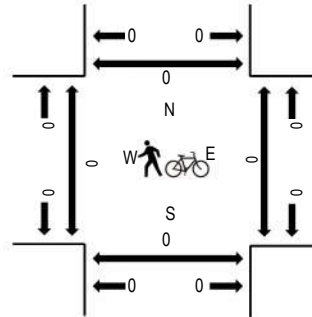
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				BROADWAY Northbound				BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	6	30	24	0	3	10	5	0	11	28	11	0	20	61	16	225	959	0	0	0	0
7:15 AM	0	6	38	23	0	11	21	8	0	15	23	11	0	17	47	16	236	931	0	0	0	0
7:30 AM	0	8	35	25	0	9	14	8	0	22	27	17	0	20	54	6	245	905	0	0	0	0
7:45 AM	0	11	39	19	0	7	17	4	0	16	22	10	0	24	68	16	253	848	0	0	0	0
8:00 AM	0	8	24	20	0	14	12	8	0	15	20	10	0	11	43	12	197	783	1	0	0	0
8:15 AM	0	4	26	23	0	10	14	4	0	16	37	10	0	15	43	8	210		0	0	0	0
8:30 AM	0	4	22	21	0	14	12	6	0	15	35	10	0	8	31	10	188		0	0	0	0
8:45 AM	0	7	27	24	0	8	17	6	0	14	16	16	0	5	42	6	188		0	0	0	0
Count Total	0	54	241	179	0	76	117	49	0	124	208	95	0	120	389	90	1,742		1	0	0	0
Peak Hour	0	31	142	91	0	30	62	25	0	64	100	49	0	81	230	54	959		0	0	0	0



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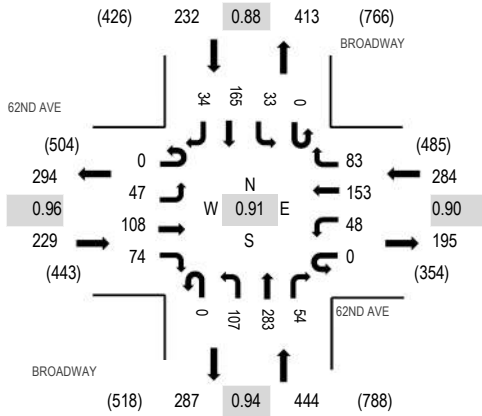
Location: 2 BROADWAY & 62ND AVE PM

Date: Thursday, July 29, 2021

Peak Hour: 04:00 PM - 05:00 PM

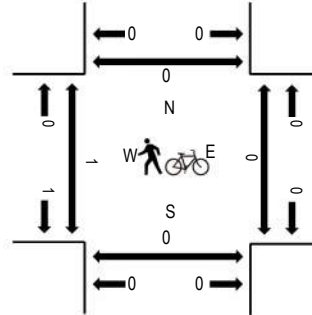
Peak 15-Minutes: 04:00 PM - 04:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				BROADWAY Northbound				BROADWAY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	11	29	21	0	16	45	13	0	30	80	16	0	10	47	9	327	1,189	0	0	0	0
4:15 PM	0	17	25	15	0	11	27	21	0	16	63	16	0	13	38	10	272	1,162	0	0	0	0
4:30 PM	0	9	25	17	0	7	42	22	0	27	75	16	0	4	33	8	285	1,138	0	0	0	0
4:45 PM	0	10	29	21	0	14	39	27	0	34	65	6	0	6	47	7	305	1,072	0	0	0	0
5:00 PM	0	13	33	14	0	9	46	22	0	22	76	11	0	11	35	8	300	953	0	0	0	0
5:15 PM	0	12	30	12	0	5	27	7	0	22	85	6	0	4	32	6	248		0	0	0	0
5:30 PM	0	12	23	22	0	4	20	18	0	14	51	5	0	4	35	11	219		0	0	0	0
5:45 PM	0	8	20	15	0	9	21	13	0	9	36	7	0	5	39	4	186		1	0	0	0
Count Total	0	92	214	137	0	75	267	143	0	174	531	83	0	57	306	63	2,142		1	0	0	0
Peak Hour	0	47	108	74	0	48	153	83	0	107	283	54	0	33	165	34	1,189		0	0	0	0



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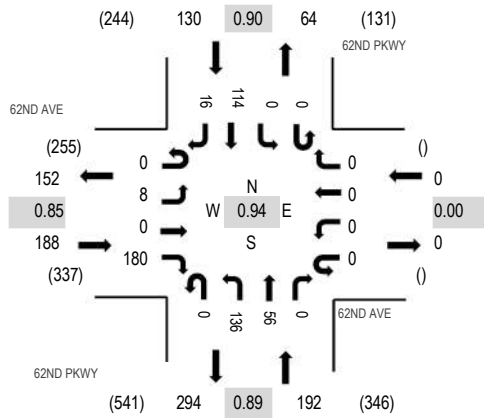
Location: 3 62ND PKWY & 62ND AVE AM

Date: Thursday, July 29, 2021

Peak Hour: 07:00 AM - 08:00 AM

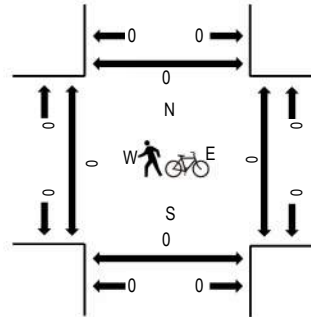
Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				62ND PKWY Northbound				62ND PKWY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	4	0	44	0	0	0	0	0	37	17	0	0	0	30	4	136	510	0	0	0	0
7:15 AM	0	2	0	53	0	0	0	0	0	38	14	0	0	0	26	3	136	478	0	0	0	0
7:30 AM	0	2	0	35	0	0	0	0	0	25	15	0	0	0	26	5	108	453	0	0	0	0
7:45 AM	0	0	0	48	0	0	0	0	0	36	10	0	0	0	32	4	130	434	0	0	0	0
8:00 AM	0	0	0	42	0	0	0	0	0	23	13	0	0	0	23	3	104	417	0	2	0	2
8:15 AM	0	1	0	41	0	0	0	0	0	27	16	0	0	0	25	1	111		0	0	0	0
8:30 AM	0	0	0	24	0	0	0	0	0	24	14	0	0	0	21	6	89		0	0	0	0
8:45 AM	0	3	0	38	0	0	0	0	0	17	20	0	0	0	33	2	113		0	0	0	0
Count Total	0	12	0	325	0	0	0	0	0	227	119	0	0	0	216	28	927		0	2	0	2
Peak Hour	0	8	0	180	0	0	0	0	0	136	56	0	0	0	114	16	510		0	0	0	0



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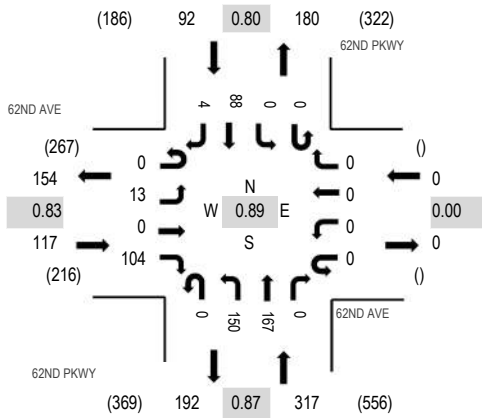
Location: 3 62ND PKWY & 62ND AVE PM

Date: Thursday, July 29, 2021

Peak Hour: 04:30 PM - 05:30 PM

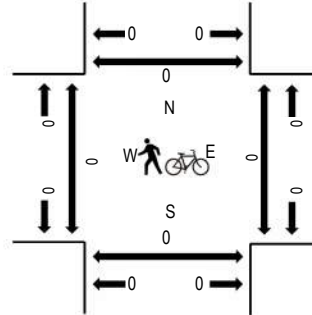
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				62ND PKWY Northbound				62ND PKWY Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	3	0	20	0	0	0	0	0	44	43	0	0	0	23	2	135	490	0	0	0	0
4:15 PM	0	2	0	21	0	0	0	0	0	28	29	0	0	0	19	2	101	502	0	0	0	0
4:30 PM	0	1	0	21	0	0	0	0	0	42	30	0	0	0	28	2	124	526	0	0	0	0
4:45 PM	0	5	0	17	0	0	0	0	0	38	50	0	0	0	20	0	130	499	0	0	0	0
5:00 PM	0	2	0	36	0	0	0	0	0	42	49	0	0	0	17	1	147	468	0	0	0	0
5:15 PM	0	5	0	30	0	0	0	0	0	28	38	0	0	0	23	1	125		0	0	0	0
5:30 PM	0	3	0	27	0	0	0	0	0	14	26	0	0	0	26	1	97		0	0	0	0
5:45 PM	0	0	0	23	0	0	0	0	0	19	36	0	0	0	18	3	99		0	0	0	0
Count Total	0	21	0	195	0	0	0	0	0	255	301	0	0	0	174	12	958		0	0	0	0
Peak Hour	0	13	0	104	0	0	0	0	0	150	167	0	0	0	88	4	526		0	0	0	0



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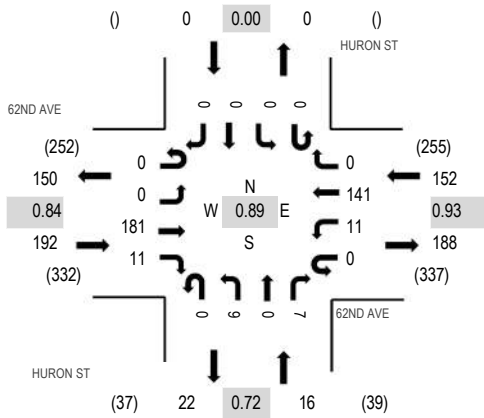
Location: 4 HURON ST & 62ND AVE AM

Date: Thursday, July 29, 2021

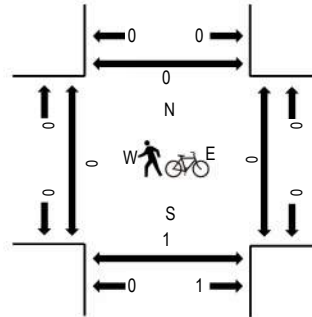
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				HURON ST Northbound				HURON ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	46	1	0	1	40	0	0	1	0	2	0	0	0	0	91	360	0	0	0	0
7:15 AM	0	0	54	3	0	4	37	0	0	2	0	1	0	0	0	0	101	342	0	0	1	0
7:30 AM	0	0	35	4	0	2	28	0	0	3	0	2	0	0	0	0	74	312	0	0	0	0
7:45 AM	0	0	46	3	0	4	36	0	0	3	0	2	0	0	0	0	94	297	0	0	0	0
8:00 AM	0	0	39	2	0	0	26	0	0	3	0	3	0	0	0	0	73	266	0	0	0	0
8:15 AM	0	0	40	1	0	1	27	0	0	0	0	2	0	0	0	0	71		0	0	0	0
8:30 AM	0	0	19	2	0	8	22	0	0	3	0	5	0	0	0	0	59		0	0	0	0
8:45 AM	0	0	37	0	0	1	18	0	0	3	0	4	0	0	0	0	63		0	0	0	0
Count Total	0	0	316	16	0	21	234	0	0	18	0	21	0	0	0	0	626		0	0	1	0
Peak Hour	0	0	181	11	0	11	141	0	0	9	0	7	0	0	0	0	360		0	0	1	0



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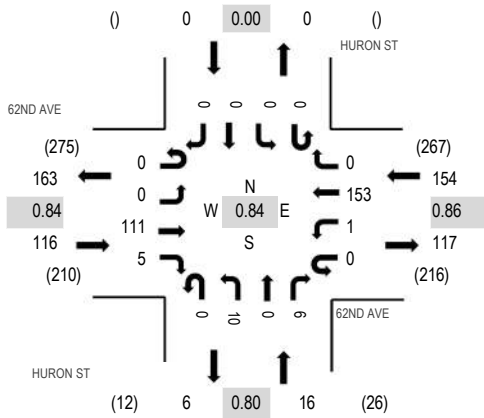
Location: 4 HURON ST & 62ND AVE PM

Date: Thursday, July 29, 2021

Peak Hour: 04:30 PM - 05:30 PM

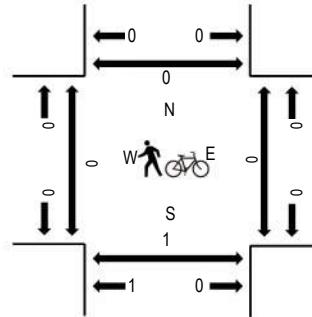
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	62ND AVE Eastbound				62ND AVE Westbound				HURON ST Northbound				HURON ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	18	1	0	2	44	0	0	0	0	5	0	0	0	0	70	261	0	0	0	0
4:15 PM	0	0	21	1	0	0	30	0	0	1	0	2	0	0	0	0	55	276	0	0	0	0
4:30 PM	0	0	20	3	0	0	44	0	0	3	0	2	0	0	0	0	72	286	0	0	0	0
4:45 PM	0	0	21	2	0	0	38	0	0	2	0	1	0	0	0	0	64	261	0	0	0	0
5:00 PM	0	0	37	0	0	1	42	0	0	4	0	1	0	0	0	0	85	242	0	0	1	0
5:15 PM	0	0	33	0	0	0	29	0	0	1	0	2	0	0	0	0	65		0	0	0	0
5:30 PM	0	0	30	1	0	0	15	0	0	1	0	0	0	0	0	0	47		0	0	0	0
5:45 PM	0	0	22	0	0	1	21	0	0	0	0	1	0	0	0	0	45		0	0	0	0
Count Total	0	0	202	8	0	4	263	0	0	12	0	14	0	0	0	0	503		0	0	1	0
Peak Hour	0	0	111	5	0	1	153	0	0	10	0	6	0	0	0	0	286		0	0	1	0

Date Start: 29-Jul-21
Site Code: 5
Station ID: 5
BROADWAY N.O. 60TH PL

Start Time	29-Jul-21 Thu	NB	SB	Total
12:00 AM		28	22	50
01:00		23	23	46
02:00		27	16	43
03:00		23	25	48
04:00		69	49	118
05:00		100	154	254
06:00		171	302	473
07:00		233	369	602
08:00		208	290	498
09:00		256	277	533
10:00		264	305	569
11:00		272	288	560
12:00 PM		356	353	709
01:00		281	297	578
02:00		290	300	590
03:00		381	321	702
04:00		438	305	743
05:00		355	250	605
06:00		204	152	356
07:00		118	94	212
08:00		94	89	183
09:00		54	70	124
10:00		36	42	78
11:00		40	23	63
Total		4321	4416	8737
Percent		49.5%	50.5%	
AM Peak	-	11:00	07:00	-
Vol.	-	272	369	-
PM Peak	-	16:00	12:00	-
Vol.	-	438	353	-
Grand Total		4321	4416	8737
Percent		49.5%	50.5%	
ADT		ADT 8,737	AADT 8,737	

Date Start: 29-Jul-21
Site Code: 6
Station ID: 6
HURON ST S.O. 62ND PKWY

Start Time	29-Jul-21 Thu	NB	SB	Total
12:00 AM		0	1	1
01:00		0	0	0
02:00		0	0	0
03:00		5	0	5
04:00		1	1	2
05:00		7	12	19
06:00		36	13	49
07:00		17	22	39
08:00		14	13	27
09:00		19	15	34
10:00		17	14	31
11:00		28	24	52
12:00 PM		28	23	51
01:00		15	17	32
02:00		20	14	34
03:00		25	22	47
04:00		16	9	25
05:00		10	4	14
06:00		2	4	6
07:00		12	17	29
08:00		12	0	12
09:00		2	1	3
10:00		0	0	0
11:00		0	0	0
Total		286	226	512
Percent		55.9%	44.1%	
AM Peak	-	06:00	11:00	-
Vol.	-	36	24	-
PM Peak	-	12:00	12:00	-
Vol.	-	28	23	-
Grand Total		286	226	512
Percent		55.9%	44.1%	
ADT		ADT 512		AADT 512

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service ($v/c \leq 1.0$)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C























Capacity Worksheets

Timings

1: Broadway & W 62nd Avenue

Existing Traffic Conditions

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	142	91	30	62	25	94	100	49	81	230	54
Future Volume (vph)	31	142	91	30	62	25	94	100	49	81	230	54
Satd. Flow (prot)	0	1776	1137	0	1332	1346	1367	1681	1417	1641	1632	0
Flt Permitted		0.991			0.984		0.464			0.687		
Satd. Flow (perm)	0	1776	1137	0	1332	1346	668	1681	1417	1187	1632	0
Satd. Flow (RTOR)			170			170			158		15	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	42%	27%	47%	20%	32%	13%	14%	10%	10%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	188	99	0	100	27	102	109	53	88	309	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	22.0	22.0	22.0	17.0	17.0	17.0	11.0	40.0	40.0	11.0	40.0	
Total Split (%)	24.4%	24.4%	24.4%	18.9%	18.9%	18.9%	12.2%	44.4%	44.4%	12.2%	44.4%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		14.6	14.6		11.4	11.4	46.8	40.4	40.4	46.0	40.1	
Actuated g/C Ratio		0.16	0.16		0.13	0.13	0.52	0.45	0.45	0.51	0.45	
v/c Ratio		0.65	0.30		0.59	0.08	0.25	0.14	0.07	0.14	0.42	
Control Delay		45.5	2.9		51.0	0.5	15.3	20.5	0.2	12.8	22.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		45.5	2.9		51.0	0.5	15.3	20.5	0.2	12.8	22.9	
LOS		D	A		D	A	B	C	A	B	C	
Approach Delay		30.8			40.3			14.4			20.6	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)		101	0		54	0	28	40	0	23	127	
Queue Length 95th (ft)		159	6		103	0	66	85	0	56	220	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		347	358		190	338	406	792	751	642	787	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.54	0.28		0.53	0.08	0.25	0.14	0.07	0.14	0.39	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												

Timings

1: Broadway & W 62nd Avenue

Existing Traffic Conditions

AM Peak Hour

Offset: 55 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 52.2%

ICU Level of Service A




Analysis Period (min) 15

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)		 Ø4	 Ø8
11 s	40 s		22 s	17 s
 Ø5	 Ø6 (R)			
11 s	40 s			

HCM 6th TWSC
2: Broadway & W 60th Place

Existing Traffic Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	3	232	371	0
Future Vol, veh/h	3	5	3	232	371	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	40	33	19	25	0
Mvmt Flow	3	5	3	252	403	0




Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	661	403	403	0	-	0
Stage 1	403	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.497	-	-	-
Pot Cap-1 Maneuver	431	573	1006	-	-	-
Stage 1	679	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	430	573	1006	-	-	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	790	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	509	-	-
HCM Lane V/C Ratio	0.003	-	0.017	-	-
HCM Control Delay (s)	8.6	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-




HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Existing Traffic Conditions
AM Peak Hour

Intersection						
Int Delay, s/veh	6.2					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	114	16	136	56	8	180
Future Vol, veh/h	114	16	136	56	8	180
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	92	92	92	92	92	92
Heavy Vehicles, %	33	62	57	43	25	23
Mvmt Flow	124	17	148	61	9	196
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	490	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	357	-
Critical Hdwy	-	-	4.67	-	6.65	6.43
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	-	-	2.713	-	3.725	3.507
Pot Cap-1 Maneuver	-	-	1165	-	498	863
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1165	-	433	863
Mov Cap-2 Maneuver	-	-	-	-	433	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	574	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		6		10.8	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	828	1165	-	-	-	
HCM Lane V/C Ratio	0.247	0.127	-	-	-	
HCM Control Delay (s)	10.8	8.5	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	1	0.4	-	-	-	

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Existing Traffic Conditions
AM Peak Hour






















Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	181	11	11	141	9	7
Future Vol, veh/h	181	11	11	141	9	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	92	92	92	92	92	92
Heavy Vehicles, %	24	0	18	61	44	0
Mvmt Flow	197	12	12	153	10	8
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	209	0	380	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	177	-
Critical Hdwy	-	-	4.28	-	6.84	6.2
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.362	-	3.896	3.3
Pot Cap-1 Maneuver	-	-	1272	-	547	843
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1272	-	542	843
Mov Cap-2 Maneuver	-	-	-	-	542	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	754	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		10.8	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	642	-	-	1272	-	
HCM Lane V/C Ratio	0.027	-	-	0.009	-	
HCM Control Delay (s)	10.8	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Timings

1: Broadway & W 62nd Avenue

Existing Traffic Conditions

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	108	74	48	153	83	107	283	54	33	165	34
Future Volume (vph)	47	108	74	48	153	83	107	283	54	33	165	34
Satd. Flow (prot)	0	1647	1404	0	1792	1538	1517	1792	1179	1570	1695	0
Flt Permitted		0.985			0.988		0.500			0.560		
Satd. Flow (perm)	0	1647	1404	0	1792	1538	798	1792	1179	925	1695	0
Satd. Flow (RTOR)			153			153			142		12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	17%	15%	4%	5%	5%	19%	6%	37%	15%	8%	15%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	80	0	218	90	116	308	59	36	216	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	20.0	20.0	20.0	23.0	23.0	23.0	12.0	45.0	45.0	12.0	45.0	
Total Split (%)	20.0%	20.0%	20.0%	23.0%	23.0%	23.0%	12.0%	45.0%	45.0%	12.0%	45.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		15.6	15.6		16.8	16.8	49.8	44.5	44.5	44.9	38.4	
Actuated g/C Ratio		0.16	0.16		0.17	0.17	0.50	0.44	0.44	0.45	0.38	
v/c Ratio		0.66	0.23		0.73	0.23	0.25	0.39	0.10	0.08	0.33	
Control Delay		51.4	1.5		53.2	2.1	17.2	24.3	0.3	15.2	24.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		51.4	1.5		53.2	2.1	17.2	24.3	0.3	15.2	24.5	
LOS		D	A		D	A	B	C	A	B	C	
Approach Delay		35.3			38.3			19.7			23.2	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		102	0		132	0	38	141	0	11	93	
Queue Length 95th (ft)		161	0		205	7	82	252	0	32	168	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		279	364		338	414	456	845	631	466	734	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.60	0.22		0.64	0.22	0.25	0.36	0.09	0.08	0.29	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												

Timings 1: Broadway & W 62nd Avenue

Existing Traffic Conditions
PM Peak Hour

Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 27.8






Intersection LOS: C

Intersection Capacity Utilization 54.7%

ICU Level of Service A




Analysis Period (min) 15

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
12 s	45 s	20 s	23 s
 Ø5	 Ø6 (R)		
12 s	45 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Existing Traffic Conditions
PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	14	5	433	283	9
Future Vol, veh/h	11	14	5	433	283	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	40	14	10	0
Mvmt Flow	12	15	5	471	308	10

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	794	313	318	0	-	0
Stage 1	313	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.5	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.56	-	-	-
Pot Cap-1 Maneuver	360	732	1056	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	358	732	1056	-	-	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0.1	0
HCM LOS	B		




Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1056	-	501	-	-
HCM Lane V/C Ratio	0.005	-	0.054	-	-
HCM Control Delay (s)	8.4	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Existing Traffic Conditions
PM Peak Hour

Intersection

Int Delay, s/veh 4.5

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	88	4	150	167	13	104
Future Vol, veh/h	88	4	150	167	13	104
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	92	92	92	92	92	92
Heavy Vehicles, %	24	25	16	4	8	17
Mvmt Flow	96	4	163	182	14	113




Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	100
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.26
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.344
Pot Cap-1 Maneuver	-	-	1409
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1409
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	SE	NW	NE
HCM Control Delay, s	0	3.7	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	799	1409	-	-	-
HCM Lane V/C Ratio	0.159	0.116	-	-	-
HCM Control Delay (s)	10.4	7.9	0	-	-
HCM Lane LOS	B	A	A	-	-
HCM 95th %tile Q(veh)	0.6	0.4	-	-	-

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Existing Traffic Conditions
PM Peak Hour























Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	5	1	153	10	6
Future Vol, veh/h	111	5	1	153	10	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	92	92	92	92	92	92
Heavy Vehicles, %	15	20	0	16	0	33
Mvmt Flow	121	5	1	166	11	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	292	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.1	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.597
Pot Cap-1 Maneuver	-	-	1473	-	703	850
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	702	850
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	866	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.9	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	751	-	-	1473	-	
HCM Lane V/C Ratio	0.023	-	-	0.001	-	
HCM Control Delay (s)	9.9	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2023 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	148	95	31	65	26	98	104	51	84	239	56
Future Volume (vph)	32	148	95	31	65	26	98	104	51	84	239	56
Satd. Flow (prot)	0	1776	1137	0	1330	1346	1367	1681	1417	1641	1632	0
Flt Permitted		0.991			0.984		0.446			0.684		
Satd. Flow (perm)	0	1776	1137	0	1330	1346	642	1681	1417	1181	1632	0
Satd. Flow (RTOR)			170			170			158		15	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	42%	27%	47%	20%	32%	13%	14%	10%	10%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	196	103	0	105	28	107	113	55	91	321	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	22.0	22.0	22.0	17.0	17.0	17.0	11.0	40.0	40.0	11.0	40.0	
Total Split (%)	24.4%	24.4%	24.4%	18.9%	18.9%	18.9%	12.2%	44.4%	44.4%	12.2%	44.4%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		15.0	15.0		11.5	11.5	46.4	39.8	39.8	45.5	39.5	
Actuated g/C Ratio		0.17	0.17		0.13	0.13	0.52	0.44	0.44	0.51	0.44	
v/c Ratio		0.66	0.31		0.62	0.09	0.27	0.15	0.08	0.14	0.44	
Control Delay		45.4	3.2		52.7	0.5	15.7	20.8	0.2	13.0	23.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		45.4	3.2		52.7	0.5	15.7	20.8	0.2	13.0	23.6	
LOS		D	A		D	A	B	C	A	B	C	
Approach Delay		30.9			41.7			14.7			21.3	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)		105	0		57	0	30	43	0	25	136	
Queue Length 95th (ft)		164	8		110	0	68	87	0	56	227	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		350	360		189	337	393	786	746	634	782	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.56	0.29		0.56	0.08	0.27	0.14	0.07	0.14	0.41	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2023 - AM Peak Hour

Offset: 55 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 24.6

Intersection LOS: C

Intersection Capacity Utilization 53.6%

ICU Level of Service A




Analysis Period (min) 15

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)		 Ø4	 Ø8
11 s	40 s		22 s	17 s
 Ø5	 Ø6 (R)			
11 s	40 s			




HCM 6th TWSC
2: Broadway & W 60th Place

Background Traffic Conditions
Year 2023 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	3	241	386	0
Future Vol, veh/h	3	5	3	241	386	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	40	33	19	25	0
Mvmt Flow	3	5	3	262	420	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	688	420	420	0	-	0
Stage 1	420	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.497	-	-	-
Pot Cap-1 Maneuver	415	560	991	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	413	560	991	-	-	-
Mov Cap-2 Maneuver	413	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.4	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	991	-	494	-	-	
HCM Lane V/C Ratio	0.003	-	0.018	-	-	
HCM Control Delay (s)	8.6	0	12.4	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue




Background Traffic Conditions
Year 2023 - AM Peak Hour

Intersection						
Int Delay, s/veh	6.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	119	17	141	58	8	187
Future Vol, veh/h	119	17	141	58	8	187
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	92	92	92	92	92	92
Heavy Vehicles, %	33	62	57	43	25	23
Mvmt Flow	129	18	153	63	9	203
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	147	0	507	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	-	-	4.67	-	6.65	6.43
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	-	-	2.713	-	3.725	3.507
Pot Cap-1 Maneuver	-	-	1158	-	487	857
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1158	-	420	857
Mov Cap-2 Maneuver	-	-	-	-	420	-
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	563	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		6.1		10.9	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	822	1158	-	-	-	
HCM Lane V/C Ratio	0.258	0.132	-	-	-	
HCM Control Delay (s)	10.9	8.6	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	1	0.5	-	-	-	

HCM 6th TWSC

4: Huron Street & W 62nd Parkway

Background Traffic Conditions
Year 2023 - AM Peak Hour






















Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	11	11	147	9	7
Future Vol, veh/h	188	11	11	147	9	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	92	92	92	92	92	92
Heavy Vehicles, %	24	0	18	61	44	0
Mvmt Flow	204	12	12	160	10	8
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	394	210
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	-	-	4.28	-	6.84	6.2
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.362	-	3.896	3.3
Pot Cap-1 Maneuver	-	-	1264	-	537	835
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	756	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1264	-	532	835
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	748	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		10.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	632	-	-	1264	-	
HCM Lane V/C Ratio	0.028	-	-	0.009	-	
HCM Control Delay (s)	10.9	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2023 - PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	112	77	50	159	86	111	294	56	34	172	35
Future Volume (vph)	49	112	77	50	159	86	111	294	56	34	172	35
Satd. Flow (prot)	0	1646	1404	0	1792	1538	1517	1792	1179	1570	1697	0
Flt Permitted		0.985			0.988		0.483			0.545		
Satd. Flow (perm)	0	1646	1404	0	1792	1538	771	1792	1179	900	1697	0
Satd. Flow (RTOR)			153			153			142		12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	17%	15%	4%	5%	5%	19%	6%	37%	15%	8%	15%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	175	84	0	227	93	121	320	61	37	225	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	20.0	20.0	20.0	23.0	23.0	23.0	12.0	45.0	45.0	12.0	45.0	
Total Split (%)	20.0%	20.0%	20.0%	23.0%	23.0%	23.0%	12.0%	45.0%	45.0%	12.0%	45.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		16.1	16.1		17.0	17.0	49.2	43.7	43.7	44.0	37.5	
Actuated g/C Ratio		0.16	0.16		0.17	0.17	0.49	0.44	0.44	0.44	0.38	
v/c Ratio		0.66	0.24		0.75	0.24	0.27	0.41	0.10	0.08	0.35	
Control Delay		51.1	1.7		54.6	2.5	17.7	25.0	0.3	15.4	25.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		51.1	1.7		54.6	2.5	17.7	25.0	0.3	15.4	25.3	
LOS		D	A		D	A	B	C	A	B	C	
Approach Delay		35.1			39.4			20.2			23.9	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		106	0		137	0	40	151	0	11	100	
Queue Length 95th (ft)		166	2		216	8	84	259	0	32	173	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		283	368		335	412	442	837	626	448	727	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.62	0.23		0.68	0.23	0.27	0.38	0.10	0.08	0.31	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions
Year 2023 - PM Peak Hour

Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 28.4






Intersection LOS: C

Intersection Capacity Utilization 56.0%

ICU Level of Service B




Analysis Period (min) 15

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
12 s	45 s	20 s	23 s
 Ø5	 Ø6 (R)		
12 s	45 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Background Traffic Conditions
Year 2023 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	15	5	450	294	9
Future Vol, veh/h	11	15	5	450	294	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	40	14	10	0
Mvmt Flow	12	16	5	489	320	10




Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	824	325	330	0	-	0
Stage 1	325	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.5	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.56	-	-	-
Pot Cap-1 Maneuver	346	721	1044	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	344	721	1044	-	-	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1044	-	493	-	-
HCM Lane V/C Ratio	0.005	-	0.057	-	-
HCM Control Delay (s)	8.5	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Background Traffic Conditions
Year 2023 - PM Peak Hour

Intersection						
Int Delay, s/veh	4.6					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	92	4	156	174	14	108
Future Vol, veh/h	92	4	156	174	14	108
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	92	92	92	92	92	92
Heavy Vehicles, %	24	25	16	4	8	17
Mvmt Flow	100	4	170	189	15	117
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	104	0	631	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	529	-
Critical Hdwy	-	-	4.26	-	6.48	6.37
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.344	-	3.572	3.453
Pot Cap-1 Maneuver	-	-	1404	-	436	914
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	579	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1404	-	377	914
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	501	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		3.7		10.5	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	786	1404	-	-	-	
HCM Lane V/C Ratio	0.169	0.121	-	-	-	
HCM Control Delay (s)	10.5	7.9	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	0.6	0.4	-	-	-	

HCM 6th TWSC




4: Huron Street & W 62nd Parkway

Background Traffic Conditions

Year 2023 - PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	5	1	159	10	6
Future Vol, veh/h	115	5	1	159	10	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	92	92	92	92	92	92
Heavy Vehicles, %	15	20	0	16	0	33
Mvmt Flow	125	5	1	173	11	7

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	130
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1468
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1468
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B






















Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	742	-	-	1468	-
HCM Lane V/C Ratio	0.023	-	-	0.001	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2041 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	211	135	45	92	37	140	149	73	120	342	80
Future Volume (vph)	46	211	135	45	92	37	140	149	73	120	342	80
Satd. Flow (prot)	0	1776	1137	0	1331	1346	1367	1681	1417	1641	1634	0
Flt Permitted		0.991			0.984		0.234			0.654		
Satd. Flow (perm)	0	1776	1137	0	1331	1346	337	1681	1417	1130	1634	0
Satd. Flow (RTOR)			158			158			145		14	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	42%	27%	47%	20%	32%	13%	14%	10%	10%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	279	147	0	149	40	152	162	79	130	459	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	22.0	22.0	22.0	18.0	18.0	18.0	14.0	39.0	39.0	11.0	36.0	
Total Split (%)	24.4%	24.4%	24.4%	20.0%	20.0%	20.0%	15.6%	43.3%	43.3%	12.2%	40.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		16.7	16.7		12.5	12.5	41.5	33.3	33.3	38.1	31.6	
Actuated g/C Ratio		0.19	0.19		0.14	0.14	0.46	0.37	0.37	0.42	0.35	
v/c Ratio		0.85	0.43		0.81	0.12	0.61	0.26	0.13	0.25	0.79	
Control Delay		59.8	9.1		69.4	0.8	25.5	21.6	0.7	14.3	37.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		59.8	9.1		69.4	0.8	25.5	21.6	0.7	14.3	37.5	
LOS		E	A		E	A	C	C	A	B	D	
Approach Delay		42.3			54.8			18.9			32.4	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		152	0		83	0	48	64	0	39	230	
Queue Length 95th (ft)		#287	44		#182	0	#90	111	3	70	#387	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		341	345		194	331	252	638	627	515	597	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.82	0.43		0.77	0.12	0.60	0.25	0.13	0.25	0.77	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2041 - AM Peak Hour

Offset: 55 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 34.4

Intersection LOS: C

Intersection Capacity Utilization 69.1%







ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
11 s	39 s	22 s	18 s
 Ø5	 Ø6 (R)		
14 s	36 s		




HCM 6th TWSC
2: Broadway & W 60th Place

Background Traffic Conditions
Year 2041 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	4	345	551	0
Future Vol, veh/h	4	7	4	345	551	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	40	33	19	25	0
Mvmt Flow	4	8	4	375	599	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	982	599	599	0	-	0
Stage 1	599	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.43	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.497	-	-	-
Pot Cap-1 Maneuver	279	438	843	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	277	438	843	-	-	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.3	0.1		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	843	-	362	-	-	
HCM Lane V/C Ratio	0.005	-	0.033	-	-	
HCM Control Delay (s)	9.3	0	15.3	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Background Traffic Conditions
Year 2041 - AM Peak Hour




Intersection						
Int Delay, s/veh	7.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	169	24	202	83	12	267
Future Vol, veh/h	169	24	202	83	12	267
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	92	92	92	92	92	92
Heavy Vehicles, %	33	62	57	43	25	23
Mvmt Flow	184	26	220	90	13	290
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	210	0	727	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	530	-
Critical Hdwy	-	-	4.67	-	6.65	6.43
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	-	-	2.713	-	3.725	3.507
Pot Cap-1 Maneuver	-	-	1093	-	359	794
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	546	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1093	-	283	794
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	430	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		6.5		13.3	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	737	1093	-	-	-	
HCM Lane V/C Ratio	0.411	0.201	-	-	-	
HCM Control Delay (s)	13.3	9.1	0	-	-	
HCM Lane LOS		B	A	A	-	
HCM 95th %tile Q(veh)		2	0.7	-	-	

HCM 6th TWSC

4: Huron Street & W 62nd Parkway

Background Traffic Conditions

Year 2041 - AM Peak Hour






















Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	269	16	16	210	13	10
Future Vol, veh/h	269	16	16	210	13	10
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	92	92	92	92	92	92
Heavy Vehicles, %	24	0	18	61	44	0
Mvmt Flow	292	17	17	228	14	11
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	309	0	563	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	-	-	4.28	-	6.84	6.2
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.362	-	3.896	3.3
Pot Cap-1 Maneuver	-	-	1166	-	423	743
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1166	-	416	743
Mov Cap-2 Maneuver	-	-	-	-	416	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	682	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		12.4	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	514	-	-	1166	-	
HCM Lane V/C Ratio	0.049	-	-	0.015	-	
HCM Control Delay (s)	12.4	-	-	8.1	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2041 - PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	160	110	71	227	123	159	421	80	49	245	51
Future Volume (vph)	70	160	110	71	227	123	159	421	80	49	245	51
Satd. Flow (prot)	0	1647	1404	0	1792	1538	1517	1792	1179	1570	1695	0
Flt Permitted		0.985			0.988		0.315			0.349		
Satd. Flow (perm)	0	1647	1404	0	1792	1538	503	1792	1179	577	1695	0
Satd. Flow (RTOR)			142			142			131		11	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	17%	15%	4%	5%	5%	19%	6%	37%	15%	8%	15%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	250	120	0	324	134	173	458	87	53	321	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	14.0	41.0	41.0	8.0	35.0	
Total Split (%)	24.0%	24.0%	24.0%	27.0%	27.0%	27.0%	14.0%	41.0%	41.0%	8.0%	35.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		18.4	18.4		21.1	21.1	44.3	37.3	37.3	35.2	30.9	
Actuated g/C Ratio		0.18	0.18		0.21	0.21	0.44	0.37	0.37	0.35	0.31	
v/c Ratio		0.83	0.32		0.86	0.31	0.56	0.69	0.17	0.22	0.60	
Control Delay		61.8	6.5		60.1	7.0	26.7	34.4	2.1	20.7	34.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		61.8	6.5		60.1	7.0	26.7	34.4	2.1	20.7	34.9	
LOS		E	A		E	A	C	C	A	C	C	
Approach Delay		43.9			44.6			28.6			32.9	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		149	0		193	0	75	270	0	21	181	
Queue Length 95th (ft)		#278	34		#340	43	118	371	13	42	263	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		322	389		401	454	309	693	536	245	552	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.78	0.31		0.81	0.30	0.56	0.66	0.16	0.22	0.58	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												

Timings

1: Broadway & W 62nd Avenue

Background Traffic Conditions

Year 2041 - PM Peak Hour

Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 36.2

Intersection LOS: D

Intersection Capacity Utilization 71.2%







ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
8 s	41 s	24 s	27 s
 Ø5	 Ø6 (R)		
14 s	35 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Background Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	21	7	643	421	13
Future Vol, veh/h	16	21	7	643	421	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	40	14	10	0
Mvmt Flow	17	23	8	699	458	14




Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1180	465	472	0	-	0
Stage 1	465	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.5	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.56	-	-	-
Pot Cap-1 Maneuver	212	602	918	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	209	602	918	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	918	-	332	-	-
HCM Lane V/C Ratio	0.008	-	0.121	-	-
HCM Control Delay (s)	9	0	17.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-




HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Background Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	5.1					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	131	6	223	248	19	155
Future Vol, veh/h	131	6	223	248	19	155
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	92	92	92	92	92	92
Heavy Vehicles, %	24	25	16	4	8	17
Mvmt Flow	142	7	242	270	21	168
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	149	0	900	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	754	-
Critical Hdwy	-	-	4.26	-	6.48	6.37
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.344	-	3.572	3.453
Pot Cap-1 Maneuver	-	-	1351	-	302	863
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1351	-	238	863
Mov Cap-2 Maneuver	-	-	-	-	238	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	358	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		3.9		12.5	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	671	1351	-	-	-	
HCM Lane V/C Ratio	0.282	0.179	-	-	-	
HCM Control Delay (s)	12.5	8.2	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	1.2	0.7	-	-	-	

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Background Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	165	7	1	227	15	9
Future Vol, veh/h	165	7	1	227	15	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	92	92	92	92	92	92
Heavy Vehicles, %	15	20	0	16	0	33
Mvmt Flow	179	8	1	247	16	10

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	187
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1399
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1399
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.8
HCM LOS			B






















Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	646	-	-	1399	-
HCM Lane V/C Ratio	0.04	-	-	0.001	-
HCM Control Delay (s)	10.8	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2023 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	149	99	33	65	26	98	104	51	84	242	56
Future Volume (vph)	34	149	99	33	65	26	98	104	51	84	242	56
Satd. Flow (prot)	0	1748	1129	0	1322	1346	1367	1681	1417	1641	1623	0
Flt Permitted		0.991			0.983		0.441			0.684		
Satd. Flow (perm)	0	1748	1129	0	1322	1346	635	1681	1417	1181	1623	0
Satd. Flow (RTOR)			170			170			158		15	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	7%	43%	30%	47%	20%	32%	13%	14%	10%	11%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	199	108	0	107	28	107	113	55	91	324	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	22.0	22.0	22.0	17.0	17.0	17.0	11.0	40.0	40.0	11.0	40.0	
Total Split (%)	24.4%	24.4%	24.4%	18.9%	18.9%	18.9%	12.2%	44.4%	44.4%	12.2%	44.4%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		15.3	15.3		11.5	11.5	46.1	39.5	39.5	45.2	39.2	
Actuated g/C Ratio		0.17	0.17		0.13	0.13	0.51	0.44	0.44	0.50	0.44	
v/c Ratio		0.67	0.32		0.63	0.09	0.28	0.15	0.08	0.14	0.45	
Control Delay		45.6	3.7		54.2	0.5	15.8	20.9	0.2	13.1	24.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		45.6	3.7		54.2	0.5	15.8	20.9	0.2	13.1	24.0	
LOS		D	A		D	A	B	C	A	B	C	
Approach Delay		30.8			43.0			14.8			21.6	
Approach LOS		C			D			B			C	
Queue Length 50th (ft)		107	0		58	0	31	43	0	25	139	
Queue Length 95th (ft)		166	11		#124	0	68	86	0	56	229	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		347	360		188	337	388	784	744	630	776	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.57	0.30		0.57	0.08	0.28	0.14	0.07	0.14	0.42	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2023 - AM Peak Hour

Offset: 55 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
11 s	40 s	22 s	17 s
 Ø5	 Ø6 (R)		
11 s	40 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Total Traffic Conditions
Year 2023 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	6	241	388	7
Future Vol, veh/h	3	5	6	241	388	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	40	58	19	25	82
Mvmt Flow	3	5	7	262	422	8




Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	702	426	430	0	-	0
Stage 1	426	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.68	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.722	-	-	-
Pot Cap-1 Maneuver	407	555	886	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	403	555	886	-	-	-
Mov Cap-2 Maneuver	403	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	886	-	486	-	-
HCM Lane V/C Ratio	0.007	-	0.018	-	-
HCM Control Delay (s)	9.1	0	12.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-




HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Total Traffic Conditions
Year 2023 - AM Peak Hour

Intersection						
Int Delay, s/veh	6.4					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	120	17	141	58	8	193
Future Vol, veh/h	120	17	141	58	8	193
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	92	92	92	92	92	92
Heavy Vehicles, %	34	62	57	43	25	25
Mvmt Flow	130	18	153	63	9	210
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	508	139
Stage 1	-	-	-	-	139	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	-	-	4.67	-	6.65	6.45
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	-	-	2.713	-	3.725	3.525
Pot Cap-1 Maneuver	-	-	1157	-	486	852
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1157	-	419	852
Mov Cap-2 Maneuver	-	-	-	-	419	-
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	563	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		6.1		11	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	818	1157	-	-	-	
HCM Lane V/C Ratio	0.267	0.132	-	-	-	
HCM Control Delay (s)	11	8.6	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	1.1	0.5	-	-	-	

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Total Traffic Conditions
Year 2023 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	189	11	11	147	10	12
Future Vol, veh/h	189	11	11	147	10	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	92	92	92	92	92	92
Heavy Vehicles, %	24	0	18	61	48	34
Mvmt Flow	205	12	12	160	11	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	217	0	395	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	184	-
Critical Hdwy	-	-	4.28	-	6.88	6.54
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.362	-	3.932	3.606
Pot Cap-1 Maneuver	-	-	1263	-	530	755
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	748	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1263	-	525	755
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	741	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		10.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	630	-	-	1263	-	
HCM Lane V/C Ratio	0.038	-	-	0.009	-	
HCM Control Delay (s)	10.9	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
5: Huron Street & Site Access

Total Traffic Conditions
Year 2023 - AM Peak Hour























Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑			↑
Traffic Vol, veh/h	0	6	16	0	0	22
Future Vol, veh/h	0	6	16	0	0	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	82	25	2	2	9
Mvmt Flow	0	7	17	0	0	24
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	41	17	0	-	-	-
Stage 1	17	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.42	7.02	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	4.038	-	-	-	-
Pot Cap-1 Maneuver	970	871	-	0	0	-
Stage 1	1006	-	-	0	0	-
Stage 2	999	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	970	871	-	-	-	-
Mov Cap-2 Maneuver	970	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	999	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.2	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 871		-			
HCM Lane V/C Ratio	- 0.007		-			
HCM Control Delay (s)	- 9.2		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2023 - PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	114	82	51	159	86	111	294	56	34	174	35
Future Volume (vph)	51	114	82	51	159	86	111	294	56	34	174	35
Satd. Flow (prot)	0	1624	1357	0	1784	1538	1517	1792	1179	1570	1684	0
Flt Permitted		0.985			0.988		0.477			0.545		
Satd. Flow (perm)	0	1624	1357	0	1784	1538	762	1792	1179	900	1684	0
Satd. Flow (RTOR)			153			153			142		12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	9%	18%	19%	6%	5%	5%	19%	6%	37%	15%	9%	15%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	179	89	0	228	93	121	320	61	37	227	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	20.0	20.0	20.0	23.0	23.0	23.0	12.0	45.0	45.0	12.0	45.0	
Total Split (%)	20.0%	20.0%	20.0%	23.0%	23.0%	23.0%	12.0%	45.0%	45.0%	12.0%	45.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		16.5	16.5		17.0	17.0	48.8	43.2	43.2	43.5	37.0	
Actuated g/C Ratio		0.16	0.16		0.17	0.17	0.49	0.43	0.43	0.44	0.37	
v/c Ratio		0.67	0.25		0.75	0.24	0.28	0.41	0.10	0.09	0.36	
Control Delay		50.9	2.3		55.2	2.5	18.0	25.4	0.4	15.6	25.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		50.9	2.3		55.2	2.5	18.0	25.4	0.4	15.6	25.9	
LOS		D	A		E	A	B	C	A	B	C	
Approach Delay		34.7			39.9			20.6			24.5	
Approach LOS		C			D			C			C	
Queue Length 50th (ft)		108	0		138	0	41	153	0	12	103	
Queue Length 95th (ft)		169	6		#223	8	84	259	0	32	174	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		285	364		334	412	435	833	624	443	717	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.63	0.24		0.68	0.23	0.28	0.38	0.10	0.08	0.32	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2023 - PM Peak Hour

Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 28.7

Intersection LOS: C

Intersection Capacity Utilization 56.3%







ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
12 s	45 s	20 s	23 s
 Ø5	 Ø6 (R)		
12 s	45 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Total Traffic Conditions
Year 2023 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	15	7	450	297	14
Future Vol, veh/h	11	15	7	450	297	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	52	14	10	29
Mvmt Flow	12	16	8	489	323	15




Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	836	331	338	0	-	0
Stage 1	331	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.62	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.668	-	-	-
Pot Cap-1 Maneuver	340	715	989	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	336	715	989	-	-	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	989	-	484	-	-
HCM Lane V/C Ratio	0.008	-	0.058	-	-
HCM Control Delay (s)	8.7	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Total Traffic Conditions
Year 2023 - PM Peak Hour

Intersection						
Int Delay, s/veh	4.7					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	93	4	156	174	15	116
Future Vol, veh/h	93	4	156	174	15	116
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	92	92	92	92	92	92
Heavy Vehicles, %	24	25	16	4	13	22
Mvmt Flow	101	4	170	189	16	126
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	632	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	529	-
Critical Hdwy	-	-	4.26	-	6.53	6.42
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	2.344	-	3.617	3.498
Pot Cap-1 Maneuver	-	-	1403	-	427	900
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	569	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1403	-	369	900
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	492	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		3.7		10.7	
HCM LOS					B	
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	773	1403	-	-	-	
HCM Lane V/C Ratio	0.184	0.121	-	-	-	
HCM Control Delay (s)	10.7	7.9	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	0.7	0.4	-	-	-	




HCM 6th TWSC

4: Huron Street & W 62nd Parkway

Total Traffic Conditions
Year 2023 - PM Peak Hour

Intersection

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	5	1	159	11	14
Future Vol, veh/h	116	5	1	159	11	14
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	92	92	92	92	92	92
Heavy Vehicles, %	15	20	0	16	8	61
Mvmt Flow	126	5	1	173	12	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	131
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1467
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1467
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	731	-	-	1467	-
HCM Lane V/C Ratio	0.037	-	-	0.001	-
HCM Control Delay (s)	10.1	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
5: Huron Street & Site Access

Total Traffic Conditions
Year 2023 - PM Peak Hour






















Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑			↑
Traffic Vol, veh/h	0	9	16	0	0	6
Future Vol, veh/h	0	9	16	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	82	12	2	2	17
Mvmt Flow	0	10	17	0	0	7
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	24	17	0	-	-	-
Stage 1	17	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.42	7.02	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	4.038	-	-	-	-
Pot Cap-1 Maneuver	992	871	-	0	0	-
Stage 1	1006	-	-	0	0	-
Stage 2	1016	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	992	871	-	-	-	-
Mov Cap-2 Maneuver	992	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.2	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 871		-			
HCM Lane V/C Ratio	- 0.011		-			
HCM Control Delay (s)	- 9.2		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2041 - AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	212	139	47	92	37	140	149	73	120	345	80
Future Volume (vph)	48	212	139	47	92	37	140	149	73	120	345	80
Satd. Flow (prot)	0	1751	1129	0	1325	1346	1367	1681	1417	1641	1622	0
Flt Permitted		0.991			0.983		0.228			0.654		
Satd. Flow (perm)	0	1751	1129	0	1325	1346	328	1681	1417	1130	1622	0
Satd. Flow (RTOR)			158			158			145		14	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	7%	43%	29%	47%	20%	32%	13%	14%	10%	11%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	151	0	151	40	152	162	79	130	462	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	22.0	22.0	22.0	18.0	18.0	18.0	14.0	39.0	39.0	11.0	36.0	
Total Split (%)	24.4%	24.4%	24.4%	20.0%	20.0%	20.0%	15.6%	43.3%	43.3%	12.2%	40.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		16.8	16.8		12.6	12.6	41.3	33.1	33.1	37.8	31.3	
Actuated g/C Ratio		0.19	0.19		0.14	0.14	0.46	0.37	0.37	0.42	0.35	
v/c Ratio		0.87	0.45		0.81	0.12	0.62	0.26	0.13	0.25	0.81	
Control Delay		61.9	9.6		70.1	0.8	26.3	21.7	0.7	14.4	39.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		61.9	9.6		70.1	0.8	26.3	21.7	0.7	14.4	39.0	
LOS		E	A		E	A	C	C	A	B	D	
Approach Delay		43.7			55.6			19.3			33.6	
Approach LOS		D			E			B			C	
Queue Length 50th (ft)		156	0		84	0	48	64	0	39	231	
Queue Length 95th (ft)		#294	47		#186	0	#93	111	3	70	#394	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		336	344		194	332	247	635	625	510	589	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.84	0.44		0.78	0.12	0.62	0.26	0.13	0.25	0.78	
Intersection Summary												
Cycle Length: 90												
Actuated Cycle Length: 90												

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2041 - AM Peak Hour

Offset: 55 (61%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 35.4

Intersection LOS: D

Intersection Capacity Utilization 69.5%







ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)		 Ø4	 Ø8
11 s	39 s		22 s	18 s
 Ø5	 Ø6 (R)			
14 s	36 s			

HCM 6th TWSC
2: Broadway & W 60th Place

Total Traffic Conditions
Year 2041 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	7	345	553	7
Future Vol, veh/h	4	7	7	345	553	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	40	54	19	23	82
Mvmt Flow	4	8	8	375	601	8




Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	996	605	609	0	-	0
Stage 1	605	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Critical Hdwy	6.4	6.6	4.64	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.66	2.686	-	-	-
Pot Cap-1 Maneuver	273	434	761	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	269	434	761	-	-	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	761	-	355	-	-
HCM Lane V/C Ratio	0.01	-	0.034	-	-
HCM Control Delay (s)	9.8	0	15.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-




HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Total Traffic Conditions
Year 2041 - AM Peak Hour

Intersection						
Int Delay, s/veh	7.4					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	170	24	202	83	12	273
Future Vol, veh/h	170	24	202	83	12	273
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	92	92	92	92	92	92
Heavy Vehicles, %	34	62	57	43	25	24
Mvmt Flow	185	26	220	90	13	297
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	728	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	530	-
Critical Hdwy	-	-	4.67	-	6.65	6.44
Critical Hdwy Stg 1	-	-	-	-	5.65	-
Critical Hdwy Stg 2	-	-	-	-	5.65	-
Follow-up Hdwy	-	-	2.713	-	3.725	3.516
Pot Cap-1 Maneuver	-	-	1092	-	359	790
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	546	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1092	-	283	790
Mov Cap-2 Maneuver	-	-	-	-	283	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	430	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		6.5		13.4	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	735	1092	-	-	-	
HCM Lane V/C Ratio	0.421	0.201	-	-	-	
HCM Control Delay (s)	13.4	9.1	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	2.1	0.8	-	-	-	

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Total Traffic Conditions
Year 2041 - AM Peak Hour

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	16	16	210	14	15
Future Vol, veh/h	270	16	16	210	14	15
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	92	92	92	92	92	92
Heavy Vehicles, %	24	0	18	61	47	28
Mvmt Flow	293	17	17	228	15	16
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	310	0	564	302
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	262	-
Critical Hdwy	-	-	4.28	-	6.87	6.48
Critical Hdwy Stg 1	-	-	-	-	5.87	-
Critical Hdwy Stg 2	-	-	-	-	5.87	-
Follow-up Hdwy	-	-	2.362	-	3.923	3.552
Pot Cap-1 Maneuver	-	-	1165	-	419	681
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1165	-	412	681
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	676	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.6		12.4	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	518	-	-	1165	-	
HCM Lane V/C Ratio	0.061	-	-	0.015	-	
HCM Control Delay (s)	12.4	-	-	8.1	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

HCM 6th TWSC
5: Huron Street & Site Access

Total Traffic Conditions
Year 2041 - AM Peak Hour























Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑			↑
Traffic Vol, veh/h	0	6	29	0	0	32
Future Vol, veh/h	0	6	29	0	0	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	82	25	2	2	9
Mvmt Flow	0	7	32	0	0	35
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	67	32	0	-	-	-
Stage 1	32	-	-	-	-	-
Stage 2	35	-	-	-	-	-
Critical Hdwy	6.42	7.02	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	4.038	-	-	-	-
Pot Cap-1 Maneuver	938	853	-	0	0	-
Stage 1	991	-	-	0	0	-
Stage 2	987	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	938	853	-	-	-	-
Mov Cap-2 Maneuver	938	-	-	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.3	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 853		-			
HCM Lane V/C Ratio	- 0.008		-			
HCM Control Delay (s)	- 9.3		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2041 - PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	162	115	72	227	123	159	421	80	49	247	51
Future Volume (vph)	72	162	115	72	227	123	159	421	80	49	247	51
Satd. Flow (prot)	0	1628	1369	0	1788	1538	1517	1792	1179	1570	1695	0
Flt Permitted		0.985			0.988		0.309			0.346		
Satd. Flow (perm)	0	1628	1369	0	1788	1538	493	1792	1179	572	1695	0
Satd. Flow (RTOR)			142			142			131		11	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	18%	18%	5%	5%	5%	19%	6%	37%	15%	8%	15%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	254	125	0	325	134	173	458	87	53	323	0
Turn Type	Split	NA	Perm	Split	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8	2		2	6		
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	3.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0	10.0	11.0	16.0	16.0	8.0	15.0	
Total Split (s)	24.0	24.0	24.0	27.0	27.0	27.0	14.0	41.0	41.0	8.0	35.0	
Total Split (%)	24.0%	24.0%	24.0%	27.0%	27.0%	27.0%	14.0%	41.0%	41.0%	8.0%	35.0%	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	5.0		5.0	5.0	6.0	6.0	6.0	5.0	5.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min	C-Min	None	C-Min	
Act Effect Green (s)		18.8	18.8		21.0	21.0	44.0	37.0	37.0	34.8	30.6	
Actuated g/C Ratio		0.19	0.19		0.21	0.21	0.44	0.37	0.37	0.35	0.31	
v/c Ratio		0.83	0.34		0.86	0.31	0.57	0.69	0.17	0.22	0.61	
Control Delay		62.1	7.2		61.2	7.0	27.3	34.8	2.1	20.9	35.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		62.1	7.2		61.2	7.0	27.3	34.8	2.1	20.9	35.4	
LOS		E	A		E	A	C	C	A	C	D	
Approach Delay		44.0			45.4			29.0			33.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		151	0		195	0	75	270	0	21	182	
Queue Length 95th (ft)		#287	38		#342	43	118	371	13	42	265	
Internal Link Dist (ft)		2492			463			887			458	
Turn Bay Length (ft)			95			60	120		120	150		
Base Capacity (vph)		321	384		398	453	304	690	534	240	549	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.79	0.33		0.82	0.30	0.57	0.66	0.16	0.22	0.59	
Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												

Timings

1: Broadway & W 62nd Avenue

Total Traffic Conditions

Year 2041 - PM Peak Hour

Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 36.7

Intersection LOS: D

Intersection Capacity Utilization 71.4%







ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.




Queue shown is maximum after two cycles.

Splits and Phases: 1: Broadway & W 62nd Avenue

 Ø1	 Ø2 (R)	 Ø4	 Ø8
8 s	41 s	24 s	27 s
 Ø5	 Ø6 (R)		
14 s	35 s		

HCM 6th TWSC
2: Broadway & W 60th Place

Total Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	21	9	643	424	18
Future Vol, veh/h	16	21	9	643	424	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	49	14	10	23
Mvmt Flow	17	23	10	699	461	20




Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1190	471	481	0	-	0
Stage 1	471	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.59	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.641	-	-	-
Pot Cap-1 Maneuver	209	597	876	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	597	876	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	620	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	876	-	327	-	-
HCM Lane V/C Ratio	0.011	-	0.123	-	-
HCM Control Delay (s)	9.2	0	17.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-




HCM 6th TWSC
3: W 62nd Parkway & W 62nd Avenue

Total Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	5.3					
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	132	6	223	248	20	163
Future Vol, veh/h	132	6	223	248	20	163
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	92	92	92	92	92	92
Heavy Vehicles, %	24	25	16	4	11	20
Mvmt Flow	143	7	242	270	22	177
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	150	0	901	147
Stage 1	-	-	-	-	147	-
Stage 2	-	-	-	-	754	-
Critical Hdwy	-	-	4.26	-	6.51	6.4
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.344	-	3.599	3.48
Pot Cap-1 Maneuver	-	-	1350	-	298	855
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	449	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1350	-	235	855
Mov Cap-2 Maneuver	-	-	-	-	235	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	354	-
Approach	SE		NW		NE	
HCM Control Delay, s	0		3.9		12.7	
HCM LOS	B					
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER	
Capacity (veh/h)	664	1350	-	-	-	
HCM Lane V/C Ratio	0.3	0.18	-	-	-	
HCM Control Delay (s)	12.7	8.2	0	-	-	
HCM Lane LOS	B	A	A	-	-	
HCM 95th %tile Q(veh)	1.3	0.7	-	-	-	

HCM 6th TWSC
4: Huron Street & W 62nd Parkway

Total Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	166	7	1	227	16	17
Future Vol, veh/h	166	7	1	227	16	17
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	92	92	92	92	92	92
Heavy Vehicles, %	16	20	0	16	5	56
Mvmt Flow	180	8	1	247	17	18
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	433	184
Stage 1	-	-	-	-	184	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	-	-	4.1	-	6.45	6.76
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.2	-	3.545	3.804
Pot Cap-1 Maneuver	-	-	1398	-	574	737
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1398	-	573	737
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	784	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		10.9	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	647	-	-	1398	-	
HCM Lane V/C Ratio	0.055	-	-	0.001	-	
HCM Control Delay (s)	10.9	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

HCM 6th TWSC
5: Huron Street & Site Access

Total Traffic Conditions
Year 2041 - PM Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↑			↑
Traffic Vol, veh/h	0	9	33	0	0	8
Future Vol, veh/h	0	9	33	0	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	82	12	2	2	17
Mvmt Flow	0	10	36	0	0	9
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	45	36	0	-	-	-
Stage 1	36	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.42	7.02	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	4.038	-	-	-	-
Pot Cap-1 Maneuver	965	848	-	0	0	-
Stage 1	986	-	-	0	0	-
Stage 2	1014	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	965	848	-	-	-	-
Mov Cap-2 Maneuver	965	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.3	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 848		-			
HCM Lane V/C Ratio	- 0.012		-			
HCM Control Delay (s)	- 9.3		-			
HCM Lane LOS	- A		-			
HCM 95th %tile Q(veh)	- 0		-			