PROJECT DEVELOPMENT REPORT

HOWARD STREET (FAU 1334)
FROM DODGE AVE/CALIFORNIA AVE (FAU 2840)
TO CUSTER AVE/DAMEN AVE (FAU 2816)

Section 17-00281-00-RS

CITY OF EVANSTON

COOK COUNTY, IL

October 2017

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Illinois Department of Transportation

Local Project Development Report for Group Categorical I Exclusions and Design Approval

County: Cook
Local Public Agency: City of Evanston
Section Number: 17-00281-00-RS
Route: Howard Street (FAU 1334)

Project Number: _____ Project Length: 1.3 miles

Street/Road Name: Howard Street (FAU 1334)

Termini: Dodge Ave/California Ave (FAU 2840) to Custer Ave/Damen Ave (FAU 2816)

☐ For Township or Road District bridge projects: The County Engineer certifies that the project design speed exceeds the minimum design speed recommended for this classification of roadway as provided in the BLRS Manual in order to prevent a deficient NBIS rating for approach roadway alignment appraisal. All elements have been designed to the chosen design speed unless noted otherwise in Section 2(e) and/or the attached BLR 22120.

_____ _____
County Engineer Date

☐ Categorical Exclusion and Design Approval Recommended

_____ 12/13/17
Local Agency Date

_____ 11/29/17
City of Chicago Date

Categorical Exclusion Statement

This project will not have any significant impacts on the environment, or involve any unusual circumstances, therefore, it is a Categorical Exclusion I.

☐ Categorical Exclusion and Design Approval

_____ _____
Regional Engineer Date

1. LOCATION AND EXISTING CONDITIONS

a. **Location** (attach location map to supplement narrative description)

The Howard Street corridor improvement project is located on the border of the City of Evanston and the City of Chicago in Cook County, Illinois. The project limits are from Dodge Ave/California Ave (FAU 2840) to Custer Ave/Damen Ave (FAU 2816). Due to constructability issues the construction limits were extended 1,300 feet to Hartrey Ave/Sacramento Ave on the west and 400 feet to Callan Ave/Winchester Ave on the east.

See Exhibit 2.1 - Location Map.

b. **Description of Existing Facility** - Give narrative description, including such items as width of travel, parking and turn lanes, sidewalks, alignment, traffic control devices, utilities, jurisdiction, maintenance responsibility, drainage, terrain and current land use (including major public facilities and local landmarks). Attach existing typical sections showing roadway widths, bridge widths, ROW widths, sidewalk widths, guardrail, curb and gutter and surface types.

HOWARD STREET from Hartrey/Sacramento to Asbury/Western

Classification/Width:

Howard Street from Hartrey/Sacramento to Asbury/Western is an east-west roadway classified as a major collector with an 11-foot wide through lane in each direction and a 9-foot wide parking lane on both sides of the street. The roadway is 40 feet wide bound by B-6.12 curb and gutter with a 5-foot parkway and 5 to 6-foot sidewalk accommodations on both sides of Howard Street.

Utilities:

Existing utilities along Howard Street include water main, storm sewer, and sanitary sewers maintained by both the City of Evanston and the City of Chicago, Metropolitan Water Reclamation District (MWRD); as well as, private utilities including AT&T, Comcast, ComED, Nicor and People's Gas.

Bicycle/Pedestrian/Transit Facilities:

Howard Street from Sacramento to Asbury/Western is a signed bicycle route. There are no existing bicycle pavement markings. 5-foot to 6-foot wide sidewalks exist on each side of Howard Street. Bicycles are not allowed on the sidewalks unless the cyclist is under 12 years of age. Protected bike lanes exists along Dodge Avenue north of Howard Street and shared bike lanes exists along California Avenue south of Howard Street. Crosswalks across Howard Street exist at the following intersections; Hartrey/Sacramento, Grey/Francisco, Dodge/California, Florence/Rockwell, Ashland/Maplewood and Asbury/Western. CTA (Route 215) and Pace (Routes 93 and 97) buses travel along Howard Street throughout the project limits.

Horizontal Alignment:

The horizontal alignment of Howard Street from Sacramento to Asbury/Western is on a tangent oriented in an east-west direction.

Vertical Alignment:

The vertical alignment of Howard Street from Sacramento to Asbury/Western is flat with a slope of no greater than 1%.

Lighting:

Overhead roadway style lighting exists on each side of Howard Street. On the City of Evanston side, the light poles are spaced between 200 to 300 feet apart. On the City of Chicago side, the light poles are spaced between 100 to 150 feet apart.

Intersections and Traffic Control Devices:

Howard Street and Dodge/California

The intersection of Howard Street and California/Dodge is signalized. The west approach of the intersection consists of a 10-foot through lane, 10-foot parking lane/de-facto right turn lane and a 10-foot left turn lane. The east approach of the intersection consists of a 10-foot through lane, 10-foot parking lane/de-facto right turn lane and a 10-foot left turn lane. The parking lanes on the east and west approach are used for right turns near the intersection. The north approach of the intersection consists of a 12-foot through/right turn lane, 12-foot left turn lane and a 5-foot bike lane. The south approach of the intersection consists of a 20-foot shared through/right turn lane and a 10-foot left turn lane. The through lane is a shared lane for bicyclists. Standard crosswalks exist on each leg of the intersection. A traffic analysis was prepared for the signalized intersection of Howard Street and California/Dodge. Based on the analysis, the signalized intersection operates at a LOS of C (27.7 sec. delay) at the weekday A.M. peak and a LOS of C (31.7 sec. delay) at the weekday P.M. peak.

The following intersections are stop controlled along the approach streets to Howard Street:

Grey/Francisco
Washtenaw
Dewey
Florence/Rockwell
Ashland/Maplewood

Jurisdiction and Maintenance:

Howard Street is a major collector roadway from Sacramento to Asbury/Western that is under the jurisdiction and maintenance responsibility of both the City of Evanston and the City of Chicago. The jurisdiction and maintenance split is 60/40, respectfully. Asbury Avenue north of Howard was recently resurfaced including all four ADA corner upgrades were performed at Asbury/Western and Howard.

Drainage and Terrain:

The existing terrain on Howard Street from Sacramento to Asbury/Western is generally flat with the highest elevation at the east end. Howard Street is drained through a two system series of catch basins to a 12 to 18-inch combined sewer system that drains along Howard Street from west to east. One system is through the City of Evanston the other is through the City of Chicago.

Land Use:

Existing land use for the project along Howard Street from Sacramento to Asbury/Western is mainly residential with commercial properties at the Dodge/California intersection and the approach to the Asbury/Western intersection. The commercial properties consist of restaurants, auto body shops, a Vet Center, nail salons, a bank, a day care, a strip mall and various religious centers.

Right-of-Way:

The existing right-of-way of Howard Street from Sacramento to Asbury/Western is 66 feet in width.

See Exhibit 2.2 – Typical Sections and Exhibit 2.3 - Plan and Profile Sheets.

HOWARD STREET from Asbury/Western to Ridge

Classification/Width:

Howard Street from Asbury/Western to Ridge is an east-west roadway classified as a major collector with an 11-foot wide through lane in the west direction and a 12-foot wide through lane in the east direction, a 12-foot de-facto through lane in the west direction and a 10-foot parking lane on the south side of the street. The roadway is 45 feet wide bound by B-6.12 curb and gutter with a 5-foot parkway and 5 to 10-foot sidewalk accommodations on both sides of Howard Street.

Utilities:

Existing utilities along Howard Street include water main, storm sewer, and sanitary sewers maintained by both the City of Evanston and the City of Chicago, Metropolitan Water Reclamation District (MWRD); as well as, private utilities including AT&T, Comcast, ComED, Nicor and People's Gas.

Bicycle/Pedestrian/Transit Facilities:

Howard Street from Asbury/Western to Ridge is a signed bicycle route. There are no existing bicycle pavement markings. 5 to 10-foot wide sidewalks exist on each side of Howard Street. Bicycles are not allowed on the sidewalks unless the cyclist is under 12 years of age. Crosswalks across Howard Street exist at the following intersections; Asbury/Western, Oakley and Ridge. CTA (Route 215) and Pace (Routes 97 and 206) buses travel along Howard Street throughout the project limits.

Horizontal Alignment:

The horizontal alignment of Howard Street from Asbury/Western to Ridge is on a tangent oriented in an east-west direction.

Vertical Alignment:

The vertical alignment of Howard Street from Sacramento to Asbury/Western is flat with a slope of no greater than 1%.

Lighting:

Overhead roadway style lighting exists on each side of Howard Street. On the City of Evanston side, the light poles are spaced between 200 to 275 feet apart. On the City of Chicago side, the light poles are spaced between 100 to 150 feet apart.

Intersections and Traffic Control Devices:

Howard Street and Asbury/Western

The intersection of Howard Street and Asbury/Western is signalized. The west approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The east approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The north approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The south approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. Standard crosswalks exist on each leg of the intersection. A traffic analysis was prepared for the signalized intersection of Howard Street and Asbury/Western. Based on the analysis, the signalized intersection operates at a LOS of D (35.7 sec. delay) at the weekday A.M. peak and a LOS of D (36.5 sec. delay) at the weekday P.M. peak.

Howard Street and Ridge

The intersection of Howard Street and Ridge is signalized. The west approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The east approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The bike lane does not exist at the east approach. The north approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The south approach of the intersection consists of a 10-foot through/right turn lane and a 10-foot left turn lane. Standard crosswalks exist on each leg of the intersection. A traffic analysis was prepared for the signalized intersection of Howard Street and Ridge. Based on the analysis, the signalized intersection operates at a LOS of C (29.6 sec. delay) at the weekday A.M. peak and a LOS of C (28.1 sec. delay) at the weekday P.M. peak.

The following intersections are stop controlled along the approach streets to Howard Street:

Barton
Oakley
Bell

The following intersection is a one-way approach street leading away from Howard Street:

Claremont

Jurisdiction and Maintenance:

Howard Street is a major collector roadway from Asbury/Western to Ridge that is under the jurisdiction and maintenance responsibility of both the City of Evanston and the City of Chicago. The jurisdiction and maintenance split is 60/40, respectfully. Asbury Avenue north of Howard was recently resurfaced including all four ADA corner upgrades were performed at Asbury/Western and Howard.

Drainage and Terrain:

The existing terrain on Howard Street from Asbury/Western to Ridge is generally flat with the highest elevation at the east end. Howard Street is drained through a two system series of catch basins to a 12 to 30-inch combined sewer system that drains along Howard Street from east to west. One system is through the City of Evanston the other is through the City of Chicago.

Land Use:

Existing land use for the project along Howard Street from Asbury/Western to Ridge is mainly commercial properties consisting of restaurants, auto body shops, senior adult day center, a dialysis center and a couple stripe malls.

Right-of-Way:

The existing right-of-way of Howard Street from Sacramento to Asbury/Western is 76 feet in width.

See Exhibit 2.2 – Typical Sections and Exhibit 2.3 - Plan and Profile Sheets.

HOWARD STREET from Ridge to Callan/Winchester

Classification/Width:

Howard Street from Ridge to Callan/Winchester is an east-west roadway classified as a major collector with a 12-foot through lane in each direction, a 5-foot bike lane in each direction and a 8-foot parking lane on both sides of the street. The roadway is 50 feet wide bound by B-6.12 curb and gutter with sidewalk accommodations on both sides of Howard Street.

Utilities:

Existing utilities along Howard Street include water main, storm sewer, and sanitary sewers maintained by both the City of Evanston and the City of Chicago, Metropolitan Water Reclamation District (MWRD); as well as, private utilities including AT&T, Comcast, ComED, Nicor and People's Gas.

Bicycle/Pedestrian/Transit Facilities:

Howard Street from Ridge to Callan/Winchester is a pavement marked 5-foot bike lane. 11.5-foot wide sidewalks exist on each side of Howard Street. Crosswalks across Howard Street exist at the following intersections; Ridge, Elmwood/Hoyne, Seeley, Custer/Damen and Callan/Winchester. CTA (Route 215) and Pace (Routes 97, 201 and 207) buses travel along Howard Street throughout the project limits.

Horizontal Alignment:

The horizontal alignment of Howard Street from Asbury/Western to Ridge is on a tangent oriented in an east-west direction.

Vertical Alignment:

The vertical alignment of Howard Street from Sacramento to Asbury/Western is flat with a slope of no greater than 3.5%.

Lighting:

Overhead streetscape style lighting exists on each side of Howard Street. On both sides, the light poles are spaced approximately 75 feet apart.

Intersections and Traffic Control Devices:

Howard Street and Custer/Damen

The intersection of Howard Street and Custer/Damen is signalized. The west approach of the intersection consists of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The east approach of the intersection consists of a 10-foot through lane, a 10-foot right turn lane and a 10-foot left turn lane. The north approach of the intersection consists of a 15-foot through/right/left turn lane. The south approach of the intersection is one way heading south. Standard crosswalks exist on each leg of the intersection. A traffic analysis was prepared for the signalized intersection of Howard Street and Custer/Damen. Based on the analysis, the signalized intersection operates at a LOS of A (7.5 sec. delay) at the weekday A.M. peak and a LOS of B (12.1 sec. delay) at the weekday P.M. peak.

The following intersections are stop controlled along the approach streets to Howard Street:

Elmwood/Hoyne
Seeley
Callan/Winchester

Jurisdiction and Maintenance:

Howard Street is a major collector roadway from Ridge to Winchester that is under the jurisdiction and maintenance responsibility of both the City of Evanston and the City of Chicago. The jurisdiction and maintenance split is 60/40, respectfully.

Drainage and Terrain:

The existing terrain on Howard Street from Asbury/Western to Ridge is generally flat with the highest elevation at the east end. Howard Street is drained through a two system series of catch basins to a 9 to 15-inch combined sewer system that drains along Howard Street from west to east. One system is through the City of Evanston the other is through the City of Chicago.

Land Use:

Existing land use for the project along Howard Street from Ridge to Winchester is mainly commercial properties consisting of restaurants, retail shops, a gas station and a laundromat.

Right-of-Way:

The existing right-of-way of Howard Street from Ridge to Winchester is 76 feet in width.

c. **Traffic Data**

Current ADT: 21,500 % trucks: 2%

Will 80,000 trucks be legally permitted on this route? ☐ Yes ☒ No

Design Year: 2017 ADT: 21,500 DHV: 2,150 % trucks: 2%

d. **Structures** - Identify location within the proposed improvement of all structures on attached location map. Attach a copy of the Structure Master Report for all structures within the project limits. Attach a copy of the Bridge Condition Report or the Bridge Deck Resurfacing approval letter for structures to be replaced, rehabilitated, or resurfaced.

n/a

e. **Railroads** - Identify location of all railroad crossings on attached location map and complete the following:

Railroad Name	No. and Type of Tracks (Main or Switching)	Type of Warning Devices*	No. of Trains Per Day	Railroad Width of Crossing at Rt. Angles
n/a				
n/a				

*Include a sketch showing location of railroad protective devices from the edge of roadway and to the nearest track.

f. **Contiguous Sections** - Describe the existing typical sections at each end of the proposed improvement including number of travel lanes, turning lanes and parking lanes, lane widths and roadway width (f-f of curbs or e-e of shoulders), and sidewalk width.

Howard Street west of the project limit is 40 feet wide with a 11-foot through lane in each direction and a 10-foot parking lane on both sides of the street. The sidewalk ranges from 5 to 6-feet in width.

Howard Street east of the project limit is 50 feet wide with a 12-foot through lane in each direction, a 5-foot bike lane and a 9-foot parking lane on both sides of the street. The sidewalk width is 11.5 in width which includes a 4.5-foot wide brick paver section.

2. **Proposed Improvement**

a. Discuss the purpose and need of the project:

The proposed Howard Street corridor improvement project is a roadway rehabilitation project that will improve operations and mobility and create a safer environment to accommodates all roadway users. Additionally, the project will improve intersection safety and operations by upgrading and interconnecting traffic signals. The roadway will be resurfaced, transit operations will be improved, watermain will be upgraded and streetscape elements will be incorporated to the commercial areas within the project limits.

The proposed improvements employ a variety of techniques to eliminate or mitigate conflicts between different types of users. For bicycles, pavement marking bike lanes and shared lanes will be installed to identify where cyclists should travel. For pedestrians, several bump outs will be installed to decrease the crosswalk lengths. Push bottoms and pedestrian count-downs will be installed at traffic signals and wider sidewalk will be provided in locations where existing sidewalk is narrow and unsafe. For drivers, traffic signals will be optimized and resurfacing of roadway will provide for a safer driving condition.

b. What design guidelines will be used for the proposed improvement? (Check One)

☐ Rural (BLRS Manual Chapter 32)
☐ Urban (BLRS Manual Chapter 32)
☐ Suburban (BLRS Manual Chapter 32)
☒ 3R Guidelines (BLRS Manual Chapter 33)
☐ Bicycle Guidelines (BLRS Manual Chapter 42)
☐ Pedestrian Guidelines
☐ Other:

Functional Classification: ☐ Arterial ☒ Collector ☐ Local Road ☐ Other _____

Terrain: ☒ Level ☐ Rolling

Regulatory or Posted Speed Limit: 25-30 Design Speed: 30

c. Describe type of work to be accomplished by the improvement. Discussion should include width of proposed travel, parking, bicycle and turning lanes, sidewalks, shared-use paths, guardrail, traffic control devices, drainage items (including storm sewer outfalls), alignment changes, railroad work, utility adjustments, intersection improvements, side slopes and clear zones. Specify the emax for horizontal curves. Attach typical sections, plan and profile sheets, and intersection design studies when applicable.

HOWARD STREET from Hartrey/Sacramento to Asbury/Western

Proposed Travel Lanes:

The pavement on Howard Street between Hartrey/Sacramento and Asbury/Western will be resurfaced with select full-depth patching and restriped. Howard Street between Hartrey/Sacramento and Asbury/Western will be restriped to provide a cross section consisting of a 13-foot shared bike through lane and a 7-foot parking lane on both sides of Howard Street. Select sidewalk and curb and gutter removal and replacement will occur throughout this segment.

Bicycle/Pedestrian/Transit Facilities:

A 13-foot shared bike/automobile lane will be striped in both directions. At the Asbury/Western intersection, the shared bike lane will become a buffered bike lane to the east of the intersection. The shared lane western terminus is Hartrey/Sacramento. The shared lane pavement markings will improve cyclist accommodations by giving bicyclists a marked shared facility.

At Grey/Francisco Ave., Washtenaw Ave., and Ashland/Maplewood Ave., curb bump-outs will be constructed to extend the curb line 8 feet into the roadway. These bump-outs will accommodate pedestrians by shortening the crossing distances and reducing the corner turning radii. The corner turning radii reduction will calm traffic by decreasing the speed of turning vehicles, and shorter crosswalks will reduce the amount of time pedestrians are exposed to traffic and will require less clearance time. All crosswalks will be high visibility and will be made accessible through the installation of curb ramps with detectible warning tiles.

CTA and Pace have been contacted and the following bus stop consolidations have been proposed to increase transit mobility. EB and WB bus stop elimination at Florence/Rockwell and nearside EB bus stop elimination at Asbury/Western.

Lighting Improvements:
Lighting improvements will be included along Howard Street. New roadway lights and poles will meet the current Illuminating Engineering Society of North American (IESNA), City of Evanston and City of Chicago standards.

Intersection and Traffic Control Devices:
Within the project limits, the existing traffic control methods will be maintained. Timing and phasing of existing signals will be modified.

Howard Street and Dodge/California
At the intersection of Howard Street and Dodge/California, a new traffic signal system will be installed. The cycle length will increase from 65 seconds to 100 seconds. An EB and WB left-turn phase will be added and splits and offsets will be optimized. The west approach of the intersection will consist of a 10-foot through lane, 10-foot right turn lane and a 10-foot left turn lane. The east approach of the intersection will consist of a 10-foot through lane, 10-foot shared through/right turn lane and a 10-foot left turn lane. The north approach of the intersection will consist of a 12-foot through/right turn lane, 12-foot left turn lane and a 5-foot bike lane. The south approach of the intersection will consist of a 20-foot shared through/right turn lane and a 10-foot left turn lane. A traffic analysis was prepared for the signalized intersection of Howard Street and Dodge/California. Based on the analysis, the proposed signalized intersection will operate at a LOS of C (26.7 sec. delay) at weekday A.M. and a LOS C (28.7 sec. delay) in the weekday P.M. peak.

See Exhibit 2.2 – Typical Sections and Exhibit 2.3 – Proposed Plan and Profile

HOWARD STREET from Asbury/Western to Ridge

Proposed Travel Lanes:

The pavement on Howard Street between Asbury/Western and Ridge will be resurfaced with select full-depth patching and restriped. Howard Street between Asbury/Western and Ridge will be restriped to provide a cross

section consisting of a 11-foot through lane, 6-foot buffered bike lane in each direction and a 7-foot parking lane on the south side of Howard Street. 4-foot sidewalk widening will be constructed on the north side of Howard Street. Select sidewalk and full curb and gutter removal and replacement will occur on both sides of Howard Street throughout this segment.

Bicycle/Pedestrian/Transit Facilities:

A 6-foot buffered bike lane will be striped in both directions. At the Asbury/Western intersection the bike facility will continue west along a shared bike lane. At the Ridge intersection, the buffered bike lane will continue to the east and west. The buffered bike lane will improve cyclist accommodations by giving bicyclists an exclusive marked facility.

At Oakley Ave., curb bump-outs will be constructed to extend the curb line 8 feet into the roadway. This bump-out will accommodate pedestrians by shortening the crossing distances and reducing the corner turning radii. The corner turning radii reduction will calm traffic by decreasing the speed of turning vehicles, and shorter crosswalks will reduce the amount of time pedestrians are exposed to traffic and will require less clearance time. All crosswalks will be high visibility and will be made accessible through the installation of curb ramps with detectible warning tiles.

CTA and Pace have been contacted and the following bus stop consolidations have been proposed to increase transit mobility within the roadway right-of-way. WB bus stop at Barton to be relocated to Bell. EB bus stop at Oakley to be relocated to Bell.

Lighting Improvements:
Lighting improvements will be included along Howard Street. New roadway lights and poles will meet the current Illuminating Engineering Society of North American (IESNA), City of Evanston and City of Chicago standards.

Intersection and Traffic Control Devices:

Within the project limits, the existing traffic control methods will be maintained.

Howard Street and Asbury/Western

At the intersection of Howard Street and Asbury/Western, the existing traffic signal system will be modified. Removal of a WB through lane which is proposed to be converted to an exclusive right turn lane. Optimization of splits and offsets are also proposed. Pedestrian count-down signals and push-buttons will be installed and signal timing will be optimized. The west approach of the intersection will consist of a 10-foot through lane, 10-foot shared right turn lane and a 10-foot left turn lane. The east approach of the intersection will consist of a 10-foot through lane, 10-foot right shared turn lane and a 10-foot left turn lane. The north approach of the intersection will consist of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The south approach of the intersection will consist of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. A traffic analysis was prepared for the signalized intersection of Howard Street and Asbury/Western. Based on the analysis, the proposed signalized intersection will operate at a LOS of C (28.9 sec. delay) at weekday A.M. and a LOS C (32.8 sec. delay) in the weekday P.M. peak.

Howard Street and Ridge

At the intersection of Howard Street and Ridge, the existing traffic signal system will be modified. Removal of a WB through lane which is proposed to be converted to an exclusive right turn lane. Optimization of splits and offsets and proposed 110 second cycle length to all for better progression between Ridge and Asbury/Western. Pedestrian count-downs will be installed and signal timing will be optimized. The west approach of the intersection will consist of a 10-foot through lane, 10-foot shared right turn lane and a 10-foot left turn lane. The east approach of the intersection will consist of a 10-foot through lane, 10-foot right shared turn lane and a 10-foot left turn lane. The north approach of the intersection will consist of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. The south approach of the intersection will consist of a 10-foot through lane, 10-foot through/right turn lane and a 10-foot left turn lane. A traffic analysis was prepared for the signalized intersection of Howard Street and Ridge. Based on the analysis, the proposed signalized intersection will operate at a LOS of C (34.8 sec. delay) at weekday A.M. and a LOS C (35.0 sec. delay) in the weekday P.M. peak.

See Exhibit 2.2 – Typical Sections and Exhibit 2.3 – Proposed Plan and Profile

HOWARD STREET from Ridge to Callan/Winchester

Proposed Travel Lanes:

The pavement on Howard Street between Ridge and Winchester will be resurfaced with select full-depth patching and restriped. Howard Street between Ridge and Winchester will be restriped to provide a cross section consisting of a 11-foot through lane, 6-foot buffered bike lane in each direction and a 7-foot parking lane on the south side of Howard Street. Select sidewalk and curb and gutter removal and replacement will occur throughout this segment.

Bicycle/Pedestrian/Transit Facilities:

A 6-foot buffered bike lane with be striped in both directions. At the Ridge intersection, the buffered bike lane will continue to the east and west. The buffered bike lane will improve cyclist accommodations by giving bicyclists an exclusive marked facility.

At Elmwood/Hoyne Ave., Seeley Ave. and Callan/Winchester Ave, curb bump-outs will be constructed to extend the curb line 8 feet into the roadway. These bump-outs will accommodate pedestrians by shortening the crossing distances and reducing the corner turning radii. The corner turning radii reduction will calm traffic by decreasing the speed of turning vehicles, and shorter crosswalks will reduce the amount of time pedestrians are exposed to traffic and will require less clearance time. All crosswalks will be high visibility and will be made accessible through the installation of curb ramps with detectible warning tiles.

CTA and Pace have been contacted and the following bus stop consolidations have been proposed to increase transit mobility. WB and EB bus stop elimination at Elmwood/Hoyne. WB nearside bus stop at Custer/Damen to be relocated to farside at Custer/Damen. EB nearside bus stop at Custer/Damen to be relocated to farside at Custer/Damen.

Lighting Improvements:
Lighting improvements will be included along Howard Street. New roadway lights and poles will meet the current Illuminating Engineering Society of North American (IESNA), City of Evanston and City of Chicago standards.

Intersection and Traffic Control Devices:

Within the project limits, the existing traffic control methods will be maintained. Timing and phasing of existing signals will be modified.

Howard Street and Custer/Damen

At the intersection of Howard Street and Custer/Damen, a new traffic signal system will be installed. Optimization of splits and offsets are proposed. The west approach of the intersection will consist of a 10-foot through lane, 10-foot shared right turn lane and a 10-foot left turn lane. The east approach of the intersection will consist of a 10-foot through lane, 10-foot right shared turn lane and a 10-foot left turn lane. The north approach of the intersection will consist of a 15-foot through/right/left turn lane. The south approach of the intersection will consist of a 15-foot through/right/left turn lane. A traffic analysis was prepared for the signalized intersection of Howard Street and Custer/Damen. Based on the analysis, the proposed signalized intersection will operate at a LOS of A (8.9 sec. delay) at weekday A.M. and a LOS B (11.3 sec. delay) in the weekday P.M. peak.

See Exhibit 2.2 – Typical Sections and Exhibit 2.3 – Proposed Plan and Profile

d. Discuss items affecting improvement such as hazardous mailbox supports, parking and truck restrictions, mail delivery from traffic lanes, justification (including warrants) for multi-way stop signs, traffic signals and other traffic control and railroad protective devices, stage construction, nearby airports, and additional lighting:

The logicial termini for the project are Dodge/California to Custer/Damen, however, the construction limits were extended through coordination with the cities and IDOT. The west construction limit has extended to Hartrey/Sacramento to meet the east limit of a project constructed in 2016 and eliminate a short gap of no improvement. The east construction limit has extended to Callan/Winchester to address a safety issue in the vicinity of the the Custer/Damen intersection.

e. Identify each aspect to be constructed at less than the design guidelines and provide a clear description of required design variances and appropriate justification. (BLRS Manual Section 27-7). If a design variance is required, include a copy of the approved BLR 22120 form as an attachment.

See Exhibit 2.4 – Design Variances

f. Current estimated cost of proposed improvement? $ 8,100,000

g. Analyze the need for accommodating pedestrians, bicyclists and the handicapped. When applicable, describe the facilities to be provided for pedestrians and bicyclists. Discuss the ADA accessibility and maximum longitudinal grade of these facilities. (BLRS Manual Chapter 41)

Pedestrian usage is high throughout the project limits. A third of a mile to the east of the project area is a major transportation station which connects the City of Evanston with the City of Chicago. The eastern segment of the project has an established bicycle facility. The western intersection at Dodge/California is a bicycle route for north to south movement. This project fills a bicycle facility gap between Ridge and Dodge/California. The proposed improvements are consistent with the City of Evanston and the City of Chicago Bicycle Plans which identifies Howard Street as a bike route and desired bike lane. Construction of a dedicated bike lane will help to mitigate potential conflicts between bicyclists, pedestrians, transit vehicles and motorists.

The project also includes improvements for pedestrians, focusing on safety by implementing shorter crossing distances at various intersections, bump-outs and high-visibility crosswalks. The proposed project work will improve ADA accessibility by installing compliant curb ramps and crosswalks.

Sidewalks/Shared-Use Paths:

Maximum 2% crosslope: ☒ Yes ☐ No ☐ Not Applicable

ADA ramps with detectable warnings at street intersections: ☒ Yes ☐ No ☐ Not Applicable

If no, provide justification.

h. Discuss any proposed improvements being considered in adjacent segments including the anticipated construction startup date of these improvements.

N/A

3. **Crash Analysis (BLRS Manual Section 22-2.11(b)(9))**

a. Summarize crash data for the past five years, including a spot map or a location map showing crash locations when possible. Detail the types of crashes and include collision diagrams, if possible, especially at cluster sites. Give the source of this data.

The following table summarizes crash data in the project area along Howard Street, from California Avenue to Custer Avenue:

Howard Street Crash Data Summary
Evanston, IL
CBBEL Project No. - 160650

Table 1
Summary - Crash Type

Crash Type	2011	2012	2013	2014	2015	Total	Percentage
PEDESTRIAN	6	3	3	1	4	17	3.4%
PEDALCYCLIST	3	4	2	4	1	14	2.8%
ANIMAL						0	0.0%
OVERTURNED		1				1	0.2%
FIXED OBJECT	1	6	3	2	2	14	2.8%
OTHER OBJECT						0	0.0%
OTHER NON-COLLISION						0	0.0%
PARKED VEHICLE	7	7	7	12	3	36	7.3%
TURNING - LEFT	25	21	15	16	25	102	20.6%
TURNING - RIGHT	3	3	5	5	8	24	4.8%
REAR END	35	36	48	32	29	180	36.3%
SIDESWIPE - SAME DIRECTION	9	7	11	10	6	43	8.7%
SIDESWIPE - OPPOSITE DIRECTION	1		2		1	4	0.8%
HEAD ON		2			1	3	0.6%
ANGLE	14	13	13	6	12	58	11.7%
Total	**104**	**103**	**109**	**88**	**92**	**496**	**100.0%**

See Tab 5 – Crash Analysis for more information.

b. Analyze available crash data including results of field check. Discussion should include high crash locations, critical wet weather sites, and other crash patterns. If the data is inconclusive, make a statement to that effect.

Injury crashes were reported for all modes of transportation within the corridor, and nearly every crash involving a pedestrian or bicyclist resulted in injury to the pedestrian or bicyclist. One fatal crash involving a pedestrian occurred in 2015 at Howard Street and Western Avenue/ Asbury Avenue. While bicyclists and pedestrians make up 6% of all crashes for the study area, they represent 23% of all fatal (K) and serious injury (A,B) crashes. As bicyclists and pedestrians are more vulnerable roadway users, any crash involving these users is likely to result in a more serious injury crash. The crash data revealed a high number of crashes at night, including 27% of total crashes and 29% of all fatal (K) and serious injury (A,B) crashes. The pedestrian fatal crash and both the pedestrian and bicyclist A-injury crashes also occurred at night.

The segment between Asbury/Western and Ridge has a significantly larger crashes than other segments at 163 crashes of the 496 total.

c. Describe how the proposed project will address any crash issues.

The proposed improvements will implement many elements that will reduce crashes including the following:

- Designated bicycle lanes and shared lanes throughout project limits to identify where cyclists should travel.

-Optimizing traffic signals will provide for a safer driving condition and will help reduce intersection related crashes.

- Push buttons and pedestrian count-downs will be installed at traffic signals and wider sidewalk will be provided in locations where existing sidewalk is narrow and unsafe.

- Corner bump-outs will also be installed to shorten the pedestrian crosswalks at several locations and will help to calm traffic and improve visibility between motorists and pedestrians.

- Resurfacing and restriping Howard Street will help clarify the presence of through lanes and turn lanes at intersections, reducing the likelihood of sideswipe, rear end, turning crashes, as well as crashes at night.

- The elimination of the through lane between Asbury/Western and Ridge will help reduce the number of rear end and sideswipe crashes in this segment.

4. **Right-of-Way**

a. Describe the right-of-way taking, including the total acreage required for each of the following categories: ROW, permanent easements, temporary easements and temporary land use permits. Include the width of taking, number of property owners, acreage of right-of-way and/or easements, character of land; i.e., farm, residential, commercial or publicly owned properties, anticipated impacts to properties that remain, and location of any improvements with respect to required right-of-way. Discuss any impacts on setbacks required by zoning.

No right-of-way acquisition is required for the proposed improvements.

b. Are any residents, businesses or farms to be displaced?

☐ Yes ☒ No

If yes, describe the number and type of displacements anticipated and mitigation that will be taken to provide relief for this impact on an attached sheet.

5. **Prime Farmland (BLRS Manual Section 20-10)**

a. If the project requires more than 3 acres/mile (0.75 hectares/kilometers), 10 acres (4 hectares) for a non-linear improvement, or the project ROW is not contiguous to the existing ROW, contact the Illinois Department of Agriculture and attach results of the coordination and summarize the results below.

N/A

b. ☐ The project requires consultation with the Natural Resource Conservation Service., Form AD-1006 has been completed and submitted to the local office of NRCS. The completed AD-1006 form is attached.

☐ The impact of this project on farmland conversion has been evaluated in accordance with the requirements of the US Natural Resources (NRCS). The project will cover 3 acres or less of farmland per mile (0.75 hectares or less of farmland per kilometer) and the conversion will not result in more than minor impacts. Accordingly, the project conforms to the general form AD-1006 prepared by NRCS. Therefore, further coordination with NRCS on this project will not be necessary.

6. **Floodplain Encroachment (BLRS Manual Section 20-7)**

Does the proposed work cross or encroach upon a 100-year floodplain, including a regulatory floodway?

☐ Yes ☒ No

If yes, summarize the location hydraulics study, regulatory floodway restrictions, the effect of any encroachment (including a comparison between existing and proposed conditions) and the effect of over-the-road flow on the proposed transportation facility. Attach any available floodplain maps.

7. **Phase I & II NPDES Storm Water Permit Requirements (BLRS Manual Section 7-4.01)**

Will the project involve soil disturbance of 1 acre (0.4 hectares) or more?

☐ Yes ☒ No

If yes, the project must comply with the Phase II NPDES Storm Water Permit Requirements.

8. **"404" Permit (BLRS Manual Section 7-4.02)**

Does this project involve waters regulated by Section 404?

☐ Yes ☒ No

If yes, what type of 404 permit is required? ☐ Nationwide ☐ Individual ☐ Regional ☐ None

Attach a copy of any 404 permit authorization and/or coordination letters with the Corps of Engineers.
If an individual Section 404 permit is required, please notify the Illinois Department of Transportation district office before submitting the application.

9. **Special Waste (BLRS Manual Section 20-12)**

a. Following the special waste assessment screening criteria shown on Figure 20-12A of the BLRS Manual, is Preliminary Environmental Site Assessment (PESA) required?

☒ Yes ☐ No

b. Is work being done on property in the name of the state or are contract plans being prepared by the state?

☐ Yes ☒ No

c. If a PESA is required for either state or local ROW, did the PESA results determine that the project has Recognized Environmental Conditions (REC's) for special waste?

☒ Yes ☐ No

A site visit of the corridor determined that a PSI would be necessary where excavation occurs during Phase II.

If the PESA results determine that the project contains REC's, describe how the special waste is proposed to be handled (including if a Preliminary Site Investigation (PSI) is required).
PSI in Phase II.

Based on the limited amount of excavation for this project, a PSI will be performed in Phase II to quantify non-special waste to be removed from the site.

10. **Environmental Survey (BLRS Manual Section 20-2)**

Whenever a project involves land acquisition (including easements), any in-stream work (including drainage structure run-around), is located within or adjacent to historic properties listed in (or eligible for) the National Register of Historic Places, a bridge on the historic list, is near wetlands, or known locations of threatened or endangered species, the Environmental Survey Request Form should be submitted early in the project development phase.

a. Wild and Scenic Rivers - If this project crosses or affects a river on the National Wild and Scenic Rivers System or a river listed in the Nationwide Inventory of Rivers with potential for inclusion on the system, include coordination between the National Park Service and the Bureau of Design and Environment (BDE).

☐ Involvement ☒ No Involvement

b. Wetlands - Does the proposed work impact the use of regulatory wetlands?

☐ Yes ☒ No

If yes, indicate how the wetlands will be migrated. ☐ Banking ☐ Accumulation ☐ On-site ☐ Other

c. Archaeological and Historical Preservation Include results of coordination. Does the project impact an archaeological or historic preservation site?

☐ Yes ☒ No

If yes, describe any required documents.

d. Threatened or Endangered Species – Does the project impact any endangered species or plants?

☐ Involvement ☒ No Involvement

Include copy of biological resources memorandum or signoff by BDE and/or IDNR.

e. Stream Modification and Wildlife Impacts - Include copies of any correspondence between BDE and IDNR or U.S. Fish and Wildlife Service. Attach copies of any additional coordination between local agency and IDNR or U.S. Fish and Wildlife Service whenever required as a result of biological review by BDE. Address any proposed mitigation measures.

☐ Involvement ☒ No Involvement

11. **Section 4(f) Lands (BLRS Manual Section 20-3)**

a. Does this project require any right-of-way, including temporary construction easements, from a publicly owned park, recreational area, wildlife and waterfowl, or any historic site in or eligible for the National Register of Historic Places?

☐ Yes ☒ No

b. If yes, what type of of the Section 4(f) involvement has been completed?

☐ Section 4(f) deminimis ☐ Standard Section 4(f) ☐ Temporary Occupancy ☐ None

12. **Air Quality (BLRS Manual Section 20-11)** Check One:

a. ☐ This project is in an attainment area.

☒ Projects within a portion of a nonattainment area for which the Chicago Metropolitan Agency for Planning (CMAP) is the MPO.

This project is included in the **Go To 2040 Regional** (transportation plan) and in the Transportation Improvement Program (TIP), endorsed by the CMAP , the region's Metropolitan Planning Organization. The Go To 2040 Regional (transportation plan) was found to conform by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) on Oct. 21, 2014

The TIP was found to conform by FHWA on Oct. 21, 2014 and by FTA on Oct. 21, 2014

☐ Projects within a nonattainment area served by a Metropolitan Planning Organization other than CMAP.

This project is included in the Long-Range Transportation Plan and in the _____ Transportation Improvement Program (TIP) endorsed by _____, the Metropolitan Planning Organization (MPO) for the region in which the project is located.

On _____ the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) determined that the Long-Range Transportation Plan conforms with the transportation-related provisions of the Clean Air Act Amendments of 1990. The FHWA and the FTA determined on _____ that the TIP conforms with the Clean Air Act Amendments. These finding were in accordance with 40 CFR Part 93, "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and projects Funded or Approved Under Title 23 USC or the Federal Transit Act."

The project's design concept and scope are consistent with the project information used for the TIP conformity analysis. Therefore, this project conforms to the existing State Implementation Plan and the transportation-related requirements of the 1990 Clean Air Act Amendments.

b. **Mobile Source Air Toxics (See BDE PM 52-06)**

This project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the exiting facility, or any other factor that would cause an increase in emissions relative to the no-build alternative. As such, FHWA has determined that this project will generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic concerns. Consequently, this effort is exempt from analysis for MSATs.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSATs to decline significantly over the next 20 years. Even after accounting for a 64 percent increase in VMT, FHWA predicts MSATs will decline in the range of 57 to 87 percent, from 2000 to 2020, based on regulations now in effect, even with a projected 64 percent increase in VMT. This will both reduce the background level of MSATs as well as the possibility of even minor MSAT emissions from this project.

c. **Construction-related Particulate Matter**

Demolition and construction activities can result in short-term increases in fugitive dust and equipment-related particulate emissions in and around the project area. (Equipment-related particulate emissions are usually insignificant when equipment is well maintained.) The potential air quality impacts will be short-term, occurring only when demolition and construction work is in progress and local conditions are appropriate.

The potential for fugitive dust emissions typically is associated with building demolition, ground clearing, site preparation, grading, stockpiling of materials, on-site movement of equipment, and transportation of materials. The potential is greatest during dry periods, periods of intense construction activity, and during high wind conditions.

The Department's *Standard Specifications for Road and Bridge Construction* include provisions on dust control. Under these provisions, dust and airborne dirt generated by construction activities will be controlled through dust control procedures or a specific dust control plan, when warranted. The contractor and the Department will meet to review the nature and extent of dust-generating activities and will cooperatively develop specific types of control techniques appropriate to the specific situation. Techniques that may warrant consideration include measures such as minimizing track-out of soil onto nearby publicly-traveled roads, reducing speed on unpaved roads, covering haul vehicles, and applying chemical dust suppressants or water to exposed surfaces, particularly those on which construction vehicles travel. With the application of appropriate measures to limit dust emissions during construction, this project will not cause any significant, short-term particulate matter air quality impacts.

d. **Project-level Hot Spot Analysis. Check One:**

☐ This project is in an attainment area and does not require a hot spot analysis.

☒ This project does not meet the definition of a project of air quality concern as defined in 40 CFR 93.123(b)(1). Due to

This is a roadway improvement projet which will not involve additional travel lanes and primarily serves gasoline vehicle traffic. (ie does not involve a significant number or increase in the number of diesel vehicles.) This project will not increase emissions or involve increases in idling. On this basis,

it has been determined that the project will not cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations or increase the frequency or severity of any $PM_{2.5}$ or PM_{10} violations. USEPA has determined that such projects meet the Clean Air Act's requirements without any further Hot-Spot analysis.

☐ This project is in a non-attainment or maintenance area and is a project of air quality concern. Therefore, a qualitative hot spot analysis is required. See Attachment _____ .

e. **COSIM**

Are through lanes or auxiliary turn lanes being added with this project?

☐ Yes ☒ No

If yes, has a COSIM pre-screen analysis been completed?

☐ Yes ☐ No

If yes, pre-screen analysis is attached as Attachment _____ .

If no, explain why an analysis has not been performed. In accordance with the IDOT-IEPA "Agreement on Microscale Air Quality Assessment for IDOT Sponsored Transporation Projects" projects are exempt from project-level carbon monoxide are quality analysis if the highest design-year approach volume on the busiest leg of the intersection is less than 5,000 vph or 62,500 ADT. The traffic volumes for Howard Street fall below this criteria and therefore a project level monoxide air quality analysis is not required.

If yes, did the COSIM pre-screen analysis pass or fail? ☐ Pass ☐ Fail

If the COSIM pre-screen analysis failed, a full COSIM analysis would be required.

13. **Noise (BLRS Manual Section 20-6)**

☒ The referenced project meets the criteria for a Type III project established in 23 CFR Part 772. Therefore, the proposed project requires no traffic noise analysis or abatement evaluation. Type III projects do not involve added capacity, construction of new through lanes, changes in the horizontal or vertical alignment of the roadway, or exposure of noise sensitive land uses to a new or existing highway noise source.

☐ Based on the traffic noise analysis and noise abatement evaluation conducted, highway traffic noise abatement measures are likely to be implemented based on preliminary design. The noise barriers determined to meet the feasible and reasonable criteria are identified on the attachment. If it subsequently develops during final design that constraints not foreseen in the preliminary design or public input substantially change, the abatement measures may need to be modified or removed from the project plans. A final decision of the installation of the abatement measure(s) will be made upon completion of the project's final design and the public involvement process.

If this project involves a new alignment, additional lanes, or involves a significant alignment change, attach a traffic noise analysis.

14. Work Zone Transportation Management Plans

Does the project intersect or follow a state route?

☒ Yes ☐ No

Is the state or local route considered a significant route?

☐ Yes ☒ No ☐ Not Applicable

If yes, describe how the Work Zone Transportation Management Plan is being implemented.

Asbury Avenue to the north of Howard Street is a state route which in 2017 had a resurfacing completed (by others) which included all four ADA corners upgrades at Asbury/Western and Howard. This project does not anticipate any excavation on state route due to this recent improvement.

15. Complete Streets (BLRS Manual Chapter 10)

Does the project include the addition of a travel, turning, or bi-directional turn lane on a state highway?

☐ Yes ☒ No

If yes, describe how the Complete Streets Law requiring accommodating bicyclists on a state route apply.

N/A

16. **Maintenance of Traffic (BLRS Manual Section 22-2.11(b)(9))**

Discuss how vehicle traffic and pedestrians will be accommodated during construction, including the impacts of any road and/or sidewalk closure. If the road will be closed, include information concerning location of alternate routes, their ability to handle the additional traffic (street width, number of traffic lanes, structural adequacy, etc.), and the amount of adverse travel. When a marked detour route will be provided, include coordination with appropriate agencies, a description of the adverse travel, and include a map showing the alternate routes or marked detour in the report.

Howard Street will remain open to two-way traffic during construction and all sidewalks, crosswalks, and enterances within the project limits are to remain open during construction and remain ADA compliant. Construction will be done on one half of the roadway at a time and parking lanes will be used as travel lanes during construction. Alternative parking will be available along adjacent streets. The work along Howard Street between Asbury/Western and Ridge is anticipated to take longer to complete, but will not impact parking as there is no existing parking along the north side of Howard Street in that segment. Temporary signals will be used during construction. All lane closures will be according to IDOT Highway Standards.

A detour will be provided for cyclists along the corridor, no special accommodations are anticipated for cyclists within the construction area. The detour provided for cyclists will be signed.

17. **Public Involvement (BLRS Manual Chapter 21**)

a. Summarize public informational meetings, formal public hearings, property owner signoffs, council or board meetings, media coverage, and personal contact with public. Include copies of newspaper advertisements, letter to property owners, public comments, and documents showing all public comments have been addressed.

The following outlines pubic-outreach and community-input efforts for the project:

May 23, 2017	**Advisory Committee No. 1**
June 21, 2017	**Advisory Committee No. 2**
August 2, 2017	**Public Meeting No. 1**
August 28, 2017	**Public Meeting No. 2**
September 26, 2017	**Advisory Committee No. 3**

After the last Advisory Committee meeting (September 26, 2017), concurrence on the proposed design was given by representatives from the City of Evanston and the City of Chicago. Removal of a de-facto through lane between Asbury/Western and Ridge and traffic signal timing optimization to maintain intersection LOS and travel time through this segment were concurred.

b. Has any opposition been expressed toward the improvement?

☐ Yes ☒ No

If yes, briefly discuss the type and extent of opposition.

c.

If yes, discuss how the opposition has been addressed with the property owners?

18. **Coordination: LA-IDOT-FHWA (BLRS Manual Section 22-1.02)**

Has there been any coordination meetings for this project? ☐ Yes ☒No

If yes, list the date(s) of the coordination meeting(s) below and attach coordination meeting minutes in the report.

19. **Other Coordination**

COE Meeting 2018/01/19 – During Phase: add bike racks, consider coral, sign log, pay stations, sign at Bell, televise

20. **Summary of Commitments**

Summary of Attachments (when required):

1. Location Map and Functional Classification Map **- INCLUDED**
2. Existing and Proposed Typical Sections - **INCLUDED**
3. Structure Master Report **– N/A**
4. Bridge Condition Report Approval Cover Letter **– N/A**
5. Preliminary Bridge Design and Hydraulic Report Approval Cover Letter **– N/A**
6. Railroad Crossing Drawing **– N/A**
7. Plan and Profile Sheet (for Rural Projects with additional ROW, Urban Projects, bike trail/or sidewalk projects, and Bridge Projects)
8. Intersection Design Studies **– N/A**
9. Spot Map and/or Collision Diagram **– N/A**
10. Soil Conservation Service and Illinois Department of Agriculture Coordination **– N/A**
11. "404" Permit correspondence **– N/A**
12. Environmental Clearances and Correspondence **– N/A**
13. Property Owner Signoffs and/or Correspondence with Property Owners Regarding Public Comments **– N/A**
14. Public Information Meeting Newspaper Advertisement and a Copy of Property Owner Letter
15. Bimonthly Coordination Meeting Minutes **– N/A**
16. BLR 22120 Design Variance Form **- INCLUDED**
17. Detour or Alternate Route Map **– N/A**
18. Other Coordination – **SEE BELOW**

TRAFFIC AND CAPACITY ANALYSIS

TURNING EXHIBITS

CRASH ANALYSIS

GENERAL COORDINATION AND CORRESPONDENCE

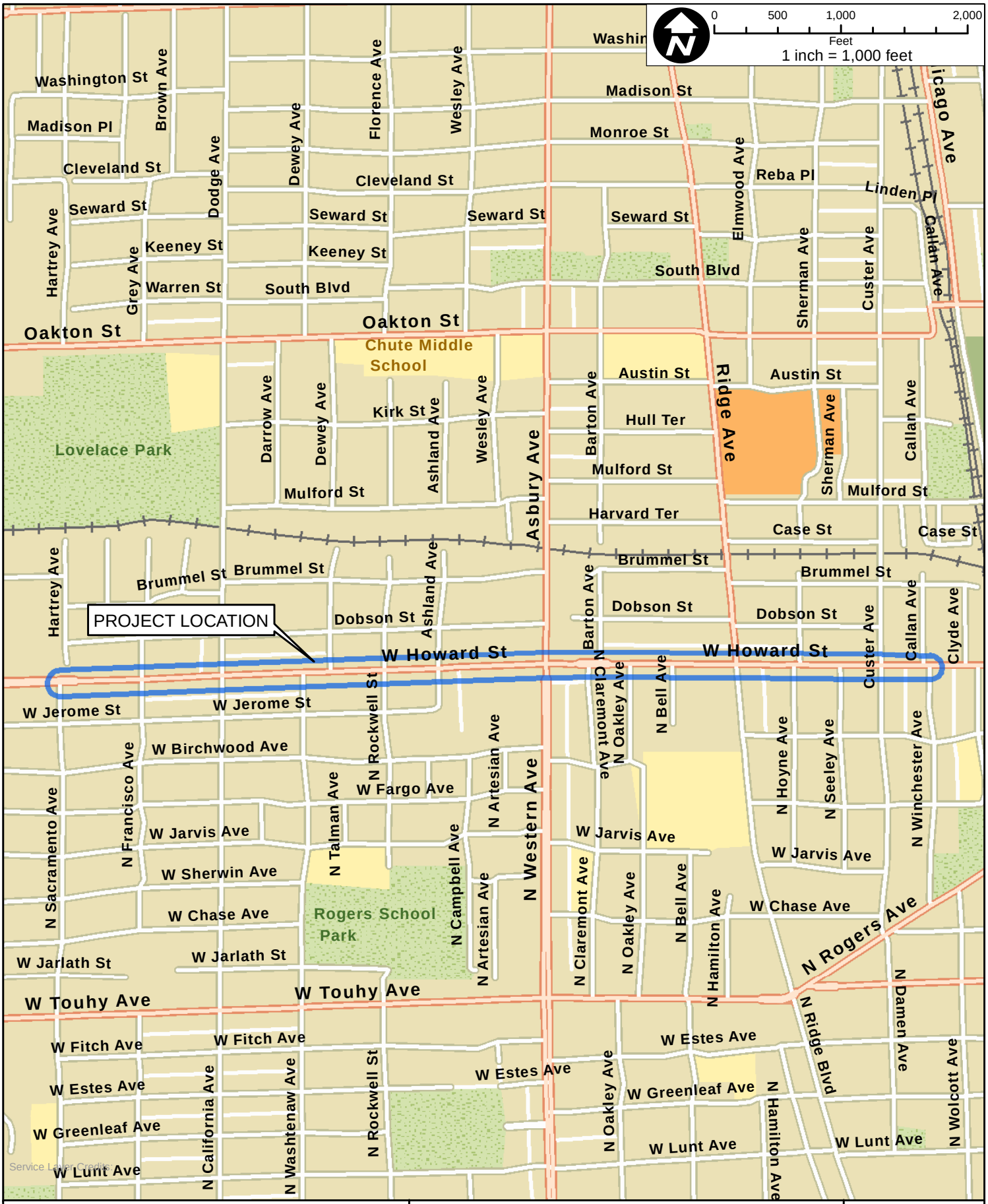
PUBLIC MEETING SUMMARY

UTILITY COORDINATION

TRANSIT COORDINATION

PRELIMINARY COST ESTIMATE

TAB 2



CLIENT: CITY OF EVANSTON

TITLE: HOWARD CORRIDOR PROECT LOCATION MAP

PROJ. NO.	NUMBER
DATE:	2-27-2017
SHEET	1 OF 1
DRAWING NO.	EXH 2.1

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.				SCALE:	1:0
DWN.				AUTHOR:	MHAYES
CHKD.				PLOT DATE:	11/27/2017
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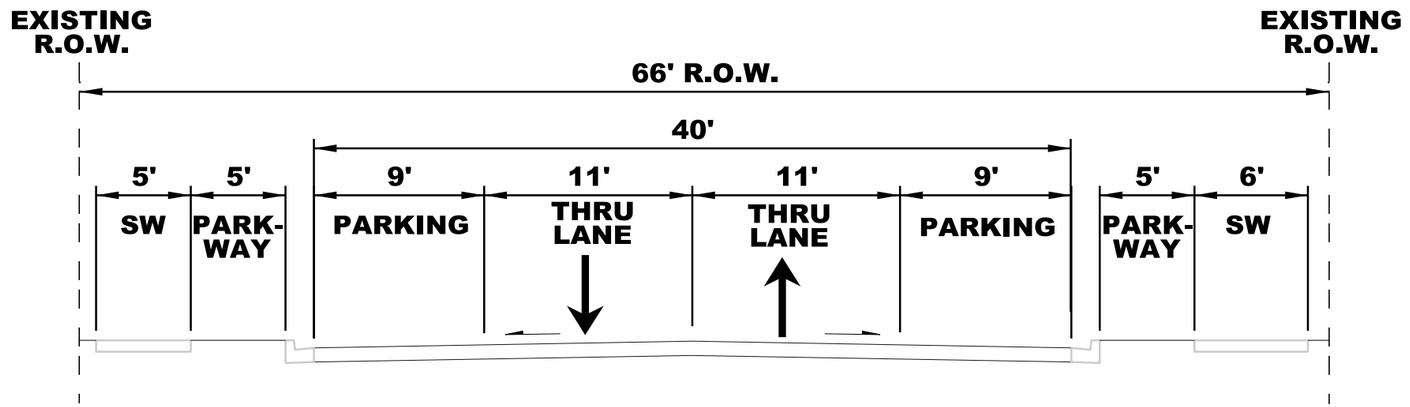
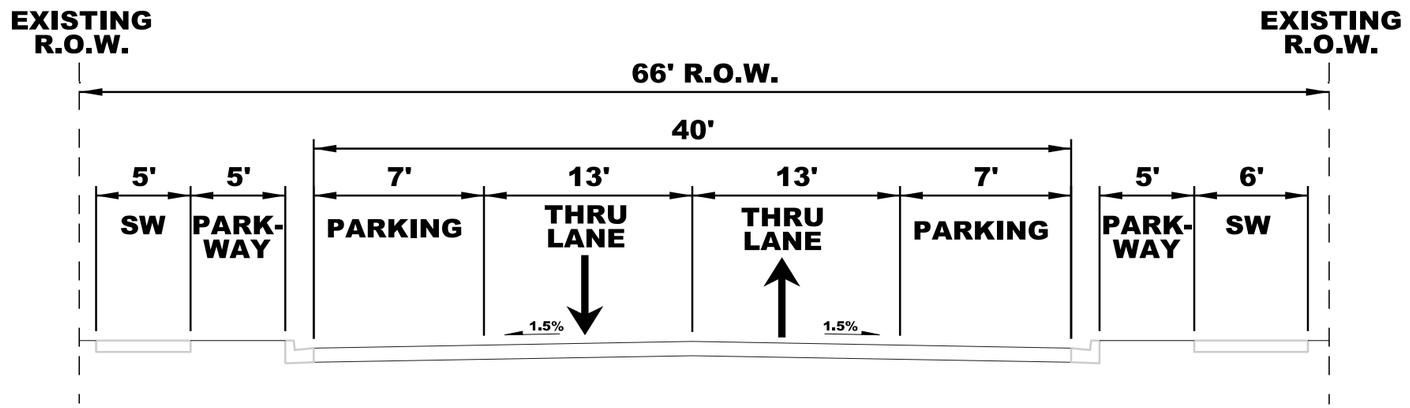


HOWARD STREET EXISTING TYPICAL CROSS SECTION

SACRAMENTO/HARTREY TO ASBURY/WESTERN



HOWARD STREET PROPOSED TYPICAL CROSS SECTION

SACRAMENTO/HARTREY TO ASBURY/WESTERN

EXH. 2.2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

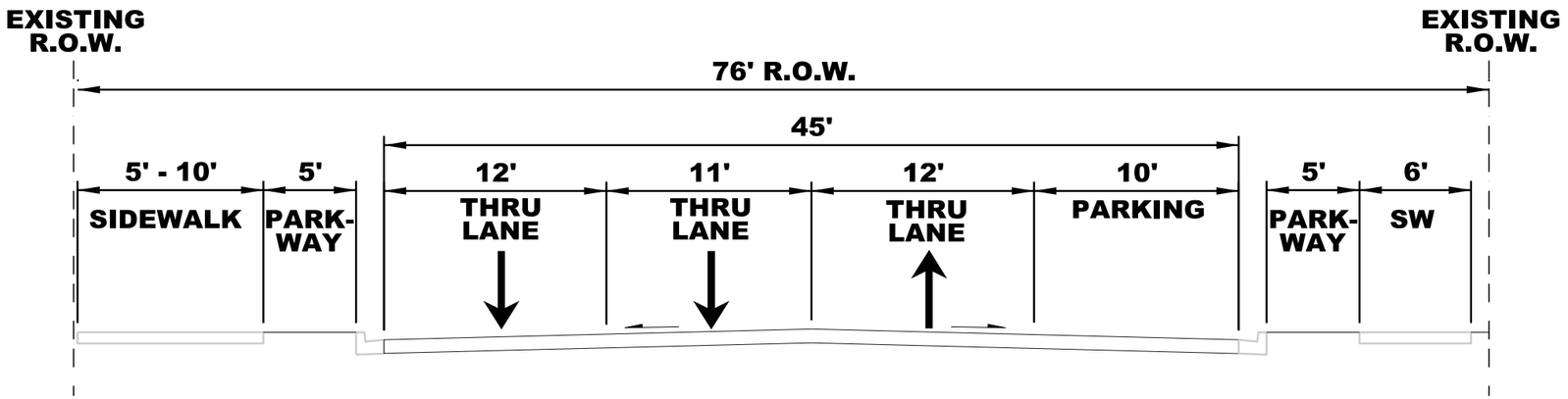
HOWARD STREET
TYPICAL SECTIONS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	1	

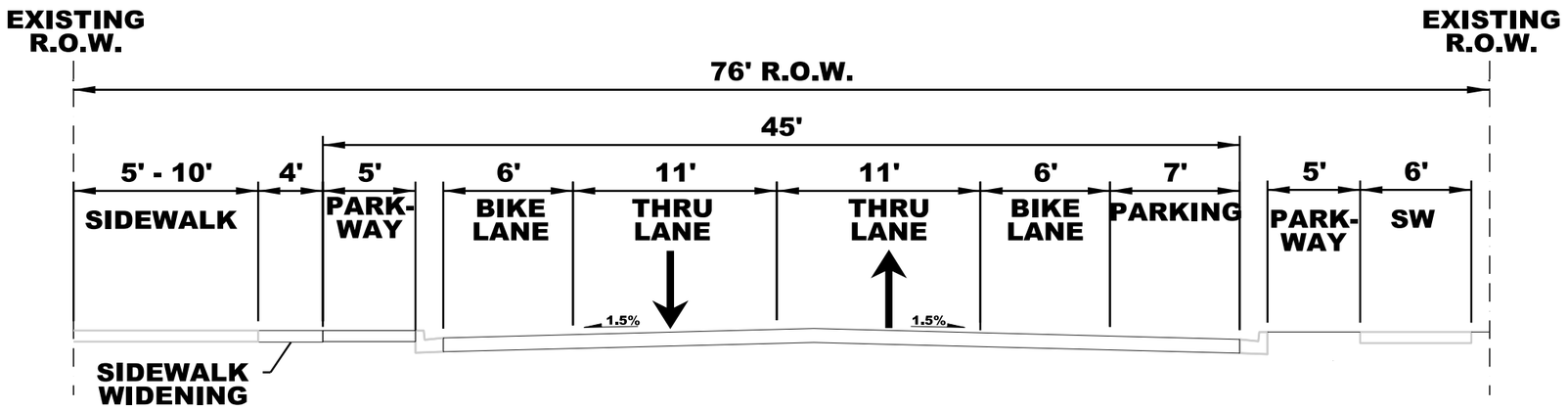
CONTRACT NO.

ILLINOIS FED. AID PROJECT



HOWARD STREET EXISTING TYPICAL CROSS SECTION

ASBURY/WESTERN TO RIDGE



HOWARD STREET PROPOSED TYPICAL CROSS SECTION

ASBURY/WESTERN TO RIDGE

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
TYPICAL SECTIONS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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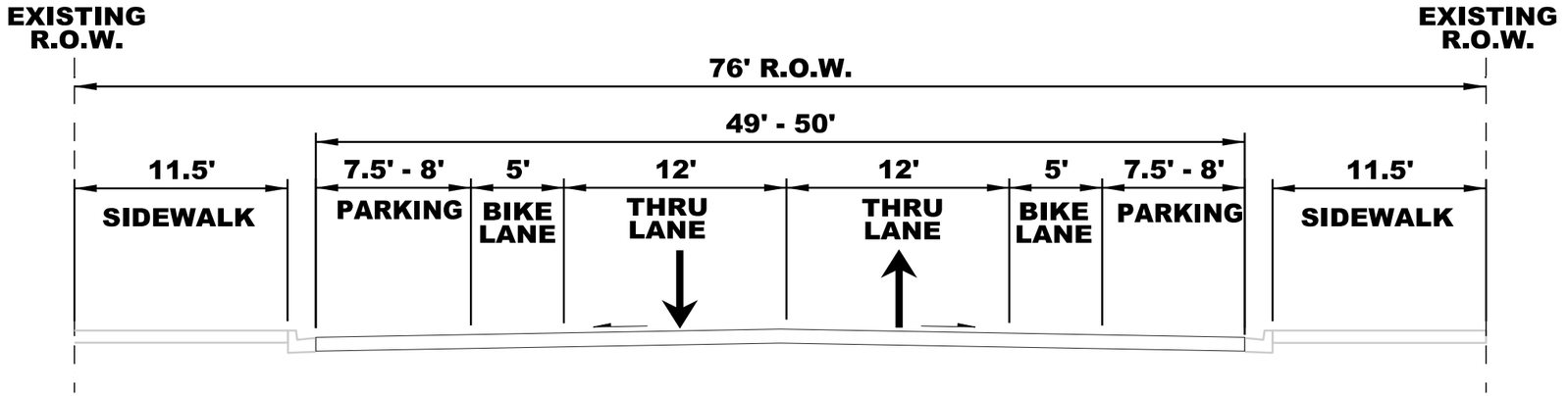
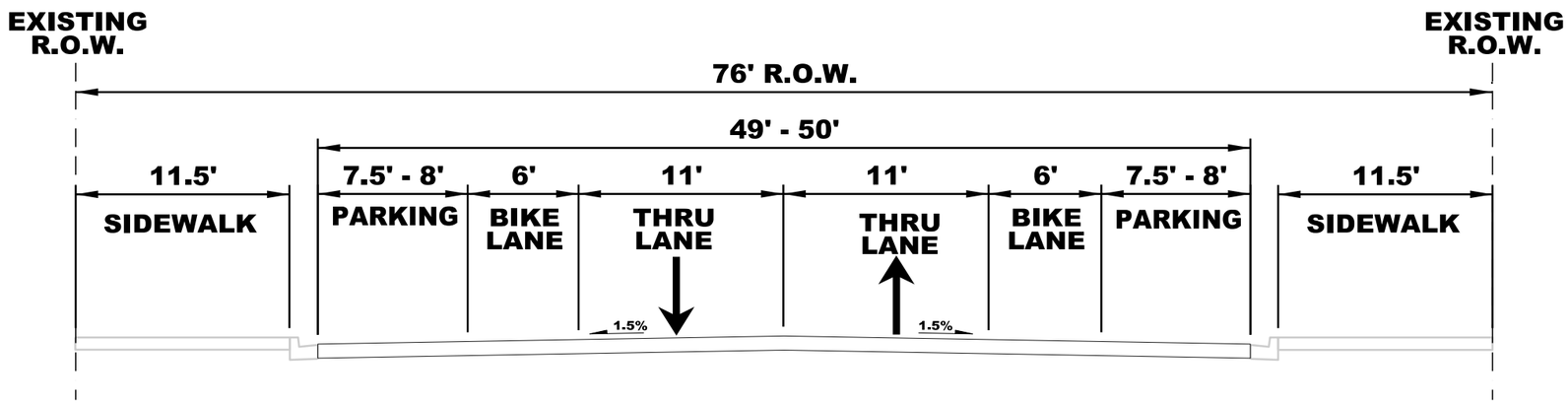
CONTRACT NO.

ILLINOIS FED. AID PROJECT



HOWARD STREET EXISTING TYPICAL CROSS SECTION

RIDGE TO CALLAN/WINCHESTER



HOWARD STREET PROPOSED TYPICAL CROSS SECTION

RIDGE TO CALLAN/WINCHESTER

EXH. 2.2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
TYPICAL SECTIONS

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	3	

CONTRACT NO.

ILLINOIS FED. AID PROJECT

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QUANTITIES CHECKED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
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BY
DATE

PROFILE
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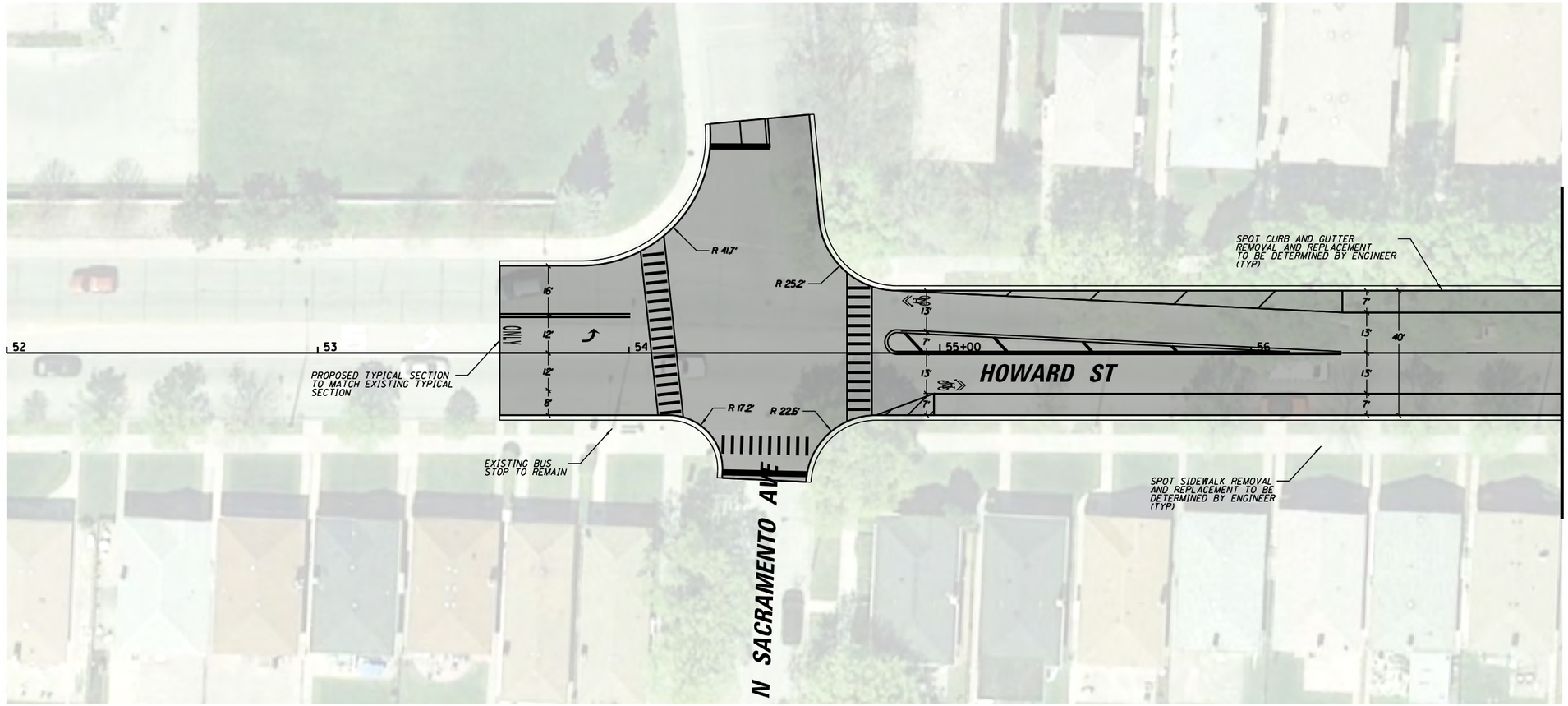
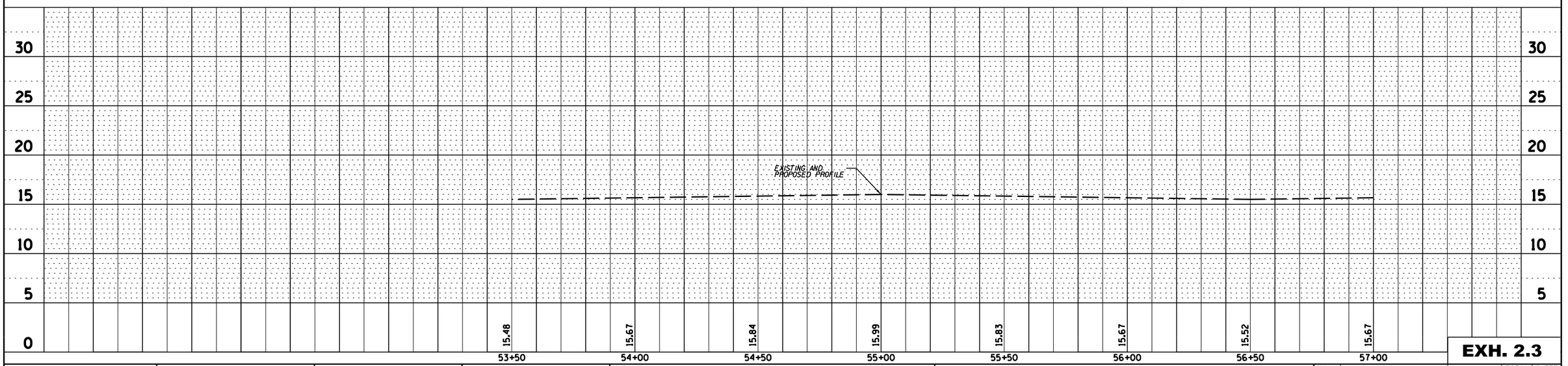
NOTE BOOK
NO.
BY
DATE





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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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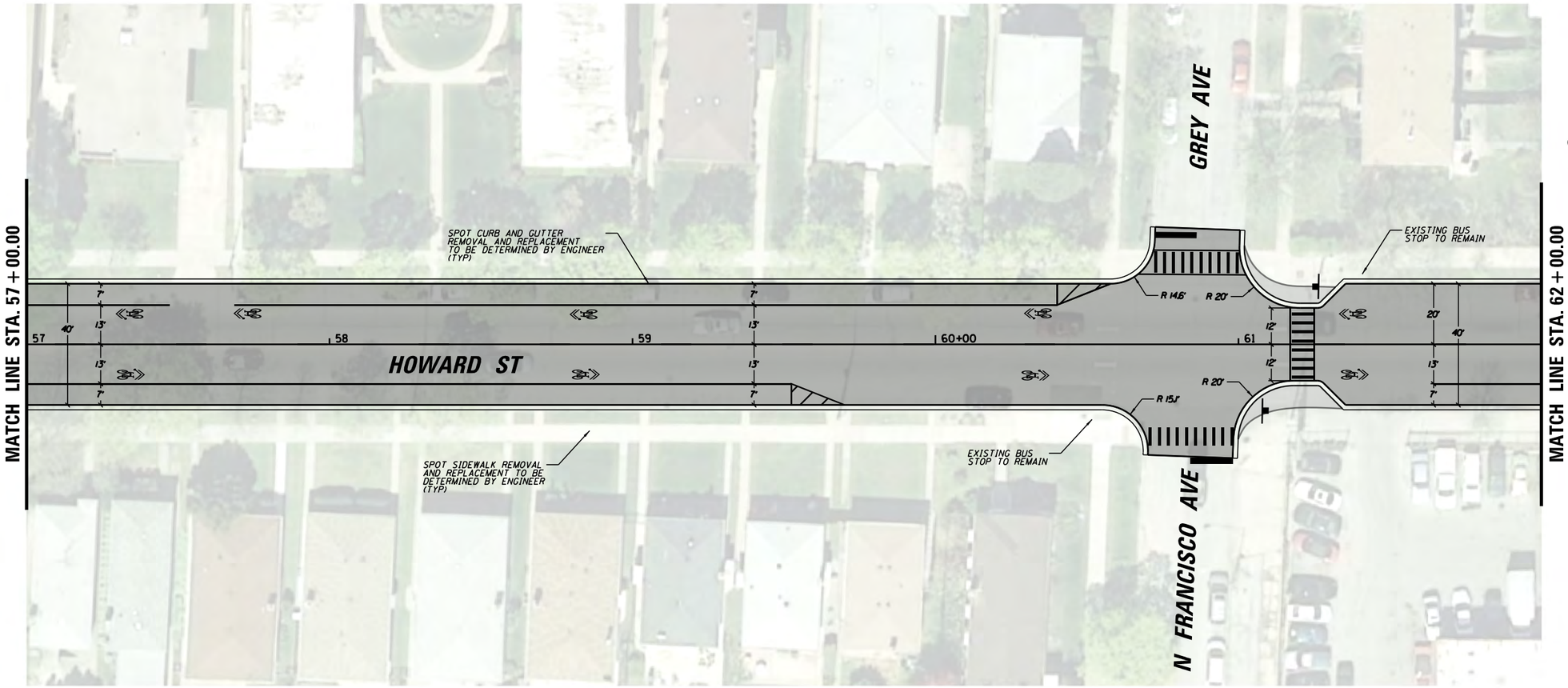
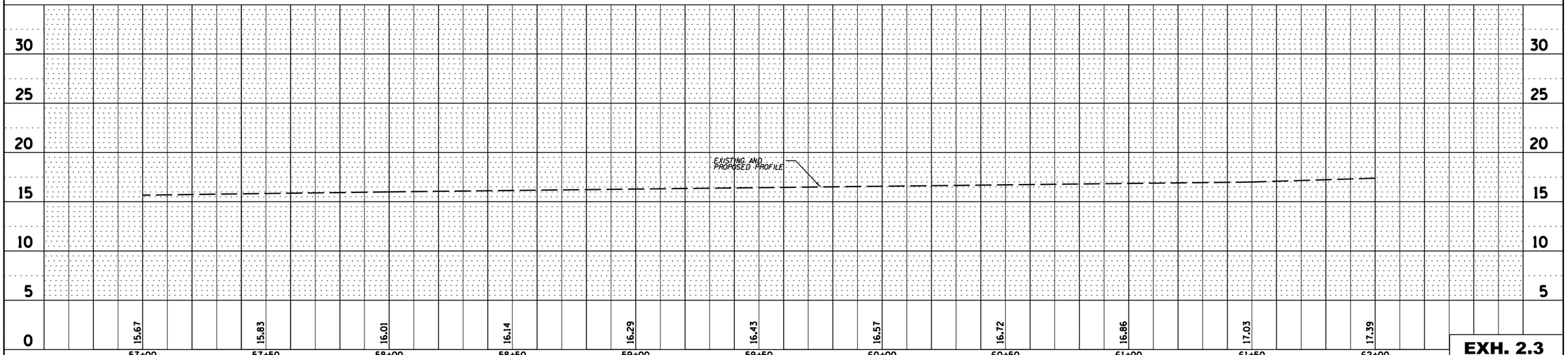
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADE CHECKED
R.M. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE





EXH. 2.3

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	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

PLAN

	BY	DATE
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		
CADD FILE NAME		
NOTE BOOK		
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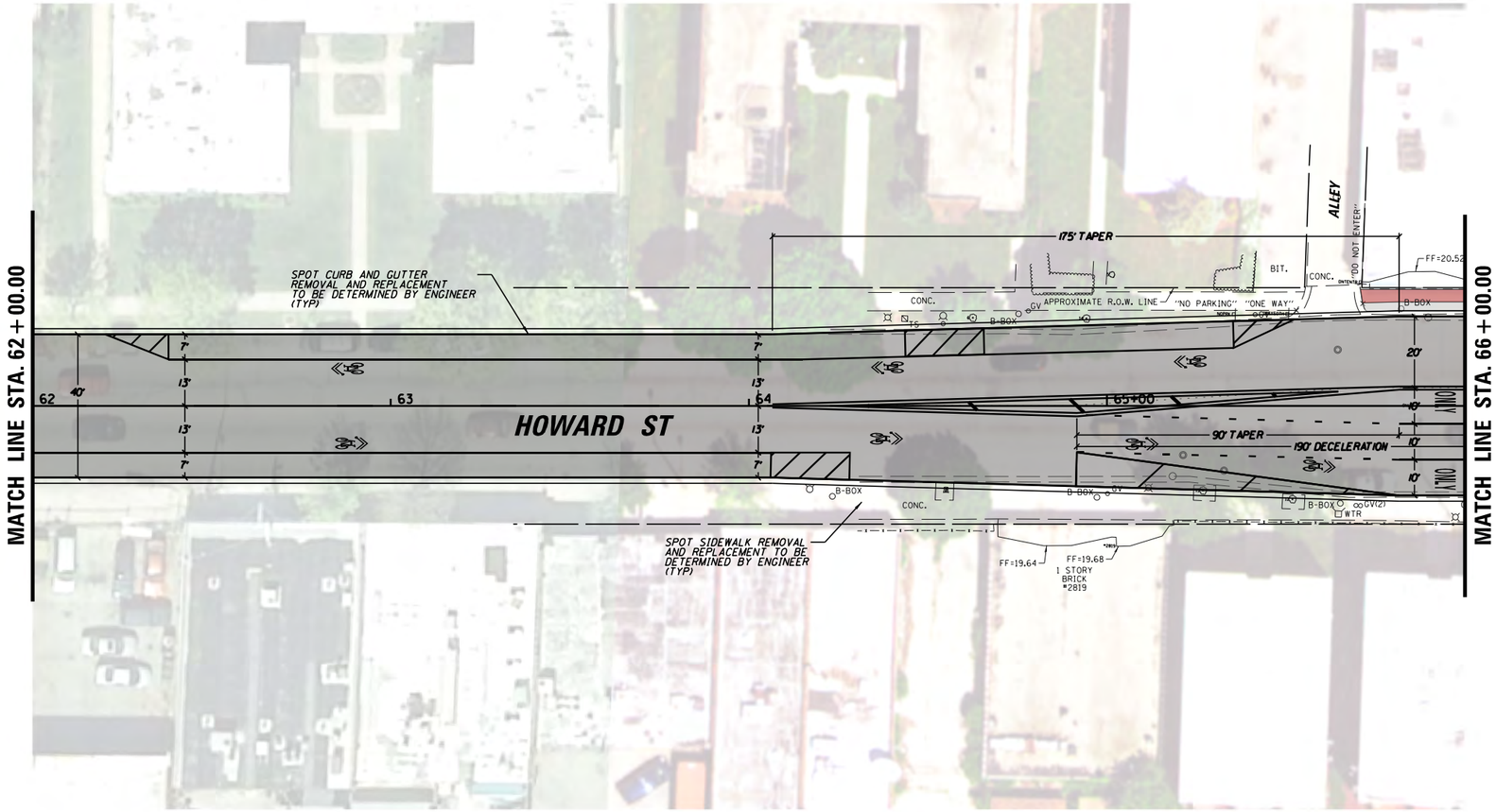
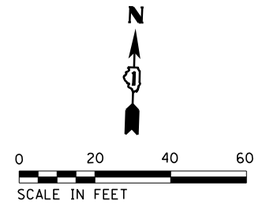
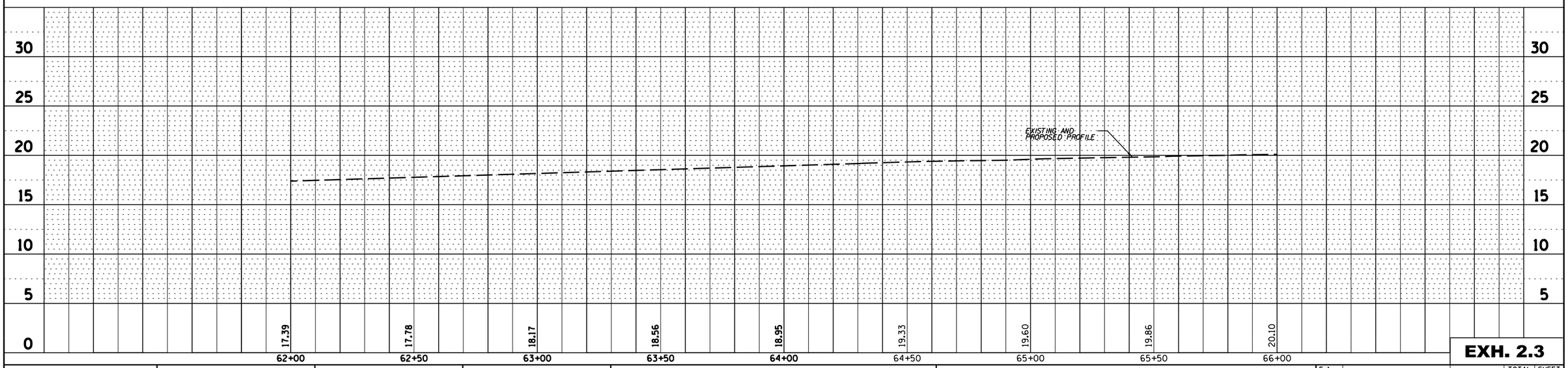
PROFILE

	BY	DATE
SURVEYED		
PLOTTED		
GRADES CHECKED		
B.M. NOTED		
STRUCTURE NOTATNS CHKD		
NOTE BOOK		
NO.		







EXH. 2.3

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		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
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ALIGNMENT CHECKED
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NOTE BOOK
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NOTE BOOK
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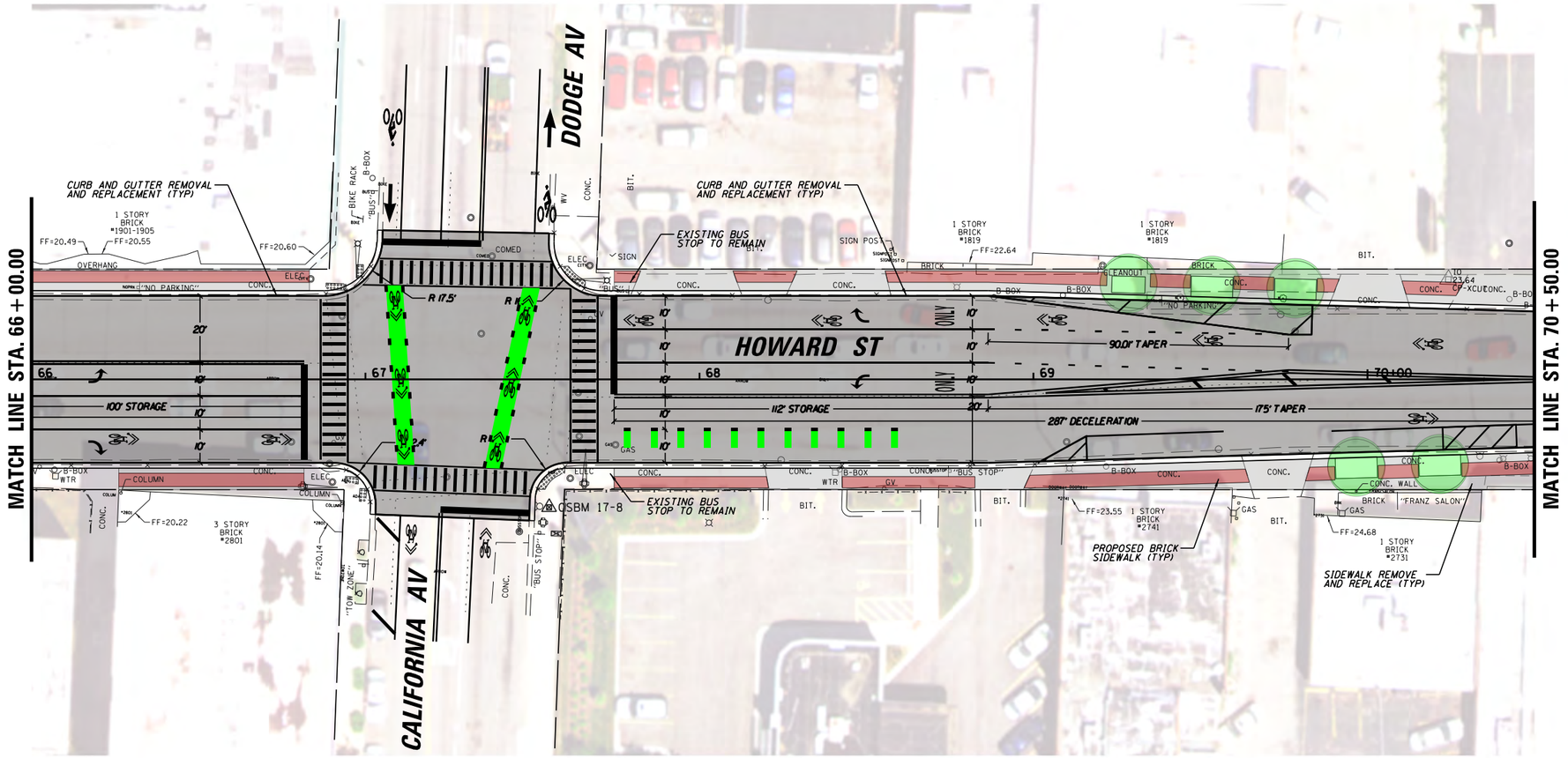

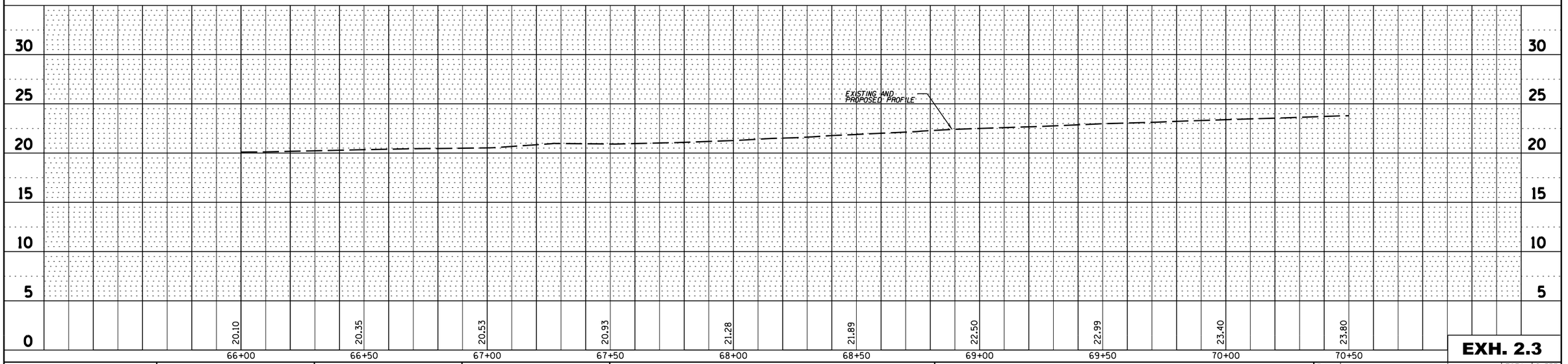

EXH. 2.3

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	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
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ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
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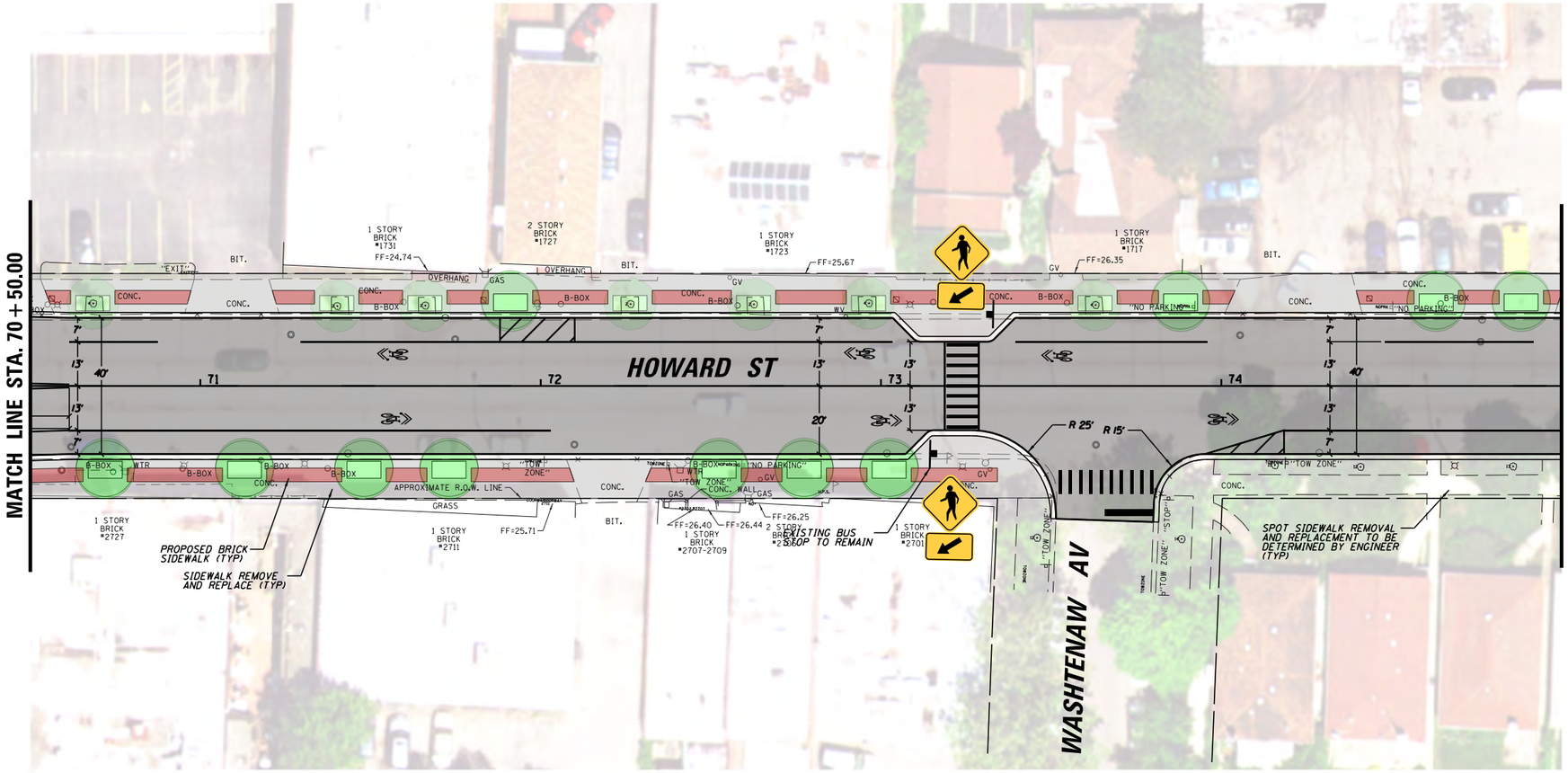

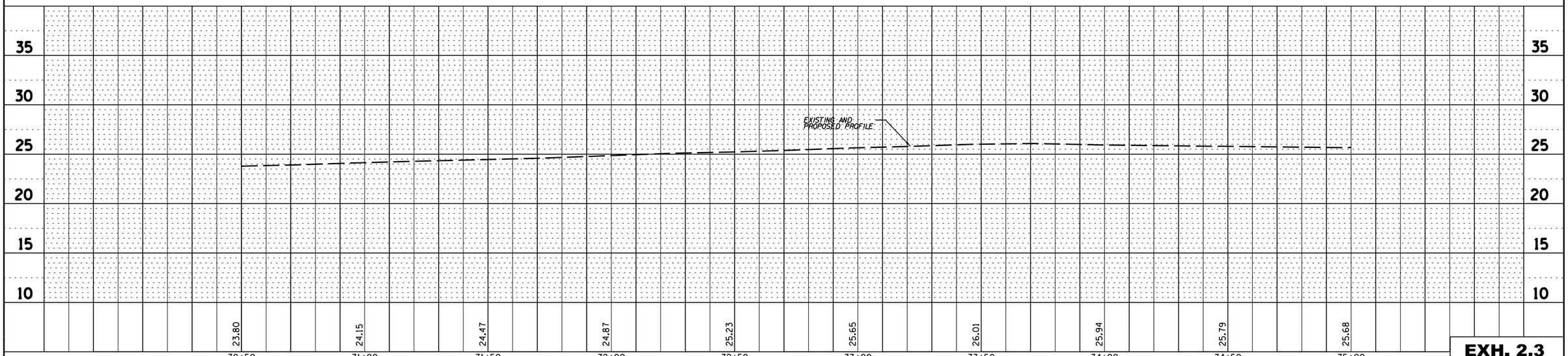

EXH. 2.3

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		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		

CONTRACT NO.

ILLINOIS FED. AID PROJECT

PLAN

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ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
CADD FILE NAME	
NOTE BOOK	
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BY	DATE

PROFILE

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PLOTTED	
GRADES CHECKED	
B.M. NOTED	
STRUCTURE NOTATNS CHKD	
NOTE BOOK	
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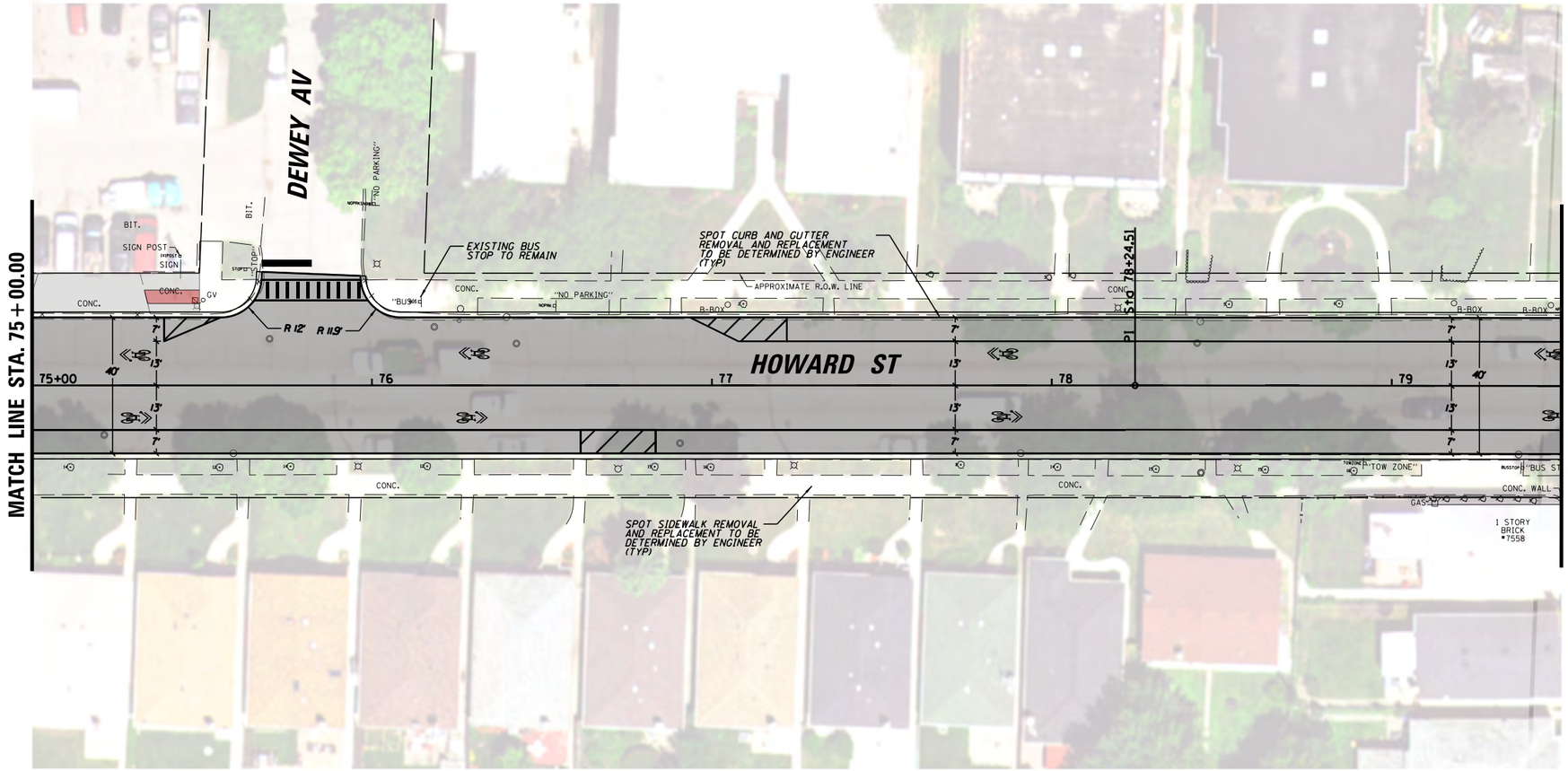
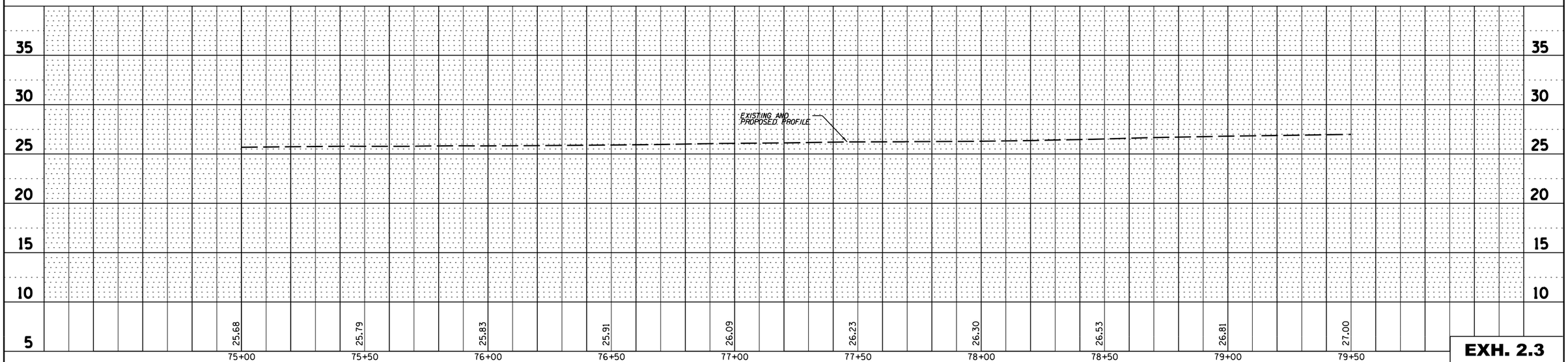
BY	DATE





EXH. 2.3

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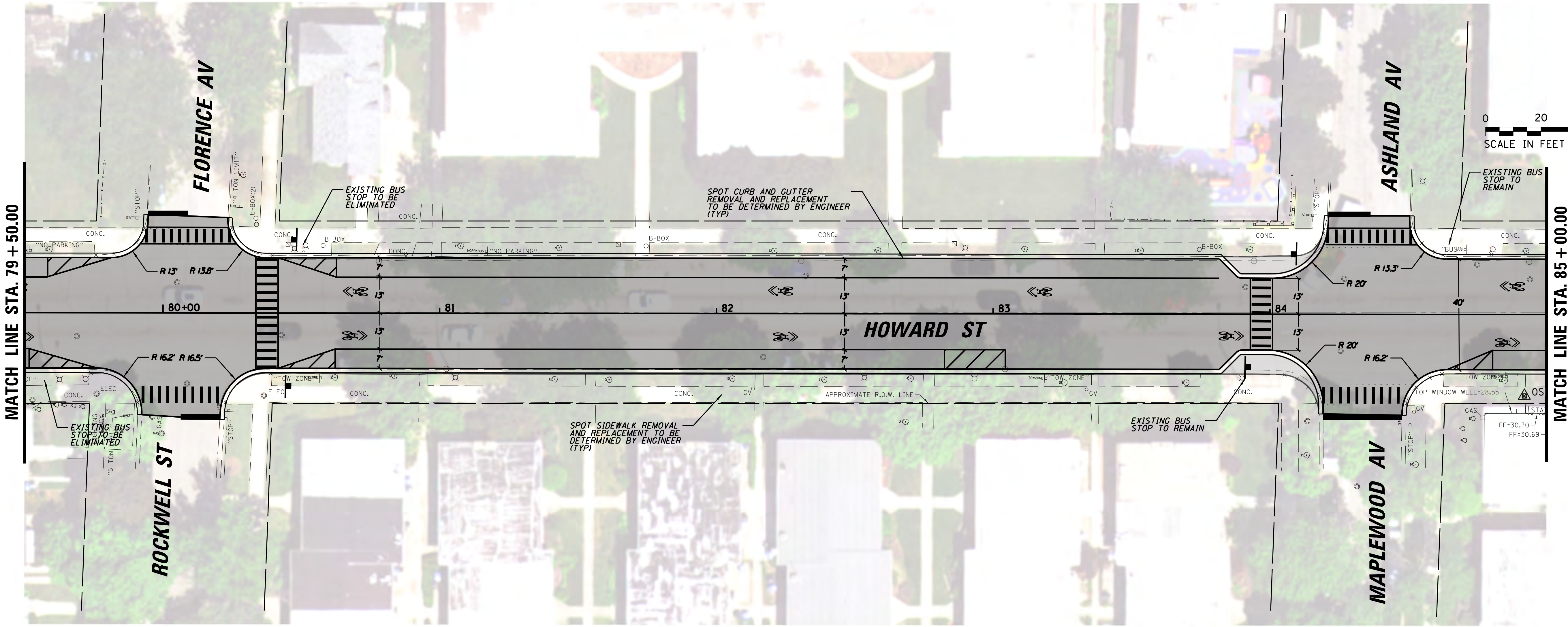
	PLOT SCALE = 40'	DRAWN -	REVISED -
Default	PLOT DATE = 11/30/2017	CHECKED -	REVISED -
		DATE -	REVISED -

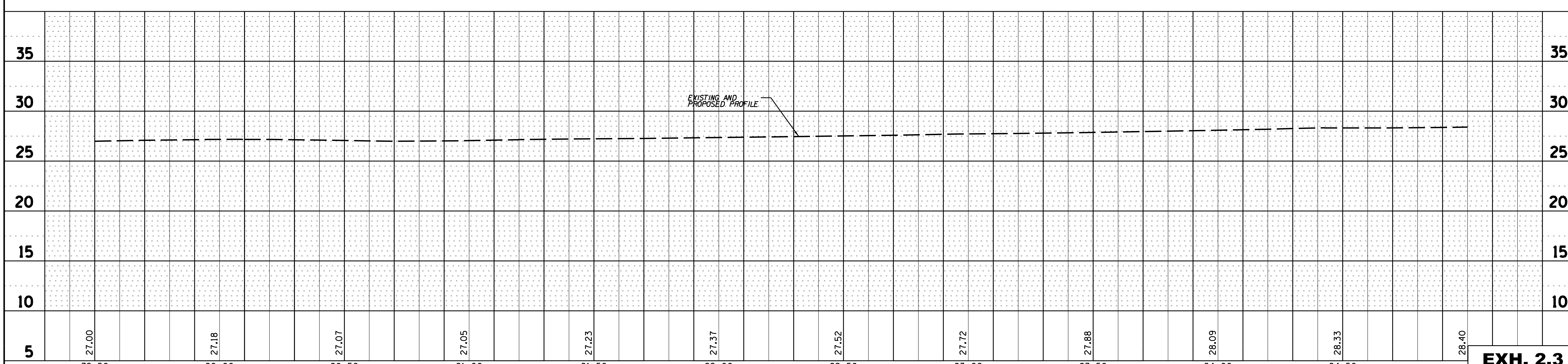
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			





EXH. 2.3

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		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		

CONTRACT NO.

ILLINOIS FED. AID PROJECT

PLAN: SURVEYED, PLOTTED, ALIGNMENT CHECKED, R.O.W. CHECKED, NOTE BOOK NO., CADD FILE NAME — BY — DATE

PROFILE: SURVEYED, PLOTTED, GRADES CHECKED, B.M. NOTED, NOTE BOOK NO., STRUCTURE NOTATNS CHK'D — BY — DATE

PLAN
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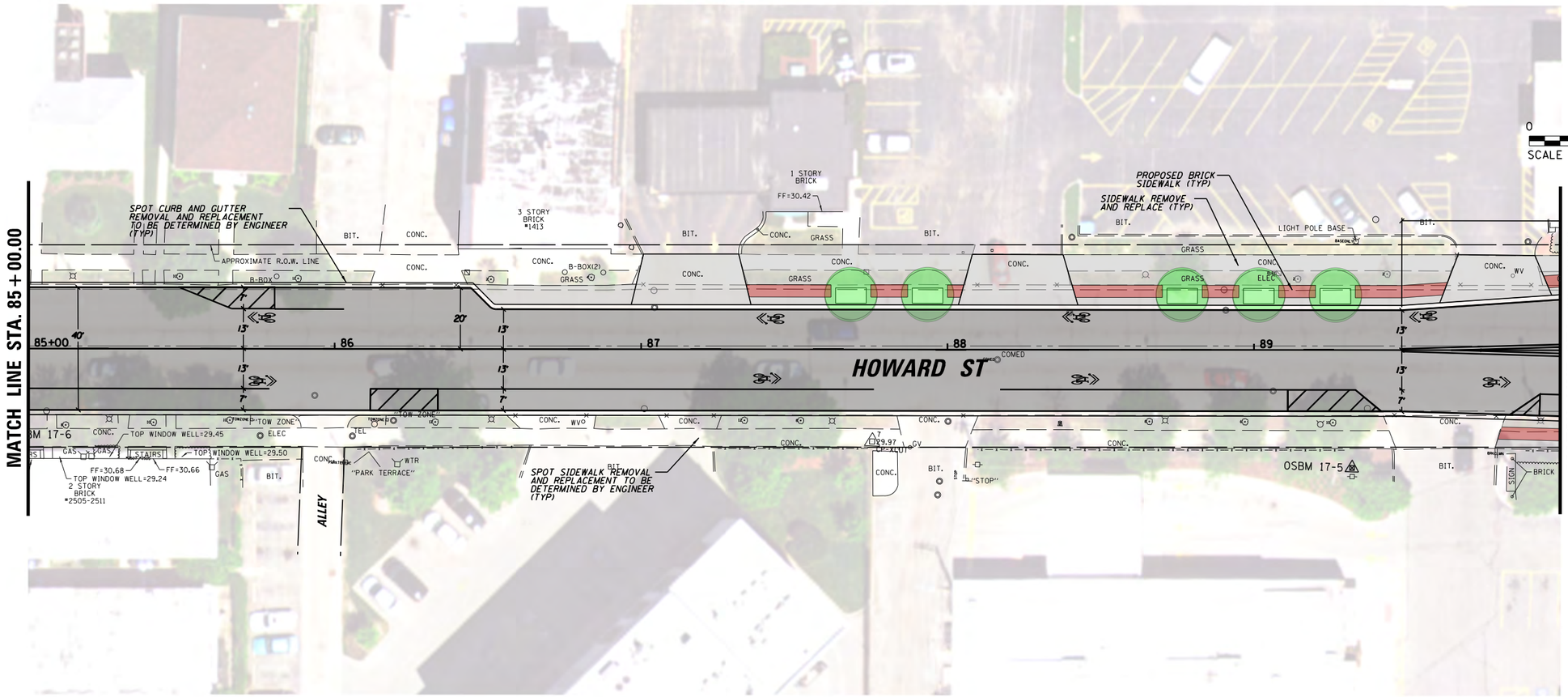
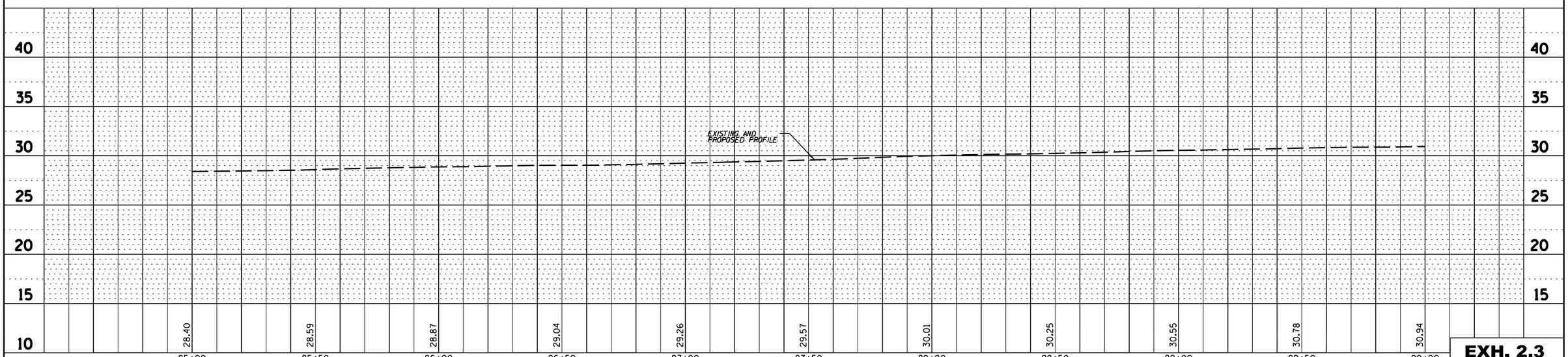
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE





PROFILE
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CROSS SECTIONS CHECKED
BAR. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
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EXH. 2.3

FILE NAME = N:\EVANSTON\160650\Civil\RPP_160650_ALT03.08.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 40'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

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ALIGNMENT CHECKED		
RT. OF WAY CHECKED		
CADD FILE NAME		
NOTE BOOK		
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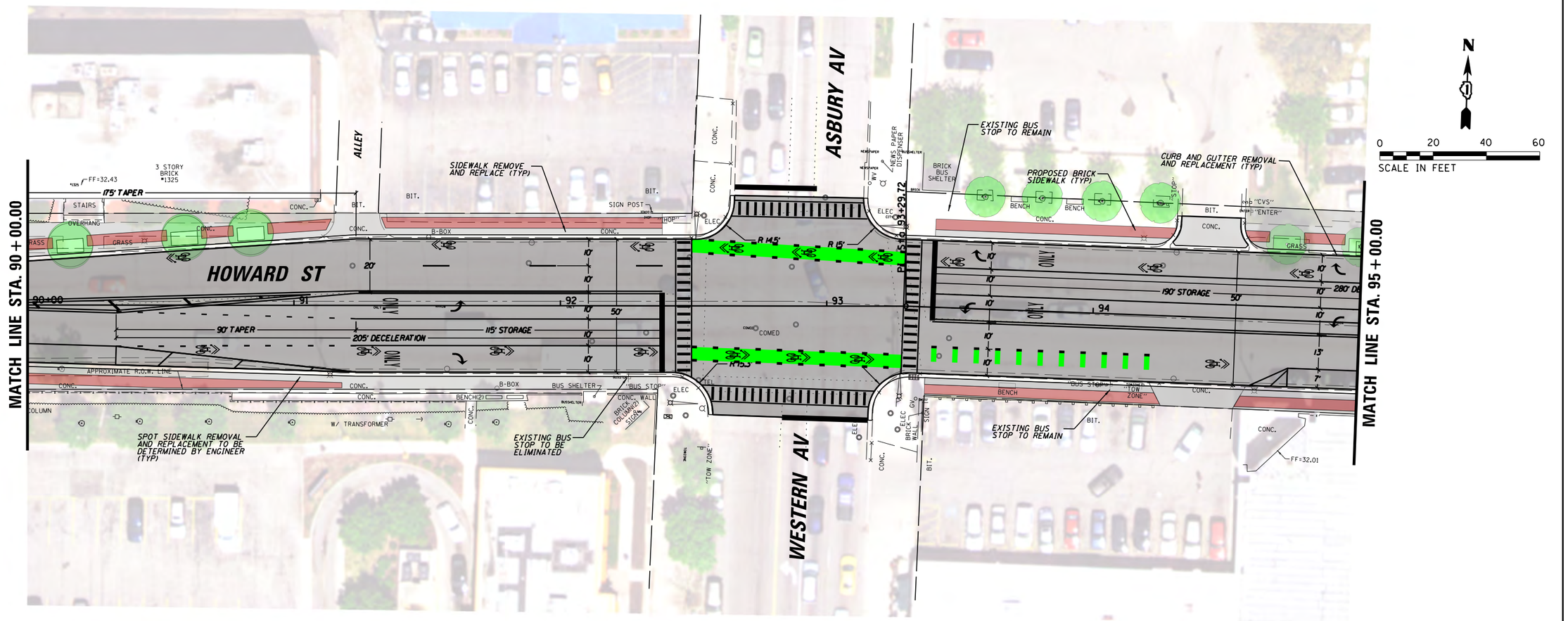

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SCALE IN FEET

PROFILE

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PLOTTED		
LOCATIONS CHECKED		
BM. NOTED		
STRUCTURE NOTATNS CHKD		
NOTE BOOK		
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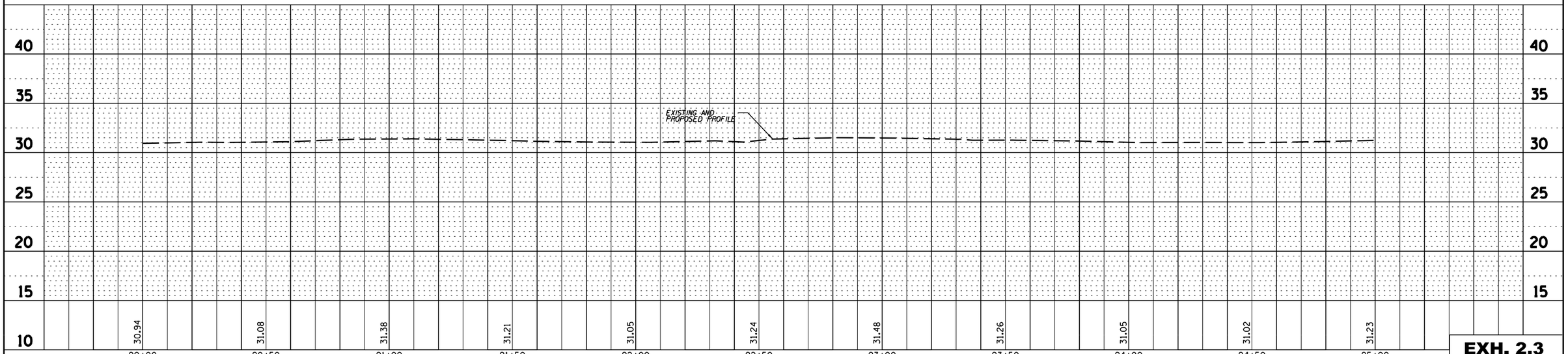

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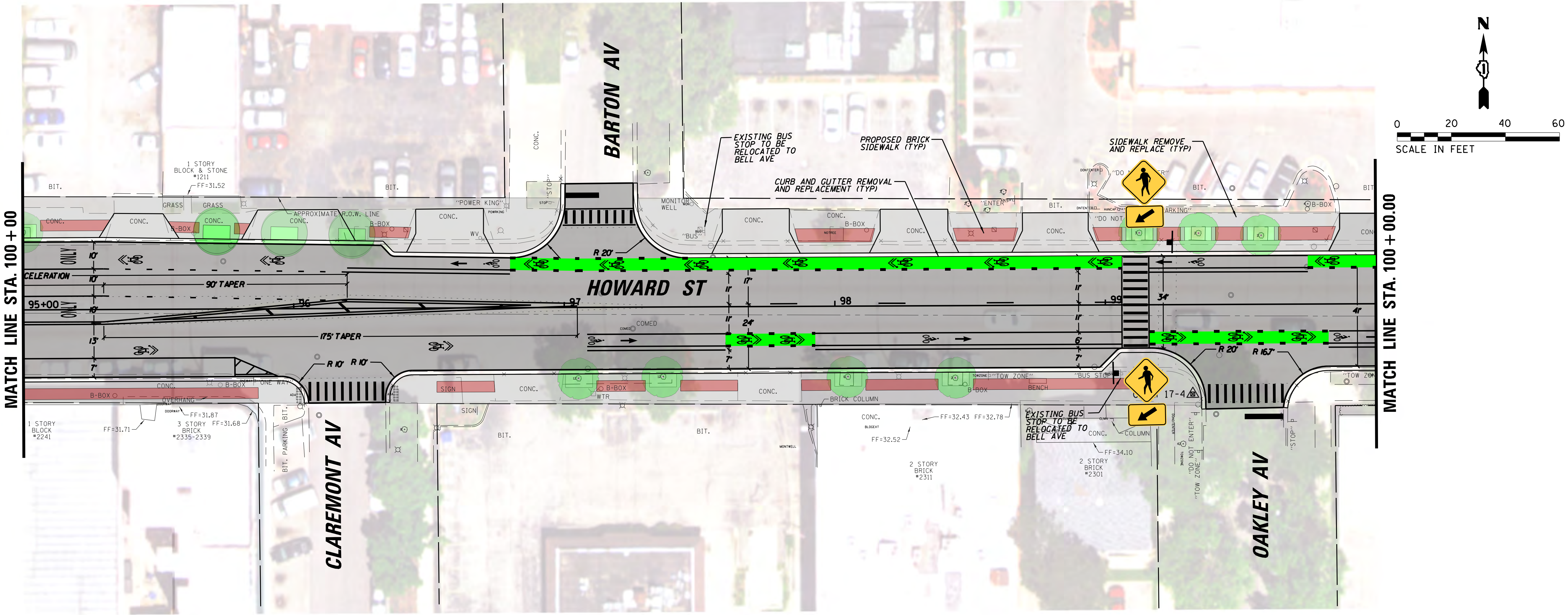
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

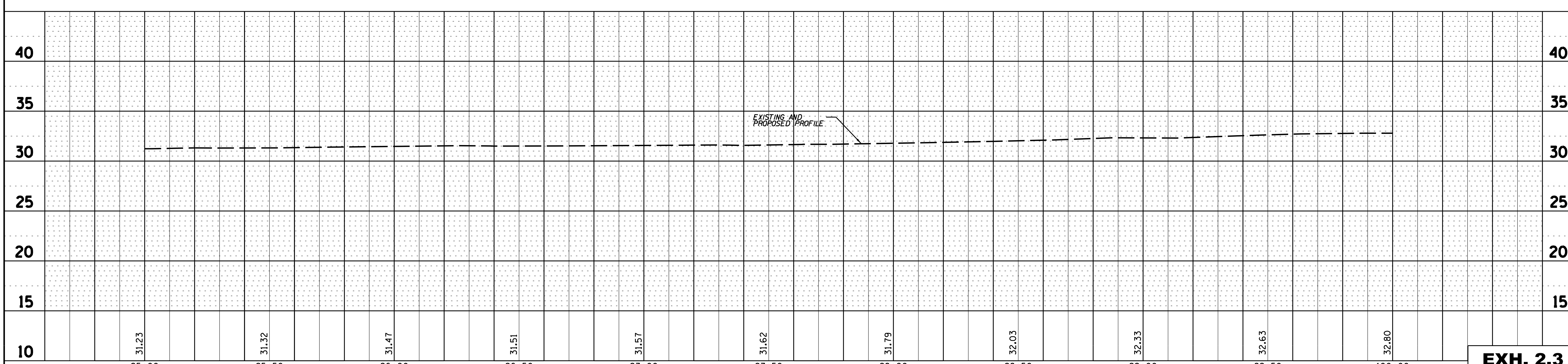
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			





PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.T. OF WAY CHECKED / CADD FILE NAME — NOTE BOOK NO. — BY — DATE

PROFILE — SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHK'D — NOTE BOOK NO. — BY — DATE

EXH. 2.3

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Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		

CONTRACT NO.

ILLINOIS FED. AID PROJECT

PLAN
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RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
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PROFILE
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BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
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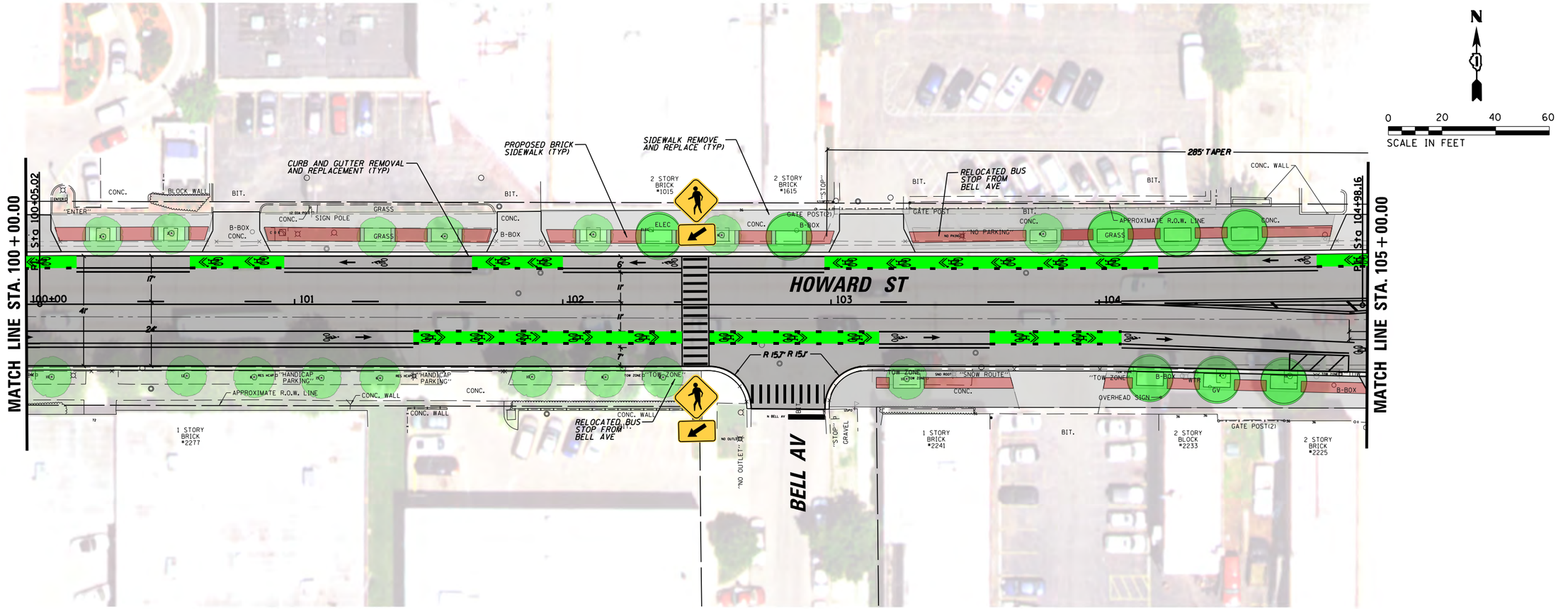

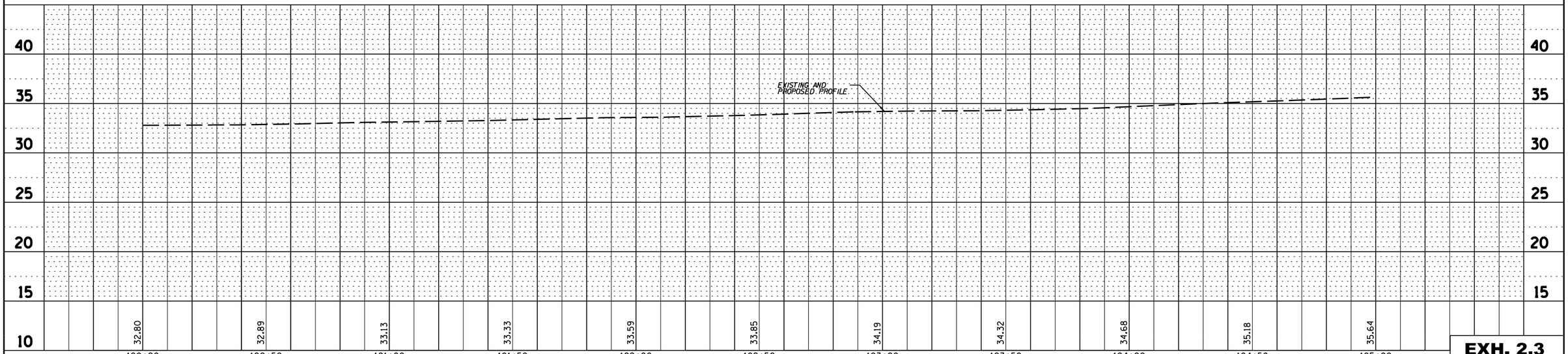

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	PLOT DATE = 11/30/2017	CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

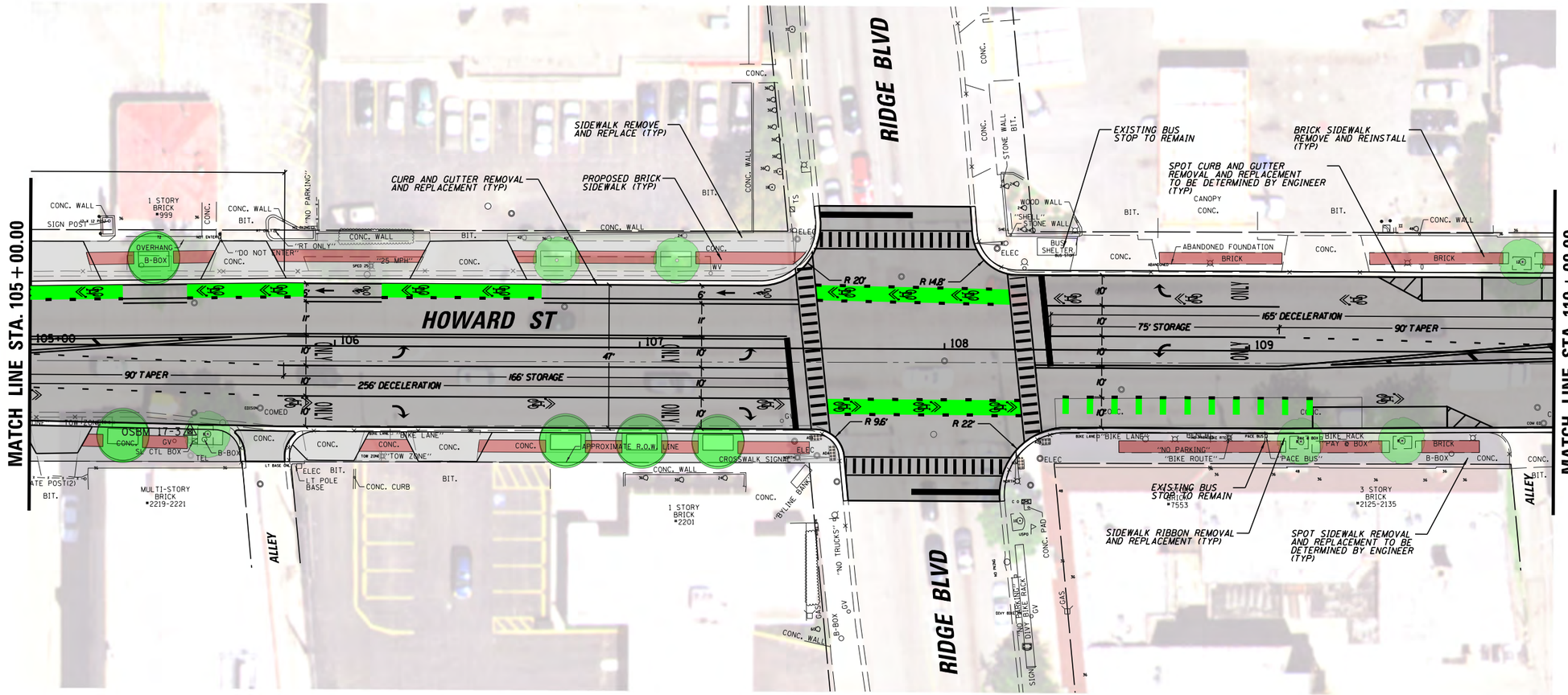
HOWARD STREET
PROPOSED PLAN AND PLOT

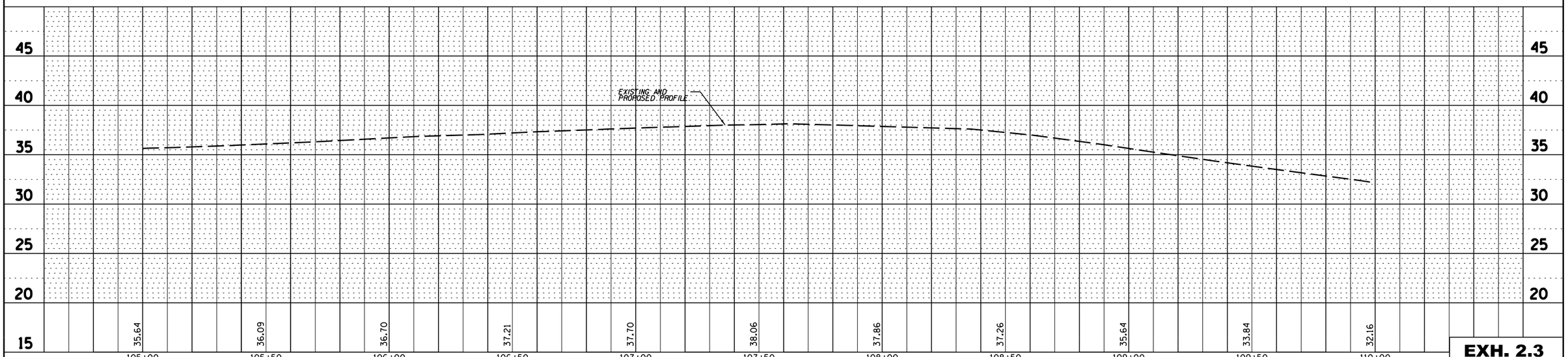
SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
BM. NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.
BY
DATE





EXH. 2.3

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Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN

	DATE	BY
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ALIGNMENT CHECKED		
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CADD FILE NAME		
NOTE BOOK		
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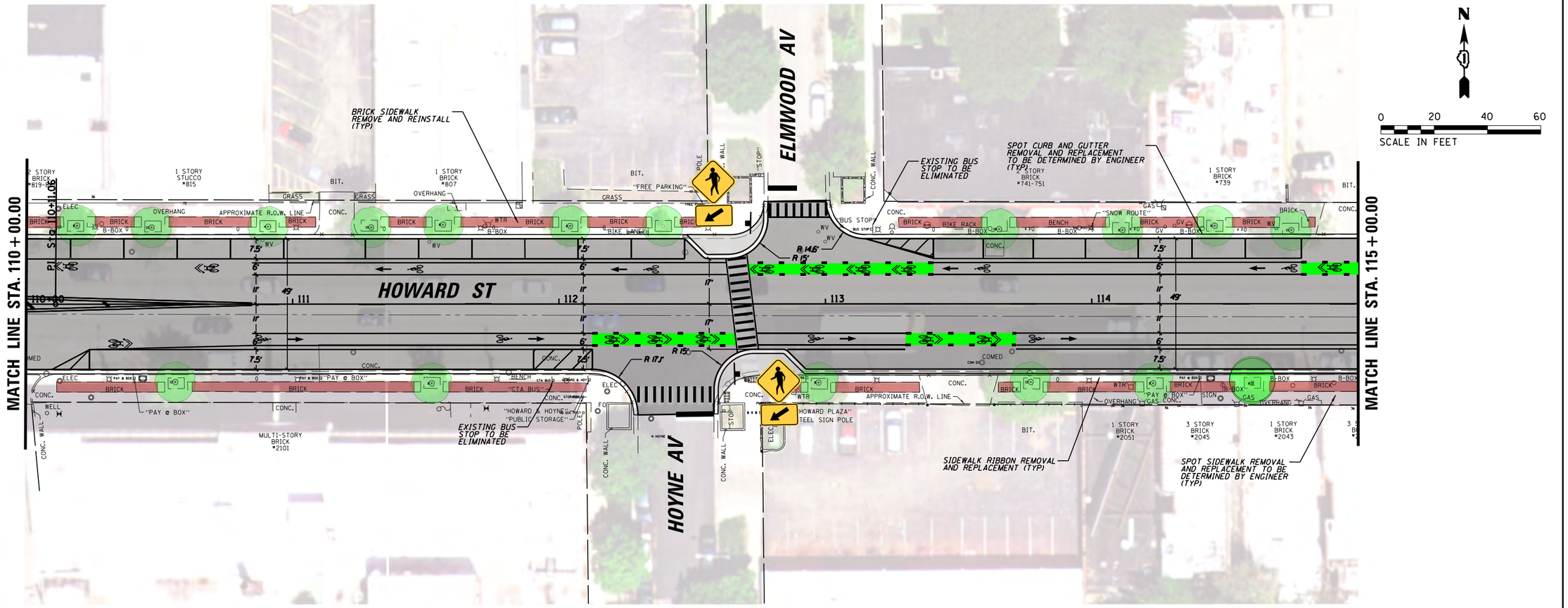

PROFILE

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DESIGN CHECKED		
B.M. NOTED		
STRUCTURE NO'TN'S CHK'D		
NOTE BOOK		
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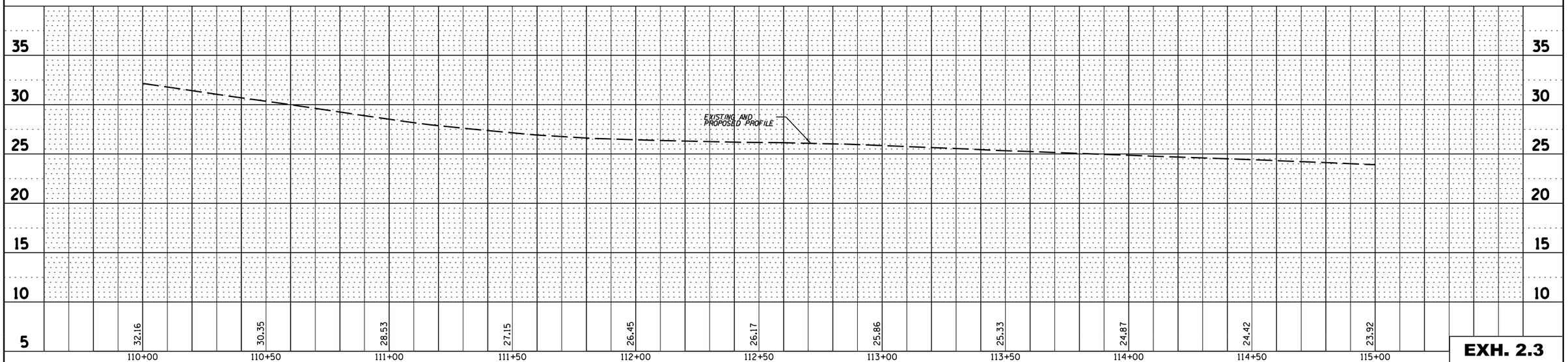

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Default	PLOT DATE = 11/30/2017	CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

PLAN
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GRADES CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
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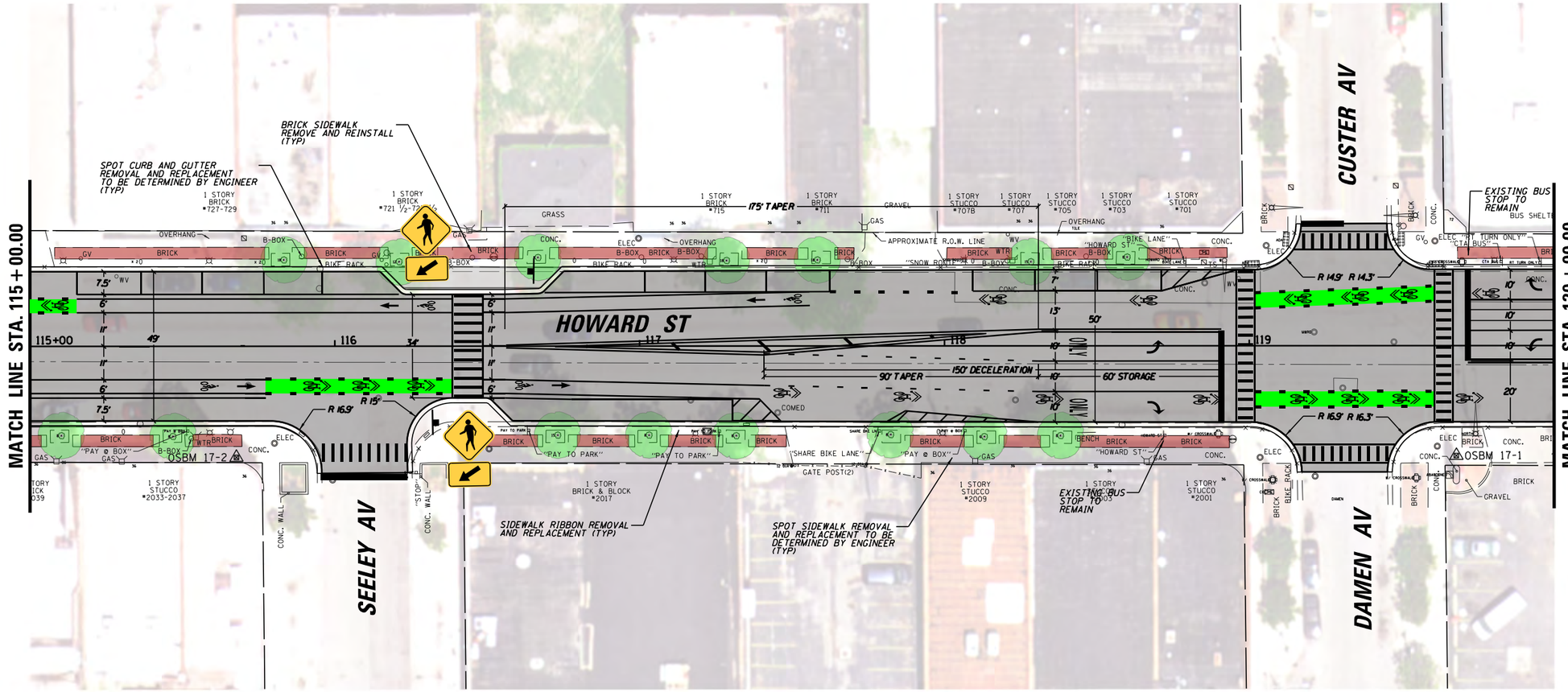

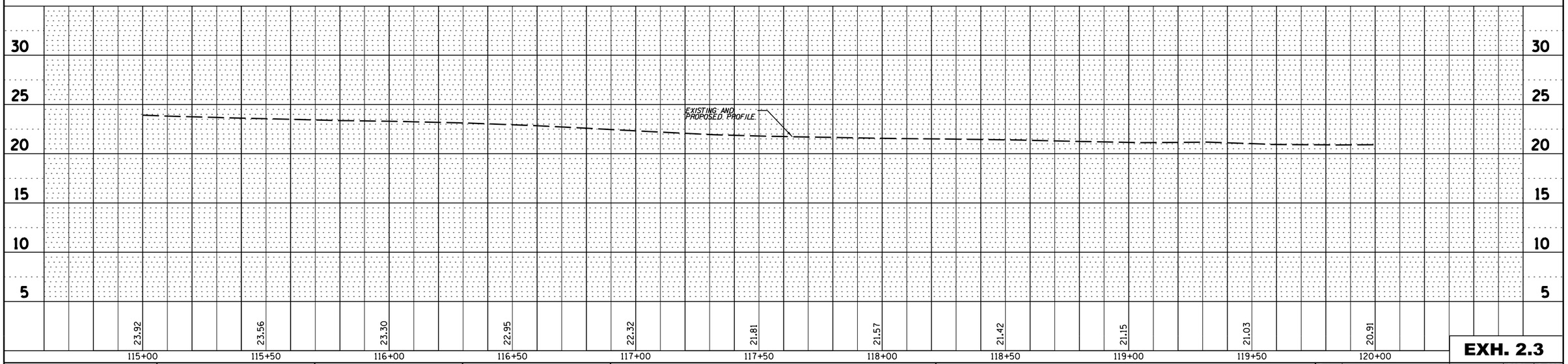

EXH. 2.3

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Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
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PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
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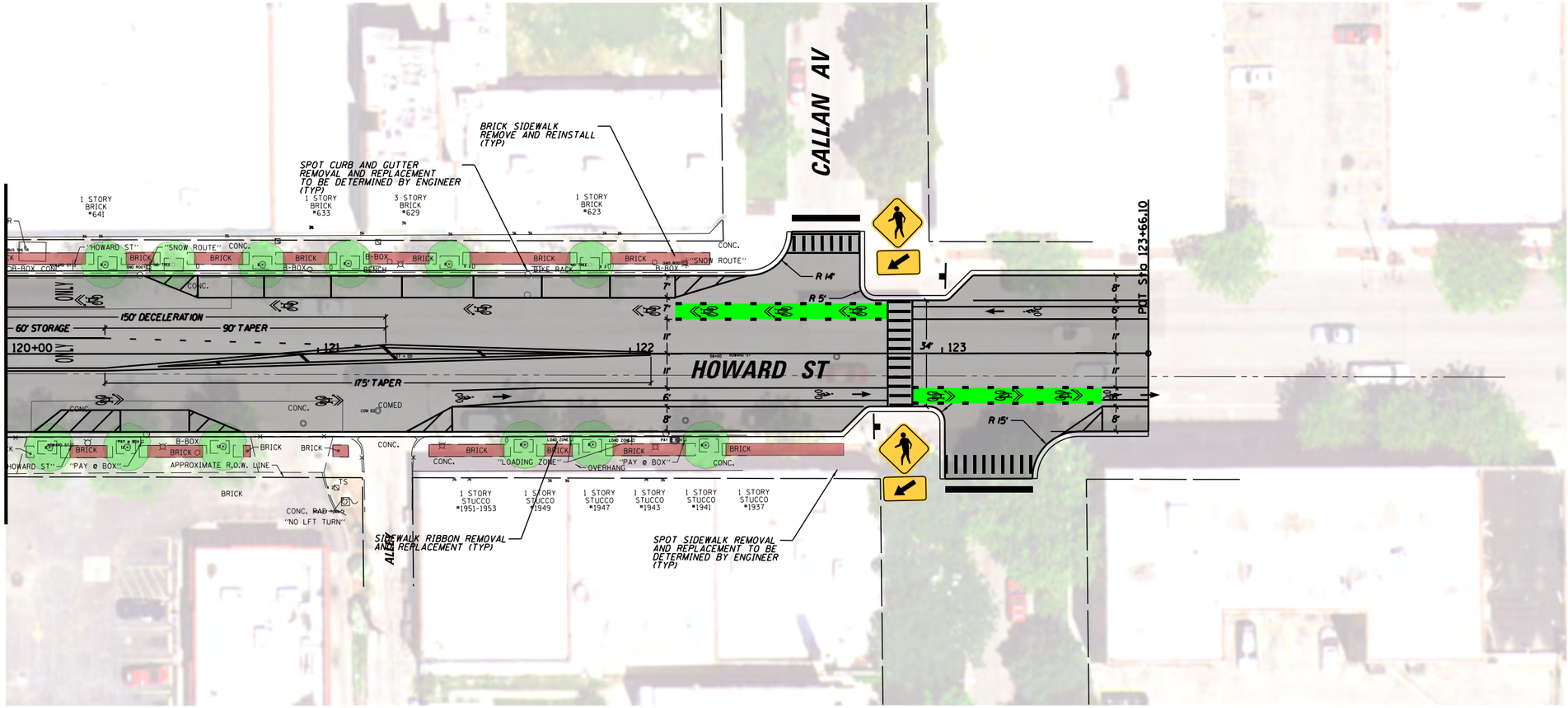
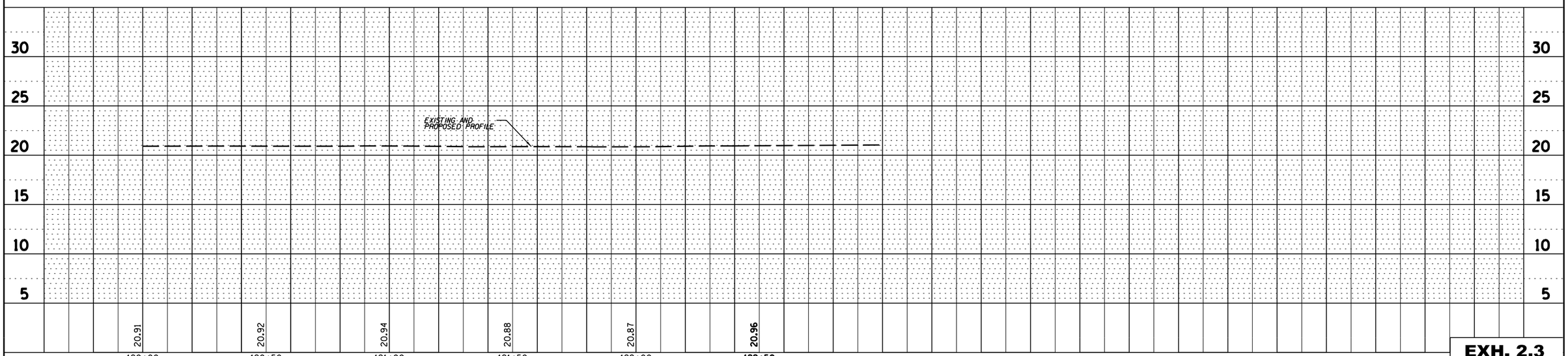
DATE





EXH. 2.3

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Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
PROPOSED PLAN AND PROFILE

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK		
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation

Approval of Design Variance

Project Identification

Local Agency: City of Evanston (County, Municipality, Road District / Township) County: Cook

Section No.: 17 - 00281 - 00 - RS Route: Howard Street (FAU 1334)

Street/Road Name: Howard Street (FAU 1334)

Project Limits: Dodge Ave/California Ave (FAU 2840) to Custer Ave/Damen Ave (FAU 2816)

Project Length: 1.3 miles Functional Classification: Major Collector

Design Year: 2017 Design Traffic: ☐ DHV _____ ☒ ADT 21,000

Existing Structure No.: N/A Proposed Structure No.: N/A

Project Scope of Work

a. Is this project located on the NHS? ☒ Yes ☐ No

b. Is this project on a Strategic Regional Arterial (SRA) route? ☐ Yes ☒ No

c. Funding ☐ MFT/State Assistance ☒ Federal

d. Type of Work ☐ New Construction ☐ Reconstruction ☒ 3R

e. Design Guidelines ☐ Urban ☐ Suburban ☐ Rural ☒ 3R ☒ Other Bicycle Guidelines

f. Provide a brief project description (major construction elements):

District Coordination Meetings

Has project been previously discussed at district coordination meetings? ☒ Yes ☐ No
(If yes, attach minutes of variance approvals)

Dates: 3/21/17 & 9/6/17

Level One Design Variance Approval

Local Agency: City of Evanston Section No.: 17-00281-00-RS

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Speed: 30 mph	30/40 mph	☐	☒	
2. Level of Service (Mainline): LOS C	LOS D	☐	☒	
3. Lane Widths				
a. Through Lanes: 10 feet	10' min	☐	☒	
b. Turn Lanes: 10 feet	10' min	☐	☒	
c. Parking Lanes: 8 feet	8'	☐	☒	To face of curb
d. Bike Lanes: 6 feet	5'	☐	☒	One way bike lane
4. Through Travel Lane Cross Slopes				
Inside Lane: _____ %	1.5%	☒	☐	See Justification #1
Outside Lane: _____ %		☐	☒	Existing Roadway Geometry to Remain
(if more than 2 lanes)				
5. Shoulder Widths: N/A feet		☐	☒	Existing Curb & Gutter to Remain
6. Horizontal Curvature (Minimum Radius)				
N/A feet	N/A	☐	☒	No Horizontal Curves Within Project Limits
List curves not meeting criteria				
Sta. / Radius / Design Speed				
N/A / N/A / N/A	N/A	☐	☒	
		☐	☒	
		☐	☒	
7. Superelevation Rates				
e_{max} N/A %	N/A	☐	☒	Existing Roadway Geometry to Remain
List curves for which e does not meet criteria				
Pl Sta. / Radius / e / Design Speed				
N/A / N/A / N/A / N/A	N/A	☐	☒	
		☐	☒	
		☐	☒	
8. Maximum Grade: N/A %	8%	☐	☒	Existing Vertical Alignment to Remain (No Changes Made)
9. Minimum Intersection Sight Distance				
335 feet	335 ft	☒	☐	See Justification #2
List locations not meeting the criteria				
Cross Road / Distance				
See Justification #1 / See Justification #1	335 ft	☒	☐	See Justification #2
See Justification #1 / See Justification #1	335 ft	☒	☐	See Justification #2
See Justification #1 / See Justification #1	335 ft	☒	☐	See Justification #2
10. Minimum Stopping Sight Distance				
N/A feet	N/A	☐	☒	Existing Roadway Geometry to Remain
a. Crest Vertical Curves – Min. K value N/A	N/A	☐	☒	
List curves not meeting the criteria				
VPI Sta. / Sight Distance / Design Speed / Curve Length				
	N/A	☐	☒	
	N/A	☐	☒	
	N/A	☐	☒	

Level One Design Variance Approval

Local Agency: City of Evanston | Section No.: 17-00281-00-RS

b. Sag Vertical Curves – Min. K value _____ **List curves not meeting the criteria** VPI Sta. / Sight Distance / Design Speed / Curve Length	N/A N/A	☐ ☐ ☐ ☐	☒ ☒ ☒ ☒	Existing Roadway Geometry to Remain
c. Inside of Horizontal Curves **List curves not meeting the criteria** Sta. / Sight Distance / Design Speed / Radius	N/A	☐ ☐ ☐	☒ ☒ ☒	
11. Clear Roadway Bridge Widths: N/A feet	N/A	☐	☒	No Bridge along Project Limits
12. Freeboard Above Design High Water: N/A feet	N/A	☐	☒	Existing Roadway Geometry and Drainage Features to Remain
13. Vertical Clearances:				
☐ Over Roadway/RR _____ feet	N/A	☐	☒	Existing Roadway Geometry to Remain
☐ Under Structure _____ feet	N/A	☐	☒	Existing Roadway Geometry to Remain
14. Accessibility Criteria for Disabled Persons **List any feature not meeting ADA Criteria** N/AN/	N/A	☐	☒	No Variance in ADA Design
15. Roadside Clear Zone:				
a. Tangent N/A feet	N/A	☐	☒	Existing Roadway Geometry to Remain
b. Outside of Curve N/A	N/A	☐	☒	Existing Roadway Geometry to Remain
List criteria for each radius Radius (ft) / Clear Zone (ft) N/A / N/A	N/A	☐ ☐ ☐	☒ ☐ ☐	Existing Roadway Geometry to Remain
16. Intersection(s) Level of Service: Los C	Los D	☐	☒	
17. Warrants for Stop Signs or Signals Cross Road / Warrant N/A / N/A	N/A	☐ ☐ ☐	☒ ☒ ☒	No New All-way Stops or Signals Proposed.
18. Pavement Design (list any variance to policy) N/A	N/A	☐	☐	No Variance in Pavement Design

Level One Design Variance Approval

Local Agency: City of Evanston Section No.: 17-00281-00-RS

Prepared By: _____ Date: _____
Designer (Local Agency or Consultant)

When Prepared by Consultant
Local Agency Concurrence: _____ Date: 1/24/2018

_____ 2/6/18 _____ 2/6/18
IDOT Regional Engineer Concurrence Date Central BLR&S Approval Date

Level Two Design Variance Approval

Local Agency: City of Evanston Section No.: 17-00281-00-RS

Design Criteria for Project (Provide numerical value where indicated)	BLR&S Criteria	Variance Yes	Variance No	Summary of Variance and Justification
1. Design Period: 0 years	20 years	☐	☒	3R Guidelines
2. Horizontal Alignment (Mainline)				
a. Minimum Superelevation Transition Lengths: N/A feet	N/A	☐	☒	Existing Roadway Geometry to Remain
b. Superelevation Distribution Between Tangent and Curve: N/A	2/3 : 1/3	☐	☒	Existing Roadway Geometry to Remain
3. Vertical Alignment (Mainline)				
a. Minimum Grade of Urban Cross Section ____ %	0.3%	☐	☒	Existing Roadway Geometry to Remain
b. Minimum Length of Vertical Curves N/A feet	N/A	☐	☒	Existing Roadway Geometry to Remain
c. Maximum K value of Vertical Curves N/A (for curbed facilities)	167	☐	☒	Existing Roadway Geometry to Remain
4. Cross Section Elements (Mainline)				
a. Design of Parking Lanes				
• Cross Slope: N/A %	N/A	☐	☒	Existing Roadway Geometry to Remain
b. Design of Sidewalks				
• Width: N/A feet	4 feet	☐	☒	No Major Changes to Sidewalks
• Buffer Distance: N/A feet	2 feet	☐	☒	No Major Changes to Sidewalks
• Cross Slope: 2 %	2% max.	☐	☒	
• Longitudinal Grades: 5 %	5% max.	☐	☒	
c. Median				
• Type: N/A	N/A	☐	☒	
• Width: N/A feet	N/A	☐	☒	
d. Shoulder Cross Slopes: N/A %	N/A	☐	☒	Existing Roadway Geometry to Remain
e. Rollover Factor N/A %	N/A	☐	☒	Existing Roadway Geometry to Remain
f. Curb and Gutter Type B-6.12	B-6.12	☐	☒	
g. Roadway Element				
• Steepest Front Slopes: N/A (H:V)	N/A	☐	☒	Existing Roadway Geometry to Remain
• Steepest Back Slopes: N/A (H:V)	N/A	☐	☒	Existing Roadway Geometry to Remain
5. Drainage (Flood Frequency)				
a. Pavement: N/A years	N/A	☐	☒	Existing Roadway Geometry to Remain
b. Structure: N/A years	N/A	☐	☒	
c. Storm Sewer: N/A years	N/A	☐	☒	

Level Two Design Variance Approval

Local Agency: City of Evanston Section No.: 17-00281-00-RS

6. Intersections				
a. Level of Service for Individual Movement:				
• Through Lanes: N/A	N/A	☐	☒	3R Guidelines
• Turn Lanes: N/A	N/A	☐	☒	3R Guidelines
b. Skew Angle: N/A Degrees	N/A	☐	☒	Existing Roadway Geometry to Remain
c. Approach Grades: N/A %	N/A	☐	☒	Existing Roadway Geometry to Remain
d. Design Vehicle: WB-55, SU, City Bus	Varies	☐	☒	
e. Turning Radius for Design Vehicle: Varies	Varies	☒	☐	See Justification #3
f. Minimum Corner Island Size: N/A	N/A	☐	☒	
g. Minimum Turn Lane Length 60 feet	115 ft	☒	☐	See Justification #4
• Approach Taper: 25:1 feet	25:1 or 35:1	☐	☒	
• Departure Taper: 25:1 feet	25:1 or 35:1	☐	☒	
• Bay Taper: 9:1/7:1 feet	9:1	☒	☐	See Justificaiton #5
h. Entrances				

Entrance Type	Max. Width (ft.)	Min. Width (ft.)	Max. Grade(%)				
Commercial	N/A	N/A	N/A	N/A	☐	☒	Existing Roadway Geometry to Remain
Residential	N/A	N/A	N/A	N/A	☐	☒	Existing Roadway Geometry to Remain

7. RR Crossings				
a. Type of Railroad Protection: N/A	N/A	☐	☒	No At-Grade Crossings
b. Crossing Width (at 90° angle) N/A feet	N/A	☐	☒	Within Project Limits
8. Lighting				
a. Illuminance N/A lux	0.6 cd/sq m	☐	☒	IDOT District 1 Standard is Luminance not Illuminance
b. Uniformity Ratio 3.5:1	3.5:1	☐	☒	ANSI IES PR-8-14
9. Other Items				
None	N/A	☐	☒	

Prepared By: _____ Date: 2/19/2018
Designer (Local Agency or Consultant)

When Prepared by Consultant
Local Agency Concurrence: _____ Date: 2/15/18

_____ 2/22/18 _____ _____
IDOT Regional Engineer Concurrence Date Central BLR&S Approval Date

City of Evanston

Howard Street (FAU 1334)

Section 17-00281-00-RS

Justification of Variances

1. **Through Travel Lane Cross Slopes**

   This project is a 3R Project and the improvements is for the pavement only and the existing geometry is to remain.

2. **Minimum Intersection Sight Distance**

	INTERSECTION	DISTANCE
a.	Grey/Francisco	80 ft.
b.	Washtenaw	95 ft.
c.	Dewey	80 ft.
d.	Florence/Rockwell	90 ft.
e.	Ashland/Maplewood	85 ft.
f.	Clairmont	190 ft.
g.	Barton	80 ft.
h.	Oakley	80 ft.
i.	Bell	75 ft.
j.	Elmwood/Hoyne	70 ft.
k.	Seeley	80 ft.
l.	Custer/Damen	140 ft.

   Aside from Custer/Damen, all intersections are minor streets which intersection Howard Street. Current visibility is poor due to the allowable parking. The IDS are listed above per minor intersection these are due to on-site parking. It is possible to see between the parked cars through the gap provided for driveway which will allow additional sight distance. Custer/Damen similar IDS limitations due to on-street parking however the intersection is signalized. Impacts would include right-of-way acquisition and special waste excavation.

3. **Turning Radius for Design Vehicle**

   This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.

4. **Minimum Turn Lane Length**

   The existing right-of-way is restricted due to the nature of the project in a fully developed urban environment. The right-of-way is shared between bicyclists, pedestrians, vehicles, public transportation (bus) and on-street parking. It is common to have short storage lengths because of these competing needs and limited space. Left turn storage of 60 ft. is not uncommon where

traffic volumes can be stored in these lanes. The minimum storage length is 115'. Speeds on City (Evanston and Chicago) streets are typically low. Impacts would include right-of-way acquisition and special waste excavation.

5. Bay Taper Length

The proposed left turn taper design varies within the project. Most are "Chicago Style" left turn tapers (i.e. widen on both sides). In many locations, providing fully shadowed left turn lanes would require significant parking removal on both sides of the roadway and would have a negative impact on the community. The proposed design provides 1:9 tapers for the left turn lanes, which matches IDOT standards, and 1:7 tapers for right turn lanes. The 1:7 taper length for right turning vehicles assumes a 10 mph reduction in speed for turning vehicles to 20 mph. Impacts would include right-of-way acquisition and special waste excavation.

TAB 3

Howard Street Traffic Analysis
Evanston, IL
LOS/Delay Table

Intersection	Movement	Existing		Proposed Alt 1		Proposed Improvements
		AM	PM	AM	PM	
Howard Street & California Ave / Dodge Ave	EB LT	C - 29.4	D - 39.2	B - 12.2	B - 12.7	*65 second existing cycle length. Increased to 100 seconds in Proposed Alternatives. *Added EB/WB LT phase. *Optimized splits and offsets.
	EB TH	C - 24.6	D - 52.9	C - 23.6	C - 29.6	
	EB RT	A - 1.5	A - 5.2	A - 0.1	A - 2.7	
	WB LT	B - 16.8	C - 27.9	B - 10.2	B - 12.2	
	WB TH	D - 49.7	D - 42.6	C - 32.9	C - 27.6	
	WB RT	A - 7.5	A - 7.2	A - 7.4	A - 7.1	
	NB LT	A - 8.5	A - 9.5	C - 22.6	C - 29.8	
	NB TH/RT	B - 14.9	B - 15.5	D - 35.1	C - 32.9	
	SB LT	A - 9.3	B - 10.5	C - 26.1	C - 31.0	
	SB TH/RT	B - 11.8	B - 18.3	C - 28.3	D - 45.5	
	Intersection	**C - 27.7**	**C - 31.7**	**C - 26.7**	**C - 28.7**	
Howard Street & Western Ave / Asbury Ave	EB LT	C - 24.0	B - 18.9	B - 13.7	B - 17.1	*Alt 1 - Removed a WB thru lane and made it exclusive right turn lane. *Optimized splits and offsets (existing 110 second cycle length). *WB Queue Length = Alt 1 - 323' (AM), 282' (PM)
	EB TH	E - 64.8	E - 68.0	C - 25.7	D - 45.1	
	EB RT	C - 31.8	C - 33.1	B - 18.9	C - 27.5	
	WB LT	D - 54.6	D - 43.8	B - 11.3	D - 43.5	
	WB TH	D - 40.0	C - 29.9	B - 18.9	C - 24.9	
	WB RT			B - 11.9	B - 16.7	
	NB LT	B - 16.1	C - 26.4	C - 32.8	C - 34.8	
	NB TH/RT	C - 24.6	C - 27.7	D - 44.7	C - 30.3	
	SB LT	B - 15.6	B - 18.2	C - 31.6	C - 21.9	
	SB TH/RT	C - 22.1	C - 30.9	C - 34.5	D - 35.3	
	Intersection	**D - 35.7**	**D - 36.5**	**C - 28.9**	**C - 32.8**	
Howard Street & Ridge Avenue	EB LT	C - 22.7	B - 15.4	C - 34.4	B - 16.0	*Alt 1 - Removed a WB thru lane and made it exclusive right turn lane. *Optimized splits and offsets (existing 90 second cycle length. Proposed 110 second cycle length to allow better progression between Ridge and Western). *WB Queue Length = Alt 1 - 530' (AM), 468' (PM)
	EB TH	C - 28.5	C - 31.1	C - 26.9	C - 31.0	
	EB RT	C - 22.3	C - 20.8	C - 22.0	C - 21.1	
	WB LT	B - 13.9	B - 14.2	B - 13.8	B - 14.8	
	WB TH	C - 28.5	C - 24.2	D - 35.8	C - 33.4	
	WB RT			C - 20.8	C - 21.4	
	NB LT	B - 18.1	D - 35.4	C - 26.1	E - 56.8	
	NB TH/RT	D - 46.0	C - 31.9	E - 55.6	D - 40.0	
	SB LT	B - 19.6	C - 20.9	C - 30.2	C - 29.1	
	SB TH/RT	C - 25.6	C - 30.2	C - 31.4	D - 38.5	
	Intersection	**C - 29.6**	**C - 28.1**	**C - 34.8**	**C - 35.0**	
Howard Street & Custer Ave / Damen Ave	EB LT	A - 4.5	A - 4.2	A - 6.1	A - 5.8	*Optimized splits and offsets (existing 90 second cycle length).
	EB TH	A - 5.4	A - 5.6	A - 7.2	A - 7.5	
	EB RT	A - 1.2	A - 1.4	A - 1.8	A - 2.3	
	WB LT	A - 3.6	A - 3.7	A - 4.9	A - 5.1	
	WB TH	A - 6.8	A - 6.1	A - 9.0	A - 8.2	
	WB RT	A - 1.7	A - 1.6	A - 2.7	A - 2.5	
	SB LT/TH/RT	C - 30.5	E - 58.4	C - 25.5	D - 40.1	
	Intersection	**A - 7.5**	**B - 12.1**	**A - 8.9**	**B - 11.3**	

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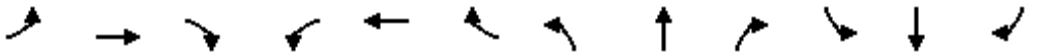


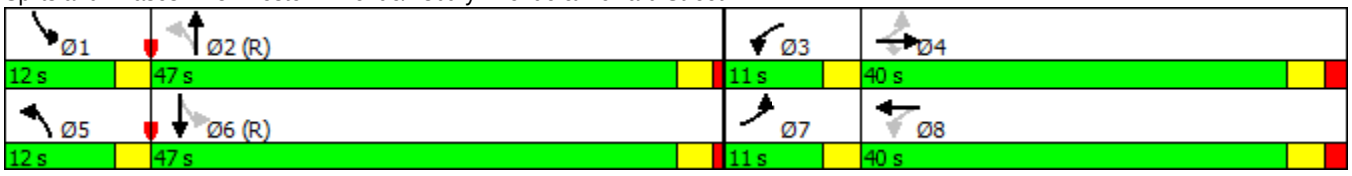
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	460	115	145	610	95	180	530	175	85	300	50
Future Volume (vph)	75	460	115	145	610	95	180	530	175	85	300	50
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	200		0	100		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			70			100			85		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00		0.96	0.99	1.00		0.99	0.98		0.98	1.00	
Frt			0.850		0.980			0.963			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1841	1516	1694	3285	0	1711	3224	0	1616	3315	0
Flt Permitted	0.199			0.120			0.463			0.287		
Satd. Flow (perm)	357	1841	1462	212	3285	0	828	3224	0	480	3315	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		256			1488			460			262	
Travel Time (s)		5.8			33.8			10.5			6.0	
Confl. Peds. (#/hr)	15		25	25		15	15		40	40		15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	5%	3%	3%	4%	2%	2%	2%	3%	8%	2%	6%
Adj. Flow (vph)	79	484	121	153	642	100	189	558	184	89	316	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	484	121	153	742	0	189	742	0	89	369	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

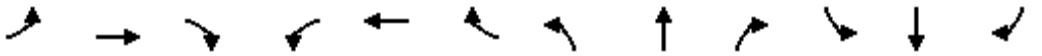
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	22.0	22.0	5.0	22.0		6.0	19.0		6.0	19.0	
Minimum Split (s)	9.5	40.0	40.0	9.5	40.0		9.5	42.0		9.5	42.0	
Total Split (s)	11.0	40.0	40.0	11.0	40.0		12.0	47.0		12.0	47.0	
Total Split (%)	10.0%	36.4%	36.4%	10.0%	36.4%		10.9%	42.7%		10.9%	42.7%	
Maximum Green (s)	8.0	35.0	35.0	8.0	35.0		9.0	43.0		9.0	43.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.0		0.0	1.0	
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)	3.0	5.0	5.0	3.0	5.0		3.0	4.0		3.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		3.0	0.2		3.0	0.2	
Recall Mode	None	Min	Min	None	Min		None	C-Max		None	C-Max	
Walk Time (s)		18.0	18.0		22.0			26.0			26.0	
Flash Dont Walk (s)		17.0	17.0		13.0			12.0			12.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	40.5	31.0	31.0	41.6	33.2		58.7	49.9		55.6	46.7	
Actuated g/C Ratio	0.37	0.28	0.28	0.38	0.30		0.53	0.45		0.51	0.42	
v/c Ratio	0.35	0.94	0.29	0.81	0.75		0.37	0.51		0.27	0.26	
Control Delay	24.0	64.8	31.8	54.6	40.0		16.1	24.6		15.6	22.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.0	64.8	31.8	54.6	40.0		16.1	24.6		15.6	22.1	
LOS	C	E	C	D	D		B	C		B	C	
Approach Delay		54.3			42.5			22.9			20.8	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 38 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 35.7 Intersection LOS: D
Intersection Capacity Utilization 90.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Western Avenue/Asbury Avenue & Howard Street #1



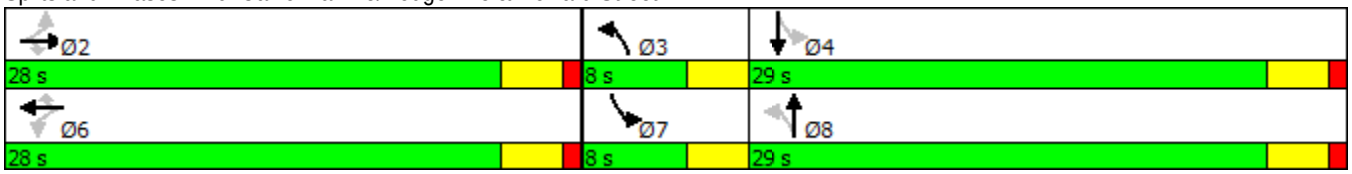


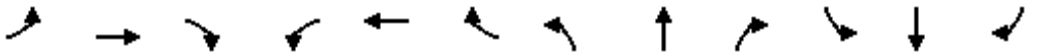
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	480	30	25	655	145	80	200	50	105	105	35
Future Volume (vph)	40	480	30	25	655	145	80	200	50	105	105	35
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		30	130		100	60		0	80		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			80			60			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.95	0.99		0.95	0.99	0.99		0.99	0.99	
Frt			0.850			0.850		0.970			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1859	1516	1711	1877	1487	1711	1733	0	1646	1663	0
Flt Permitted	0.166			0.248			0.663			0.532		
Satd. Flow (perm)	277	1859	1445	443	1877	1418	1176	1733	0	911	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			67			97		23			30	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1134			2295			391			689	
Travel Time (s)		25.8			52.2			10.7			15.7	
Confl. Peds. (#/hr)	15		15	15		15	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	4%	3%	2%	3%	5%	2%	2%	2%	6%	5%	6%
Adj. Flow (vph)	42	505	32	26	689	153	84	211	53	111	111	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	505	32	26	689	153	84	264	0	111	148	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0		8.0	23.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	8.0	29.0		8.0	29.0	
Total Split (%)	43.1%	43.1%	43.1%	43.1%	43.1%	43.1%	12.3%	44.6%		12.3%	44.6%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0	24.0	5.0	25.0		5.0	25.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0		3.0	4.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max	Max	None	Max		None	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	24.1	24.1	24.1	24.1	24.1	24.1	30.0	25.1		30.0	25.1	
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.38	0.47	0.40		0.47	0.40	
v/c Ratio	0.40	0.72	0.05	0.15	0.97	0.26	0.14	0.38		0.23	0.22	
Control Delay	29.4	24.6	1.5	16.8	49.7	7.5	8.5	14.9		9.3	11.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	29.4	24.6	1.5	16.8	49.7	7.5	8.5	14.9		9.3	11.8	
LOS	C	C	A	B	D	A	A	B		A	B	
Approach Delay		23.7			41.3			13.4			10.7	
Approach LOS		C			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 63.4			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 27.7		Intersection LOS: C	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: California Ave/Dodge Ave & Howard Street





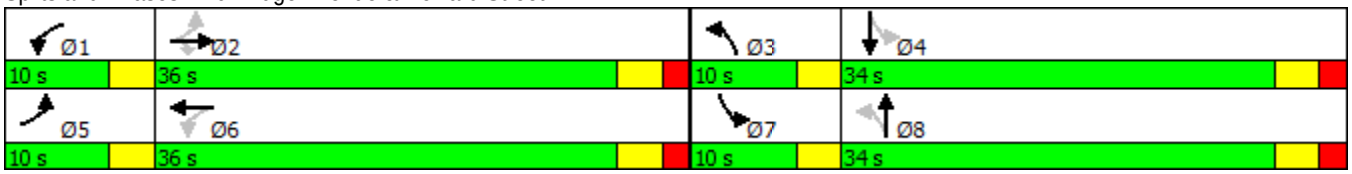
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	430	150	50	600	105	140	485	20	85	340	95
Future Volume (vph)	150	430	150	50	600	105	140	485	20	85	340	95
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		160	70		70	50		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			70			75			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor	0.99		0.93	0.98	0.99		0.99	1.00			0.99	
Frt			0.850		0.978			0.994			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1841	1516	1711	3262	0	1711	1773	0	1678	3289	0
Flt Permitted	0.218			0.325			0.393			0.165		
Satd. Flow (perm)	384	1841	1408	574	3262	0	703	1773	0	291	3289	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1488			1147			857			621	
Travel Time (s)		33.8			26.1			23.4			14.1	
Confl. Peds. (#/hr)	30		40	40		30	10		40	40		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	5%	3%	2%	3%	8%	2%	2%	14%	4%	2%	2%
Adj. Flow (vph)	158	453	158	53	632	111	147	511	21	89	358	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	453	158	53	743	0	147	532	0	89	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

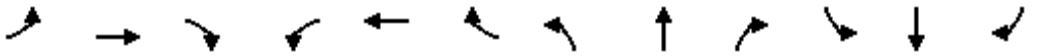
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	17.0	17.0	3.0	17.0		3.0	16.0		3.0	16.0	
Minimum Split (s)	9.5	23.0	23.0	9.5	23.0		8.0	23.0		8.0	23.0	
Total Split (s)	10.0	36.0	36.0	10.0	36.0		10.0	34.0		10.0	34.0	
Total Split (%)	11.1%	40.0%	40.0%	11.1%	40.0%		11.1%	37.8%		11.1%	37.8%	
Maximum Green (s)	7.0	31.0	31.0	7.0	31.0		7.0	29.0		7.0	29.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	2.0		0.0	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)	3.0	5.0	5.0	3.0	5.0		3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max		None	Max		None	Max	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	41.2	35.0	35.0	39.6	31.0		38.6	31.0		37.8	29.0	
Actuated g/C Ratio	0.46	0.39	0.39	0.44	0.34		0.43	0.34		0.42	0.32	
v/c Ratio	0.57	0.63	0.29	0.16	0.66		0.39	0.87		0.39	0.43	
Control Delay	22.7	28.5	22.3	13.9	28.5		18.1	46.0		19.6	25.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.7	28.5	22.3	13.9	28.5		18.1	46.0		19.6	25.6	
LOS	C	C	C	B	C		B	D		B	C	
Approach Delay		26.0			27.5			40.0			24.6	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 29.6 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Ridge Avenue & Howard Street #1



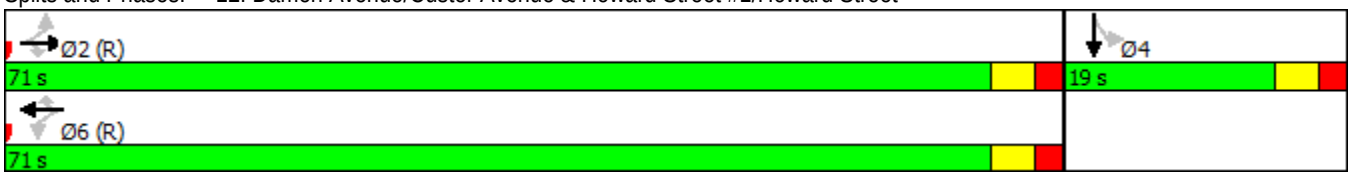


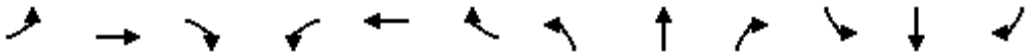
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	490	20	25	670	100	0	0	0	55	10	40
Future Volume (vph)	50	490	20	25	670	100	0	0	0	55	10	40
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	50		50	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.97	0.99		0.96					0.95	
Frt			0.850			0.850					0.949	
Flt Protected	0.950			0.950							0.975	
Satd. Flow (prot)	1558	1841	1531	1678	1859	1516	0	0	0	0	1626	0
Flt Permitted	0.334			0.440							0.975	
Satd. Flow (perm)	544	1841	1479	772	1859	1460	0	0	0	0	1582	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24			67					29	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1147			525			447			641	
Travel Time (s)		26.1			11.9			12.2			17.5	
Confl. Peds. (#/hr)	25		20	20		25	10		15	15		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	12%	5%	2%	4%	4%	3%	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	53	516	21	26	705	105	0	0	0	58	11	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	516	21	26	705	105	0	0	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm				Perm	NA	
Protected Phases		2			6						4	
Permitted Phases	2		2	6		6				4		
Minimum Split (s)	70.0	70.0	70.0	70.0	70.0	70.0				18.0	18.0	
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0				19.0	19.0	
Total Split (%)	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%				21.1%	21.1%	
Maximum Green (s)	66.0	66.0	66.0	66.0	66.0	66.0				14.0	14.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0				3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0				2.0	2.0	
Lost Time Adjust (s)	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	5.0	5.0					5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	55.0	55.0	55.0	55.0	55.0	55.0				5.0	5.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0	10.0	10.0				8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0				0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	66.0	66.0	66.0	66.0	66.0	66.0					14.0	
Actuated g/C Ratio	0.73	0.73	0.73	0.73	0.73	0.73					0.16	
v/c Ratio	0.13	0.38	0.02	0.05	0.52	0.10					0.41	
Control Delay	4.5	5.4	1.2	3.6	6.8	1.7					30.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Delay	4.5	5.4	1.2	3.6	6.8	1.7					30.5	
LOS	A	A	A	A	A	A					C	
Approach Delay		5.2			6.0						30.5	
Approach LOS		A			A						C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Damen Avenue/Custer Avenue & Howard Street #1/Howard Street





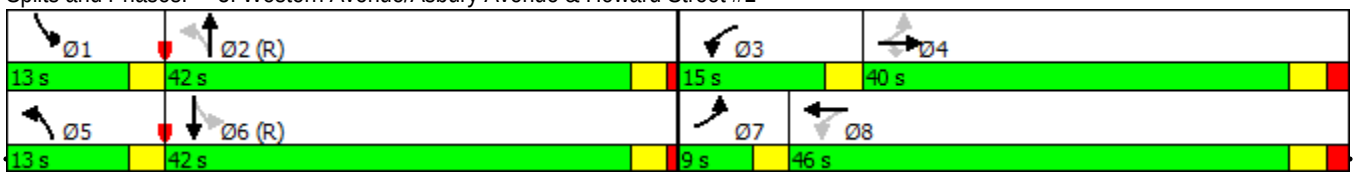
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	525	155	180	535	120	185	335	135	110	620	50
Future Volume (vph)	65	525	155	180	535	120	185	335	135	110	620	50
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	200		0	100		0	150		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	90			70			100			85		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.89	0.97	0.99		0.99	0.97		0.96	1.00	
Frt			0.850		0.973			0.957			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1895	1531	1711	3278	0	1711	3175	0	1711	3372	0
Flt Permitted	0.323			0.108			0.239			0.389		
Satd. Flow (perm)	576	1895	1364	190	3278	0	426	3175	0	673	3372	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		256			1488			460			262	
Travel Time (s)		5.8			33.8			10.5			6.0	
Confl. Peds. (#/hr)	35		105	105		35	40		60	60		40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	68	553	163	189	563	126	195	353	142	116	653	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	553	163	189	689	0	195	495	0	116	706	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	*0.90	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

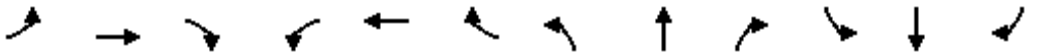
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	7	4	4	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	22.0	22.0	6.0	22.0		7.0	19.0		7.0	19.0	
Minimum Split (s)	9.0	40.0	40.0	9.5	46.0		10.0	42.0		10.0	42.0	
Total Split (s)	9.0	40.0	40.0	15.0	46.0		13.0	42.0		13.0	42.0	
Total Split (%)	8.2%	36.4%	36.4%	13.6%	41.8%		11.8%	38.2%		11.8%	38.2%	
Maximum Green (s)	6.0	35.0	35.0	12.0	41.0		10.0	38.0		10.0	38.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0		0.0	1.0		0.0	1.0	
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)	3.0	5.0	5.0	3.0	5.0		3.0	4.0		3.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	0.2	0.2	0.2	3.0	0.2		3.0	0.2		3.0	0.2	
Recall Mode	None	Min	Min	None	Min		None	C-Max		None	C-Max	
Walk Time (s)		18.0	18.0		28.0			26.0			26.0	
Flash Dont Walk (s)		17.0	17.0		13.0			12.0			12.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	41.3	33.3	33.3	49.9	40.7		52.0	41.1		50.3	40.3	
Actuated g/C Ratio	0.38	0.30	0.30	0.45	0.37		0.47	0.37		0.46	0.37	
v/c Ratio	0.24	0.97	0.39	0.77	0.57		0.62	0.42		0.30	0.57	
Control Delay	18.9	68.0	33.1	43.8	29.9		26.4	27.7		18.2	30.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.9	68.0	33.1	43.8	29.9		26.4	27.7		18.2	30.9	
LOS	B	E	C	D	C		C	C		B	C	
Approach Delay		56.5			32.9			27.4			29.1	
Approach LOS		E			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 38 (35%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 36.5 Intersection LOS: D
Intersection Capacity Utilization 95.1% ICU Level of Service F
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 3: Western Avenue/Asbury Avenue & Howard Street #1





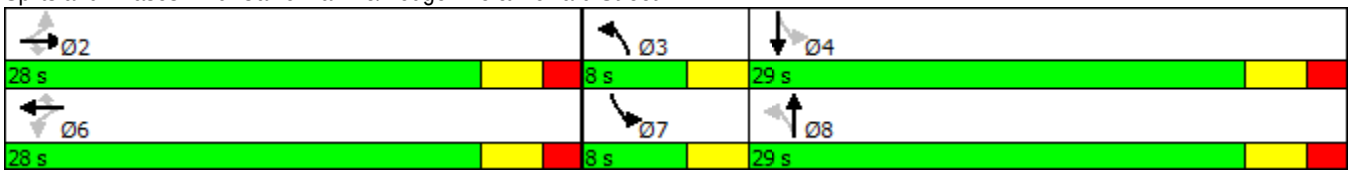
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	620	85	40	585	155	100	175	30	175	275	70
Future Volume (vph)	55	620	85	40	585	155	100	175	30	175	275	70
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		30	130		100	60		0	80		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			80			60			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.94			0.93	0.96	0.99		0.96	0.98	
Frt			0.850			0.850		0.978			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1895	1531	1711	1895	1531	1694	1723	0	1711	1709	0
Flt Permitted	0.174			0.174			0.454			0.584		
Satd. Flow (perm)	309	1895	1446	313	1895	1419	779	1723	0	1010	1709	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			113		15			22	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1134			2298			391			689	
Travel Time (s)		25.8			52.2			10.7			15.7	
Confl. Peds. (#/hr)	30		20	20		30	40		30	30		40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	4%	2%	2%	3%
Adj. Flow (vph)	58	653	89	42	616	163	105	184	32	184	289	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	653	89	42	616	163	105	216	0	184	363	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

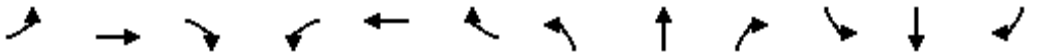
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0		8.0	23.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0	28.0	8.0	29.0		8.0	29.0	
Total Split (%)	43.1%	43.1%	43.1%	43.1%	43.1%	43.1%	12.3%	44.6%		12.3%	44.6%	
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0	23.0	5.0	24.0		5.0	24.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max	Max	None	Max		None	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)	23.0	23.0	23.0	23.0	23.0	23.0	31.0	24.0		31.6	25.6	
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.35	0.35	0.48	0.37		0.49	0.39	
v/c Ratio	0.53	0.97	0.16	0.38	0.92	0.28	0.24	0.33		0.34	0.53	
Control Delay	39.2	52.9	5.2	27.9	42.6	7.2	9.5	15.5		10.5	18.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	39.2	52.9	5.2	27.9	42.6	7.2	9.5	15.5		10.5	18.3	
LOS	D	D	A	C	D	A	A	B		B	B	
Approach Delay		46.6			34.8			13.5			15.7	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 31.7 Intersection LOS: C
Intersection Capacity Utilization 76.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: California Ave/Dodge Ave & Howard Street





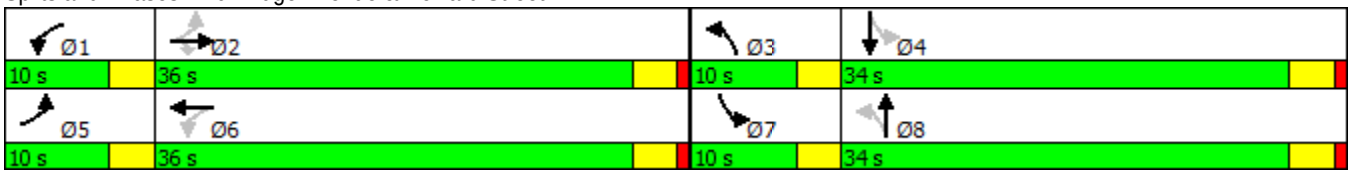
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	505	110	40	530	60	175	360	25	145	620	150
Future Volume (vph)	85	505	110	40	530	60	175	360	25	145	620	150
Ideal Flow (vphpl)	1900	2000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		160	70		70	50		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			70			75			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor	0.99		0.89		1.00		1.00	0.99		0.96	0.99	
Frt			0.850		0.985			0.990			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1895	1531	1694	3321	0	1711	1769	0	1662	3300	0
Flt Permitted	0.294			0.214			0.180			0.297		
Satd. Flow (perm)	523	1895	1366	382	3321	0	323	1769	0	501	3300	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1488			1147			831			621	
Travel Time (s)		33.8			26.1			22.7			14.1	
Confl. Peds. (#/hr)	25		65	65		25	15		40	40		15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	89	532	116	42	558	63	184	379	26	153	653	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	532	116	42	621	0	184	405	0	153	811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

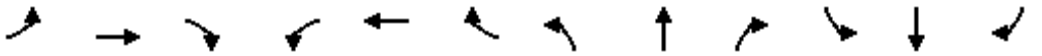
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6			8			4		
Detector Phase	5	2	2	1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	17.0	17.0	3.0	17.0		3.0	16.0		3.0	16.0	
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0		10.0	23.0		10.0	23.0	
Total Split (s)	10.0	36.0	36.0	10.0	36.0		10.0	34.0		10.0	34.0	
Total Split (%)	11.1%	40.0%	40.0%	11.1%	40.0%		11.1%	37.8%		11.1%	37.8%	
Maximum Green (s)	7.0	32.0	32.0	7.0	32.0		7.0	30.0		7.0	30.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	1.0	1.0	0.0	1.0		0.0	1.0		0.0	1.0	
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)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2		3.0	0.2		3.0	0.2	
Recall Mode	None	Max	Max	None	Max		None	Max		None	Max	
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	39.2	34.1	34.1	38.3	32.1		38.2	30.1		38.0	30.1	
Actuated g/C Ratio	0.45	0.39	0.39	0.44	0.36		0.43	0.34		0.43	0.34	
v/c Ratio	0.27	0.72	0.22	0.16	0.51		0.74	0.67		0.50	0.72	
Control Delay	15.4	31.1	20.8	14.2	24.2		35.4	31.9		20.9	30.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.4	31.1	20.8	14.2	24.2		35.4	31.9		20.9	30.2	
LOS	B	C	C	B	C		D	C		C	C	
Approach Delay		27.6			23.6			33.0			28.7	
Approach LOS		C			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 88
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 28.1 Intersection LOS: C
Intersection Capacity Utilization 73.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Ridge Avenue & Howard Street #1



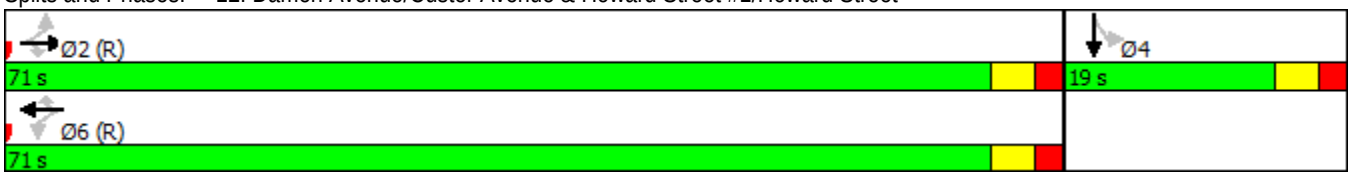


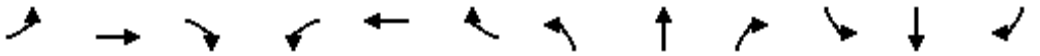
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	530	60	35	605	85	0	0	0	100	60	40
Future Volume (vph)	55	530	60	35	605	85	0	0	0	100	60	40
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	50		50	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.93	0.98		0.95					0.95	
Frt			0.850			0.850					0.973	
Flt Protected	0.950			0.950							0.976	
Satd. Flow (prot)	1711	1859	1531	1711	1877	1531	0	0	0	0	1664	0
Flt Permitted	0.371			0.415							0.976	
Satd. Flow (perm)	660	1859	1427	731	1877	1453	0	0	0	0	1621	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51			63					12	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1147			525			447			641	
Travel Time (s)		26.1			11.9			12.2			17.5	
Confl. Peds. (#/hr)	45		70	70		45	25		15	15		25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	4%	2%	2%	3%	2%	2%	2%	2%	2%	2%	5%
Adj. Flow (vph)	58	558	63	37	637	89	0	0	0	105	63	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	558	63	37	637	89	0	0	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm				Perm	NA	
Protected Phases		2			6						4	
Permitted Phases	2		2	6		6				4		
Minimum Split (s)	71.0	71.0	71.0	71.0	71.0	71.0				18.0	18.0	
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0				19.0	19.0	
Total Split (%)	78.9%	78.9%	78.9%	78.9%	78.9%	78.9%				21.1%	21.1%	
Maximum Green (s)	66.0	66.0	66.0	66.0	66.0	66.0				14.0	14.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0				3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0				2.0	2.0	
Lost Time Adjust (s)	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	5.0	5.0					5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	55.0	55.0	55.0	55.0	55.0	55.0				5.0	5.0	
Flash Dont Walk (s)	10.0	10.0	10.0	10.0	10.0	10.0				8.0	8.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0				0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	66.0	66.0	66.0	66.0	66.0	66.0					14.0	
Actuated g/C Ratio	0.73	0.73	0.73	0.73	0.73	0.73					0.16	
v/c Ratio	0.12	0.41	0.06	0.07	0.46	0.08					0.80	
Control Delay	4.2	5.6	1.4	3.7	6.1	1.6					58.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Delay	4.2	5.6	1.4	3.7	6.1	1.6					58.4	
LOS	A	A	A	A	A	A					E	
Approach Delay		5.1			5.5						58.4	
Approach LOS		A			A						E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 54 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 12: Damen Avenue/Custer Avenue & Howard Street #1/Howard Street





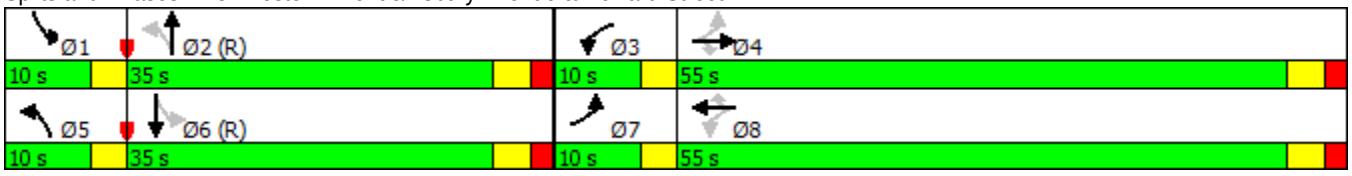
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	460	115	145	610	95	180	530	175	85	300	50
Future Volume (vph)	75	460	115	145	610	95	180	530	175	85	300	50
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	200		200	100		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			70			100			85		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.94	0.99		0.96	0.98	0.97		0.98	0.99	
Frt			0.850			0.850		0.963			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1841	1516	1694	1859	1531	1711	3173	0	1616	3296	0
Flt Permitted	0.207			0.316			0.426			0.174		
Satd. Flow (perm)	373	1841	1429	557	1859	1471	749	3173	0	289	3296	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2551			1488			460			262	
Travel Time (s)		58.0			33.8			10.5			6.0	
Confl. Peds. (#/hr)	15		25	25		15	15		40	40		15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	5%	3%	3%	4%	2%	2%	2%	3%	8%	2%	6%
Adj. Flow (vph)	79	484	121	153	642	100	189	558	184	89	316	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	484	121	153	642	100	189	742	0	89	369	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	3.0	8.0	8.0	3.0	8.0	8.0	3.0	15.0		3.0	15.0	
Minimum Split (s)	6.0	23.0	23.0	6.0	23.0	23.0	6.0	23.0		6.0	23.0	
Total Split (s)	10.0	55.0	55.0	10.0	55.0	55.0	10.0	35.0		10.0	35.0	
Total Split (%)	9.1%	50.0%	50.0%	9.1%	50.0%	50.0%	9.1%	31.8%		9.1%	31.8%	
Maximum Green (s)	7.0	50.0	50.0	7.0	50.0	50.0	7.0	30.0		7.0	30.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max		None	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	58.8	50.0	50.0	59.6	52.0	52.0	39.6	32.0		38.9	30.0	
Actuated g/C Ratio	0.53	0.45	0.45	0.54	0.47	0.47	0.36	0.29		0.35	0.27	
v/c Ratio	0.28	0.58	0.19	0.41	0.73	0.14	0.57	0.80		0.48	0.41	
Control Delay	13.7	25.7	18.9	11.3	18.9	11.9	32.8	44.7		31.6	34.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.7	25.7	18.9	11.3	18.9	11.9	32.8	44.7		31.6	34.5	
LOS	B	C	B	B	B	B	C	D		C	C	
Approach Delay		23.1			16.8			42.3			33.9	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 5 (5%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 28.9 Intersection LOS: C
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Western Avenue/Asbury Avenue & Howard Street #1

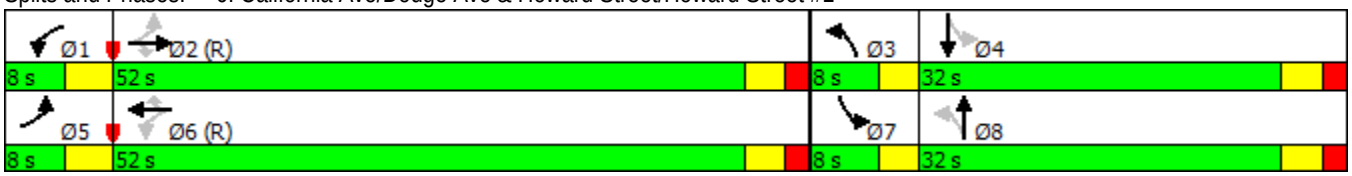


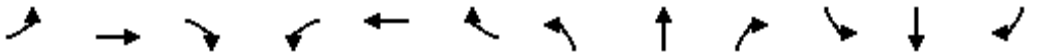
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	480	30	25	655	145	80	200	50	105	105	35
Future Volume (vph)	40	480	30	25	655	145	80	200	50	105	105	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		30	130		100	60		0	80		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			80			60			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.94	0.99		0.94	0.98	0.99		0.98	0.99	
Frt			0.850			0.850		0.970			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1766	1516	1711	1783	1487	1711	1730	0	1646	1659	0
Flt Permitted	0.164			0.319			0.625			0.430		
Satd. Flow (perm)	274	1766	1423	568	1783	1396	1101	1730	0	734	1659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			93		12			16	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1134			2551			391			689	
Travel Time (s)		25.8			58.0			10.7			15.7	
Confl. Peds. (#/hr)	15		15	15		15	10		10	10		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	4%	3%	2%	3%	5%	2%	2%	2%	6%	5%	6%
Adj. Flow (vph)	42	505	32	26	689	153	84	211	53	111	111	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	505	32	26	689	153	84	264	0	111	148	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Minimum Split (s)	6.5	23.0	23.0	6.5	23.0	23.0	8.0	23.0		8.0	23.0	
Total Split (s)	8.0	52.0	52.0	8.0	52.0	52.0	8.0	32.0		8.0	32.0	
Total Split (%)	8.0%	52.0%	52.0%	8.0%	52.0%	52.0%	8.0%	32.0%		8.0%	32.0%	
Maximum Green (s)	4.5	47.0	47.0	4.5	47.0	47.0	5.0	27.0		5.0	27.0	
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.5	5.0	5.0	3.5	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	53.0	47.0	47.0	53.0	47.0	47.0	34.0	27.0		34.0	27.0	
Actuated g/C Ratio	0.53	0.47	0.47	0.53	0.47	0.47	0.34	0.27		0.34	0.27	
v/c Ratio	0.21	0.61	0.04	0.07	0.82	0.22	0.21	0.56		0.38	0.32	
Control Delay	12.2	23.6	0.1	10.2	32.9	7.4	22.6	35.1		26.1	28.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	12.2	23.6	0.1	10.2	32.9	7.4	22.6	35.1		26.1	28.3	
LOS	B	C	A	B	C	A	C	D		C	C	
Approach Delay		21.5			27.7			32.1			27.3	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 26.7		Intersection LOS: C	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: California Ave/Dodge Ave & Howard Street/Howard Street #1





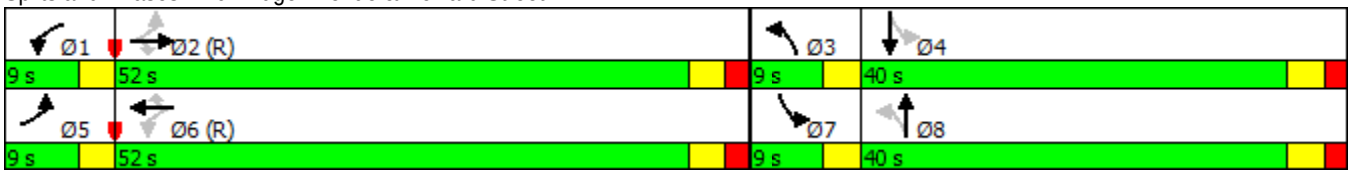
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	430	150	50	600	105	140	485	20	85	340	95
Future Volume (vph)	150	430	150	50	600	105	140	485	20	85	340	95
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		160	100		100	100		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			70			75			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor			0.92	0.98		0.93	0.99	0.99			0.99	
Frt			0.850			0.850		0.994			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1694	1841	1516	1711	1877	1446	1711	1772	0	1678	3272	0
Flt Permitted	0.152			0.342			0.386			0.145		
Satd. Flow (perm)	271	1841	1389	603	1877	1350	686	1772	0	256	3272	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1488			1147			857			621	
Travel Time (s)		33.8			26.1			23.4			14.1	
Confl. Peds. (#/hr)	30		40	40		30	10		40	40		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	5%	3%	2%	3%	8%	2%	2%	14%	4%	2%	2%
Adj. Flow (vph)	158	453	158	53	632	111	147	511	21	89	358	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	453	158	53	632	111	147	532	0	89	458	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

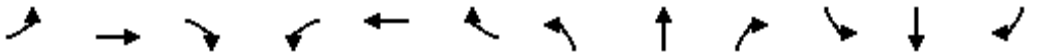
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	8.0		3.0	8.0	
Minimum Split (s)	6.0	23.0	23.0	6.0	23.0	23.0	8.0	23.0		8.0	23.0	
Total Split (s)	9.0	52.0	52.0	9.0	52.0	52.0	9.0	40.0		9.0	40.0	
Total Split (%)	8.2%	47.3%	47.3%	8.2%	47.3%	47.3%	8.2%	36.4%		8.2%	36.4%	
Maximum Green (s)	6.0	47.0	47.0	6.0	47.0	47.0	6.0	35.0		6.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	55.6	48.8	48.8	54.9	47.0	47.0	43.6	36.8		43.0	35.0	
Actuated g/C Ratio	0.51	0.44	0.44	0.50	0.43	0.43	0.40	0.33		0.39	0.32	
v/c Ratio	0.74	0.56	0.26	0.15	0.79	0.19	0.45	0.90		0.50	0.44	
Control Delay	34.4	26.9	22.0	13.8	35.8	20.8	26.1	55.6		30.2	31.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.4	26.9	22.0	13.8	35.8	20.8	26.1	55.6		30.2	31.4	
LOS	C	C	C	B	D	C	C	E		C	C	
Approach Delay		27.4			32.3			49.2			31.2	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 19 (17%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 34.8 Intersection LOS: C
Intersection Capacity Utilization 84.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 9: Ridge Avenue & Howard Street #1



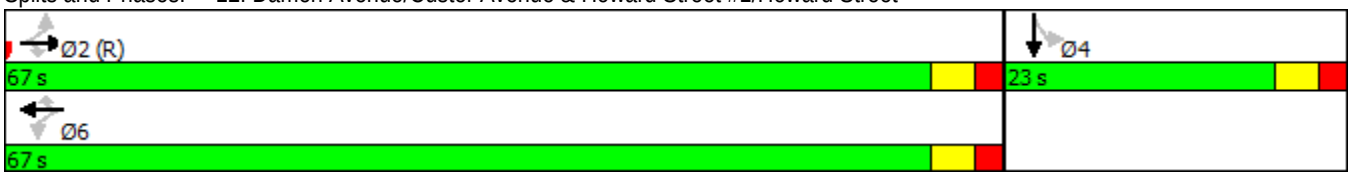


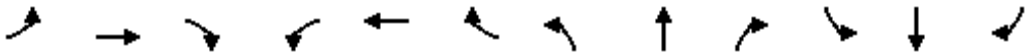
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	490	20	25	670	100	0	0	0	55	10	40
Future Volume (vph)	50	490	20	25	670	100	0	0	0	55	10	40
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	50		50	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.93	0.98		0.92					0.96	
Frt			0.850			0.850					0.949	
Flt Protected	0.950			0.950							0.975	
Satd. Flow (prot)	1558	1841	1531	1678	1859	1516	0	0	0	0	1632	0
Flt Permitted	0.314			0.425							0.975	
Satd. Flow (perm)	507	1841	1425	735	1859	1393	0	0	0	0	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			24			57					30	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1147			525			447			641	
Travel Time (s)		26.1			11.9			12.2			17.5	
Confl. Peds. (#/hr)	25		20	20		25	10		15	15		10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	12%	5%	2%	4%	4%	3%	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	53	516	21	26	705	105	0	0	0	58	11	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	516	21	26	705	105	0	0	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm				Perm	NA	
Protected Phases		2			6						4	
Permitted Phases	2		2	6		6				4		
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0				23.0	23.0	
Total Split (s)	67.0	67.0	67.0	67.0	67.0	67.0				23.0	23.0	
Total Split (%)	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%				25.6%	25.6%	
Maximum Green (s)	62.0	62.0	62.0	62.0	62.0	62.0				18.0	18.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0				3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0				2.0	2.0	
Lost Time Adjust (s)	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	5.0	5.0					5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0				7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0				0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	62.0	62.0	62.0	62.0	62.0	62.0					18.0	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69					0.20	
v/c Ratio	0.15	0.41	0.02	0.05	0.55	0.11					0.32	
Control Delay	6.1	7.2	1.8	4.9	9.0	2.7					25.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Delay	6.1	7.2	1.8	4.9	9.0	2.7					25.5	
LOS	A	A	A	A	A	A					C	
Approach Delay		6.9			8.1						25.5	
Approach LOS		A			A						C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 21 (23%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Damen Avenue/Custer Avenue & Howard Street #1/Howard Street





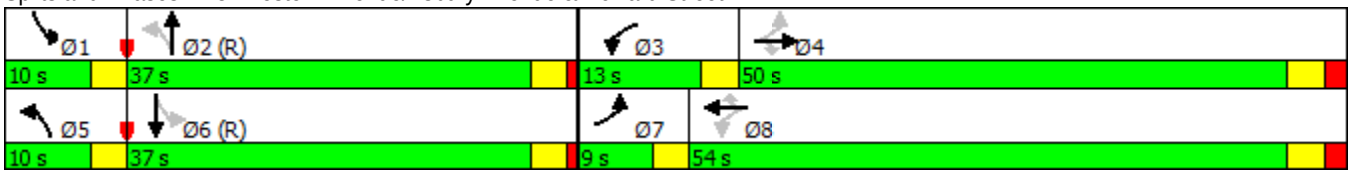
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	525	155	180	535	120	185	335	135	110	620	50
Future Volume (vph)	65	525	155	180	535	120	185	335	135	110	620	50
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	200		200	100		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	90			70			100			85		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.89	0.97		0.96	0.98	0.97		0.96	0.99	
Frt			0.850			0.850		0.957			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1895	1531	1711	1877	1531	1711	3163	0	1711	3362	0
Flt Permitted	0.219			0.132			0.206			0.395		
Satd. Flow (perm)	390	1895	1364	231	1877	1470	364	3163	0	680	3362	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2554			1488			460			262	
Travel Time (s)		58.0			33.8			10.5			6.0	
Confl. Peds. (#/hr)	35		105	105		35	40		60	60		40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	68	553	163	189	563	126	195	353	142	116	653	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	553	163	189	563	126	195	495	0	116	706	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

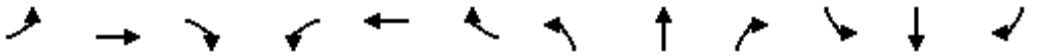
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	22.0	22.0	6.0	22.0	22.0	7.0	19.0		7.0	19.0	
Minimum Split (s)	9.0	40.0	40.0	9.0	46.0	46.0	10.0	37.0		10.0	37.0	
Total Split (s)	9.0	50.0	50.0	13.0	54.0	54.0	10.0	37.0		10.0	37.0	
Total Split (%)	8.2%	45.5%	45.5%	11.8%	49.1%	49.1%	9.1%	33.6%		9.1%	33.6%	
Maximum Green (s)	6.0	45.0	45.0	10.0	49.0	49.0	7.0	33.0		7.0	33.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	1.0		0.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	4.0		3.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max		None	C-Max	
Walk Time (s)		18.0	18.0		28.0	28.0		21.0			21.0	
Flash Dont Walk (s)		17.0	17.0		13.0	13.0		12.0			12.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	46.1	38.1	38.1	53.0	43.8	43.8	49.8	38.8		45.5	36.4	
Actuated g/C Ratio	0.42	0.35	0.35	0.48	0.40	0.40	0.45	0.35		0.41	0.33	
v/c Ratio	0.29	0.84	0.35	0.77	0.75	0.22	0.66	0.44		0.32	0.64	
Control Delay	17.1	45.1	27.5	43.5	24.9	16.7	34.8	30.3		21.9	35.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	17.1	45.1	27.5	43.5	24.9	16.7	34.8	30.3		21.9	35.3	
LOS	B	D	C	D	C	B	C	C		C	D	
Approach Delay		39.0			27.7			31.6			33.4	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 10 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 91.0% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Western Avenue/Asbury Avenue & Howard Street #1



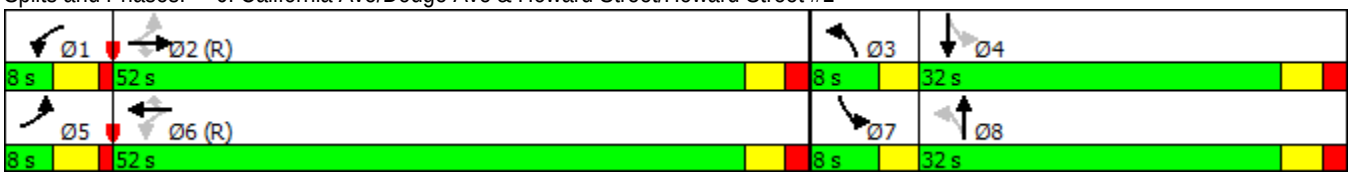


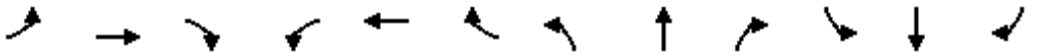
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	620	85	40	585	155	100	175	30	175	275	70
Future Volume (vph)	55	620	85	40	585	155	100	175	30	175	275	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		30	130		100	60		0	80		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			80			60			80		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.93			0.90	0.96	0.98		0.95	0.97	
Frt			0.850			0.850		0.978			0.969	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1801	1531	1711	1801	1531	1694	1715	0	1711	1696	0
Flt Permitted	0.224			0.194			0.274			0.509		
Satd. Flow (perm)	403	1801	1417	349	1801	1375	468	1715	0	868	1696	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			104		9			13	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1134			2554			391			689	
Travel Time (s)		25.8			58.0			10.7			15.7	
Confl. Peds. (#/hr)	30		20	20		30	40		30	30		40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	4%	2%	2%	3%
Adj. Flow (vph)	58	653	89	42	616	163	105	184	32	184	289	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	653	89	42	616	163	105	216	0	184	363	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Minimum Split (s)	6.0	23.0	23.0	6.0	23.0	23.0	8.0	23.0		8.0	23.0	
Total Split (s)	8.0	52.0	52.0	8.0	52.0	52.0	8.0	32.0		8.0	32.0	
Total Split (%)	8.0%	52.0%	52.0%	8.0%	52.0%	52.0%	8.0%	32.0%		8.0%	32.0%	
Maximum Green (s)	3.5	47.0	47.0	3.5	47.0	47.0	5.0	27.0		5.0	27.0	
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.0	5.0	4.5	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	51.0	47.0	47.0	51.0	47.0	47.0	34.0	27.0		34.0	27.0	
Actuated g/C Ratio	0.51	0.47	0.47	0.51	0.47	0.47	0.34	0.27		0.34	0.27	
v/c Ratio	0.23	0.77	0.12	0.19	0.73	0.23	0.48	0.46		0.55	0.78	
Control Delay	12.7	29.6	2.7	12.2	27.6	7.1	29.8	32.9		31.0	45.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	12.7	29.6	2.7	12.2	27.6	7.1	29.8	32.9		31.0	45.5	
LOS	B	C	A	B	C	A	C	C		C	D	
Approach Delay		25.4			22.7			31.9			40.6	
Approach LOS		C			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 76.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 6: California Ave/Dodge Ave & Howard Street/Howard Street #1





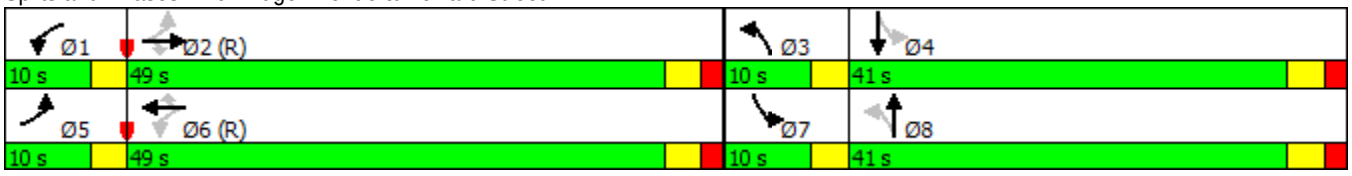
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	505	110	40	530	60	175	360	25	145	620	150
Future Volume (vph)	85	505	110	40	530	60	175	360	25	145	620	150
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	160		160	100		100	100		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			70			75			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Ped Bike Factor			0.87			0.94		0.99		0.96	0.99	
Frt			0.850			0.850		0.990			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1711	1895	1531	1694	1877	1516	1711	1767	0	1662	3280	0
Flt Permitted	0.208			0.260			0.173			0.284		
Satd. Flow (perm)	375	1895	1333	464	1877	1429	312	1767	0	478	3280	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		1488			1147			831			621	
Travel Time (s)		33.8			26.1			22.7			14.1	
Confl. Peds. (#/hr)	25		65	65		25	15		40	40		15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	89	532	116	42	558	63	184	379	26	153	653	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	532	116	42	558	63	184	405	0	153	811	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

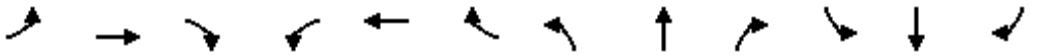
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	17.0	17.0	3.0	17.0	17.0	3.0	16.0		3.0	16.0	
Minimum Split (s)	6.0	23.0	23.0	6.0	23.0	23.0	6.0	23.0		6.0	23.0	
Total Split (s)	10.0	49.0	49.0	10.0	49.0	49.0	10.0	41.0		10.0	41.0	
Total Split (%)	9.1%	44.5%	44.5%	9.1%	44.5%	44.5%	9.1%	37.3%		9.1%	37.3%	
Maximum Green (s)	7.0	44.0	44.0	7.0	44.0	44.0	7.0	36.0		7.0	36.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0		0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0		3.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	54.2	48.0	48.0	53.4	46.0	46.0	45.0	36.0		45.0	36.0	
Actuated g/C Ratio	0.49	0.44	0.44	0.49	0.42	0.42	0.41	0.33		0.41	0.33	
v/c Ratio	0.33	0.64	0.20	0.14	0.71	0.11	0.85	0.70		0.57	0.76	
Control Delay	16.0	31.0	21.1	14.8	33.4	21.4	56.8	40.0		29.1	38.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	16.0	31.0	21.1	14.8	33.4	21.4	56.8	40.0		29.1	38.5	
LOS	B	C	C	B	C	C	E	D		C	D	
Approach Delay		27.6			31.1			45.2			37.0	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 28 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 35.0 Intersection LOS: C
Intersection Capacity Utilization 78.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Ridge Avenue & Howard Street #1



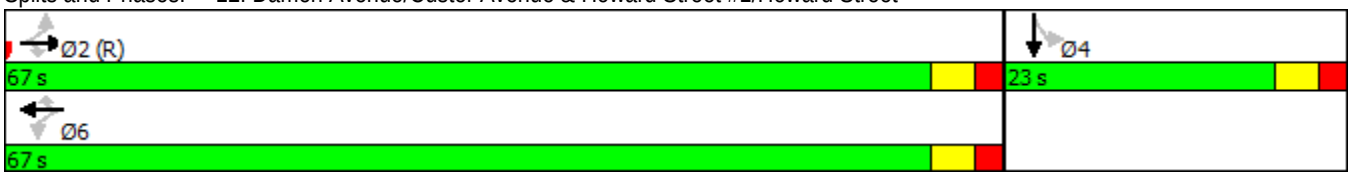


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	530	60	35	605	85	0	0	0	100	60	40
Future Volume (vph)	55	530	60	35	605	85	0	0	0	100	60	40
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		50	50		50	0		0	0		0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97		0.81	0.94		0.87					0.97	
Frt			0.850			0.850					0.973	
Flt Protected	0.950			0.950							0.976	
Satd. Flow (prot)	1711	1859	1531	1711	1877	1531	0	0	0	0	1672	0
Flt Permitted	0.352			0.399							0.976	
Satd. Flow (perm)	613	1859	1237	673	1877	1331	0	0	0	0	1641	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			44			54					12	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		1147			525			447			641	
Travel Time (s)		26.1			11.9			12.2			17.5	
Confl. Peds. (#/hr)	45		70	70		45	25		15	15		25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	4%	2%	2%	3%	2%	2%	2%	2%	2%	2%	5%
Adj. Flow (vph)	58	558	63	37	637	89	0	0	0	105	63	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	558	63	37	637	89	0	0	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	0.98	1.04	1.04	0.98	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA	Perm				Perm	NA	
Protected Phases		2			6						4	
Permitted Phases	2		2	6		6				4		
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0				23.0	23.0	
Total Split (s)	67.0	67.0	67.0	67.0	67.0	67.0				23.0	23.0	
Total Split (%)	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%				25.6%	25.6%	
Maximum Green (s)	62.0	62.0	62.0	62.0	62.0	62.0				18.0	18.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0				3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0				2.0	2.0	
Lost Time Adjust (s)	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	5.0	5.0					5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0				7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0				11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0				0	0	

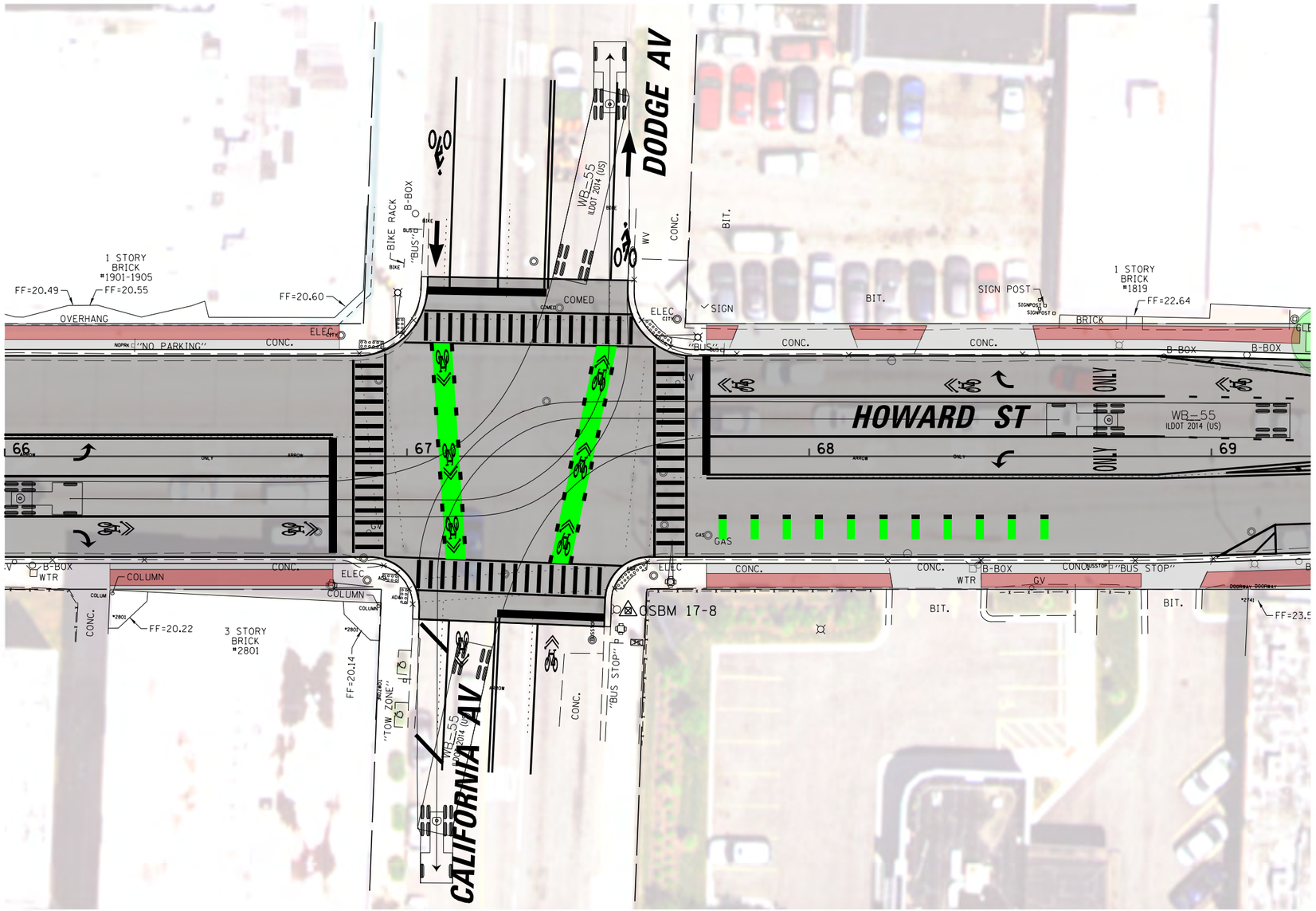
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	62.0	62.0	62.0	62.0	62.0	62.0					18.0	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69	0.69					0.20	
v/c Ratio	0.14	0.44	0.07	0.08	0.49	0.10					0.62	
Control Delay	5.8	7.5	2.3	5.1	8.2	2.5					40.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0					0.0	
Total Delay	5.8	7.5	2.3	5.1	8.2	2.5					40.1	
LOS	A	A	A	A	A	A					D	
Approach Delay		6.9			7.4						40.1	
Approach LOS		A			A						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 21 (23%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Damen Avenue/Custer Avenue & Howard Street #1/Howard Street



TAB 4



NOTES:

Howard St = Major Collector
Dodge/California Ave = Major Collector
Design Vehicle = WB-55

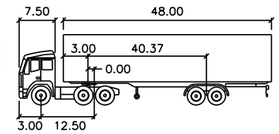
Heavy Vehicles (%)

Existing AM
10% - EBL
3% - EBR
2% - WBL
5% - WBR
2% - NBL
2% - NBR
6% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
3% - NBL
4% - NBR
2% - SBL
3% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

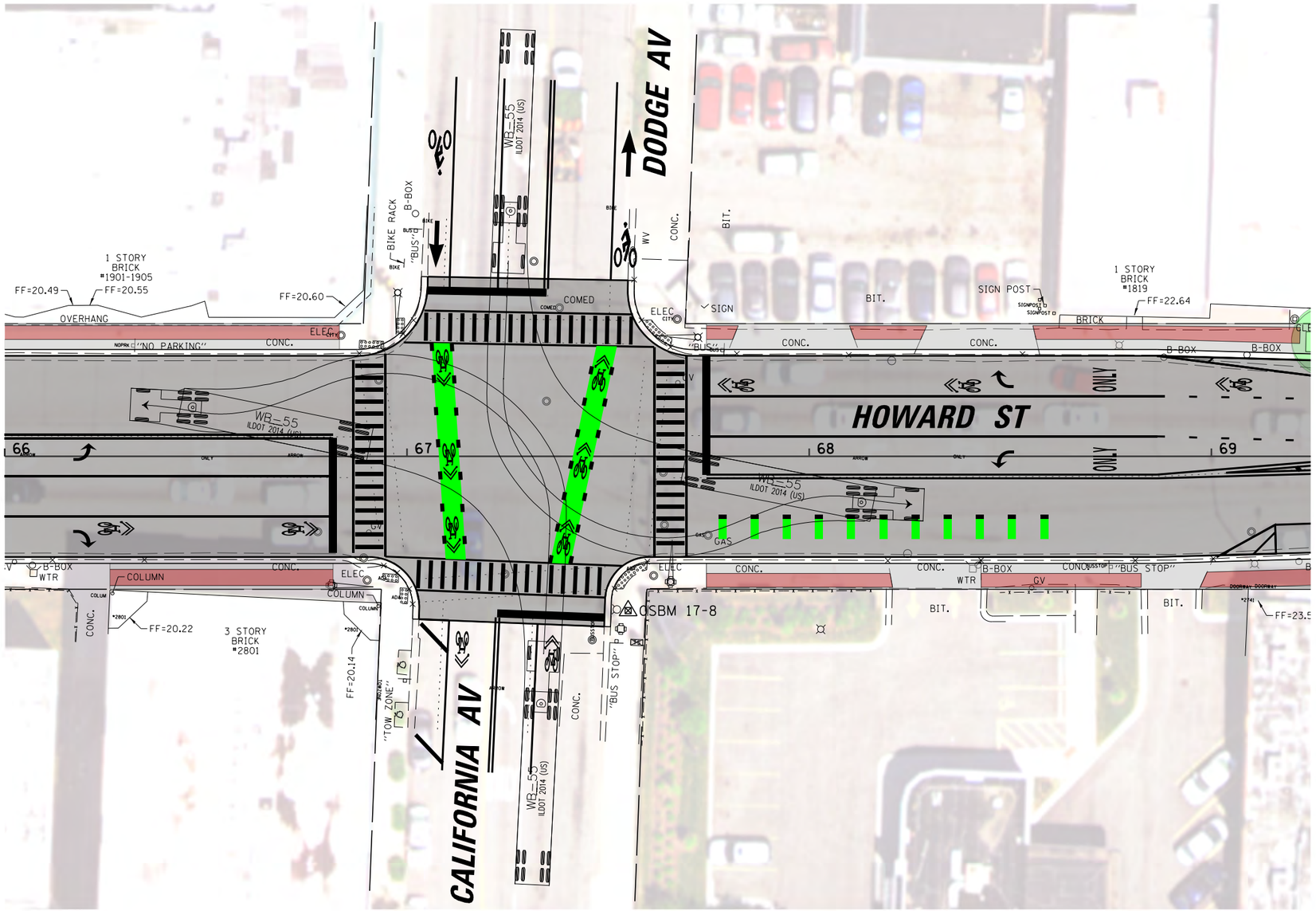
FILE NAME = N:\EVANSTON\160650\Civil\ATD_160650_ALT03.01.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	1	
		CONTRACT NO.		
		ILLINOIS	FED. AID PROJECT	



NOTES:

Howard St = Major Collector
Dodge/California Ave = Major Collector
Design Vehicle = WB-55

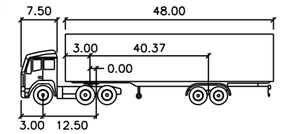
Heavy Vehicles (%)

Existing AM
10% - EBL
3% - EBR
2% - WBL
5% - WBR
2% - NBL
2% - NBR
6% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
3% - NBL
4% - NBR
2% - SBL
3% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

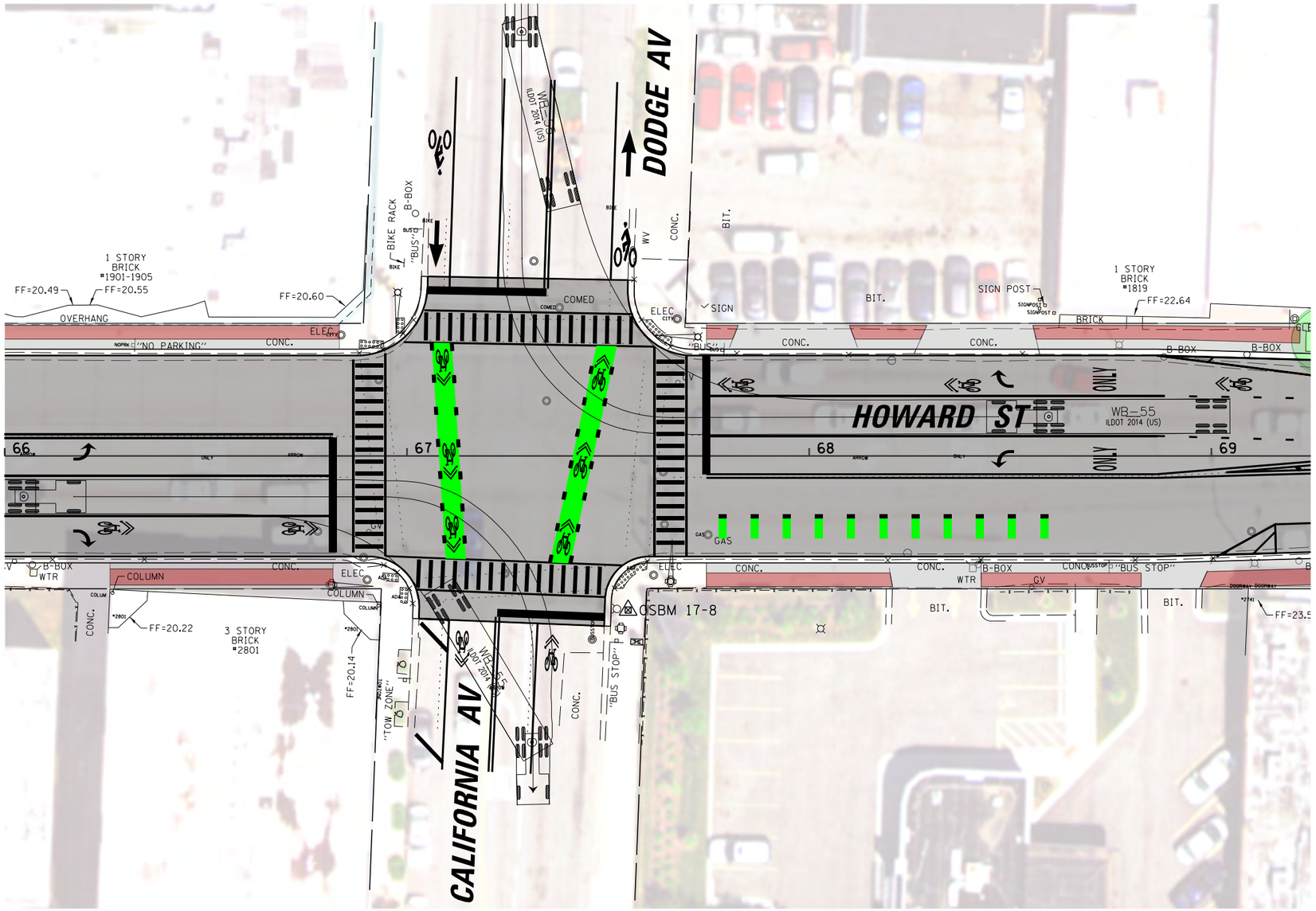
FILE NAME = N:\EVANSTON\160650\Civil\ATD_160650_ALT03.02.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	2	
		CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		



NOTES:

Howard St = Major Collector
Dodge/California Ave = Major Collector
Design Vehicle = WB-55

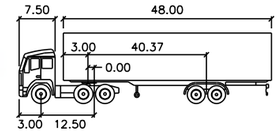
Heavy Vehicles (%)

Existing AM
10% - EBL
3% - EBR
2% - WBL
5% - WBR
2% - NBL
2% - NBR
6% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
3% - NBL
4% - NBR
2% - SBL
3% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

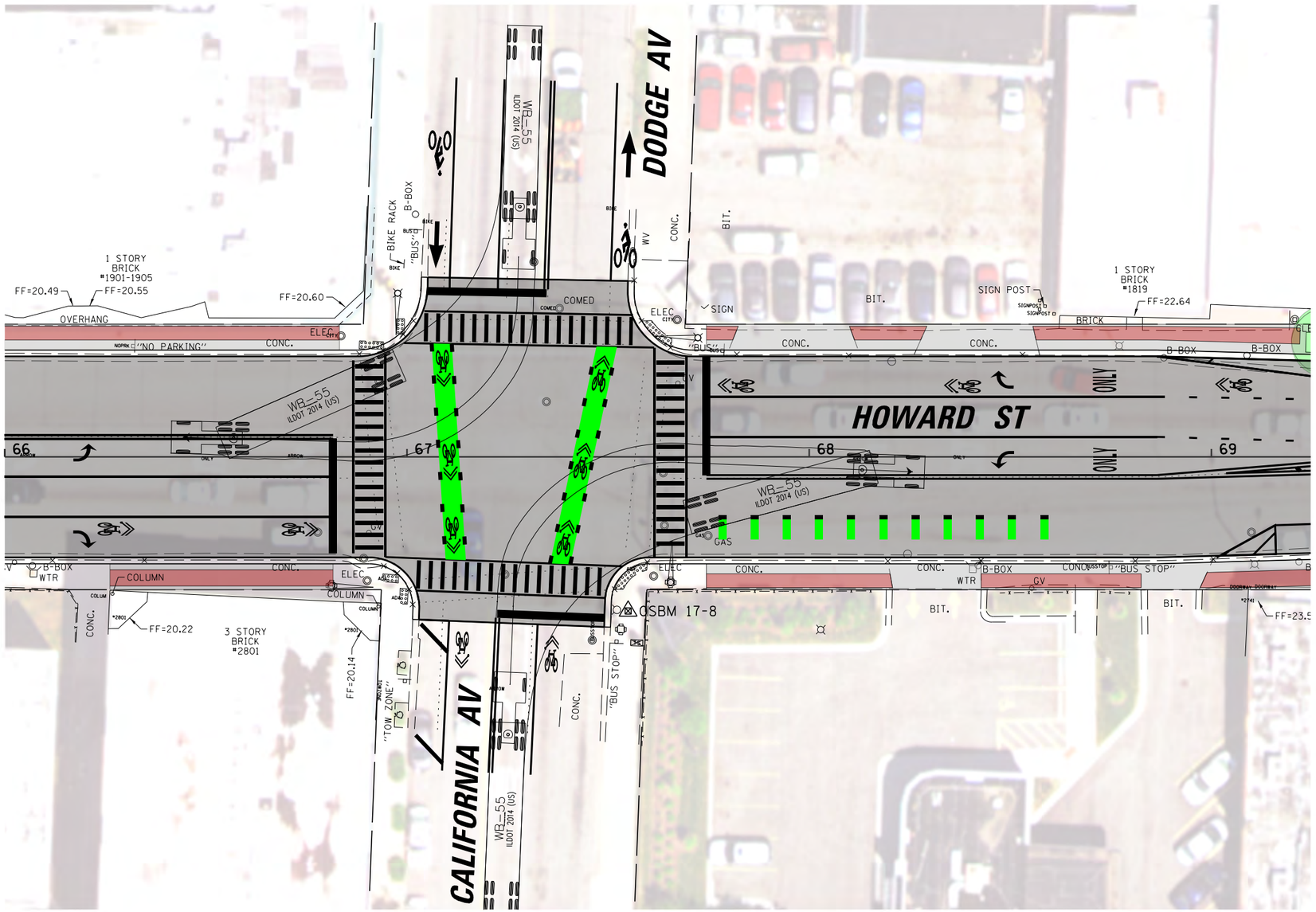
FILE NAME = N:\EVANSTON\160650\Civil\ATD_160650_ALT03.03.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	3	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



NOTES:

Howard St = Major Collector
Dodge/California Ave = Major Collector
Design Vehicle = WB-55

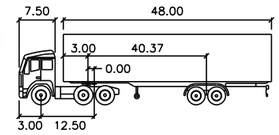
Heavy Vehicles (%)

Existing AM
10% - EBL
3% - EBR
2% - WBL
5% - WBR
2% - NBL
2% - NBR
6% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
3% - NBL
4% - NBR
2% - SBL
3% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

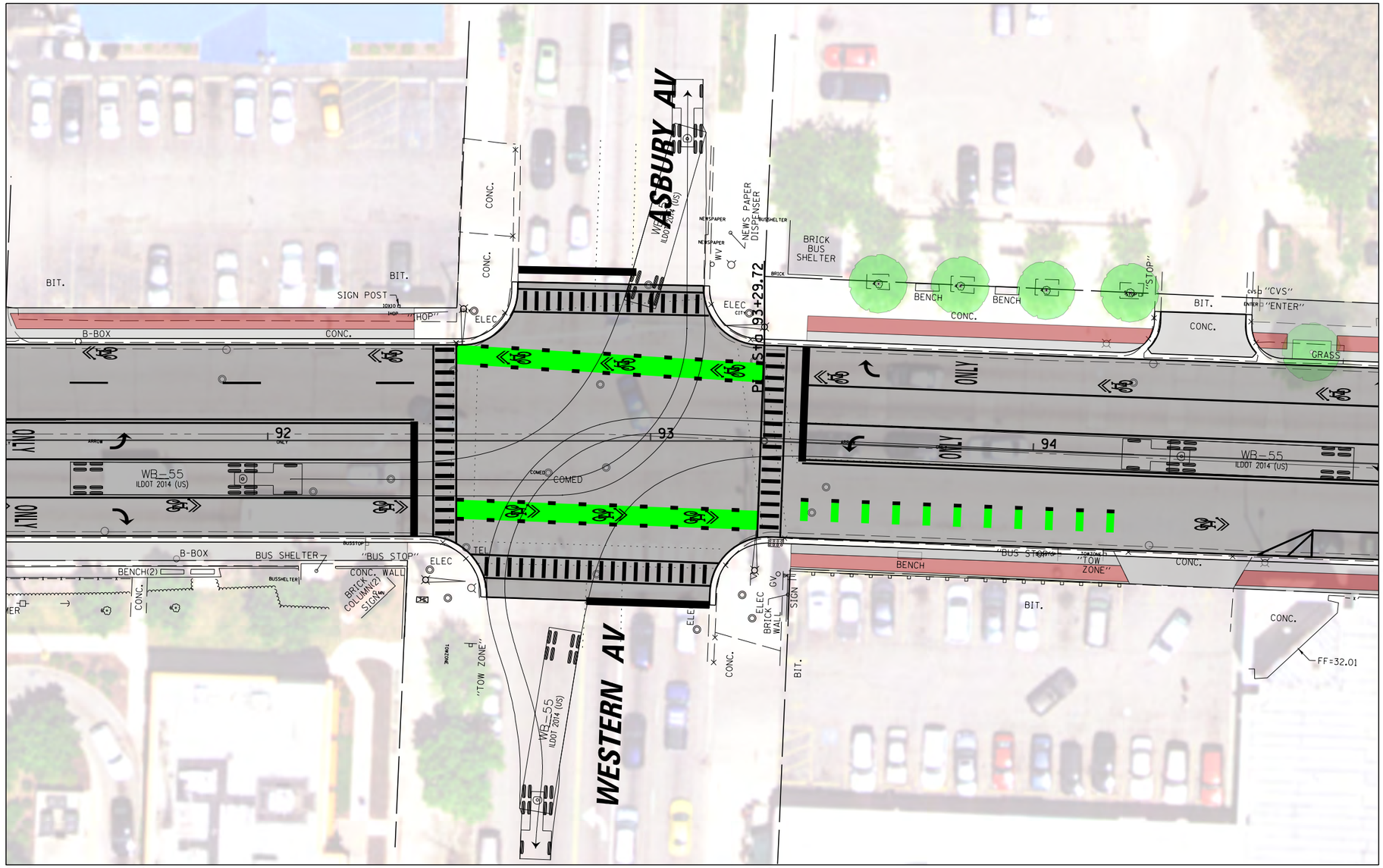
FILE NAME = N:\EVANSTON\160650\Civil\ATD_160650-ALT03.04.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	4	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



N

NOTES:

Howard St = Major Collector
Asbury/Western Ave = Minor Arterial
Design Vehicle = WB-55
Not a truck route (City Statute)

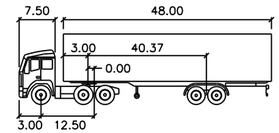
Heavy Vehicles (%)

Existing AM
2% - EBL
3% - EBR
3% - WBL
2% - WBR
2% - NBL
3% - NBR
8% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

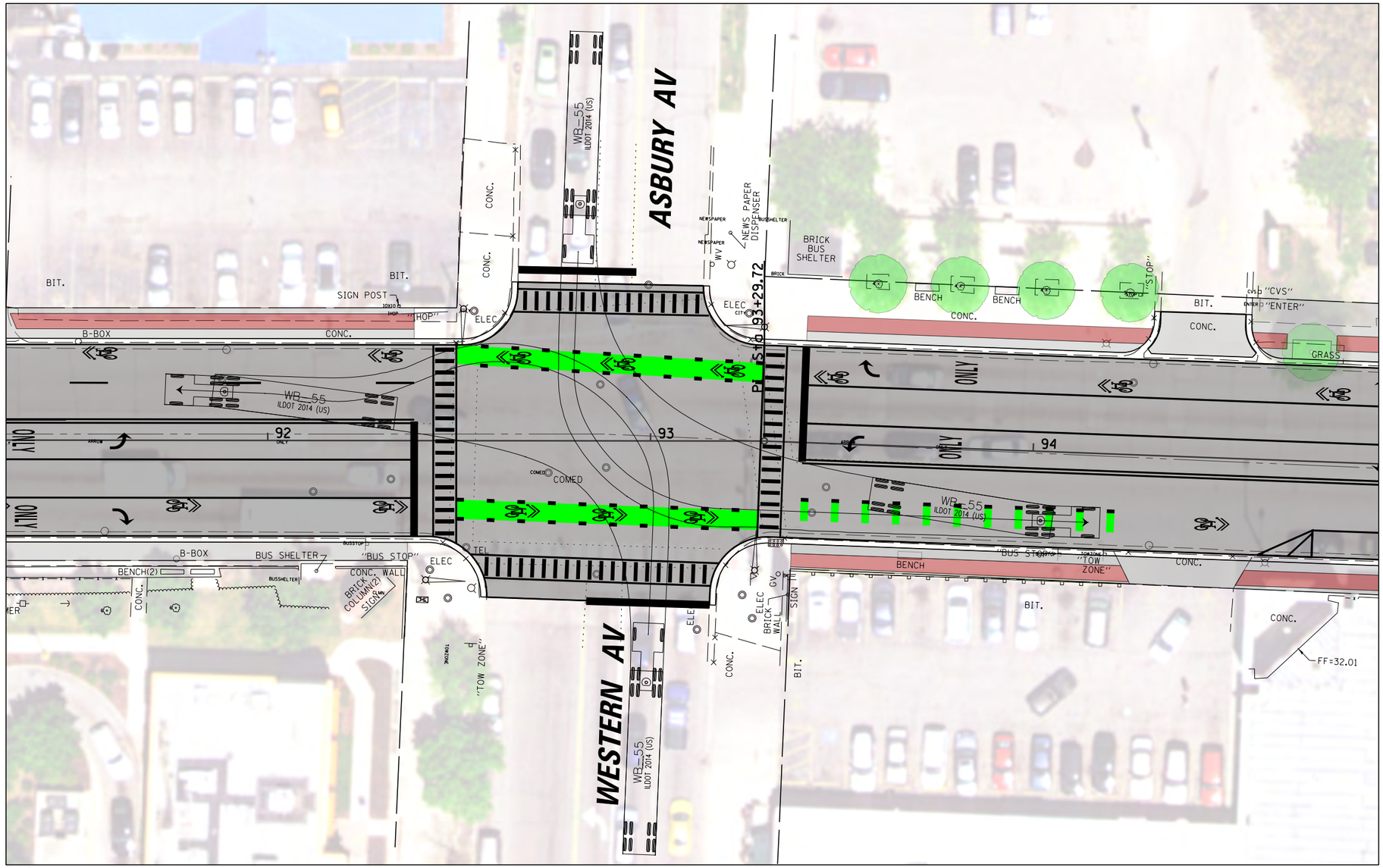
FILE NAME = N:\EVANSTON\160650\Civil\ATW_160650_ALT03.01.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	5	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



N

NOTES:

Howard St = Major Collector
Asbury/Western Ave = Minor Arterial
Design Vehicle = WB-55
Not a truck route (City Statute)

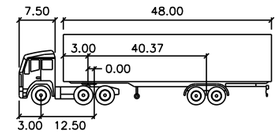
Heavy Vehicles (%)

Existing AM
2% - EBL
3% - EBR
3% - WBL
2% - WBR
2% - NBL
3% - NBR
8% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

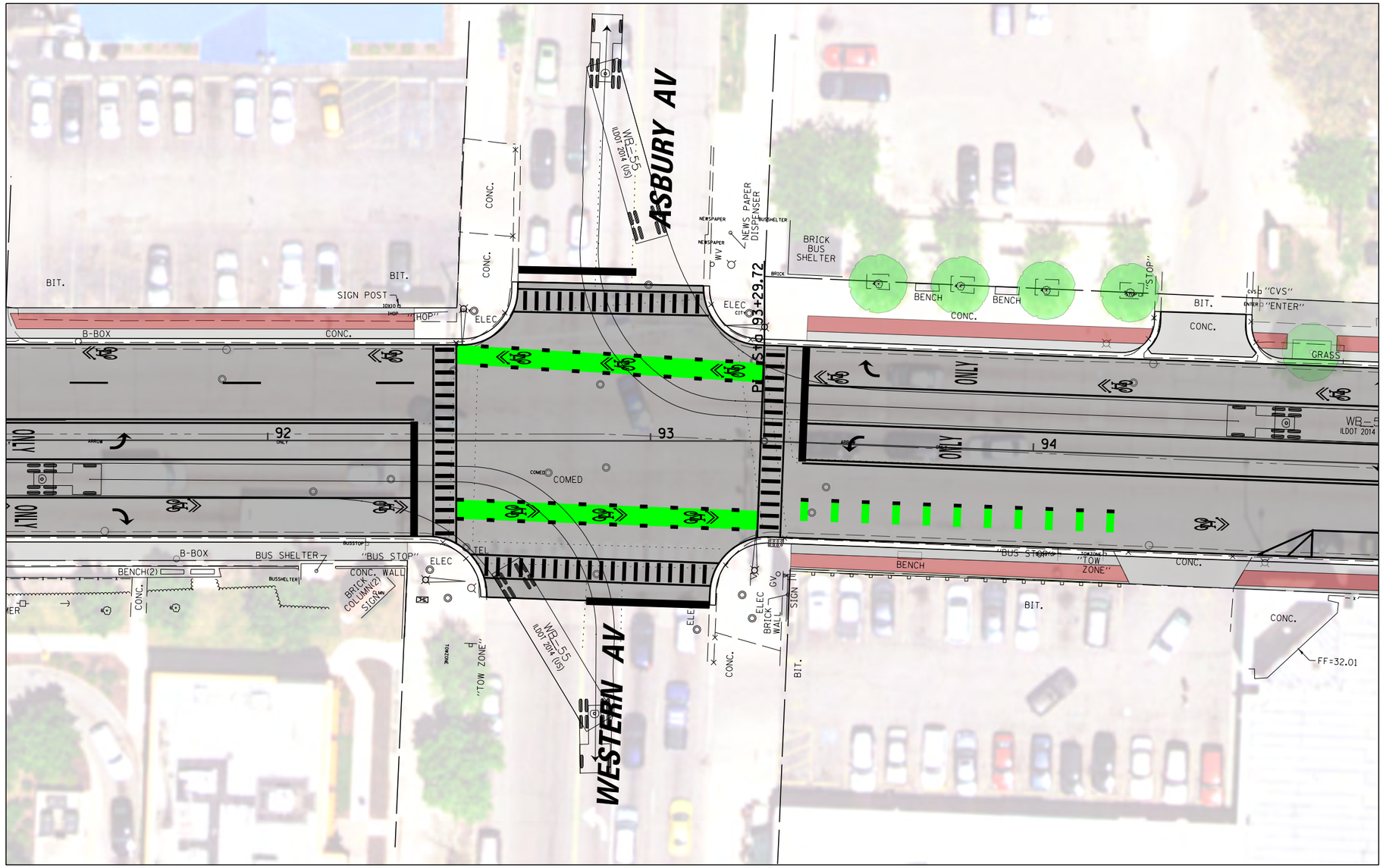
FILE NAME = N:\EVANSTON\160650\Civil\ATW_160650_ALT03.02.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	6	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



N

NOTES:

Howard St = Major Collector
Asbury/Western Ave = Minor Arterial
Design Vehicle = WB-55
Not a truck route (City Statute)

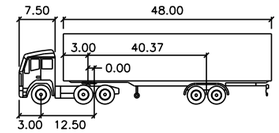
Heavy Vehicles (%)

Existing AM
2% - EBL
3% - EBR
3% - WBL
2% - WBR
2% - NBL
3% - NBR
8% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

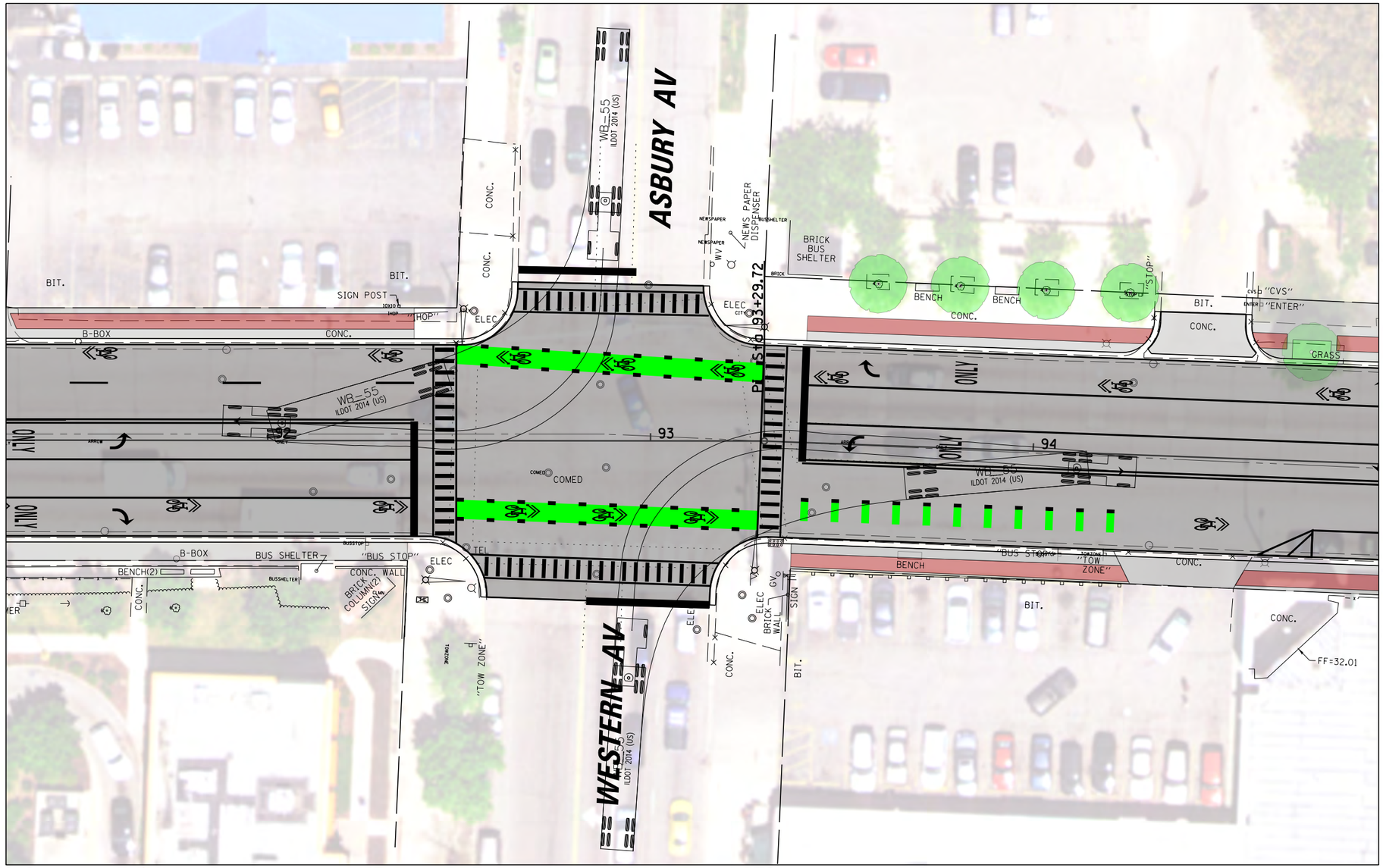
FILE NAME = N:\EVANSTON\160650\Civil\ATW_160650_ALT03.03.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

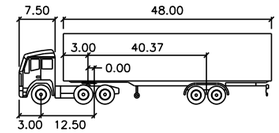
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	7	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			





WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

N

NOTES:

Howard St = Major Collector
Asbury/Western Ave = Minor Arterial
Design Vehicle = WB-55
Not a truck route (City Statute)

Heavy Vehicles (%)

Existing AM
2% - EBL
3% - EBR
3% - WBL
2% - WBR
2% - NBL
3% - NBR
8% - SBL
6% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.

EXH. 4

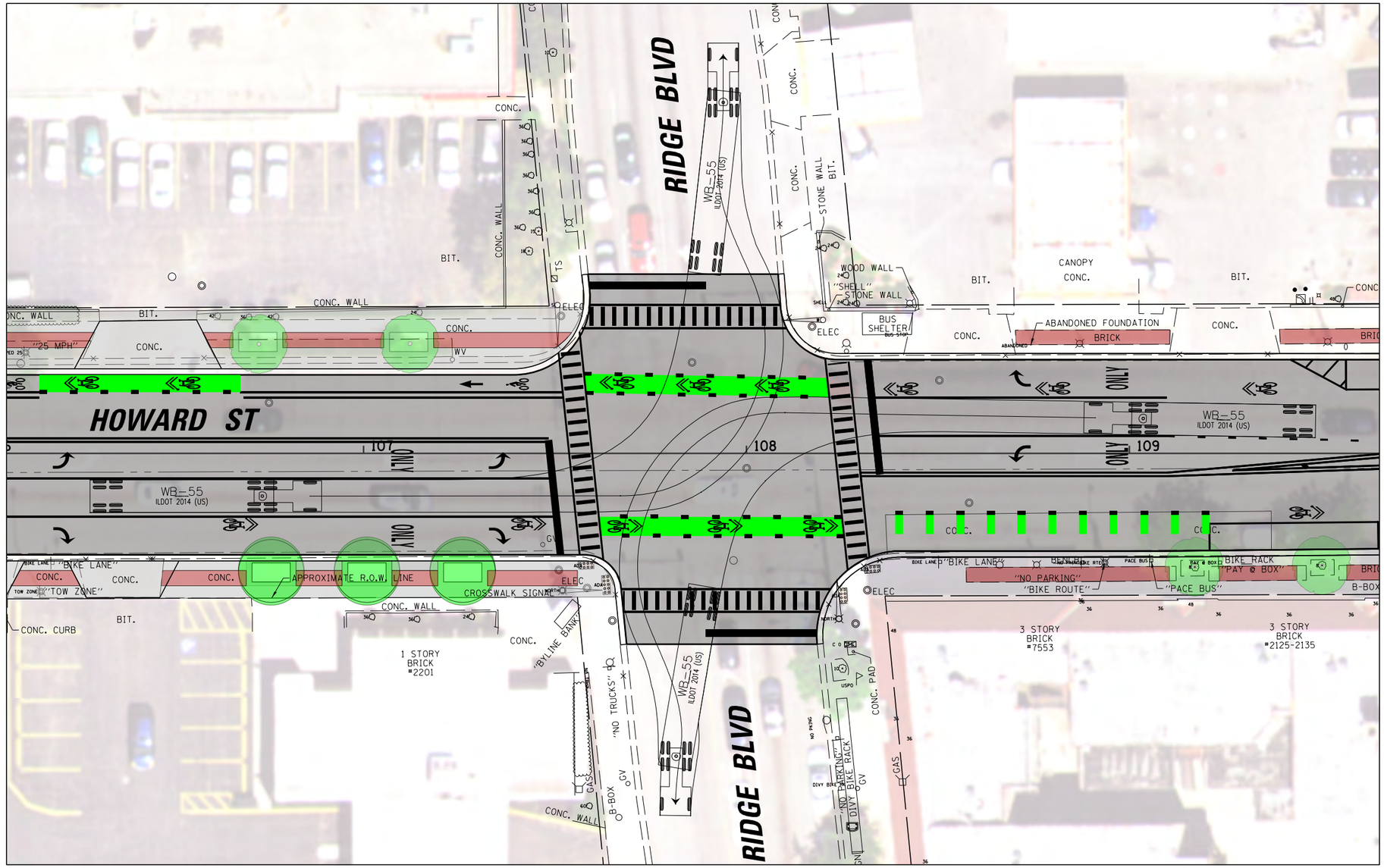
FILE NAME = N:\EVANSTON\160650\Civil\ATW_160650_ALT03.04.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	8	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



N

NOTES:

Howard St = Major Collector
Ridge Ave = Minor Arterial
Design Vehicle = WB-55
Trucks Prohibited (City Statute)

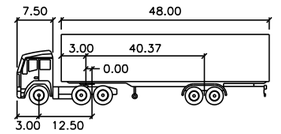
Heavy Vehicles (%)

Existing AM
3% - EBL
3% - EBR
2% - WBL
8% - WBR
2% - NBL
14% - NBR
4% - SBL
2% - SBR

Existing PM
2% - EBL
2% - EBR
3% - WBL
3% - WBR
2% - NBL
2% - NBR
5% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

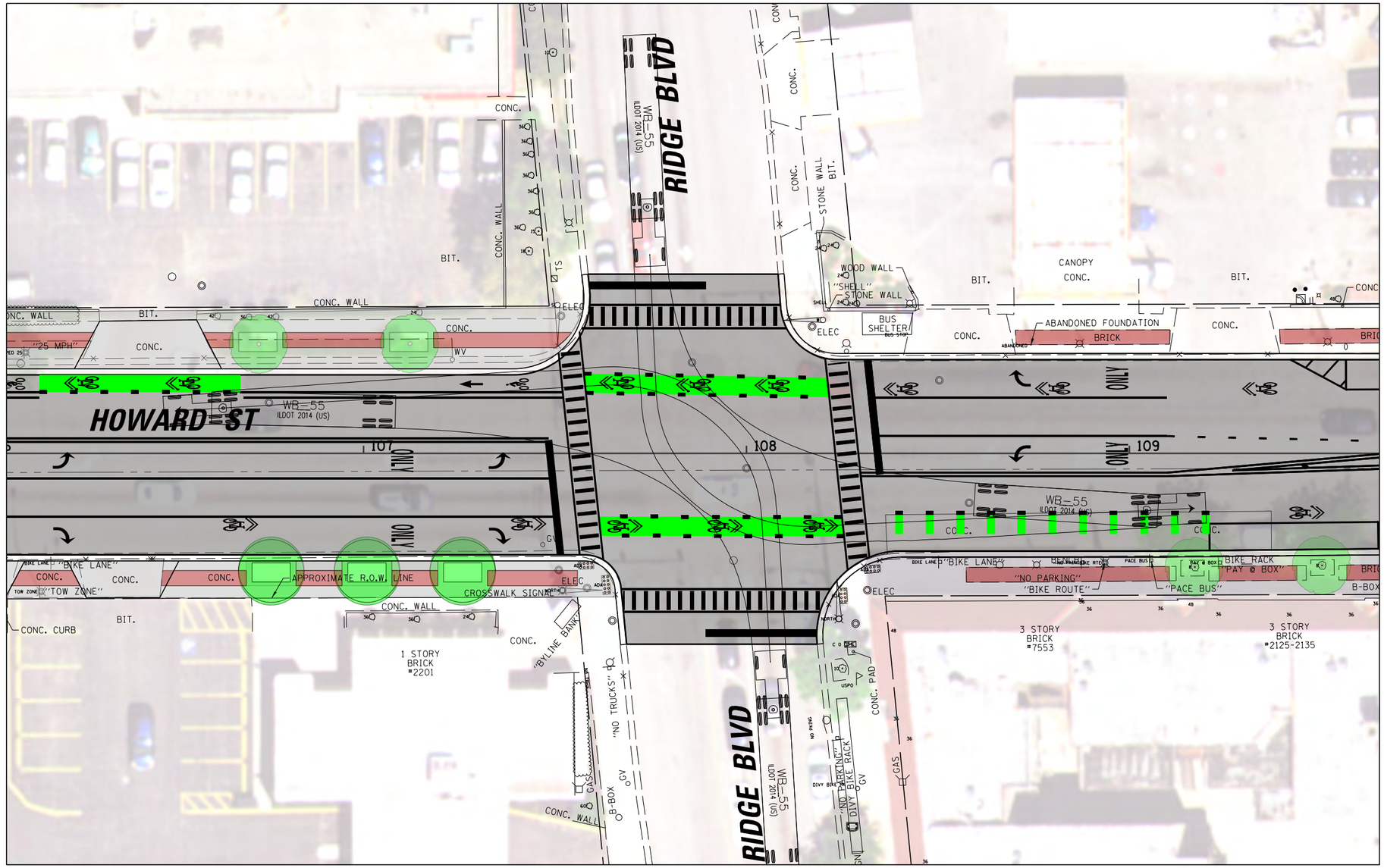
FILE NAME = N:\EVANSTON\160650\Civil\ATR_160650_ALT03_01.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	9	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



N

NOTES:

Howard St = Major Collector
Ridge Ave = Minor Arterial
Design Vehicle = WB-55
Trucks Prohibited (City Statute)

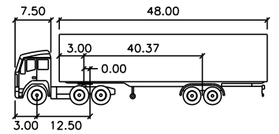
Heavy Vehicles (%)

Existing AM
3% - EBL
3% - EBR
2% - WBL
8% - WBR
2% - NBL
14% - NBR
4% - SBL
2% - SBR

Existing PM
2% - EBL
2% - EBR
3% - WBL
3% - WBR
2% - NBL
2% - NBR
5% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

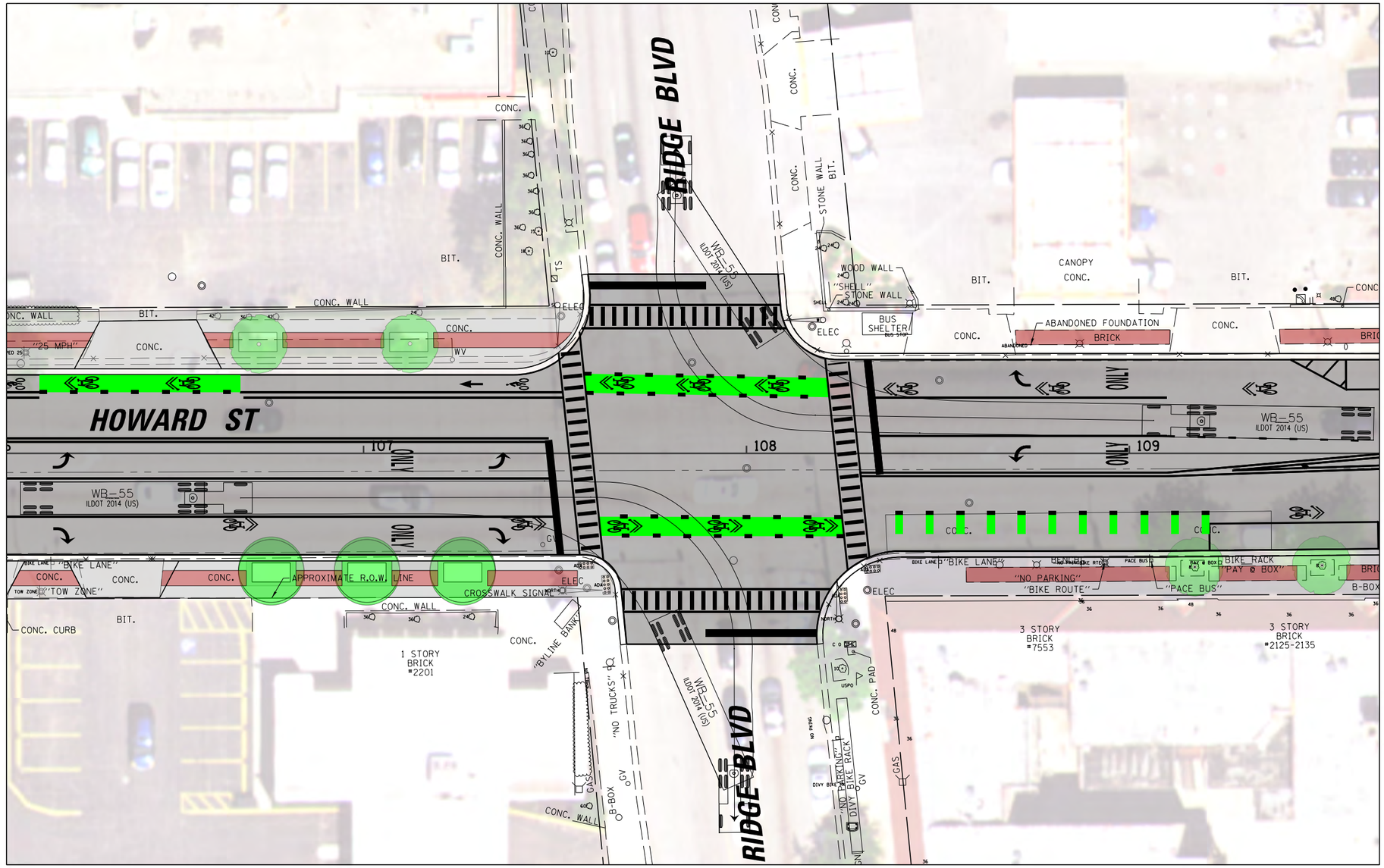
FILE NAME = N:\EVANSTON\160650\Civil\ATR_160650_ALT03_02.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	10	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



N

NOTES:

Howard St = Major Collector
Ridge Ave = Minor Arterial
Design Vehicle = WB-55
Trucks Prohibited (City Statute)

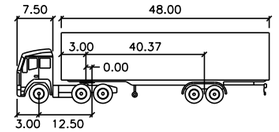
Heavy Vehicles (%)

Existing AM
3% - EBL
3% - EBR
2% - WBL
8% - WBR
2% - NBL
14% - NBR
4% - SBL
2% - SBR

Existing PM
2% - EBL
2% - EBR
3% - WBL
3% - WBR
2% - NBL
2% - NBR
5% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

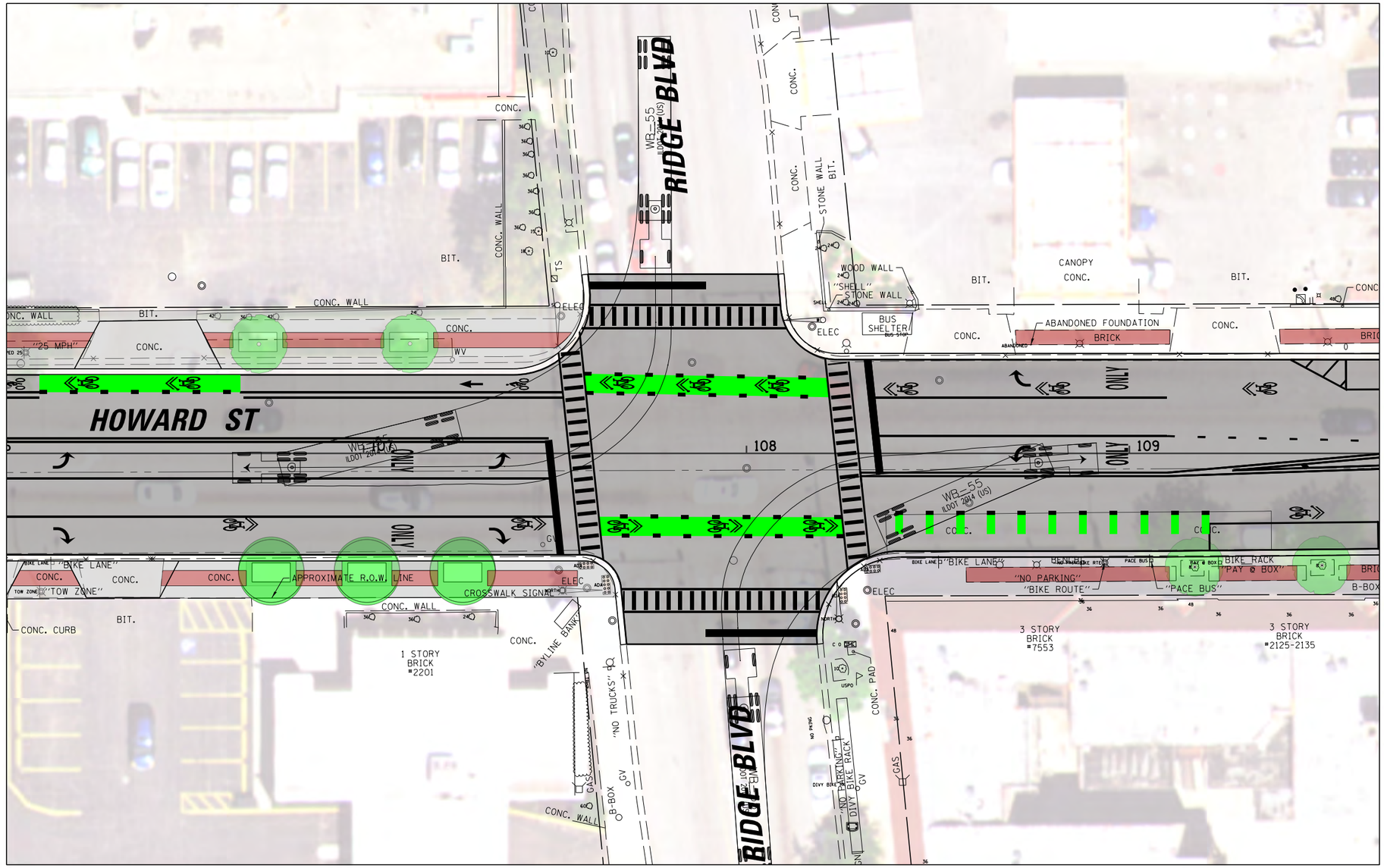
FILE NAME = N:\EVANSTON\160650\Civil\ATR_160650_ALT03.03.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	11	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



NOTES:

Howard St = Major Collector
Ridge Ave = Minor Arterial
Design Vehicle = WB-55
Trucks Prohibited (City Statute)

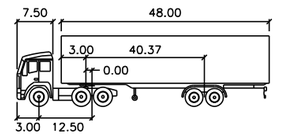
Heavy Vehicles (%)

Existing AM
3% - EBL
3% - EBR
2% - WBL
8% - WBR
2% - NBL
14% - NBR
4% - SBL
2% - SBR

Existing PM
2% - EBL
2% - EBR
3% - WBL
3% - WBR
2% - NBL
2% - NBR
5% - SBL
2% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

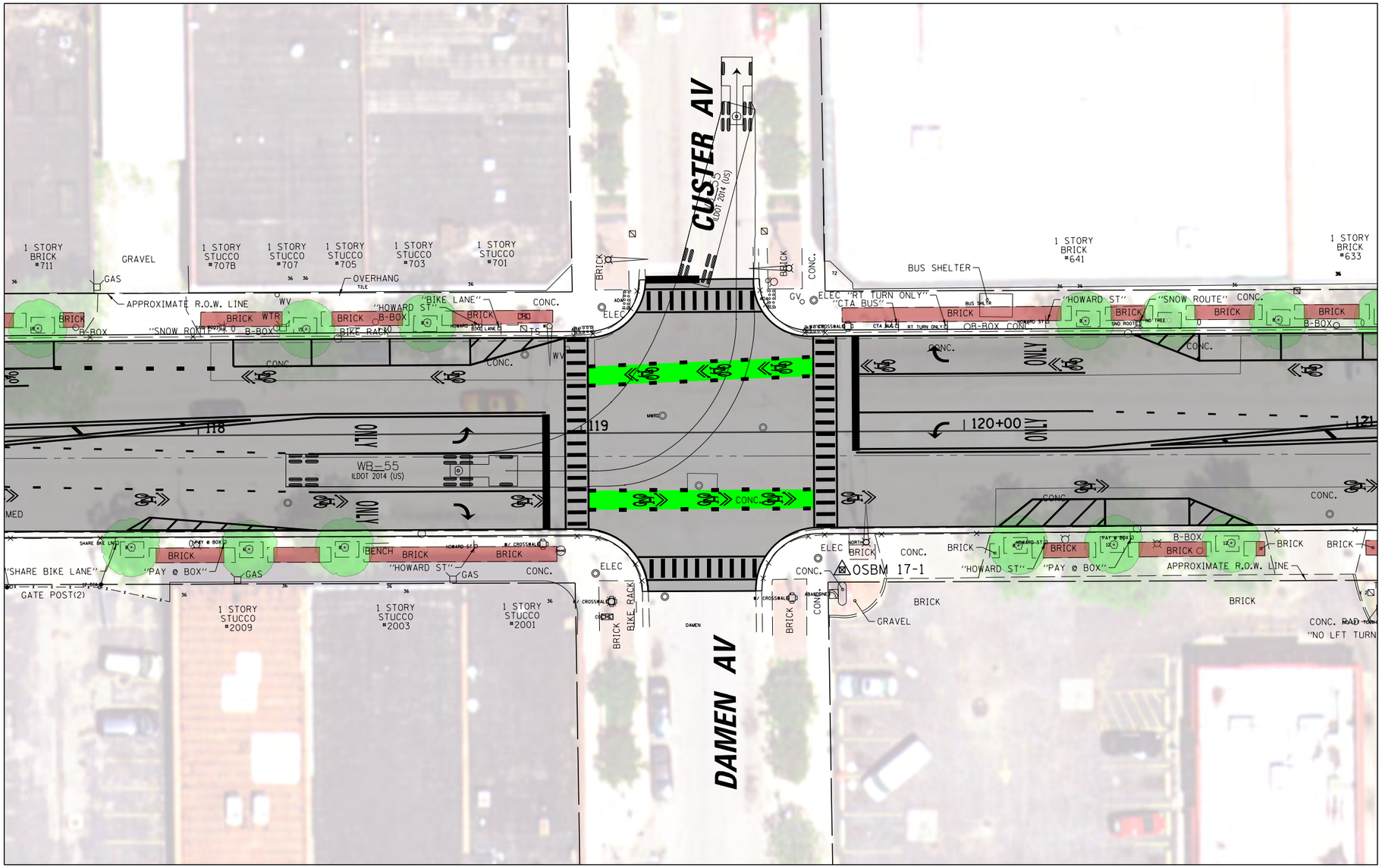
FILE NAME = N:\EVANSTON\160650\Civil\ATR_160650_ALT03_04.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	12	
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



N

NOTES:

Howard St = Major Collector
Custer/Damen Ave = Major Collector
Design Vehicle = WB-55
Not a truck route (City Statute)

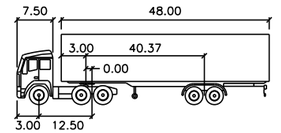
Heavy Vehicles (%)

Existing AM
12% - EBL
2% - EBR
4% - WBL
3% - WBR
2% - NBL
2% - NBR
2% - SBL
3% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
5% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

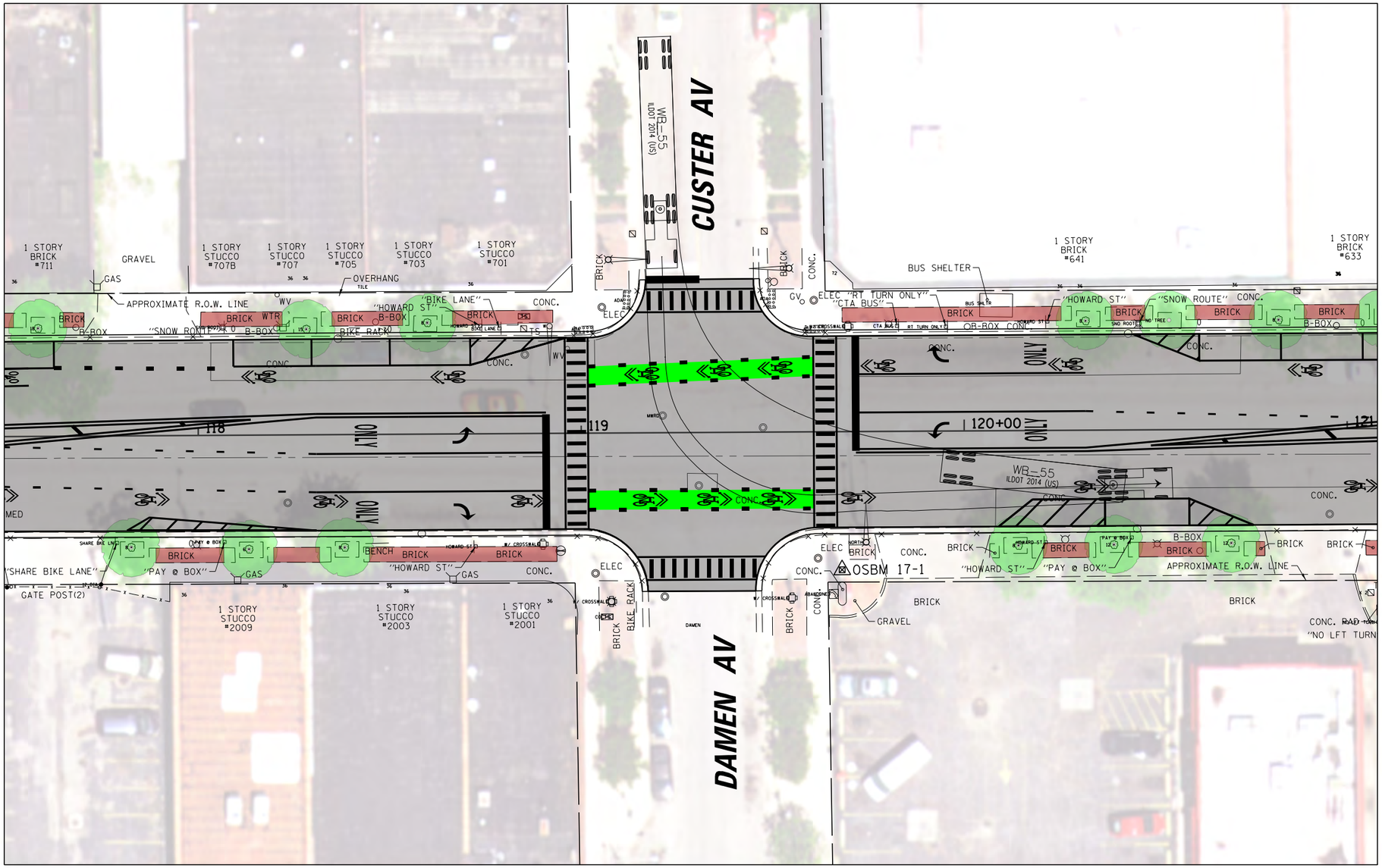
FILE NAME = N:\EVANSTON\160650\Civil\ATRCU_160650_ALT03_01.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	13	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



N

NOTES:

Howard St = Major Collector
Custer/Damen Ave = Major Collector
Design Vehicle = WB-55
Not a truck route (City Statute)

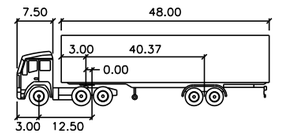
Heavy Vehicles (%)

Existing AM
12% - EBL
2% - EBR
4% - WBL
3% - WBR
2% - NBL
2% - NBR
2% - SBL
3% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
5% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

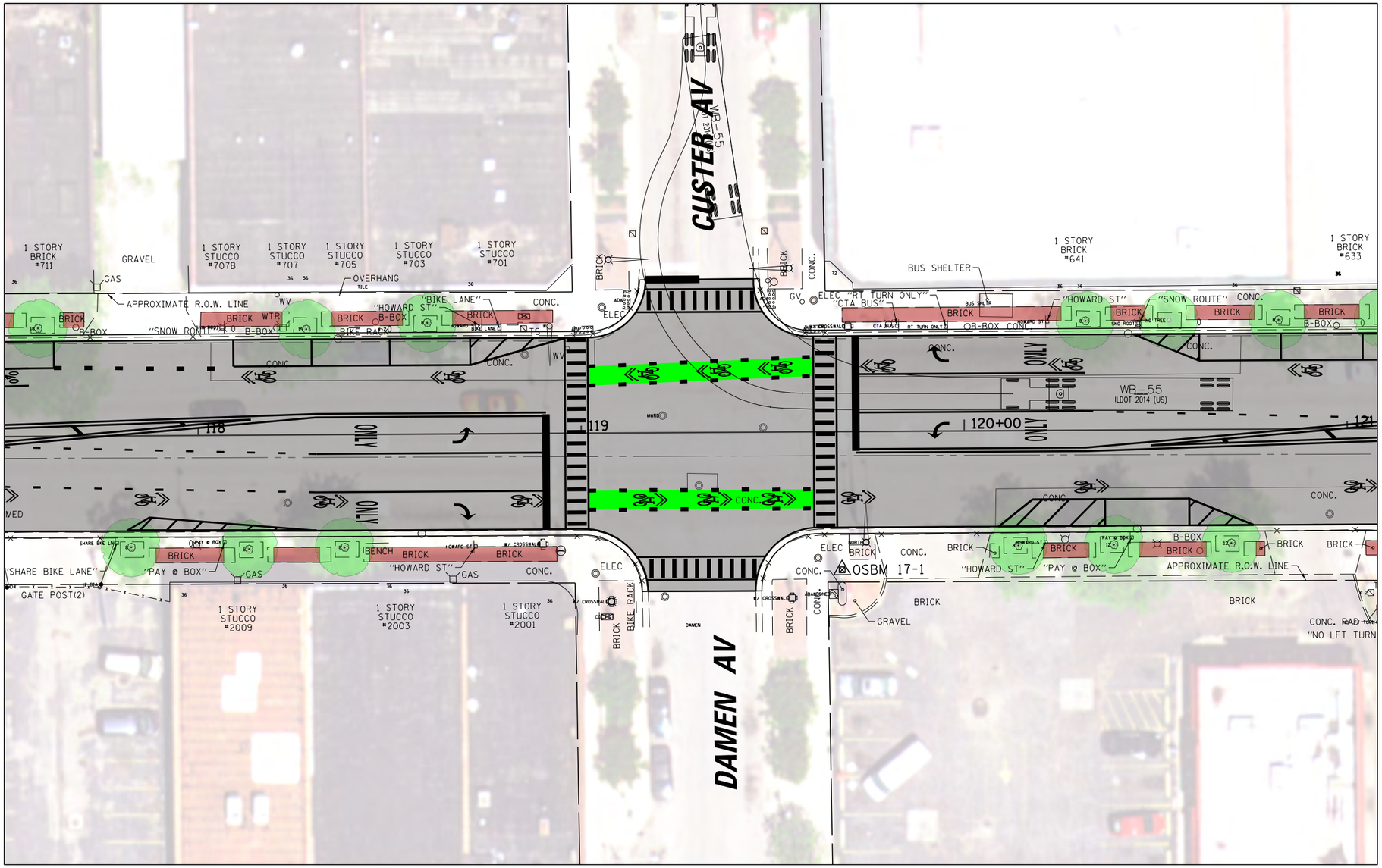
FILE NAME = N:\EVANSTON\160650\Civil\ATRCU_160650_ALT03_02.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
Default	PLOT SCALE = 30'	CHECKED -	REVISED -
	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	14	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



N

NOTES:

Howard St = Major Collector
Custer/Damen Ave = Major Collector
Design Vehicle = WB-55
Not a truck route (City Statute)

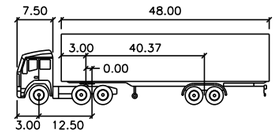
Heavy Vehicles (%)

Existing AM
12% - EBL
2% - EBR
4% - WBL
3% - WBR
2% - NBL
2% - NBR
2% - SBL
3% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
5% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

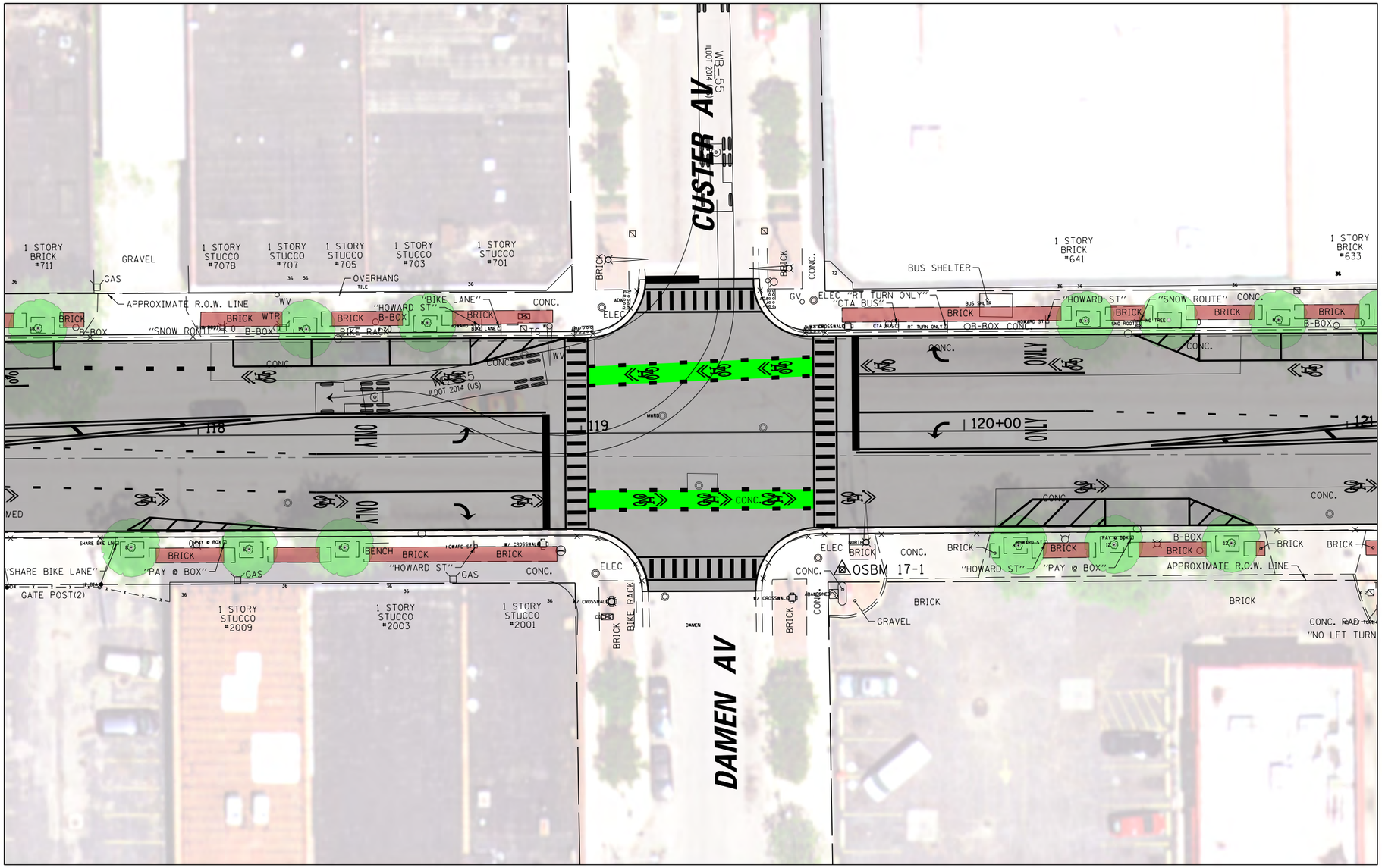
FILE NAME = N:\EVANSTON\160650\Civil\ATRCU_160650_ALT03_03.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	15	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



N

NOTES:

Howard St = Major Collector
Custer/Damen Ave = Major Collector
Design Vehicle = WB-55
Not a truck route (City Statute)

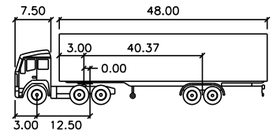
Heavy Vehicles (%)

Existing AM
12% - EBL
2% - EBR
4% - WBL
3% - WBR
2% - NBL
2% - NBR
2% - SBL
3% - SBR

Existing PM
2% - EBL
2% - EBR
2% - WBL
2% - WBR
2% - NBL
2% - NBR
2% - SBL
5% - SBR

DESIGN VARIANCE

This is a 3R project. The primary goal is to fix the pavement not geometrics. This project is in an established urban environment. Significant geometrics changes would need to be upgraded to meet turning radius at intersections.



WB-55

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

EXH. 4

FILE NAME = N:\EVANSTON\160650\Civil\ATRCU_160650_ALT03_04.SHT	USER NAME = mmichalowicz	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 30'	CHECKED -	REVISED -
Default	PLOT DATE = 11/30/2017	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HOWARD STREET
DESIGN VEHICLE TURNING ANALYSIS
(WB-55)

SCALE: | SHEET OF SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1334	17-00281-00-RS	COOK	16	
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		

TAB 5

Time: 7:37:53 AM

Date: 5/17/2017

0 50 100 200

Feet

1 inch = 100 feet

ALLEY

ALLEY

GREY AVE

ALLEY

DODGE AVE

DOBSON ST

DEWEY AVE

ALLEY

ALLEY

201101428506

201101082514

201101049653

201101115443

201101051373

HOWARD ST

201101426649

201101242702

201101328362

201101224513

201101299659

201101427150

201101201887

201101196078

201101303280

201101380271

ALLEY

FRANCISCO AVE

CALIFORNIA AVE

WASHTENAW AVE

JEROME ST

ALLEY

ALLEY

Legend

- Howard St Segment 2011 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:55 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
FLORENCE AVE
ASHLAND AVE
DOBSON ST
ALLEY
ASBURY AVE
ALLEY
ALLEY
HOWARD ST
MAPLEWOOD AVE
ALLEY
ALLEY
ROCKWELL ST
JEROME ST
ALLEY
ALLEY
ALLEY
WESTERN AVE
ALLEY

201101390599
201101441096
201101447438
201101307503
201101382614
201101440885
201101425893
201101332159
201101342773
201101054117
201101427146
201101441806
201101380561
201101328873
201101051412
201101141990
201101428486
201101112153
201101430410
201101429360
201101427404
201101382142
201101127365
201101193413
201101237775
201101671779
201101244430
201101382125
201101440922
201101036909
201101162067
201101328370
201101056051

Legend

- Howard St Segment 2011 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:58 AM

Date: 5/17/2017

SHEET 3 OF 4

0 50 100 200

Feet

1 inch = 100 feet

DOBSON ST

BARTON AVE

ALLEY

ALLEY

DOBSON ST

RIDGE AVE

ALLEY

HOWARD ST

ALLEY

ALLEY

CLAREMONT AVE

ALLEY

OAKLEY AVE

ALLEY

BELL AVE

ALLEY

ALLEY

RIDGE BLVD

201101064199
201101190412
201101084374
201101243762
201101161341
201101340240
201101127870
201101440630
201101116013
201101055044
201101083103
201101081535
201101096296
201101256562
201101127853
201101194447
201101100820
201101184594
201101053897
201101383641
201101195574
201101332587
201101427222
201101054693
201101185161
201101178052
201101229470
201101256545
201101127816
201101428560
201101429962
201101127805
201101195586
201101162986
201101037039
201101072776
201101162099
201101383311
201101092053
201101440966
201101163603
201101425853
201101129731
201101077818
201101429110
201101388522

Legend

Howard St Segment 2011 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:00 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
DOBSON ST
ELMWOOD AVE
ALLEY
CUSTER AVE
ALLEY
CALLAN AVE
ALLEY
ALLEY
201101035909
201101440786
201101086613
201101270466
201101300631
201101080842
201101329474
201101427111
HOWARD ST
201101053923
201101244289
201101195621
201101339576
201101081575
201101329657
201101441075
ALLEY
ALLEY
HOYNE AVE
ALLEY
SEELEY AVE
ALLEY
DAMEN AVE
ALLEY
ALLEY
WINCHESTER AVE
ALLEY
ALLEY
ALLEY

Legend

- Howard St Segment 2011 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:22 AM

Date: 5/17/2017

Legend

- Howard St Segment 2012 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:25 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
FLORENCE AVE
ASHLAND AVE
DOBSON ST
ALLEY
ASBURY AVE
ALLEY
ALLEY
HOWARD ST
MAPLEWOOD AVE
ALLEY
ALLEY
ROCKWELL ST
JEROME ST
ALLEY
ALLEY
WESTERN AVE
ALLEY

201201281326
201201432439
201201330930
201201267599
201201230459
201201134143
201201229254
201201153027
201201134190
201201355076
201201306525
201201423676
201201393619
201201283976
201201068114
201201285435
201201117663
201201248146
201201223222
201201398645
201201268056
201201038942
201201035777
201201375982
201201221989
201201199164
201201205953
201201261512

Legend

Howard St Segment 2012 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:27 AM

Date: 5/17/2017

SHEET 3 OF 4

0 50 100 200
Feet
1 inch = 100 feet

DOBSON ST
ALLEY
ALLEY
DOBSON ST
BARTON AVE
RIDGE AVE
ALLEY
HOWARD ST
ALLEY
ALLEY
CLAREMONT AVE
ALLEY
OAKLEY AVE
ALLEY
BELL AVE
ALLEY
RIDGE BLVD

201201298985
201201230747
201201255870
201201047086
201201364911
201201414653
201201378489
201201361644
201201212828
201201166482
201201218854
201201364845
201201346338
201201141611
201201292010
201201300837
201201306828
201201356802
201201270574
201201203667
201201120223
201201072432
201201395593
201201276669
201201229714
201201182560
201201248170
201201404853
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201201351218
201201394469
201201384768
201201383473
201201418848
201201329546
201201093733
201201080187
201201116576
201201134993
201201360773

Legend

- Howard St Segment 2012 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:37:30 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
ALLEY
DOBSON ST
ELMWOOD AVE
CUSTER AVE
CALLAN AVE
ALLEY
ALLEY
ALLEY
ALLEY
201201223217
201201208878
201201307852
201201250268
201201352764
201201046032
201201141460
201201065350
201201364862
201201358934
HOWARD ST
201201307851
201201166866
ALLEY
ALLEY
ALLEY
ALLEY
HOYNE AVE
ALLEY
SEELEY AVE
ALLEY
ALLEY
DAMEN AVE
ALLEY
ALLEY
WINCHESTER AVE
ALLEY
ALLEY

Legend

- Howard St Segment 2012 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:17 AM

Date: 5/17/2017

SHEET 1 OF 4

0 50 100 200
Feet
1 inch = 100 feet

ALLEY

GREY AVE

ALLEY

DODGE AVE

DOBSON ST

DEWEY AVE

ALLEY

ALLEY

201301340369

201301185864

201301153697

201301256278

201301368743

201301290403

201301221778

201301215669

201301394230

HOWARD ST

201301101677

201301429103

201301205746

201301364209

201301035101

201301412242

201301113362

201301172045

201301376890

ALLEY

FRANCISCO AVE

CALIFORNIA AVE

WASHTENAW AVE

JEROME ST

ALLEY

ALLEY

Legend

- Howard St Segment 2013 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:20 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
FLORENCE AVE
ASHLAND AVE
DOBSON ST
ALLEY
ASBURY AVE
ALLEY
ALLEY
HOWARD ST
MAPLEWOOD AVE
ALLEY
ALLEY
ROCKWELL ST
JEROME ST
ALLEY
ALLEY
ALLEY
WESTERN AVE

201301126370
201301198257
201301190359
201301280445
201301374669
201301135693
201301364222
201301287121
201301225612
201301427798
201301372952
201301305057
201301294868
201301151405
201301261954
201301047871
201301281279
201301203293
201301218560
201301323270
201301153320
201301367145
201301104921
201301341198

Legend

- Howard St Segment 2013 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:22 AM

Date: 5/17/2017

SHEET 3 OF 4

0 50 100 200
Feet
1 inch = 100 feet

DOBSON ST
DOBSON ST
ALLEY
ALLEY
ALLEY
BARTON AVE
RIDGE AVE
HOWARD ST
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
CLAREMONT AVE
OAKLEY AVE
BELL AVE
RIDGE BLVD

201301309401
201301169418
201301267070
201301082602
201301354910
201301342071
201301412833
201301156455
201301083402
201301232290
201301388635
201301173064
201301407247
201301387140
201301022717
201301355404
201301172651
201301364233
201301410672
201301039395
201301053503
201301031702
201301261009
201301145527
201301312559
201301382889
201301405426
201301320836
201301135696
201301192116
201301311909
201301165026
201301174365
201301426064
201301251021
201301373196
201301276401
201301209993
201301329754
201301078820
201301136217
201301318125
201301194937
201301111774
201301122538
201301353992
201301261011
201301387128
201301354958
201301270940
201301293036
201301204157

Legend

- Howard St Segment 2013 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:25 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
ALLEY
DOBSON ST
ELMWOOD AVE
CUSTER AVE
CALLAN AVE
ALLEY
ALLEY
ALLEY
ALLEY
201301200164
201301235605
201301417657
201301079225
201301286050
201301205518
201301439997
201301157907
201301387508
201301430326
201301166974
201301431684
HOWARD ST
201301035625
201301223730
201301252873
ALLEY
ALLEY
ALLEY
ALLEY
HOYNE AVE
ALLEY
SEELEY AVE
ALLEY
DAMEN AVE
ALLEY
ALLEY
WINCHESTER AVE
ALLEY

Legend

- Howard St Segment 2013 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:38 AM

Date: 5/17/2017

SHEET 1 OF 4

0 50 100 200
Feet
1 inch = 100 feet

ALLEY

GREY AVE

ALLEY

DODGE AVE

DOBSON ST

DEWEY AVE

ALLEY

ALLEY

201400378021

201400413542

201400104588

201400086515

201400365985

201400428456

201400129791

201400113983

HOWARD ST

201400347709

201400183017

201400104599

201400459110

201400019148

201400460912

201400343835

201400357317

ALLEY

FRANCISCO AVE

CALIFORNIA AVE

WASHTENAW AVE

JEROME ST

ALLEY

ALLEY

Legend

- Howard St Segment 2014 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:41 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
FLORENCE AVE
ASHLAND AVE
DOBSON ST
ALLEY
ASBURY AVE
ALLEY
ALLEY
201400222950
201400238052
201400233441
201400122542
201400303564
HOWARD ST
201400174857
201400260863
201400357306
201400215063
201400392302
201400439430
201400391662
201400195732
201400422371
201400229548
201400215794
201400366243
201400300432
201400295708
201400357377
201400246531
201400212904
ALLEY
201400208735
ALLEY
ROCKWELL ST
MAPLEWOOD AVE
ALLEY
WESTERN AVE
ALLEY
JEROME ST
ALLEY
ALLEY

Legend

- Howard St Segment 2014 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:43 AM

Date: 5/17/2017

SHEET 3 OF 4

0 50 100 200
Feet
1 inch = 100 feet

DOBSON ST

BARTON AVE

ALLEY

ALLEY

DOBSON ST

ALLEY

RIDGE AVE

HOWARD ST

201400085863
201400075755
201400073383
201400231030
201400111132
201400139946
201400439975
201400365128
201400350781
201400135970
201400406781
201400357028
201400455104
201400462971
201400442091
201400300398
201400084488
201400155253
201400378468
201400140282
201400299866
201400426742
201400416183
201400454192
201400373607
201400378822
201400241009
201400323854
201400297286
201400258353
201400354935
201400131037
201400336797
201400247303
201400250514
201400226450
201400425816
201400455338
201400233407
201400126667
201400329974

ALLEY

CLAREMONT AVE

ALLEY

OAKLEY AVE

ALLEY

BELL AVE

ALLEY

ALLEY

RIDGE BLVD

Legend

- Howard St Segment 2014 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:38:46 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
ALLEY
DOBSON ST
ELMWOOD AVE
CUSTER AVE
CALLAN AVE
ALLEY
ALLEY
ALLEY
ALLEY
201400084781
201400429068
201400247521
201400443498
201400300312
201400296063
201400385946
HOWARD ST
201400130372
201400392069
ALLEY
ALLEY
HOYNE AVE
ALLEY
ALLEY
SEELEY AVE
ALLEY
DAMEN AVE
ALLEY
ALLEY
WINCHESTER AVE
ALLEY
ALLEY

Legend

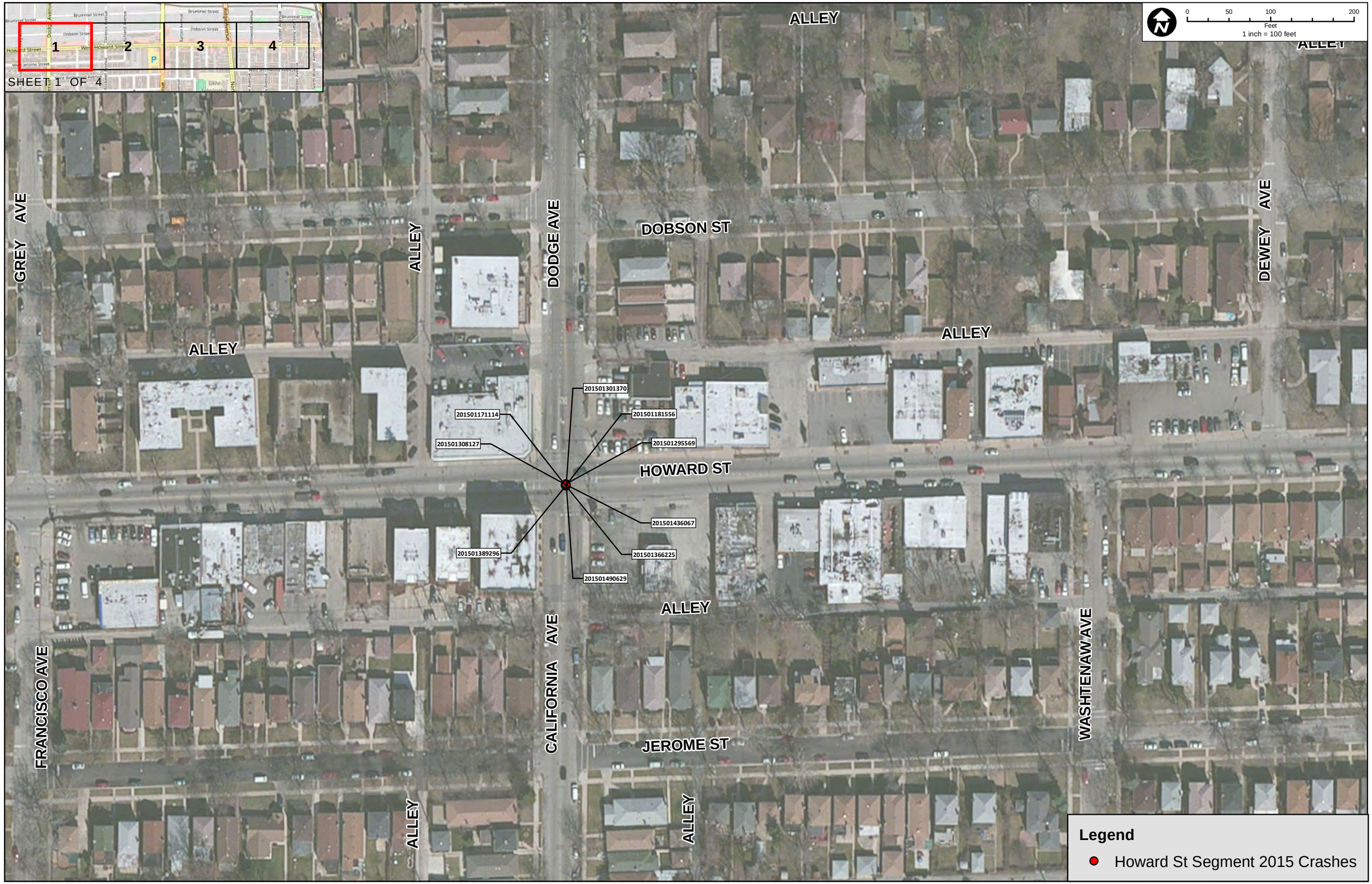
- Howard St Segment 2014 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:39:01 AM

Date: 5/17/2017

SHEET 1 OF 4



0 50 100 200

Feet

1 inch = 100 feet

Legend

- Howard St Segment 2015 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:39:03 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
FLORENCE AVE
ASHLAND AVE
DOBSON ST
ALLEY
ASBURY AVE
ALLEY
ALLEY
HOWARD ST
201501302952
201501178551
201501342711
201501459328
201501292841
201501461016
201501226244
201501458663
201501379815
201501389348
201501423607
201501472130
201501486377
201501069214
201501404944
201501390206
201501470118
201501352225
201501374892
201501364590
201501449180
201501416915
201501422893
201501306346
201501441176
201501376769
201501216941
201501339145
201501442001
ALLEY
ROCKWELL ST
MAPLEWOOD AVE
ALLEY
ALLEY
WESTERN AVE
ALLEY
JEROME ST
ALLEY
ALLEY

Legend

- Howard St Segment 2015 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:39:06 AM

Date: 5/17/2017

0 50 100 200
Feet
1 inch = 100 feet

DOBSON ST
ALLEY
ALLEY
DOBSON ST
BARTON AVE
RIDGE AVE
ALLEY
HOWARD ST
ALLEY
CLAREMONT AVE
ALLEY
OAKLEY AVE
ALLEY
BELL AVE
ALLEY
RIDGE BLVD

201501402881
201501398574
201501467524
201501485457
201501313290
201501132105
201501303730
201501178498
201501072394
201501165680
201501316066
201501438357
201501349357
201501345595
201501487260
201501458048
201501415269
201501091215
201501367334
201501301275
201501377089
201501300863
201501390389
201501434259
201501456037
201501485970
201501328166
201501427910
201501361346
201501399384
201501312385
201501309622
201501341645
201501392788
201501311314
201501334623
201501478974
201501467693
201501083345
201501329916

Legend

- Howard St Segment 2015 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Time: 7:39:09 AM

Date: 5/17/2017

SHEET 4 OF 4

0 50 100 200
Feet
1 inch = 100 feet

ALLEY
ALLEY
DOBSON ST
ELMWOOD AVE
CUSTER AVE
CALLAN AVE
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
201501426350
201501274328
201501404125
201501303726
201501286706
201501371056
201501266113
201501337610
201501339416
201501312499
201501295585
HOWARD ST
201501366701
201501467342
201501446971
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
ALLEY
HOYNE AVE
SEELEY AVE
DAMEN AVE
WINCHESTER AVE
ALLEY
ALLEY
ALLEY
ALLEY

Legend

- Howard St Segment 2015 Crashes

Path: N:\EVANSTON\160650\GIS\Exhibits\Crash Data.mxd

Location: Howard Street - All crashes

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	35	4 - B 2 - C	4 - BI 2 - CI	14	1 - A 3 - B 2 - C	1 - AI 3 - BI 2 - CI	9	1 - B	1 - BI	1			25	3 - B 4 - C	4 - BI 5 - CI	3			1									6	1 - A 2 - B 3 - C	1 - AI 2 - BI 3 - CI							3	3 - C	3 - CI				7	1 - B	1 - BI	104	2 - BI 14 - BI 14 - BI
2012	36	7 - C	7 - CI	13	3 - B	3 - BI	7	2 - C	2 - CI				21	2 - B 1 - C	3 - BI 1 - CI	3			6	1 - C	1 - CI	1			2	3 - B	3 - BI	3	2 - B 1 - C	2 - BI 1 - CI							4	3 - B 1 - C	3 - BI 1 - CI				7	2 - B	2 - BI	103	15 - BI 13 - BI
2013	48	2 - A 1 - B 8 - C	2 - AI 2 - BI 8 - CI	13	1 - B 1 - C	1 - BI 1 - CI	11	2 - B	2 - BI	2			15	3 - B	3 - BI	5			3	3 - B	3 - BI							3	1 - B 2 - C	1 - BI 2 - CI							2	1 - B	1 - BI				7			109	2 - BI 12 - BI 11 - BI
2014	32	7 - B 4 - C	7 - BI 5 - CI	6	1 - C		10						16	1 - B 2 - C	1 - BI 3 - CI	5			2									1	1 - B	1 - BI							4	1 - A 1 - B 2 - C	1 - AI 1 - BI 2 - CI				12	1 - B	1 - BI	88	1 - BI 11 - BI 9 - BI
2015	29	3 - B 5 - C	3 - BI 5 - CI	12	1 - B	1 - BI	6			1	1 - C	1 - CI	25	4 - B 1 - C	5 - BI 1 - CI	8	2 - B	2 - BI	2						1			4	1 - K 1 - A 1 - B	1 - KI 1 - AI 2 - BI							1		1 - BI				3			92	1 - BI 1 - BI 11 - BI 7 - BI
TOTAL	**180**	**0-K 2-A 15-B 26-C**	**0-KI 2-AI 16-BI 27-CI**	**58**	**0-K 1-A 8-B 4-C**	**0-KI 1-AI 8-BI 3-CI**	**43**	**0-K 0-A 3-B 2-C**	**0-KI 0-AI 3-BI 2-CI**	**4**	**0-K 0-A 0-B 1-C**	**0-KI 0-AI 0-BI 1-CI**	**102**	**0-K 0-A 13-B 8-C**	**0-KI 0-AI 16-BI 10-CI**	**24**	**0-K 0-A 2-B 0-C**	**0-KI 0-AI 2-BI 0-CI**	**14**	**0-K 0-A 3-B 1-C**	**0-KI 0-AI 3-BI 1-CI**	**1**	**0-K 0-A 0-B 0-C**	**0-KI 0-AI 0-BI 0-CI**	**3**	**0-K 0-A 3-B 0-C**	**0-KI 0-AI 3-BI 0-CI**	**17**	**1-K 2-A 7-B 6-C**	**1-KI 2-AI 8-BI 6-CI**	**0-K 0-A 0-B 0-C**	**0-KI 0-AI 0-BI 0-CI**		**0-K 0-A 0-B 0-C**	**0-KI 0-AI 0-BI 0-CI**	**14**	**0-K 1-A 5-B 6-C**	**0-KI 1-AI 6-BI 6-CI**		**0-K 0-A 0-B 0-C**	**0-KI 0-AI 0-BI 0-CI**	**36**	**0-K 0-A 4-B 0-C**	**0-KI 0-AI 4-BI 0-CI**	**496**	**1 - KI 6-A 63-B 54-C**
%	**36.3%**			**11.7%**			**8.7%**			**0.8%**			**20.6%**			**4.8%**			**2.8%**			**0.2%**			**0.6%**			**3.4%**									**2.8%**						**7.3%**				

YEAR	INJURY TYPE F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011		2	14	14	74	24	23%	2	2%	26	25%	104
2012			15	13	75	15	15%	2	2%	27	26%	103
2013		2	12	11	84	25	23%	8	7%	27	25%	109
2014		1	11	9	67	16	18%	8	9%	30	34%	88
2015	1	1	11	7	72	15	16%	7	8%	24	26%	92
TOTAL	**1**	**6**	**63**	**54**	**372**	**95**	**19%**	**27**	**5%**	**134**	**27%**	**496**

Location: Howard Street & Dodge/California Ave

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	5	1 - B 1 - C	1 - BI 1 - CI	1	1 - B	1 - BI							3	1 - B 1 - C	1 - BI 2 - CI																														9	3-B 2-C
2012	12	3 - C	3 - CI	1	1 - B	1 - BI							2																					1	1 - B	1 - BI							16	2-B 3-C
2013	3			3									2	1 - B	1 - BI																													8	1-B
2014	4	1 - C	2 - CI													1																													5	1-C
2015	4	1 - C	1 - CI				1						3	1 - B	1 - BI	1																													9	1-B 1-C
TOTAL	**28**	**1-B 6-C**	**1-BI 7-CI**	**5**	**2-B**	**2-BI**	**1**						**10**	**3-B**	**3-BI 2-CI**	**2**																					**1**	**1-B**	**1-BI**							**47**	**7-B 7-C**
%	**59.6%**			**10.6%**			**2.1%**						**21.3%**			**4.3%**																				**2.1%**										

YEAR	INJURY TYPE F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011			3	2	4	1	11%	1	11%	2	22%	9
2012			2	3	11	3	19%			3	19%	16
2013			1		7	1	13%			2	25%	8
2014				1	4	2	40%			1	20%	5
2015			1	1	7	2	22%	2	22%	5	56%	9
TOTAL			**7**	**7**	**33**	**9**	**19%**	**3**	**6%**	**13**	**28%**	**47**

Location: Segment - Dodge to Western

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	6			5	2 - B 1 - C	2 - BI 1 - CI	1									2												1	1 - C	1 - CI							1			6	1 - B	1 - BI	21	3-B 2-C
2012	5			3									5	1 - B	1 - BI				5	1 - C	1 - CI				1	2 - B	2 - BI									2	1 - B 1 - C	1 - BI 1 - CI				4	2 - B	2 - BI	25	6-B 2-C
2013	6	1 - C	1 - CI	2	1 - B	1 - BI	4			2			4						1	2 - B	2 - BI																			2			21	3-B 1-C
2014	4			1			5									1			1																	2	2 - C	2 - CI				9	1 - B	1 - BI	23	1-B 2-C
2015	5	1 - C	1 - CI	4	1 - B	1 - BI	2						3																													1			15	1-B 1-C
TOTAL	**26**	**2-C**	**2-CI**	**15**	**4-B 1-C**	**4-BI 1-CI**	**12**			**2**			**12**	**1-B**	**1-BI**	**3**			**7**	**2-B 1-C**	**2-BI 1-CI**				**1**	**2-B**	**2-BI**	**1**	**1-C**	**1-CI**							**4**	**1-B 3-C**	**1-BI 3-CI**				**22**	**4-B**	**4-BI**	**105**	**14-B 8-C**
%	**24.8%**			**14.3%**			**11.4%**			**1.9%**			**11.4%**			**2.9%**			**6.7%**						**1.0%**			**1.0%**									**3.8%**						**21.0%**				

	INJURY TYPE											
YEAR	F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011			3	2	16	3	14%			6	29%	21
2012			6	2	17	4	16%			7	28%	25
2013			3	1	17	6	29%	1	5%	8	38%	21
2014			1	2	20	6	26%	4	17%	10	43%	23
2015			1	1	13	3	20%	1	7%	1	7%	15
TOTAL			**14**	**8**	**83**	**22**	**21%**	**6**	**6%**	**32**	**30%**	**105**

Location: Howard Street & Western/Asbury Ave

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	7												2	1 - B	2 - BI	1												2	1 - B 1 - C	1 - BI 1 - CI							1	1 - C	1 - CI							13	2-B 2-C
2012	5	2 - C	2 - CI	1									3	1 - C	1 - CI	1																														10	3-C
2013	9	1 - B 1 - C	2 - BI 1 - CI	1									1						1									1	1 - B	1 - BI															13	2-B 1-C
2014	7	1 - B 1 - C	1 - BI 1 - CI										3	1 - C	2 - CI																			1	1 - A	1 - AI							11	1-A 1-B 2-C
2015	5	2 - C	2 - CI	1			1						3			1												3	1 - K 1 - A 1 - B	1 - KI 1 - AI 1 - BI															14	1-K 1-A 1-B 2-C
TOTAL	**33**	**2-B 6-C**	**3-BI 6-CI**	**3**			**1**						**12**	**1-B 2-C**	**2-BI 3-CI**	**3**			**1**									**6**	**1-K 1-A 3-B 1-C**	**1-KI 1-AI 3-BI 1-CI**							**2**	**1-A 1-C**	**1-AI 1-CI**							**61**	**1-K 2-A 6-B 10-C**
%	**54.1%**			**4.9%**			**1.6%**						**19.7%**			**4.9%**			**1.6%**									**9.8%**							**3.3%**										

YEAR	INJURY TYPE F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011			2	2	9	5	38%			5	38%	13
2012				3	7	1	10%			3	30%	10
2013			2	1	10	2	15%	2	15%	3	23%	13
2014		1	1	2	7	1	9%			3	27%	11
2015	1	1	1	2	9	3	21%			3	21%	14
TOTAL	**1**	**2**	**6**	**10**	**42**	**12**	**20%**	**2**	**3%**	**17**	**28%**	**61**

Location: Segment - Western to Ridge

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	7	1 - B 1 - C	1 - BI 1 - CI	8	1 - A 1 - C	1 - AI 1 - CI	4	1 - B	1 - BI				11	1 - B	1 - BI													1	1 - C	1 - CI							2	2 - C	2 - CI				1			34	1-A 3-B 5-C
2012	8			6	2 - B	2 - BI	3	1 - C	1 - CI				4						1			1						1	1 - B	1 - BI							1	1 - B	1 - BI				3			28	4-B 1-C
2013	16	2 - A 6 - C	2 - AI 6 - CI	4	1 - C	1 - CI	6	2 - B	2 - BI				6	1 - B	1 - BI	3												1	1 - C	1 - CI							1	1 - B	1 - BI				2			39	2-A 4-B 8-C
2014	10	5 - B 2 - C	5 - BI 2 - CI	4	1 - C		3						11			1			1									1	1 - B	1 - BI							1	1 - B	1 - BI				1			33	7-B 3-C
2015	6	1 - B	1 - BI	6			1			1	1 - C	1 - CI	8	2 - B	2 - BI	3	2 - B	2 - BI	1						1																		2			29	5-B 1-C
TOTAL	**47**	**2-A 7-B 9-C**	**2-AI 7-BI 9-CI**	**28**	**1-A 2-B 3-C**	**1-AI 2-BI 2-CI**	**17**	**3-B 1-C**	**3-BI 1-CI**	**1**	**1-C**	**1-CI**	**40**	**4-B**	**4-BI**	**7**	**2-B**	**2-BI**	**3**			**1**			**1**			**4**	**2-B 2-C**	**2-BI 2-CI**							**5**	**3-B 2-C**	**3-BI 2-CI**				**9**			**163**	**3-A 23-B 18-C**
%	**28.8%**			**17.2%**			**10.4%**			**0.6%**			**24.5%**			**4.3%**			**1.8%**			**0.6%**			**0.6%**			**2.5%**									**3.1%**						**5.5%**				

YEAR	INJURY TYPE F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011		1	3	5	25	6	18%	1	3%	3	9%	34
2012			4	1	23	5	18%			6	21%	28
2013		2	4	8	25	11	28%	2	5%	4	10%	39
2014			7	3	23	4	12%	3	9%	8	24%	33
2015			5	1	23	4	14%	1	3%	9	31%	29
TOTAL		**3**	**23**	**18**	**119**	**30**	**18%**	**7**	**4%**	**30**	**18%**	**163**

Location: Howard Street & Ridge Ave

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	4						2						5	2 - C	2 - CI													1	1 - B	1 - BI															12	1-B 2-C
2012	2			1			2						4	1 - B	2 - BI	2												1	1 - B	1 - BI															12	2-B
2013	8			1									1			1			1	1 - B	1 - BI							1	1 - C	1 - CI															13	1-B 1-C
2014	5	1 - B	1 - BI										1	1 - B	1 - BI	2																													8	2-B
2015	5	1 - B	1 - BI										5	1 - B	2 - BI	1																													11	2-B
TOTAL	**24**	**2-B**	**2-BI**	**2**			**4**						**16**	**3-B** **2-C**	**5-BI** **2-CI**	**6**			**1**	**1-B**	**1-BI**							**3**	**2-B** **1-C**	**2-BI** **1-CI**															**56**	**8-B** **3-C**
%	**42.9%**			**3.6%**			**7.1%**						**28.6%**			**10.7%**			**1.8%**									**5.4%**																	

YEAR	INJURY TYPE F	A	B	C	PDO	WET	Wet %	Snow/Ice	Snow/Ice %	Night	Night %	TOTAL
2011			1	2	9	6	50%			3	25%	12
2012			2		10	2	17%			5	42%	12
2013			1	1	11	3	23%			5	38%	13
2014			2		6	2	25%			3	38%	8
2015			2		9					2	18%	11
TOTAL			**8**	**3**	**45**	**13**	**23%**			**18**	**32%**	**56**

Location: Segment - Ridge to Damen

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011	6	2 - B	2 - BI				2			1			3						1									1	1 - A	1 - AI															14	1-A 2-B
2012	4	2 - C	2 - CI	1			2	1 - C	1 - CI				2												1	1 - B	1 - BI	1	1 - C	1 - CI															11	1-B 4-C
2013	5			2									1	1 - B	1 - BI	1																		1									3			13	1-B
2014	1			1			2						1	1 - C	1 - CI																											2			7	1-C
2015	3	1 - B 1 - C	1 - BI 1 - CI				1						2	1 - C	1 - CI	2			1																											9	1-B 2-C
TOTAL	**19**	**3-B 3-C**	**3-BI 3-CI**	**4**			**7**	**1-C**	**1-CI**	**1**			**9**	**1-B 2-C**	**1-BI 2-CI**	**3**			**2**						**1**	**1-B**	**1-BI**	**2**	**1-A 1-C**	**1-AI 1-CI**							**1**						**5**			**54**	**1-A 5-B 7-C**
%	**35.2%**			**7.4%**			**13.0%**			**1.9%**			**16.7%**			**5.6%**			**3.7%**						**1.9%**			**3.7%**							**1.9%**						**9.3%**				

	INJURY TYPE											
YEAR	**F**	**A**	**B**	**C**	**PDO**	**WET**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	**TOTAL**
2011		1	2		11	3	21%			6	43%	14
2012			1	4	6			2	18%	3	27%	11
2013			1		12	1	8%	3	23%	4	31%	13
2014				1	6			1	14%	4	57%	7
2015			1	2	6	2	22%	2	22%	3	33%	9
TOTAL		**1**	**5**	**7**	**41**	**6**	**11%**	**8**	**15%**	**20**	**37%**	**54**

Location: Howard Street & Cluster/Damen Ave

Town: Evanston

County: Cook

YEAR	Rear End			Angle			Sideswipe Same Direction			Sideswipe Opposite Direct.			Turning Left			Turning Right			Fixed Object			Over-turned			Head On			Pedestrian			Other Object			Animal			Bicyclist			Other Non-Collision			Parked Motor Vehicle			TOTAL	
	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	Crash Count	Injury Type	Injury Count	**Crash Count**	**Injury Count**
2011													1	1 - C	1 - CI																														1	1-C
2012													1																														1	
2013	1						1																																				2	
2014	1																																										1	
2015	1			1									1															1	1 - B	1 - BI							1	1 - B	1 - BI						5	2-B
TOTAL	**3**			**1**			**1**						**3**	**1-C**	**1-CI**													**1**	**1-B**	**1-BI**							**1**	**1-B**	**1-BI**						**10**	**2-B 1-C**
%	**30.0%**			**10.0%**			**10.0%**						**30.0%**															**10.0%**									**10.0%**								

	INJURY TYPE										
YEAR	**F**	**A**	**B**	**C**	**PDO**	**WET**	**Wet %**	**Snow/Ice**	**Snow/Ice %**	**Night**	**Night %**	**TOTAL**
2011				1						1	100%	1
2012					1							1
2013					2	1	50%			1	50%	2
2014					1	1	100%			1	100%	1
2015			2		3	1	20%	1	20%	1	20%	5
TOTAL			**2**	**1**	**7**	**3**	**30%**	**1**	**10%**	**4**	**40%**	**10**

TAB 6

HOWARD STREET CORRIDOR IMPROVEMENT PROJECT
ADVISORY COMMITTEE MEETING #1
MAY 23, 2017

The first Advisory Committee meeting of the Howard Street Corridor Improvement Project took place on Tuesday, May 23rd, at 2pm at the LHM Civic Center, 2100 Ridge Avenue, Evanston, IL. The purpose of this meeting was to introduce the project to the Advisory Committee and solicit input on existing conditions and future improvements. Twelve Advisory Committee members attended the meeting, in addition to seven project team members. Please see the attached attendance list.

Sat Nagar, City of Evanston, began the Advisory Committee meeting with introductions of all Advisory Committee and project team members. He then utilized a PowerPoint presentation to provide a project overview, including project limits, funding, timeline and goals. Mike Kerr, Christopher B. Burke Engineering, reviewed existing conditions, including bike and pedestrian volumes, traffic volumes, and crash data throughout the corridor. Comments from Advisory Committee members are captured below.

- Alderman Moore confirmed that the streetscape completed in the Ridge to Custer section was completed 16 years ago.
- There was a discussion questioning if the increased crashes at Western/Howard may be due to persons that are in the lanes of traffic at this intersection.

Kelly Conolly, Sam Schwartz Engineering, presented pedestrian and transit analyses along the corridor.

Advisory Committee member comments:

- Alderman Rainey would like more information describing the Transit Scorecard criteria.
- It was noted that one block east of Custer, outside of the project area, the number of accidents is very high and the parking increases. The north-south streets do not line up here, and there are a lot of restaurants and activity.
- Michael David, M&M Power King, commented that there are a lot of rear end crashes at Howard/Oakley. He witnesses people running across the street mid-block, causing cars to slam on their breaks. Additionally, people often run from one bus to another, or chase down the bus on Howard, east of Asbury, and are almost hit by cars. Mr. David suggested moving one of the bus stops one block east, so there is more distance between the stops. Drivers also park too close to the intersection at Howard and Claremont, which makes it difficult to see cars or people at that corner. It would be helpful to have signs to regulate the parking at that location.

Mr. Nagar opened up the discussion for input on the existing conditions and ideas for future improvements.

Advisory Committee comments:

- A discussion took place regarding the streetscape project completed 16 years ago and if the work completed would be undone. It was confirmed that it would not.

- One member asked why the project does not extend to Clark and another asked why the project does not extend two block west from Dodge to Sacramento, noting that it would be perceived as consistent to complete the rest of the corridor and not these blocks. Mr. Nagar explained the funding limitations.
- It was noted that while the current streetscape looks really nice, the railroad overpass on Howard is not in good condition. A discussion took place regarding covering the overpass in fabric, similar to Green Bay Road.
- Members preferred keeping the seating and trees near Asbury and Ridge.
- Mr. Nagar asked the Members about Howard Street west of Ridge and the preferred treatments in this section. It was noted that the feel west of Ridge is different than east. West of Ridge there is more of a highway feel than a pedestrian feel. Also, there are a lot of curb cuts.

Mr. Kerr provided the option of eliminating the through lane to slow traffic down. Mr. Nagar noted that the project team will develop alternate options for advisory committee review such as continuing the bike lane to Asbury.

Advisory Committee comments:

- When asked about the idea of eliminating a lane, members commented that it depends on the vision of the project. On the Chicago side of the street, the uses lend themselves to a slower street.
- Lubica Benak, City of Chicago, asked how large the sidewalk is in that section. Is it large enough for streetscaping currently?
- Alderman Moore asked when larger community engagement was going to take place. It was recommended to listen to the public more and potentially hold three public meetings, in different sections of the corridor.
- It was agreed that the Committee would meet again before the public engagement.
- Ms. Benak suggested presenting optional cross sections of the street at the public meeting
- Members asked where the funding for the project was coming from.

Mr. Kerr described that for next steps, the project team could develop treatment options for review and bring these to the Advisory Committee. This would be followed by bringing this presentation and the treatment options to the public. Mr. Kerr agreed to review the traffic and pedestrian issues on Howard east of Custer Avenue for a block.

Advisory Committee member comments

- It was suggested that the street corner on slide 14 (Transit Scorecard) be improved for pedestrian movements.
- Members provided support for planters, seating and other streetscape elements.
- Ms. Biggs clarified that there will not be changes made to lighting on the Chicago side. There may be some on the Evanston side.
  (Sat to confirm scope of Chicago lighting changes. As Mike Kerr noted the lighting will be evaluated along the corridor from Dodge to Custer for lighting sufficiency)
- Members confirmed that all of the Advisory Committee members should look at the lighting, planters, trees and other elements over the next few weeks in order to provide helpful input.
- It was noted that traffic signals should be reviewed too, and Mr. Nagar confirmed that there would be left turn signals at Dodge/California intersection.

- Members asked if the project team was looking at widening the sidewalks.
- Ms. Biggs emphasized that the City of Evanston wants to hear from the Advisory Committee regarding current issues and problems. The City of Evanston would like to take this opportunity to make Howard safer for pedestrians.
- Ms. Benak asked if Dodge to Asbury would contain the same treatments or different as the other sections.
- It was reemphasized that the project team look into the two blocks west of Dodge. This section is approx. ¼ mile.
- A discussion took place regarding the water mains in the corridor. It was confirmed that there are two different water mains, and Michael Land, with Alderman Moore's Office, confirmed that the water mains were completed on the Chicago side 16 years ago.
- Alderman Rainey asked if the documents from today's meeting would be online.
- It was asked if there would be more detailed drawings at the next meeting and if there would be pavers for crosswalks. There was discussion on the use of pavers in crosswalks. It was noted that Andersonville's pavers are not in good condition.
- Members noted that the planters from the streetscape 16 years ago are in good condition. Alderman Rainey confirmed that they maintain the planters. Alderman Moore confirmed that the SSA maintains the planters on the Chicago side of the street.

Mr. Nagar wrapped up the meeting, confirming that the next step is an Advisory Committee meeting in June. The second Advisory Committee meeting is scheduled for Wednesday, June 21st, at 2pm. It will tentatively be held at the Evanston Vet Center, 1901 Howard Street.

HOWARD STREET CORRIDOR IMPROVEMENT PROJECT
ADVISORY COMMITTEE MEETING #2
JUNE 21, 2017

The second Advisory Committee meeting of the Howard Street Corridor Improvement Project took place on Wednesday, June 21st at 2pm at the Evanston Vet Center, 1901 Howard Street, Evanston, IL. The purpose of this meeting was to solicit input on treatment alternatives and prepare for the upcoming public meetings. Ten Advisory Committee members attended the meeting, in addition to nine project team members. Please see the attached attendance list.

Sat Nagar, City of Evanston, began the meeting with introductions of both the Advisory Committee and project team members. After introductions, Mr. Nagar reviewed the meeting's agenda and goals.

Mike Kerr, Christopher B. Burke Engineering, recapped the comments expressed at the first Advisory Committee meeting and explained how those comments were reviewed by the project team and incorporated into the project's next steps. Mr. Kerr noted the project limits had expanded in order to address the concern that certain blocks were not included. The current limits are now Callan/Winchester to Hartrey/Sacramento. Mr. Kerr also summarized the activities completed by the project team since the last meeting, specifically the corridor site visit.

Mr. Kerr reviewed existing streetscape and lighting conditions along the corridor, noting specific areas of concern from the site visit.

Advisory Committee comments:

- A discussion took place regarding bike lanes and whether they were incorporated into the current alternatives. Michael David, M&M Power King, suggested that bike lanes could help slow traffic that he has observed traveling at high, unsafe speeds during off peak hours.
- Mr. Kerr confirmed that bike lanes are included as an option in some parts of the corridor, but between Hartrey/Sacramento and Asbury/Western, there is not enough room for a separate bike lane. Sharrow lanes are provided as an option in this segment, in which cars and bikes share a lane, denoted by markings on the road.

Mr. Kerr then led a review of the initial alternatives sections. First, the segment of the corridor from Sacramento to Western was discussed. In this segment, one alternative is to keep the existing configuration, with two 11' thru lanes and two 9' parking lanes. The second alternative is to expand the two thru lanes to 13' in order to create a sharrow lane in each direction. The parking width would be reduced to 7'.

Advisory Committee comments:

- When asked about CDOT's policies with thru lanes, Lubica Benak, City of Chicago, noted that CDOT's trend is to narrow lanes instead of widening lanes. Mr. Kerr noted that the 13' sharrow lane was chosen, as IDOT has a standard of 13' for these types of lanes. Stacey Meekins, Sam Schwartz Engineering, explained that the 13' standard is not a requirement but a recommendation, and there is not national guidance on the lane width.
- Advisory Committee members commented that Sheridan Road's shared lane is quite narrow.

- Ms. Benak inquired if the bike lane will be connected throughout the entire corridor. It was confirmed that some of the alternatives allow for a continuous bike path, but not necessarily bike lanes, through the whole corridor.

Alternative sections from Western to Ridge were then presented and discussed. This segment contained five alternatives.

1. *Existing conditions:* The first alternative keeps the existing conditions, containing two thru lanes in one direction (12' and 11') and a thru lane (12') and parking lane (9'-12') in the opposite direction.
2. *Alternative 1:* The next alternative contains two slightly thru lanes in one direction (both 11') and a slightly narrowed thru lane (11') and parking lane (7') in the opposite direction. This allows for sidewalk widening (6') on the north side of the street.
3. *Alternative 2:* The third alternative, contains one thru lane (11') and one bike lane (5') in each direction. On the north side of the street, the sidewalk is widened (7') and on the south side, narrower parking is maintained (7').
4. *Alternative 3:* The next alternative is similar to the previous but contains a buffered bike lane (6') and a smaller sidewalk widening (5') on the north side.
5. *Alternative 4:* The final alternative, widens the sidewalk (8') on north side but adds parking (8') on the north side, and does not offer any bike accommodations.

Advisory Committee comments:

- A discussion took place about the width of the sidewalk and parking. An Advisory Committee member commented that 8' is tight for parking.
- Ms. Benak inquired about the width of the sidewalk on the south side of the corridor and if it would be expanded. Mr. Kerr noted that the south side has a large sidewalk currently, containing trees and small green spaces. Therefore, the south side sidewalk width would be maintained.
- A discussion took place about whether or not parking was needed between Ridge and Asbury. The Advisory Committee members did not feel additional parking was needed.

Alternations for the final segment of the corridor, from Ride to Callan/ Winchester, were presented and discussed. The first alternative keeps the existing conditions, containing a thru lane in each direction (12'), a bike lane in each direction (5') and parking in each direction (8'). The next alternative reduces both thru lanes (11') and adds a buffered bike lane (6').

Advisory member comments:

- A discussion took place regarding a bike lane versus a buffered bike lane. One Advisory Committee member commented that the bike lane width should be consistent throughout the corridor when there is a bike lane, regardless of the specific width selected.
- Mr. Kerr clarified that a buffered bike lane would not contain ballards, but only paint.
- Mr. David commented that additional parking may not serve its intended purposes as most businesses in the area have their own parking and "no parking" signs were recently added on Howard to prevent parking.
- The Advisory Committee confirmed that all alternatives (other than existing conditions) will not expand parking but offer sharrow lanes, bike lanes or bike lanes with buffer.
- Mr. Nagar summarized that the general themes for the alternatives will be to maintain thru lanes, add bike lanes and maintain parking on the north side of the street.

Next, Mr. Kerr reviewed the proposed pedestrian bumpouts and midblock crossings. He noted that the locations selected have a significant amount of pedestrian and vehicular activity. Mr. Kerr reviewed how this midblock crossing would function between Western/Asbury and Ridge with the bike lane and additional parking alternatives. Since the additional parking alternatives have been removed, the additional parking option will not be displayed at the Public Meeting.

Advisory Committee comments:

- A discussion took place regarding activity near the McDonalds and the current bus stop at Oakley/Howard. Advisory Committee members noted this as the worst crossing section.
- Mr. David emphasized that numerous rear ends occur near Oakley/Howard. The bus stop at this location should be moved west and/or combined with the following one at Western. If moved, he recommended placing the stop on the west side of Claremont. The Advisory Committee members supported considering the removal of the bus stop at Oakley if feasible. Mr. Kerr confirmed that the project team would look into whether or not patients from Fresenius Kidney Care Rogers Park use the Oakley bus stop. There was also discussion about eliminating the bus stop at Hoyne. The project team noted the suggestion for further exploration.
- Ms. Meekins noted that there are bus counts available to determine how many people board at these stops throughout the day. Additionally, counts could be taken to determine if buses pull all the way over to the curb, or if they stay in the thru lane when loading. The presented option prioritizes pedestrians and transit.
- The Advisory Committee members supported the proposed bump outs and midblock crossings.

Phil Hutchinson, Altamanu, presented the streetscape plans. These plans included adding trees and paver bands. The trees that are not in good condition will also be replaced. The standard used for tree placement is every 25 feet. The paver bands will be continued from the current streetscape. The paver bands will run the entire length of the corridor, except for driveways.

Advisory Committee comments:

- Advisory Committee members noted that the exhibits should be more descriptive and detailed.
- When asked how the location of new trees is determined, Mr. Hutchison explained that a width of 9’ is typically needed for a tree. Segments which are too narrow for trees will receive other streetscape elements, such as trash cans, lighting, and benches. The project team noted the streetscape will be included in primarily business and high pedestrian areas.
- Advisory Committee members suggested starting an association to maintain building facades and future streetscape elements in the corridor, noting that many building owners do not maintain their storefronts. Hopefully, this streetscape plan will encourage owners to take care of their properties.
- Tania Walker, Vet Center, shared improvements the Vet Center is planning. The Center is working with the landlord to improve the awning, paint the building, add a trash can, as well as include barriers to prevent vehicles from hitting the building.
- The project team confirmed the whole corridor would be resurfaced.
- Michael Land, Alderman Moore’s Office, asked if there was structured soil in the corridor. The project team will look into whether or not there is structured soil.
- Mr. Land also inquired if buckling grates around mature trees will be addressed. Mr. Hutchison confirmed that these will be addressed in the corridor. For those outside of the corridor, Ms. Benak recommended that Mr. Land provide the locations of these and CDOT will survey.
- Mr. Hutchison confirmed the grassy areas between Ridge and Western will be left.

- Katie Knapp, City of Evanston, asked about the maintenance of the open mulch and whether the sidewalk around the mulched area would have enough room to meet ADA compliance. The corridor improvements will be ADA compliant.

The Advisory Committee discussed timing and locations for the public meeting. It was agreed two identical meetings should be held. One meeting would occur in Chicago and one in Evanston with one located toward the eastern section of the corridor and one geared to the west. Alderman Rainey and Alderman Moore volunteered to check available spaces, specifically the Levy Center and St. Mary Margaret's Activity Center. The meetings will tentatively take place on August 2nd and August 10th from 6pm-9pm, with a presentation at 7pm. Mr. Nagar confirmed that the materials shown today will be shown at the meeting – sections and streetscape elements. The additional parking alternatives will not be shown. The project team will provide the meeting flyers to the Alderman's offices, who will then flyer the corridor.

The project team solicited any final comments from the Committee before adjourning the meeting.
Advisory Committee comments:

- It was suggested to give more thought to the proposed bump outs at Oakley and to consider Francisco for a bump out.
- Robert Taylor, West Ridge Chamber of Commerce, noted that businesses will want to know the construction schedule. Mr. Nagar agreed to share information on the schedule at the public meeting and again closer to when construction begins.

The project team confirmed that they will provide meeting materials to the Advisory Committee members via email next week.

HOWARD STREET CORRIDOR IMPROVEMENT PROJECT
ADVISORY COMMITTEE MEETING #3
SEPTEMBER 26, 2017

The third Advisory Committee meeting of the Howard Street Corridor Improvement Project took place on Tuesday, September 26, 2017 at 1pm at the LHM Civic Center, 2100 Ridge Avenue, Evanston, IL. The purpose of this meeting was to present the preferred alternative and solicit input. Ten Advisory Committee members attended the meeting, in addition to six project team members. Please see the attached attendance list.

Sat Nagar, City of Evanston, began the meeting by reviewing the meeting's agenda and goals and thanking Advisory Committee members for their time and involvement on the project.

Public Meeting Summary

Mike Kerr, Christopher B. Burke Engineering, recapped all stakeholder/agency coordination throughout the Phase 1 portion of this project. Mr. Kerr then reviewed the comments heard at the two public meetings held in August. All written comments were provided to the Advisory Committee on September 21st. Mr. Kerr noted that at both meetings, there was great support for bike lanes. Additionally, there was greater support for lane reduction in the second meeting than the first. Common themes throughout both meetings included support for safety improvements, such as ADA compliant sidewalks and high visibility crosswalks, as well as support for streetscape improvements.

One of the comments received at the public meeting was to improve the left turn eastbound onto Dodge from Howard. Mr. Kerr clarified that currently there is not a left turn arrow at this intersection, and this will be added. There will now be left turn arrows for each direction at each signalized intersection.

IDOT Meeting Summary

Mr. Kerr then reviewed the Illinois Department of Transportation (IDOT) Phase 1 requirements. The project team is planning to submit the Phase 1 Project Development Report in October for IDOT/CDOT review. This timeline will allow for confirmation of Phase 1 and progression into Phase 2 by the end of 2017. Mr. Kerr clarified that this project is a 3R (resurfacing, restoration, rehabilitation) project instead of a reconstruction, which requires less rigorous analyses than a reconstruction. He then explained to the group that in order to meet the IDOT Phase 1 Requirements, the project will either need to upgrade all of the streetlights or none of the streetlights. This is a requirement so that there is not patchy lighting, switching from light spots to dark spots through the corridor. Mr. Kerr clarified these are streetlights not traffic signals and that, as a group, he would like to come to a consensus on this requirement. The Advisory Committee preferred that the streetlights be updated. A discussion then occurred about ensuring that all lights are on throughout the corridor, as it appears some are never turned on. Mr. Kerr also noted that Chicago is in the process of switching out all current streetlights with LEDs.

Following the discussion with IDOT, the project team did confirm that the construction will extend from Sacramento to Callan.

Preferred Alternative

Mr. Kerr presented cross sections of the corridor, separated into three segments. From Sacramento to Asbury, parking will be reduced to 7 feet and bike improvements (sharrows) will be added. A discussion took place regarding the addition of a bike rack at the shopping center in this segment to accommodate bicyclists. This is at the discretion of the shopping center but the project team can discuss this with them.

From Asbury to Ridge, a thru lane was removed to add a buffered bike lane and widen the sidewalk. The bike lane is 6 feet (instead of 7) to be consistent with the other bike lanes in the corridor. There will not be any bollards to separate the bike lane from traffic or parking. There is a 2 foot buffer adjacent to the bike lane in each direction. When there is parking, the buffer is in between parking and the bike lane. When there is no parking, the buffer is between the thru lane and the bike lane. This is consistent throughout the corridor.

From Ridge to Callan, there are two buffered bike lanes, each 6 feet wide, with parking remaining on each side of the street. Mr. Kerr clarified that the bike lanes will not be painted green, as these are expensive, difficult to maintain, and are being phased out of most projects. Instead, major conflict points will be painted green to provide direction for bicyclists and motorists. Additionally, crosswalks will be striped. There will be no pavers in the crosswalks.

Construction Cost Estimate

Mr. Kerr reviewed the cost of roadway/streetscape improvements, lighting and street furniture for the original project limits and for the extended project limits. The lighting category covers both decorative lighting in the streetscape areas and streetlighting elsewhere. The costs associated with the original limits was anticipated. The additional project limits and associated costs will need to be looked into for additional funding. Following the cost estimate, Mr. Kerr opened up the meeting to questions or comments.

Advisory Committee comments:

- Michael Land, Alderman Moore's Office, asked about the possibility of streetscape pavers in the one to two blocks from Oakley to Bell. Mr. Kerr noted that there are mature trees in that area that will not be removed, but the project team will look into ways to incorporate pavers.
- A discussion took place about the northeast corner of Ridge and Howard and the need for it to be reorganized, as it is currently cluttered. Mr. Kerr noted that the project team will reorganize that corner and is planning to move the fire hydrant.
- The Committee discussed the need to coordinate with the Department of Streets and Sanitation on the Chicago side to determine who will maintain new trash cans. Many times the owner needs to empty these. Mr. Kerr confirmed that the project team will coordinate with the Department and with landowners. The trash cans will not be placed in locations where they will not be maintained.

Project Funding

Mr. Nagar reviewed project funding for Phase 1, Phase 2 and Phase 3 of the project. As Phase 2 and Phase 3 require 30% to be locally funded, Mr. Nagar will coordinate a meeting with CDOT to review funding. In order to begin letting in January or February, Mr. Nagar emphasized the need for coordination in October.

Next Steps

Mr. Kerr discussed the project timeline, noting that construction is anticipated to take place in 2019 and will last an entire construction season. Mr. Nagar confirmed that there will supervision throughout the construction process by a consultant to the City of Evanston. There will also be stakeholder meetings throughout Phase 2 and Phase 3. Mr. Kerr explained that the City has more control over this street than a state route since it is in the City's jurisdiction, referencing the current construction on Asbury.

Advisory Committee comments:

- Frank Karkazis, DDS, noted that he was on Howard during the original streetscape project. The construction was an inconvenience but did not have a detrimental impact on businesses or residents on the corridor.
- Michael David, M&M Power King, referenced the lower support for lane reduction in the first public meeting. He explained that this may be due to the construction and traffic on Chicago when bike lanes were added. He also requested that the City be stricter on lane reduction during construction. People constantly drive around the signs and cones into the construction area and sometimes it is not well marked.
- Mr. Karkazis asked if the project will include longer traffic signal times. Mr. Kerr confirmed that part of the improvements will be optimizing the signal times. Mr. Karkazis asked if the timing at Clark could also be reviewed. Mr. Kerr noted that while not in the project area, they would review the signal timing at Clark.
- A discussion took place regarding the final streetscape design. Mr. Kerr confirmed that all current pavers will be reset. They cost approximately $15/sq. ft. Additionally, the trees which are added on the Chicago side will be trimmed by the Bureau of Forestry but the business owners may need to complete weeding and other maintenance.
- Cynthia Ryan, Rogers Park Business Alliance, asked how long construction will take. Mr. Kerr responded that it will be one construction season, April through October, 2019.

The project team thanked the Advisory Committee for their time and input and noted that they will provide project updates as Phase 2 and Phase 3 progress.

TAB 7

Howard Street Corridor Improvement Project
Public Meeting 1 Summary

The City of Evanston Public Works Agency, in collaboration with the City of Chicago Department of Transportation, hosted the first public meeting for the Howard Street Corridor Improvement Project on Wednesday August 2, 2017. The meeting took place from 7:00-9:00 p.m. at the Levy Senior Center, 300 Dodge Ave, Evanston, IL 60202.

Eight members of the project team were present to review the project with attendees and receive input. These team members represented the City of Evanston, the Chicago Department of Transportation, Christopher B. Burke Engineering, Sam Schwartz Engineering, Altamanu and Metro Strategies. Three aldermen from the wards encompassing the study area co-hosted the meeting and were present to speak with constituents. Approximately 53 corridor residents, business owners, and other stakeholders attended the meeting. When asked how the attendees heard about the meeting, the majority of responses were evenly split between the notification flyer, email, and aldermanic notices. A few other attendees heard about the meeting through work, their landlord or a community group.

Project Team Attendance
Sat Nagar, City of Evanston, Public Works Agency
Lara Biggs, City of Evanston, Public Works Agency
Lubica Benak, Chicago Department of Transportation
Mike Kerr, Christopher B. Burke Engineering
Bobby Gunnells, Christopher B. Burke Engineering
Jeff Househ, Christopher B. Burke Engineering
Kelly Conolly, Sam Schwartz Engineering
Phil Hutchison, Altamanu
Lissa Domoracki, Metro Strategies
Lilliane Webb, Metro Strategies

Advisory Committee Attendance
Alderman Rainey, 8th Ward Evanston
Alderman Moore, 49th Ward Chicago
Alderman Silverstein, 50th Ward Chicago
Michael Land, 49th Ward Chicago
Cynthia Ryan, Rogers Park Business Alliance
Michael David, M&M Power King

Upon entering the room, meeting attendees were asked to sign in and were offered a project fact sheet and comment form. Attendees were then invited to review the project exhibit boards. Project team members were present to discuss the boards in greater detail and answer any questions.

Exhibit boards occupied one-half of the meeting room. The other half of the meeting room included rows of chairs (approximately 65) facing a screen. Food and beverages were available.

Exhibit Boards
Existing Traffic Volumes (2 boards)
Pedestrian Zone Analysis
Existing Pedestrian/Bicycle Volumes (2 boards)
Initial Alternatives Cross Sections
Aerial of existing conditions and proposed improvements for entire corridor (4 boards)

Attendees were then invited to the other section of the meeting room for a brief presentation. Lara Biggs, City of Evanston, welcomed the group and introduced Alderman Rainey, Evanston 8th Ward. Alderman Rainey also welcomed attendees and introduced the two aldermen from Chicago, Alderman Joe Moore, 49th Ward, and Alderman Silverstein, 50th Ward, who each provided remarks and emphasized the importance of this project and the public's input. Sat Nagar, City of Evanston, began the presentation by reviewing the project background, funding, goals and providing an overview of the Advisory Committee. Mike Kerr, Christopher B. Burke Engineering, then presented the existing conditions, typical sections of the initial alternatives, pedestrian improvements and streetscape improvements.

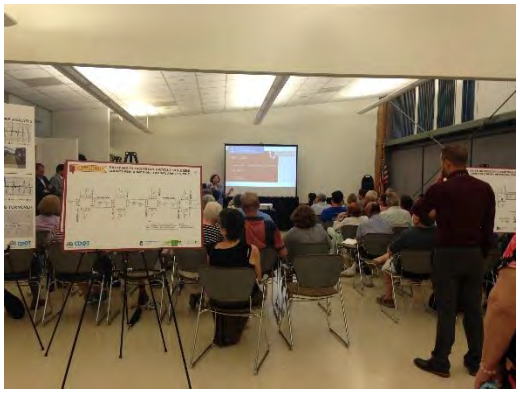
Following the presentation, a brief question and answer period took place. These questions are included below. Attendees were then invited to review the exhibit boards in more detail, provide input to project team members, and complete comment forms. Twenty attendees submitted comment forms at the meeting.

Public Questions, Comments and Answers:

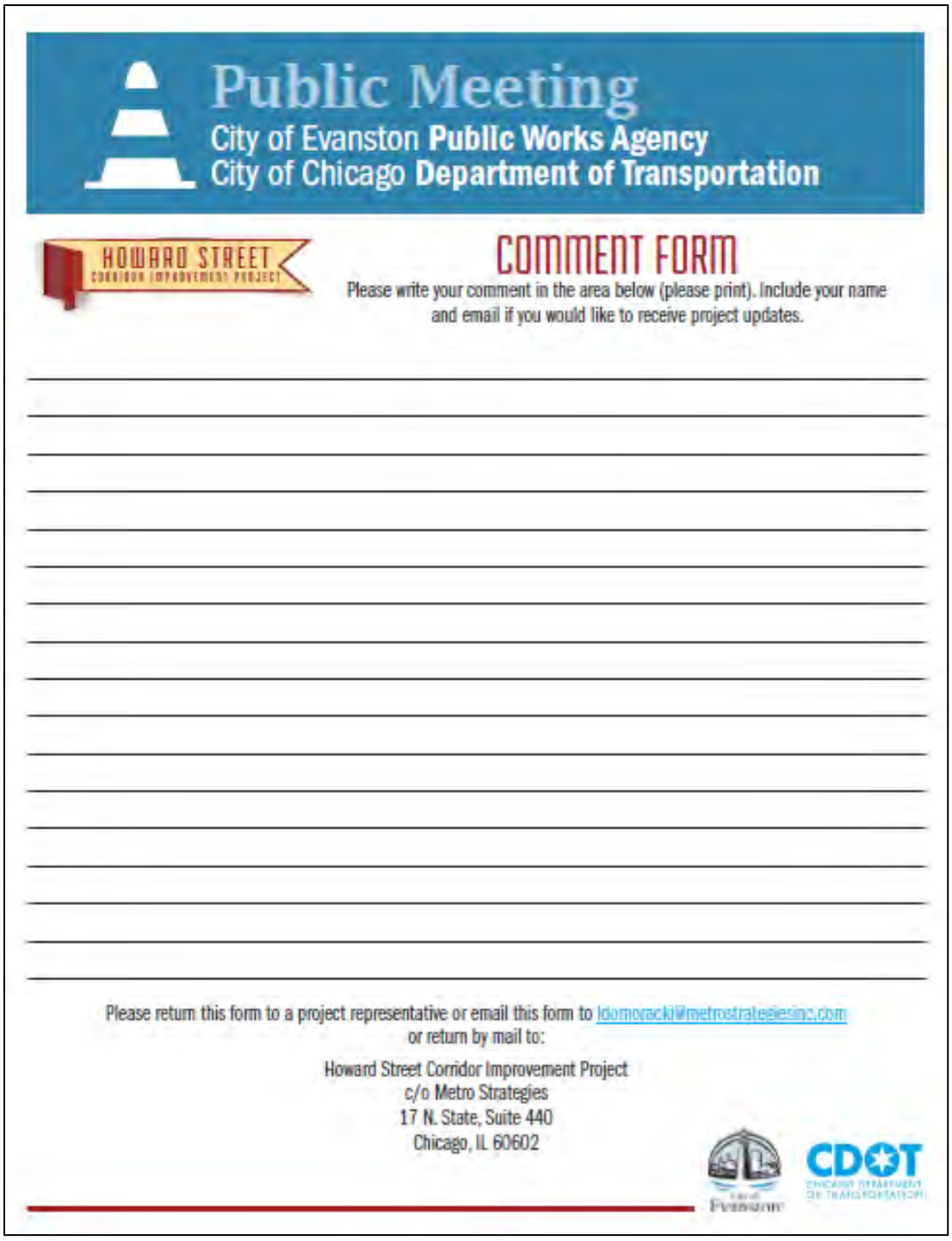
1. What signs will be added around pedestrian crosswalks? Does that include flashing lights?
    - *Standard signage will be added per the MUTCD. Flashing beacons will be evaluated once guidance on use is published.*
2. Can you describe "street furniture"? Will there be benches?
    - *These include trash cans, lights, and yes – benches.*
3. Will there be bus shelters?
    - *No, there will not be new bus shelters, unless CTA expresses an interest. They are evaluating all stop locations.*
4. Who will maintain planters and trees?
    - *The City of Evanston on the Evanston side and the City of Chicago on the Chicago side.*
5. Are lights designed to preserve dark sky as much as possible?
    - *The City of Evanston is currently completing a light study separately. It is a consideration.*
6. Is there anything you can do about the individual in the wheelchair at Western?
    - *That is something the Police Department is handling.*
7. Who is representing the Fire and Police Department?
    - *We will pass on any comments to them.*
8. Will there be any drainage improvements?
    - *Yes, there is a geotechnical investigation happening now. Infiltration solutions will be investigated.*
9. Why are you reducing the lanes of traffic to one? It's hard to get through that area right now.
    - *Cars tend to speed in that area, and there is one lane to the west and east. So removing a lane would make the one lane continuous.*
10. (Follow up to #10) That lane is also a right turn lane for McDonald's and other businesses, so drivers are also speeding around others to turn.
    - *We are leaving the existing condition as an alternative. So please tell us if that is what you want.*
11. Howard is the go-to street to get from the eastern side of Evanston/Rogers Park to McCormick. Other streets like Touhy are very slow, so I request for Howard lanes not to be further restricted.
    - *We will look at the travel time with the elimination of the lane and share the results at our next meeting.*
12. If Howard is so attractive that it increases traffic, I would vote for reducing a lane to make it less appealing. The traffic would then be deterred from Howard. Who will decide if the travel time from losing a lane is acceptable?
    - *It will be brought back to the Advisory Committee and the public.*
13. Is there a plan for more garbage cans? People waiting for and getting off of buses leave a lot of trash on the street.
    - *Garbage cans can be street furniture additions (additional note to reach out to alderman for new garbage cans).*
14. I take the 201 bus a lot and the St. Francis bus stop is no longer at the St. Francis entrance. The bus still stops at the old entrance. There are many disabled people who need to access St. Francis and the bus stop should be at the actual corner of the entrance.
    - *That is great feedback, and there is a representative here from CTA tonight.*

15. Does anyone know how much bike lanes are being used? I think bike usage is far less than anticipated.
    - *CDOT has some of those counts, and we can look into that.*
16. Are the locations of Divvy stations factored into the design?
    - *Yes, the current locations are being factored in, and CDOT has ridership data to determine how many stations are needed. Divvy stations also encourage biking, and we want people to be encouraged to ride in safe areas. Therefore the final plans may influence Divvy station placement.*
17. Is Phase 1 100% funded? How much will be from Evanston?
    - *Yes, Phase I is fully funded and is about $300,000 from Evanston. For Phase I and II, local contribution is 30% and approximately $90,000 each.*
18. Should we be paying for this when there are other priorities in the ward?
    - *(Alderman note) This is not from the Alderman's infrastructure budget.*
19. What is the total cost of the project?
    - *We have a rough estimate but do not have the final cost.*
20. Has there been any publicity to notify the public this is being considered prior to spending money for the study?
    - *(Alderman note) This has been publicized for a few months.*
21. With financial problems of city, is the project necessary?
    - *(Alderman note) This is our only opportunity. Infrastructure becomes more costly the further deteriorated it gets. The council voted unanimously to move forward with this project.*
22. There will be thousands of rats if the Burger King building is torn down.
23. The bike lanes at Dodge/Howard, with dashed lanes, creates confusion on where cars should be driving and turning. Can there be signs?
    - *We will talk to the City sign representatives.*

Meeting Photos



Materials Provided at Meeting



Public Meeting

City of Evanston **Public Works Agency**
City of Chicago **Department of Transportation**

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

COMMENT FORM

Please write your comment in the area below (please print). Include your name and email if you would like to receive project updates.

Please return this form to a project representative or email this form to ldomoracki@metrostrategiesinc.com or return by mail to:

Howard Street Corridor Improvement Project
c/o Metro Strategies
17 N. State, Suite 440
Chicago, IL 60602

Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Public Meeting

City of Evanston **Public Works Agency**
City of Chicago **Department of Transportation**

The City of Evanston and the Chicago Department of Transportation (CDOT) welcomes you to this Public Meeting concerning the proposed improvements to **HOWARD STREET** from Hartrey Avenue/Sacramento Avenue to Callan Avenue/Winchester Avenue..

PROJECT OVERVIEW

- Improve pedestrian mobility, safety and access
- Review corridor with regards to complete streets policy
- Improve transit operations and infrastructure
- Improve intersection safety and operations by upgrading and interconnecting traffic signals
- Improve vehicle mobility through corridor
- Upgrade utilities along corridor
- Incorporate streetscape elements, such as sidewalk improvements, street furniture, trees and lighting

A Howard Street Corridor Improvement Plan will be developed as part of the Phase I portion of this project. The public will have opportunities to provide input throughout 2017, as outlined:

2017 - PHASE 1
Public and Stakeholder Outreach, Analysis and Concept Design
- Advisory Committee Meeting #1
- Advisory Committee Meeting #2
- Public Meetings
- Advisory Committee Meeting #3

2018 - PHASE 2
Completion of Construction Plans, Specifications and Cost Estimates

2019 - PHASE 3
Construction

2016 — STP GRANT

2017 — PHASE I
- Preliminary Engineering & Project Development Report

2018 — PHASE II
- Contract Plan Preparation

2019 — PHASE III
- Construction

FUNDING AVAILABILITY

This project will be funded with Surface Transportation Program (STP) funding through the The North Shore Council of Mayors with required matching funds provided by the Village.

QUESTIONS AND COMMENTS

Written questions and comments may be submitted during or after this Public Meeting: **Mr. Sat Nagar, PE,** Senior Project Manager at 847-448-4311 or snagar@cityofevanston.org

City of Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheets

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 2, 2017 – Levy Senior Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Cynthia Matias	1723 Howard St	cynthia.matias@achnnet	Alderman
Dan Joseph	1510 Greenwood	HOLYMOOSES@SBCGLOBAL.NET	PLANNING
Sandi Price	Rogers Park Bus Alliance	SPRICE@RPBA.ORG	49TH WARD
Lorraine Dostal	Theo Ubique Theatre	ld1446ch@hotmail.com	email
Joe & Linda Piotrowicz	7351 N. Hoyne	JPIOTROWICZ@att.net	e-mail
Rika Soodek	1328 Dobson	rikasoodek@icloud.com	Flyer
Janet Cyrwus	1110 Dobson	janetc847@earthlink.net	flyer
Fred Wittenberg	1726 S. Blvd.	envimech@ameritech.net	email
John Slagle	7442 N. Claremont 3	JohnSlagle84@gmail	flier
Anne Van Heukelem	1126 Dobson	anna.vanheukelem@gmail.com	google group
Dick Lanyon	1019 Mulford	dicklanyon@sbcglobal.net	8th ward notice
Susan Allen	1035 Dobson	Allen.Greg at SBCGlobal	Alderman
Greg Allen	1035 Dobson	allen.greg@sbcglobal.net	
Claire Kittelkamp	1126 Brummel St	c.kittelkamp@kittelkamp2.com	Alderman & DBBR Message Bd.
Al Goldberg	606 Mulford	al-goldberg@mac.com	e mail
Maria Ynot	101 Dewey	mariaynot66@gmail.com	landlord
Erv Chocol	1020 Cleveland	ECHOCOLTW@AOL.COM	email

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston | CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 2, 2017 – Levy Senior Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Walt Carrington	1215 Dobson		alderman
RACHEL FOWLER	305 ASHLAND		
Evelyn Diaz	1723 Howard St.	Evelyn.diaz@achn.net	Alderman Rainey.
Valerie Haas	1204 Harvard Terr	valerie@sbcglobal.net	an Rainey
Kathlyn Myers	7345 N. Ridge	ksm5941us@gmail.com	Flyer/Joe Moore
Benita Coffey, OSB	7430 N. Ridge Chgo.	bcoffey@osbchicago	email "
LUBICA BENAK	CDOT	lubica.benak@cityofchicago.org	
Michael David	1201 Howard St	[illegible]@gmail.com	[illegible]
CONNIE USELMAN	148 CLYDE 1E	cluselman@att.net	8th Ward Msg Board
Molly OBrien	1022 Brummel	mk-boardman@yahoo.com	neighborhood email list
Lois Hedman	1100 Dobson	l-hedman@northwestern.edu	flyer
IRIS TAUSEND	1316 W. FARGO		
John geier	2311 W. Birchwood		flyer
Dan Van Henkelem	1126 DOBSON, Ev	danvanenterprise@sbcglobal.net	flyer
Matt Simonette	Evanston RoundTable	matt.simonette@gmail.com	Flyer
KAREN Allen	49th WARD	Karen.A.Allen@SBCGLOBAL.NET	49th WARD
RONALD WATSON	116 RIDGE	MANDALAY@ATT.NET	

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 2, 2017 – Levy Senior Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Christina Kirby	2731 W. HOWARD	christinakirby@att.net	flyer/business
Leona Reyna	7109 N Claremont Chicago	leonagrupa@gmail.com	flyer
LENICE LEVY	711 HOWARD	info@goodtogorestaurant.com	Email
Christie Norrick	1913 W Estes Ave Chicago	christie.norrick@gmail.com	Joe Moore
TINA PADEN	1122 EMERSON	PADENPROPERTIES@HOTMAIL.COM	CITY OF EVANSTON SITE
Marilyn Hickey	7067 N. Ridge Blvd	mwhickey@yahoo.com	Joe Moore
Sue Hespos	1409 Dobson St	hespos@gmail.com	email
Bennett Johnson	708 Washington St	embcine@aol.com	
Barbara Miller	Go Evanston	bjaemiller@gmail.com	email

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 2, 2017 – Levy Senior Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Hirabhai M. Patel	2925 W. Howard St	hpatel2925@yahoo.com	Flier
Penny Rotheiser	1717 Dobson St.		email from city
Jan Sullivan	2210 W Mase Chgo 60645	jansllvn29@gmail.com	email cities
Cynthia Ryan	RPBA	cryan@rpba.org	email
Jason Meter	CTA	jmeter@transitchicago.com	work
RAFAEL CASTELLANOS	RESIDENT	RAFAELCASTELLANOS@HOTMAIL.COM	CITY WEBSITE

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 2, 2017 – Levy Senior Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Diane Lotka Baker	1411 Brummel	lotko1411@hotmail.com	8th Ward email
Yvette Jordan-Granberry	7411 No. Winchester, Ch°	yighoose@gmail.com	Email + flyers
George Lytle	1418 Pitner		

Public Meeting

City of Evanston **Public Works Agency**
City of Chicago **Department of Transportation**

Howard Street Corridor Improvement Project
Public Meeting 2 Summary

The City of Evanston Public Works Agency, in collaboration with the City of Chicago Department of Transportation, hosted the second public meeting for the Howard Street Corridor Improvement Project on Monday August 28, 2017. The meeting took place from 7:00-9:00 p.m. at the St. Margaret Mary Activity Center, 7341 N Claremont Ave, Chicago, IL 60645.

Ten members of the project team were present to review the project with attendees and receive input. These team members represented the City of Evanston, the Chicago Department of Transportation, Christopher B. Burke Engineering, Sam Schwartz Engineering, Altamanu and Metro Strategies. Three aldermen from the wards encompassing the study area co-hosted the meeting and were present to speak with constituents. Approximately 61 corridor residents, business owners, and other stakeholders attended the meeting. When asked how the attendees heard about the meeting, the majority of responses were evenly split between the notification flyer, email and aldermanic newsletters. A few other attendees heard about the meeting through their neighbors, the internet, or Twitter.

Before entering the gymnasium, meeting attendees were asked to sign in and were offered a project fact sheet and comment form. Attendees were then invited to review the project exhibit boards. Project team members were present to discuss the boards in greater detail and answer any questions.

Exhibit boards occupied one-half of the meeting room. The other half of the meeting room included rows of chairs (approximately 90) facing a screen. Food and beverages were available.

<u>Exhibit Boards</u>
Existing Traffic Volumes (2 boards)
Accident Summary
Pedestrian Zone Analysis
Existing Pedestrian/Bicycle Volumes (2 boards)
Initial Alternatives Cross Sections
Aerial of existing conditions and proposed improvements for entire corridor (4 boards)

Attendees were then invited to the other section of the meeting room for a brief presentation. Alderman Silverstein, Chicago - 50th Ward, welcomed and thanked the attendees for joining the meeting. Alderman Moore, Chicago - 49th Ward, also thanked attendees and provided an update on the status of the closed Burger King at 1763 W. Howard. Alderman Rainey, Evanston - 8th Ward, also welcomed the meeting attendees.

Sat Nagar, City of Evanston, began the presentation by reviewing the need for the project, project background, funding, and providing an overview of the Advisory Committee and additional stakeholder

coordination. Mike Kerr, Christopher B. Burke Engineering, then presented the existing conditions, accidents summary, typical sections of the initial alternatives, pedestrian improvements and streetscape improvements.

Following the presentation, a brief question and answer period took place. These questions are included below. Attendees were then invited to review the exhibit boards in more detail, provide input to project team members, and complete comment forms. Seven attendees submitted comment forms at the meeting.

Project Team Attendance
Sat Nagar, City of Evanston, Public Works Agency
Dave Stoneback, City of Evanston, Public Works Agency
Mali Samadi, Chicago Department of Transportation
Mike Kerr, Christopher B. Burke Engineering
Martin Michalowicz, Christopher B. Burke Engineering
Jeff Househ, Christopher B. Burke Engineering
Stacey Meekins, Sam Schwartz Engineering
Phil Hutchinson, Altamanu
Lissa Domoracki, Metro Strategies
Seema Wadia, Metro Strategies

Advisory Committee Attendance
Alderman Moore, 49th Ward Chicago
Alderman Silverstein, 50th Ward Chicago
Alderman Rainey, 8th Ward Evanston
Michael Land, 49th Ward Chicago

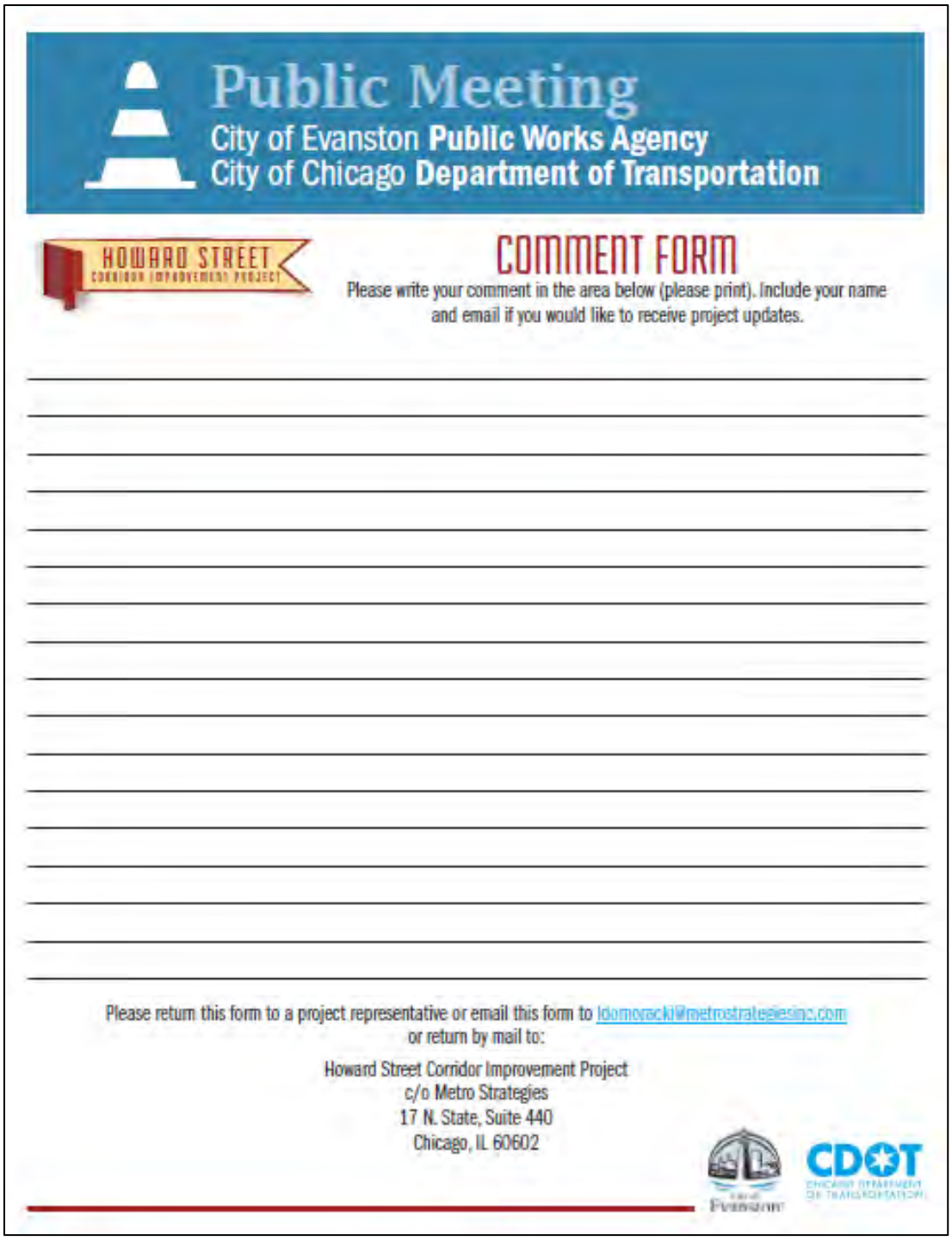
Public Questions, Comments and Responses:

1. Thank you for all of the work you have done. I would like to address the current speed limit. If the goal is traffic calming and making Howard a destination, we don't want a 30 mph speed limit but a 25 mph speed limit. Now it is 30 mph and there are no signs. I am hoping that 25 mph can be part of the project. When Dodge was reduced to 25 mph, it was success. Most cars go 25 mph. In Chicago, on Ridge, it is 25 mph, and it is great.
2. I like redirecting one lane of traffic into a buffer or a bike lane. There are both CTA and Pace buses on Howard. Have you talked to both CTA and Pace?
    - *Yes, we have coordinated with both agencies and a CTA representative is here tonight.*
3. Have you considered an alternative with a bike lane and curb?
    - *We have, but there is not enough room.*
4. When would actual construction begin and how long would it be?
    - *We anticipate spring 2019, and it will be one construction season.*
5. Have you given any thought to safety and lighting? You could have those lights that point both up and down?
    - *Yes, the streetscape section will have both pedestrian level lighting and road lighting. We have not yet confirmed the rest of the corridor.*

6. This sounds similar to what was done on Lawrence. I appreciate your focus between Western and Ridge, because I agree that is the most dangerous spot.
7. What incentives are you going to do for businesses?
    - *Both the City and Evanston are trying to get businesses here. This is the first step.*
    - *With roadway/streetscaping improvements, we are hoping more businesses will be attracted to this site.*
8. (Follow-up to #7) In Andersonville, businesses moved in first then it was beautified. It may be a good idea to approach Andersonville businesses who cannot afford to be in the area anymore.
9. I agree. I live on Oakley and Howard. Is there any coordination between Evanston and the City (of Chicago) for safety and economic development?
    - *(Alderman note) They go hand-in-hand, economic development and streetscape, similar to Morse Ave. But for the streetscape comment, having a more pedestrian-friendly street does create a more hospitable environment.*
10. Regarding the Burger King, it's a mess. Who is responsible for the trash? No one is doing anything.
    - *(Alderman note) There is a Ward Superintendent there weekly. It's a constant problem. We have fined him constantly. Everyone should attend the meeting on September 18th. There have been interested developers, but then they back away. Hopefully, we will have a deal in.*
11. (Follow-up to #10) Who is allowing parking on the site?
    - *(Alderman note) The owner.*
12. Are you going to bump out the sidewalk at crosswalks? And if so, will the side streets be one-way?
    - *Yes, we are considering bump outs. No, we are not planning to change the directions of the side streets.*
13. I'd like to say thank you. I'm happy to see the crosswalks and the turn signals.

Meeting Photos

Materials Provided at Meeting



Public Meeting

City of Evanston **Public Works Agency**
City of Chicago **Department of Transportation**

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

COMMENT FORM

Please write your comment in the area below (please print). Include your name and email if you would like to receive project updates.

Please return this form to a project representative or email this form to ldomoracki@metrostrategiesinc.com or return by mail to:

Howard Street Corridor Improvement Project
c/o Metro Strategies
17 N. State, Suite 440
Chicago, IL 60602

Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Public Meeting

City of Evanston **Public Works Agency**
City of Chicago **Department of Transportation**

The City of Evanston and the Chicago Department of Transportation (CDOT) welcomes you to this Public Meeting concerning the proposed improvements to **HOWARD STREET** from Hartrey Avenue/Sacramento Avenue to Callan Avenue/Winchester Avenue..

PROJECT OVERVIEW

- Improve pedestrian mobility, safety and access
- Review corridor with regards to complete streets policy
- Improve transit operations and infrastructure
- Improve intersection safety and operations by upgrading and interconnecting traffic signals
- Improve vehicle mobility through corridor
- Upgrade utilities along corridor
- Incorporate streetscape elements, such as sidewalk improvements, street furniture, trees and lighting

A Howard Street Corridor Improvement Plan will be developed as part of the Phase I portion of this project. The public will have opportunities to provide input throughout 2017, as outlined:

2017 - PHASE 1
Public and Stakeholder Outreach, Analysis and Concept Design
- Advisory Committee Meeting #1
- Advisory Committee Meeting #2
- Public Meetings
- Advisory Committee Meeting #3

2018 - PHASE 2
Completion of Construction Plans, Specifications and Cost Estimates

2019 - PHASE 3
Construction

2016 — STP GRANT

2017 — PHASE I
- Preliminary Engineering & Project Development Report

2018 — PHASE II
- Contract Plan Preparation

2019 — PHASE III
- Construction

FUNDING AVAILABILITY

This project will be funded with Surface Transportation Program (STP) funding through the The North Shore Council of Mayors with required matching funds provided by the Village.

QUESTIONS AND COMMENTS

Written questions and comments may be submitted during or after this Public Meeting: **Mr. Sat Nagar, PE,** Senior Project Manager at 847-448-4311 or snagar@cityofevanston.org

City of Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT
CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 28, 2017 – St. Margaret Mary's Activity Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Monica Kochis	7331 N Oakley	NONE	Flyer on my porch
Pam Davis	2009 W Chase	pamelafdavis427@gmail.com	
Barry Weintraub	128 Asbury, Evanston	bmwevanston@gmail	chicago flyer
STEVEN LOME	7549 N OAKLEY	swlome2020@gmail	FLYER
CHRISTOPHER RUTT	7231 N. CLAREMONT	CHRISTOPHERRUTT@SBCGLOBAL.NET	" "
JON DAVIS	2009W. CHASE AV., #2	JONDAVIS@RCN.COM	EMAIL
CAROLE ANN Kelly	7551 N. Oakley		neighbor
Clare Lane	1104 Dobson, Ev	clarelane1@yahoo.com	Flyer
Mike KNEAFSEY	2219 Estes	MKNEAFSEY@ATT.NET	
John Kane	2050 Fairmont		E-mail
Helen Murtaugh	7106 N. Ridge Blvd.	fnuffe@earthlink.net	neighbor
Rhonda Frymark	2313 W. Birchwood		signage
DAN FIFAREK	2218 W FARGO AVE	DFIFAREK@SBCGLOBAL.NET	FLYER

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 28, 2017 – St. Margaret Mary's Activity Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Dan Joseph	1510 Greenwood	HOLYMOOSES@SBCGLOBAL.NET	INTERNET
Israel Wright	7550 Claremont	isaiahwhite@yahoo.com	Sign
Mal Samadi	CDOT		MS
Dale McCord	7502 N. Ridge of the Chicago Loyola	None	[illegible]
Eileen O'Gorman		eo2016@gmail.com	editor
Janice Steward	7542 N. Oakley	JANICES131@AOL.com	LTR LEFT @ DOOR
Roger Hartley	2521 W. Coyle	———	FRIEND -
Michele Hays	712 Dobson St (Evanston)	hays.mhays@gmail.com	8th Ward Alderman, Evanston
Eileen Lowery	1502 Mulford St (Evanston)	eimmouse@aol.com	8th Ward Evanston
Lorrie Wiltgen	7434 N. Claremont	———	-Sign on door.-
michelle peterson	824 Dobson		
Sharon Phillips	7340 N Oakley Ave	sphillips.7340@gmail.com	sign & email
Maury Collins	7535 N. Washtenaw	maurycollins@sbcglobal.net	email
John Schermerhorn	1640 W. Estes	Johnschrm@Ameritech.net	email
Loula economos	6709 N. Rockwell	loulaecon@yahoo.com	email
Monique Baumel	7554 N. Oakley Ave	moniqueduran999@hotmail.com	
Jason Meter	CTA	jmeter@transitchicago.com	work.

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 28, 2017 – St. Margaret Mary's Activity Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Shannon Fleming	7357 N. Hoyne		Alderman E-Mail
Ann Fleming	" " "		" "
Jolene Gauthier	7538 N. Oakley		Email
Jacqueline Gauthier	7538 N. Oakley		Door info
~~Michelle Peters~~	~~824 Dobson~~		
Gretchen Neve	2639 W. Estes #3W	gretneve@aol.com	50th ward e-mail.
Elizabeth Kinney	1024 Brummel St.	ekg8mele sbcglobal.net	Flyer
Ryan Ruehle	Pace Suburban Bus	ryan.ruehle@pacebus.com	Flyer
Gary DeClark	133 Clyde Evanston	gdimes5@comcast.net	
Ann Rainey	1209 Hull	annrainey8@gmail.com	
Matt Rodgers	133 Clyde, Evanston	MATTRODGERS@AMERITECH.NET	
Lilian Khattar	7456 N. Clark	services@homewatchchicago.com	Email
Warren Phelps	7549 N Oakley	wrphelps25@gmail.com	
Mark Booczko	6620 N. Ashland, Unit 1	mbooczko57@gmail.com	twitter
Graziano Marcheschi	2855 W Birchwood	~~[illegible]~~ GRAZMAR@AOL.COM	Email
Dorron Katzin	2840 W. Jarvis #F	dolcatzin@gmail.com	EMAIL
Maureen Varallo	2220 Chase #105	MOV711@AOL.COM	Flyer

HOWARD STREET
CORRIDOR IMPROVEMENT PROJECT

City of Evanston

CDOT CHICAGO DEPARTMENT OF TRANSPORTATION

Sign In Sheet

Public Meeting

August 28, 2017 – St. Margaret Mary's Activity Center

Name (Please Print)	Street Address or Community Organization	Email Address	How did you hear about this meeting?
Michael C Rowley		Rowleymountain42@hotmail.com	neighborhood
[illegible]		[illegible]	
Ken Zommer		kzommer3315@gmail.com	Letter
Monty Williamson	2233 Howard "Fish Keg"		
Jennifer Kunde			email alert
Anthony Siragusa	6635 N Artesian	anthonysiragusa@sbcglobal.net	Email
Marilyn Upchurch	7236 N. Claremont	marilynupchurch@gmail	Notice
Carl Klein		CARLTKLEIN@COMCAST.NET	EMAIL
Thomas Klein	823 Michigan Avenue Evanston	thomasmklein@comcast.net	e-mail
James Smith	2220 W. [illegible]	JSmith.JS29@gmail	News Letter
MARY ANN WENZ	7061 N. DAMEN AVE	ashwoodshiatsu@att.net	
Cheryl Bye	7231 N Claremont	cherylbye@sbcglobal.net	email
Theresa Kevorkian	7424 N. Oakley	tdkevorkian@hotmail.com	poster
Thomas Simpson	2805 W. Lunt Apt 3E	ths907@northwestern.edu	email
John Geier	2311 W Birchwood	johnfgeier@hotmail.com	poster
Rev. Kim Shelton	Good News Community Church	RevKim27@gmail.com	

TAB 8

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Steve Larson
AT&T
1000 Commerce Drive, Floor 1
Oak Brook, IL 60523

email: g11629@att.com

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Mr. Larson:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

Enclosed is a map of the project limits. Please incorporate and/or identify your existing utilities via atlas or plans, and provide dimensions if necessary. Information that you provide will be incorporated in the project plans as they are developed.

Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 256 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Martha Gieras
Comcast
688 Industrial Drive
Elmhurst, IL 60126

Email: Martha_gieras@cable.comcast.com

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Ms. Gieras:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Terri Bleck
ComEd
1500 Franklin Blvd.
Libertyville, IL 60048

Email: Terri.Bleck@comed.com

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Ms. Bleck:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Fiber Dig Team
Crown Castle
2000 Corporate Drive
Canonsburg, Pennsylvania, 15317

email: fiber.dig@crowncastle.com

CBBEL PROJECT REFERENCE NO.:	160650
J.U.L.I.E. DIG TICKET NO.:	A-1033402
VILLAGE OR CITY:	Evanston
PROJECT LIMITS AND SCOPE:	Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Fiber Dig Team:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Haniff Munshi
Metropolitan Water Reclamation District
100 E. Erie Street
Chicago, IL 60611

Email: Hanif.Munshi@mwrd.org

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Mr. Munshi:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Bruce Koppang
Nicor Gas
1844 Ferry Road
Naperville, IL 60563

email: gasmaps@nicor.com

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Mr. Koppang:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

DESIGN STAGE REQUEST

CHRISTOPHER B. BURKE ENGINEERING, LTD
9575 West Higgins Rd.• Suite 600 • Rosemont, Illinois 60018-4920 • Tel (847) 823-0500 • FAX (847) 823-0520

April 14, 2017

Jim Burton
Sprint Nextel Corporation
Facility Engineering / OSP-East
5600 N. River Road, Suite 200
Rosemont, IL 60018

email: james.m.burton@sprint.com

CBBEL PROJECT REFERENCE NO.: 160650

J.U.L.I.E. DIG TICKET NO.: A-1033402

VILLAGE OR CITY: Evanston

PROJECT LIMITS AND SCOPE: Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of Dodge Avenue (a.k.a. N. California Avenue), continuing east approximately 5800' along Howard St. and terminating 300' east of Ridge Avenue (a.k.a. N. Damen Avenue). Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Dear Mr. Burton:

I, James Schmieder, on behalf of Christopher B. Burke Engineering, Ltd. (CBBEL), am requesting the location of your utilities that may be within the project limits as per J.U.L.I.E. Design Stage Request Dig Ticket No. A-1033402.

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Thank you for your assistance on this project. Please contact me at 847-823-0500, ext. 256 with any questions. Please send all correspondence to the address on the letterhead.

PLEASE INCLUDE CBBEL PROJECT REFERENCE NO. AND J.U.L.I.E. DIG TICKET NUMBER ON ALL CORRESPONDENCE.

Sincerely,

James T. Schmieder
Assistant CADD Manager

email: jschmieder@cbbel.com

City of Evanston™

GIS Data Request Form

Date: 4.14.2017

Name: JAMES T. SCHMIEDER

Organization: CHRISTOPHER B. BURKE ENGINEERING

Address: 9575 WEST HIGGINS ROAD

City, state, zip: ROSEMONT, IL. 60018

Phone: (847) 823-0500 X-256

Email: jschmieder@cbbel.com

Reason for request: JULIE - ONE CALL SYSTEM FOR HOWARD STREET CORRIDOR IMPROVEMENT PROJECT.

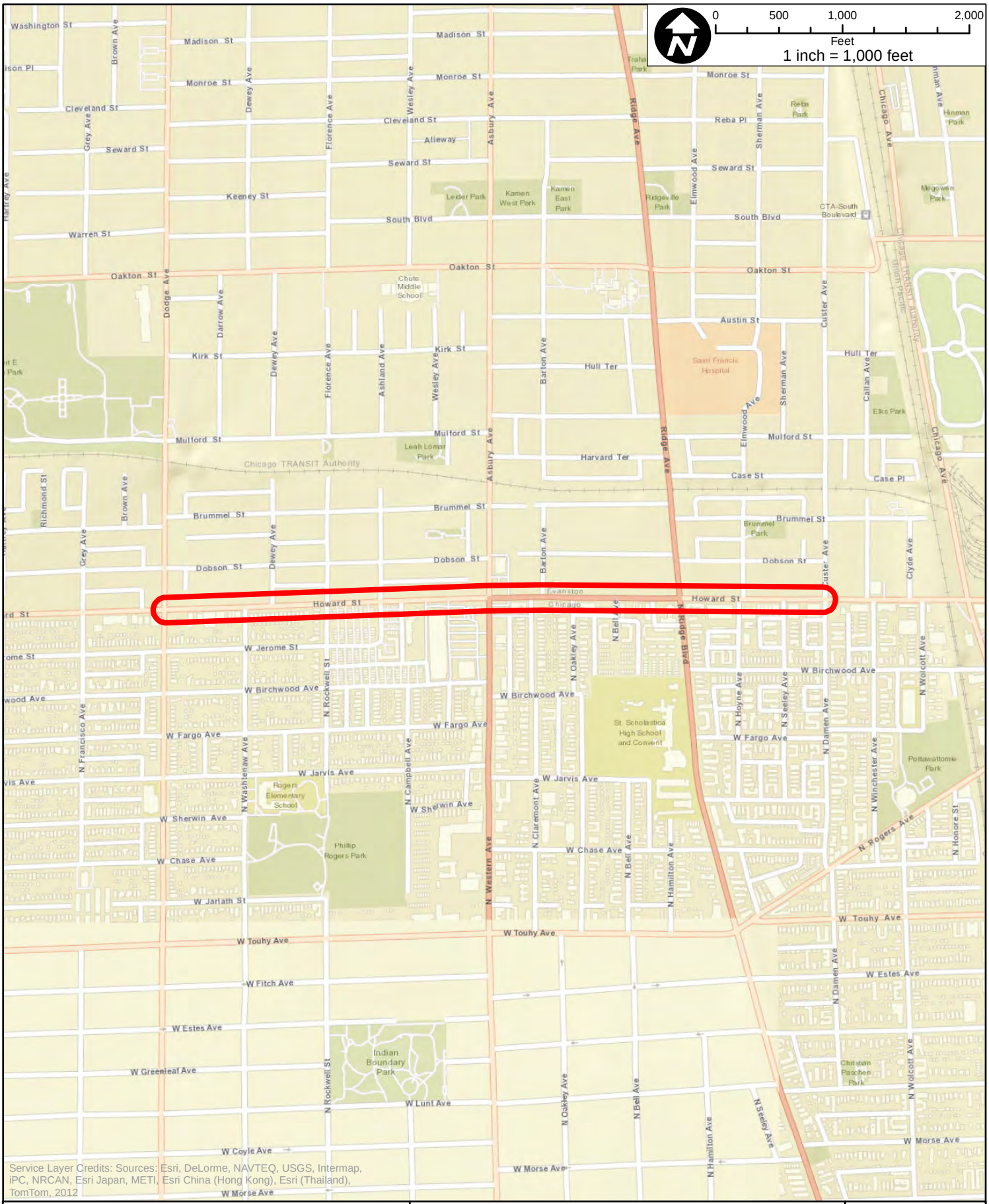
Description of data requested: EXISTING UTILITIES VIA ATLASES, PLANS AND G.I.S. DATA ALONG HOWARD STREET ± 300' N/S AT ALL INTERSECTIONS - (SEE ATTACHED MAP)

Terms of use

The undersigned acknowledges that Geographic Information System (GIS) data is subject to constant change and that no warranty expressed or implied is made regarding the accuracy of the GIS data. The act of distribution shall not constitute any warranty. GIS data is not to be used for commercial profit without written permission of the City of Evanston. The data received under this agreement shall only be used for the reasons stated above. This disclaimer applies both to individual use of the data and aggregate use with other data.

James T. Schmieder — CBBEL — 4.14.2017

Signature — Organization — Date



CLIENT: CITY OF EVANSTON

TITLE: HOWARD CORRIDOR PROECT LOCATION MAP

PROJ. NO. NUMBER
DATE: 2-27-2017
SHEET 1 OF 1
DRAWING NO. EXH

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600 · Rosemont, Illinois 60018 · (847) 823-0500

DSGN.			SCALE:	1:0
DWN.			AUTHOR:	MHAYES
CHKD.			PLOT DATE:	2/27/2017
FILE:	Howard Corridor Project Location Map			

Path: N:\EVANSTON_Data\Howard Corridor Project Location Map.mxd

James Schmieder

From: ATT CIVIC PROJECT ENG IL <g11629@att.com>
Sent: Monday, May 1, 2017 2:22 PM
To: James Schmieder
Subject: AT&T Facility Map Request JULIE Ticket # A1033402 / Howard (Dodge to Ridge), Evanston - Cook County
Attachments: ATT.Larson.pdf; CBBEL_HowardAndRidgeEvanston_60817.zip

Mr. Schmieder,

I have attached maps with the type of facilities AT&T has within your project location. AT&T does not have as-built drawings or atlases that we can provide with accurate locations of our facilities. If you include these facilities on your plans please note that they are SUE Quality Level D.

Once you have scalable plans available please forward to us so we may call in design locates and provide you with a SUE Quality Level B drawing.

An AT&T Ref # will be provided once AT&T receives the plans. Please include your Julie Ticket # A1033402 with your reply until we provide an AT&T reference #.

Mail all related plans to:
AT&T Legal Mandate Engineering
1000 Commerce Drive
Oak Brook, IL 60523

As always, call J.U.L.I.E. 48 hours prior to any digging.

Any questions or concerns, please contact me directly.

Kind Regards,

Donna Szpytek
Manager – OSP Planning & Engineering Design
AT&T Technology Operation, Construction & Engineering - MW

AT&T
1000 Commerce Drive, Oak Brook, Illinois 60523
Office 630.573.5530| | ds2674@att.com

MOBILIZING **YOUR** WORLD

From: James Schmieder [mailto:jschmieder@cbbel.com]
Sent: Friday, April 14, 2017 2:59 PM

COMCAST

May 1, 2017

Christopher B. Burke Engineering, LTD.
9575 West Higgins Rd, Suite 600
Rosemont, IL 60018
ATTN: James T. Schmieder

Re: Utility Request – Evanston, IL – Roadway Reconstruction on Howard St from Dodge Avenue to Ridge Avenue – Julie Dig No. A-1033402 – CBBEL Project No. 160650

Dear Mr. Schmieder:

Per your request for the above project, I have attached a copy of our utility information showing our existing Aerial cable, (marked in yellow on the maps) and our existing Underground cable, (marked in magenta on the maps) within the project limits and the surrounding area.

In the event that ComEd will need to relocate their power poles for this project, then we will relocate accordingly.

If you have any questions relevant to this information, please feel free to call.

Very truly yours,

Robert L. Schulter Jr.

Robert L. Schulter Jr.
Central Division Director of Construction

By:

Robert Stoll
Right-of-Way Engineer
(224) 229-5849

RECEIVED
MAY 04 2017
CHRISTOPHER B. BURKE ENGINEERING LTD.

Encl. drawings: (2) atlas maps

PHONE CONVERSATION LOG

DATE: 4-20-2017

PERSON (Contacted/Calling): DAVE ANTOL

AFFILIATION: CROWN CASTLE (FIBER DIG TEAM)

PHONE NUMBER: (888) 632-0931 x-2

CBBEL REPRESENTATIVE: JIM SCHMIEDER

PROJECT NAME: HOWARD STREET

PROJECT NUMBER: 160650

COPIES TO:

SUBJECT: VERIFICATION OF "CLEAR" STATUS CHANGE.

NOTES: I RECEIVED AN EMAIL STATING CROWN CASTLE WAS CLEAR OF OUR EXCAVATION SITE. SOMETIMES LOCATORS SEND THESE EMAILS REALIZING IT IS DESIGN NOT LOCATE.

I FOLLOWED UP W/ CROWN CASTLE & THEY HAVE FIBER RUNNING DOWN ASHLAND & CROSSING HOWARD STREET PER DAVE ANTOL.

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

PHONE CONVERSATION LOG

DATE: 5-11-17

PERSON (Contacted/Calling): DAVE ANTOL

AFFILIATION: CROWN CASTLE (FIBER DIG TEAM)

PHONE NUMBER: (888) 632-0931 X-2

CBBEL REPRESENTATIVE: JIM SCHMIEDER

PROJECT NAME: HOWARD STREET

PROJECT NUMBER: 160650

COPIES TO:

SUBJECT: FOLLOW UP

NOTES: CALLED DAVE TO SEE IF HE COULD PROVIDE A MORE ACCURATE LOCATION OF FIBER OPTIC FACILITIES.

DAVE IS CONTACTING ENGINEERING @ CROWN CASTLE & WILL EMAIL OVER MORE SPECIFIC INFORMATION.

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

James Schmieder

From: Antol, David <David.Antol@crowncastle.com>
Sent: Monday, May 15, 2017 1:29 PM
To: James Schmieder
Subject: FW: RE: IL7A1033402-AS BUILD Follow Up...
Attachments: Wrigley Section K Field Notes.pdf

From: Antol, David
Sent: Monday, May 15, 2017 2:26 PM
To: 'jschmieder@cbbel.com' <jschmieder@cbbel.com>
Subject: RE: IL7A1033402-AS BUILD Follow Up...

Good day, Jim.

Excuse the delay getting these prints back to you, the engineer/asset specialist said it took bit longer to find them than usual.

Attached are the fiber prints for this area. (W Howard St. in Cook, IL)

Hope these help, have a good week…

DAVID ANTOL
Utility Coordinator
(724) 416-2180

CROWN CASTLE
2000 Corporate Dr. I Canonsburg, PA 15317
Fiber.dig@crowncastle.com
This email may contain confidential or privileged material. Use or disclosure of it by anyone other than the recipient is unauthorized. If you are not an intended recipient, please delete this email.

James Schmieder

From: Tamason, Timothy N:(ComEd) <timothy.tamason@ComEd.com>
Sent: Wednesday, May 3, 2017 12:57 PM
To: James Schmieder
Cc: Bleck, Terri J:(ComEd)
Subject: ComEd Reply Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402 H18493SKO
Attachments: H18493SKO Evanston Howard St MR Reply.pdf; H18493SKO Evanston Howard St Maps.pdf; CECO Symbol Legend.PDF; Public Relocation Consultant Packet (all docs) Rev 2016-07-13.pdf

James,

I attached the maps you requested I hope this information will help you to determine the location of our facilities. It appears a majority of our facilities along Howard St are located in our Chicago North region your next reply and proposed plans should be submitted to Michelle Ho.

Sincerely Yours,
Tim

Tim Tamason
Public Relocation
Crystal Lake Office
5100 S. State Rt. 31
Crystal Lake, IL 60012
Phone: 815-477-5258

From: Bleck, Terri J:(ComEd)
Sent: Friday, April 14, 2017 3:16 PM
To: Tamason, Timothy N:(ComEd)
Subject: FW: Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402
Importance: High

Hi Tim,
MR…
Thank you,
Terri

From: James Schmieder [mailto:jschmieder@cbbel.com]
Sent: Friday, April 14, 2017 3:01 PM
To: Bleck, Terri J:(ComEd)
Subject: [EXTERNAL] Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402

Request and project site map are PDF attachments.
Thanks in advance for your help,

James T. Schmieder
Assistant CADD Manager
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 823-1029
E-Mail: jschmieder@cbbel.com

James Schmieder

From: Janusz, Kandice <KandiceJanusz@usicllc.com>
Sent: Monday, April 17, 2017 6:59 AM
To: Illinois Damage; James Schmieder
Subject: DESIGN STAGE TICKET# A1033402
Attachments: UG Locating Map Legend.pdf; 437-25N-UGL.pdf; 0040-N-UGL.pdf; 438-30N-UGL.pdf; 0041-N-UGL.pdf

Jim,

If your project is regarding new or renovation construction, supplied electrical voltage needs, or changes in current electrical demands, you must contact ComEd's New Business office at 1-866-NEW-ELEC (1-866-639-3532) to begin the process to complete your request.

If your project is for a publicly funded improvement project such as road widening, sewer, water, or other general public improvement, please call ComEd's Public Relocation Department at 630-437-4855.

ComEd has forwarded your JULIE Design Stage Ticket A1033402 - Evanston to our company to provide the attached prints as you requested. I have also attached a ComEd Legend relative to these prints. Note that since we are submitting this information for ComEd, you may need to contact ComEd directly to further develop your project.

It is very important to note that you must take additional steps if your project is for a new or revised electric service or for a publicly funded roadway improvement project

Have a Great Day & Keep it Safe.

Administrative Asst.
Phone : 630-396-8220
Fax: 630-396-8230

PROTECTING INFRASTRUCTURE

James Schmieder

From: Mark Varner <mvarner@cityofevanston.org>
Sent: Tuesday, May 2, 2017 12:15 PM
To: James Schmieder
Subject: Re: Howard Street
Attachments: UtilityDataForChristopherBurke-HowardSt2017.zip

James - sorry I didn't get to this last week. Here is a zipped up file geodatabase with our water & sewer utility info.

If you would like other basemap type data we now have an ArcGIS Open Data site at

http://data-evanston.opendata.arcgis.com/

Let me know if you have any questions.

Mark Varner

City of Evanston

Information Technology | GIS Analyst

Email or call 4311 to open a new IT Helpdesk request

847-448-8080 | mvarner@cityofevanston.org

On Mon, Apr 24, 2017 at 6:11 PM, Mark Varner <mvarner@cityofevanston.org> wrote:

> Hi James,
>
> I got your request and Dave Stoneback approved release of the data. I'm off the following 2 days but I will get you the data by the end of the week.
>
> Mark Varner
>
> City of Evanston
>
> Information Technology | GIS Analyst
>
> Email or call 4311 to open a new IT Helpdesk request
>
> 847-448-8080 | mvarner@cityofevanston.org
>
> On Fri, Apr 21, 2017 at 10:40 AM, James Schmieder <jschmieder@cbbel.com> wrote:
>
> > Just following up on my GIS request we spoke about last week, PDF attached just in case.

James Schmieder

From: Grzybowski, Thomas <GrzybowskiT@mwrd.org>
Sent: Monday, April 17, 2017 9:00 AM
To: James Schmieder
Cc: Grzybowski, Thomas
Subject: FW: JULIE MWRD0A 2017/04/13 #00062 A1033402-00A NORM NEW DSGN

HI Jim,

Our 3.0' diameter sanitary intercepting sewer begins at the intersection of Howard & Custer where it is only 6.0' below grade. There is an MWRD manhole present in the NW quadrant of the intersection. From that location, it travels northward under the middle of the southbound lane of Custer Ave.
Please contact us when you need to have the manhole cover lock removed for access. If the new grade of the road will be higher than the present grade, you will need to remove the frame and cover and install the correct "risers" on the barrel section of the manhole to bring it up to the level of the new grade.
If U would like a copy of the sewer plan and profile, please let me know.

Thanks,
T. Grzybowski
Sewer Maintenance, SWRP
708-588-3233

-----Original Message-----
From: Swies Christopher
Sent: Friday, April 14, 2017 9:07 AM
To: NSWRP_JULIE <NSWRP_JULIE@mwrd.org>
Subject: FW: JULIE MWRD0A 2017/04/13 #00062 A1033402-00A NORM NEW DSGN

-----Original Message-----
From: OCARS_Pro@Julie1Call.com [mailto:OCARS_Pro@Julie1Call.com]
Sent: Thursday, April 13, 2017 4:22 PM
To: JULIE <JULIE@mwrd.org>
Subject: JULIE MWRD0A 2017/04/13 #00062 A1033402-00A NORM NEW DSGN

MWRD0A 00062 JULIEa 04/13/17 16:22:29 A1033402-00A DESIGN

Dig No : A1033402 Rev : 00A Digstart: 10/13/17 16:13
Rcvd : 04/13/17 16:22 Priority: 2 Expires : 01/01/00 00:00
Org Dig: A1033402 Rcvd: 04/13/17 16:13

Firm : CHRISTOPHER BURKE ENGINEERING Caller: JIM SCHMIEDER
CoAddr1: 9575 W. HIGGINS RD., STE. 600
City,St: ROSEMONT, IL Zip : 60018
Phone : 847-823-0500 Ext : Fax: 847-823-0520
Call Bk: Done For : CITY OF EVANSTON
SiteCnt: SAME AS ABOVE
Email : JSCHMIEDER@CBBEL.COM

From: Munshi, Hanif
To: James Schmieder
Subject: RE: Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402
Date: Monday, April 17, 2017 8:43:00 AM
Attachments: 027_25.tiff
036_33.tiff
18_SD17.tiff

Mr. Schmieder, attached drawings of our facilities for your information and use. Please let me know if you require additional information. Thanks.

From: James Schmieder [mailto:jschmieder@cbbel.com]
Sent: Friday, April 14, 2017 3:03 PM
To: Munshi, Hanif <MunshiM@mwrd.org>
Subject: Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402

Request and project site map are PDF attachments.
Thanks in advance for your help,

James T. Schmieder
Assistant CADD Manager
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 823-1029
E-Mail: jschmieder@cbbel.com

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James Schmieder

From: Koppang, Bruce A. <BKoppan@southernco.com> on behalf of gasmaps <gasmaps@aglresources.com>
Sent: Thursday, May 18, 2017 10:23 PM
To: James Schmieder
Subject: JULIE A1033402; Eng. # M9588
Attachments: m9588 1116304.pdf; m9588 1116302.pdf; m9588 1116301.pdf; m9588 1115252.pdf; m9588 1115251.pdf

Sensitivity: Confidential

Your project has been assigned Engineering #M9588. Please refer to this number in all future correspondence to assist with expediting any future inquiry.

Details are shown in noted 'boxes'. These details will be provided upon specific request through email if needed. The box title noted on the bottom is required.

Note: Nicor does not field mark 'Design' stage tickets and services typically are not shown on atlas sheets.

With reference to your request received for main details, I am sending atlas page(s) indicating the location of our gas main(s) in the area of your proposed project. **The dimensions and location of Nicor Gas utility facilities as shown on these plans are an estimate for design purposes only, and are not intended for use as field locations for construction. Nicor Gas does not warrant accuracy. These pages are considered confidential. Please handle these pages accordingly. Review and verify that the page(s) attached is the area of your request**. If this is not the page you have requested or you require additional pages, please advise and correction will be made. Please feel free to contact me if you need assistance in reading the attached pages. The date of this email represents the date of the attached page(s) most recent version and should be considered the applicable date/time stamp.

If potential conflicts are anticipated, please supply us with a large set of pre-final/final plans including right-of-way and cross-sections and ample time for design and relocation of our mains and services (if necessary) to adhere to your tentative scheduled letting date. Ample time requires a minimum of 6 months for design and planning. This time does not take into consideration the installation our mains and services or reimbursable requirements if applicable.

Utility rights are generally documented through permit, license or easement and in some cases, Nicor Gas may own property. It is up to the requesting/design party(s) to research existing land rights of their proposed project. Nicor Gas will perform its own investigation to determine if any portion is reimbursable when construction is requested to relocate gas main.

Please phone JULIE at 811 OR 1-800-892-0123, 48 hours prior to construction for location of our facilities within your proposed improvement.

Bruce Koppang
DOT Liaison - Engineering
Nicor Gas
1844 Ferry Rd.
Naperville, IL 60563
Office: 630.388.3046

Nicor Gas

James Schmieder

From: Burton, James M [CTO] <James.M.Burton@sprint.com>
Sent: Monday, May 8, 2017 8:42 AM
To: James Schmieder
Subject: RE: Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402

James,
I reviewed the location map associated with the above JULIEDS Request. Sprint has no facilities within the project limits and is ALL CLEAR.

James Burton
Facility Engineering/ OSP-East
5600 N. River Road, Suite 200
Rosemont, IL 60018
Cell: 708-955-6659
James.m.burton@sprint.com

From: James Schmieder [mailto:jschmieder@cbbel.com]
Sent: Friday, April 14, 2017 3:05 PM
To: Burton, James M [CTO] <James.M.Burton@sprint.com>
Subject: Atlas request: Evanston, JULIE Design Stage Ticket #A-1033402

Request and project site map are PDF attachments.
Thanks in advance for your help,

James T. Schmieder
Assistant CADD Manager
Christopher B. Burke Engineering, Ltd.
9575 W. Higgins Road, Suite 600 Rosemont, IL 60018
Phone: (847) 823-0500 Fax: (847) 823-1029
E-Mail: jschmieder@cbbel.com

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City Of Chicago Client Query - (public)

7/20/2017

Refresh

City of Chicago
Department of Transportation
Office of Underground Coordination
30 N. LaSalle St., Suite 310, Chicago, IL 60602
Phone# (312) 744-4828 Fax# (312) 742-3138

Transmittal & Review Form

Status:	Initial Review Completed	OUC File #:	2017-75674
Client Query #:	71622I	Process Date:	04/17/2017
PIN Number:	8RbaOO6J	Response Required Date:	05/19/2017

Author:

Name:	James Schmieder
Company:	Christopher R. Burke Engineering,Ltd.
Address 1:	9575 W. Higgins Rd., Suite 600
Address 2:	
City:	Rosemont
State:	IL
Zip:	60018
Phone:	847-823-0500
Phone Extension:	256
Fax:	847-823-0520
Mobile:	
Email:	jschmieder@cbbel.com

Submitting Agency:

Name:	James Schmieder
Submitting Agency:	Christopher R. Burke Engineering,Ltd.
Address 1:	9575 W. Higgins Rd., Suite 600
Address 2:	
City:	Rosemont
State:	IL
Zip:	60018
Phone:	847-823-0500
Phone Extension:	256
Fax:	847-823-0520
Mobile:	
Email:	jschmieder@cbbel.com

Project Information:

Project Description: Utility search for roadway reconstruction, storm sewer improvements and traffic signal upgrades

Are manhole/handhole installations planned in the public way?

- (●) Yes
- ( ) No

Tunneling (Includes Directional Boring) Variances Requested?

- (●) Yes (variance to Chapter 10-20-200)
- ( ) No

Project No.: 160650 Construction Date: 04/01/2019

Project Location:

Address 1: W HOWARD ST - From N FRANCISCO AVE to N WINCHESTER AVE

Address 2: DOTMaps
https://www.cdotmap.com/ouc/project_preview#link_id=c51b48b3-2375-11e7-bd3e-db4e2dbebfdb

Additional Location Description:

Roadway reconstruction, water main replacement, storm sewer improvements and traffic signal upgrades on Howard Street beginning 300 feet west of N. California Avenue, continuing east along Howard St. and terminating 300 feet east of N. Damen Avenue. Also, included are all intersecting roadways along the Howard street limits as described, 300' north & south at each intersection.

Project Coordinator 1: Martin Michalowicz Phone:847-823-0500 Extn: 430

Project Coordinator 2: James Schmieder Phone:847-823-0500 Extn: 256

Purpose of Review

○ Vacation/Dedication/Subdivision ◉ Information Retrieval ○ Existing Facility Protection

Office of Underground Coordination Member Response

(Hide Comments)

Responded By	Date	0	No Existing Facilties	Existing Facility (Plans Attached)	Existing Facility (Narrative Attached)
Narciso Cayanan Jr. 01-CDOT Project Development (312) 744-7766	04/20/2017		✔		
Julio Cajigas 01-Sidera Networks LLC / Lightower (312)955-2682	04/20/2017		✔		
Jamey Shirley 01-Sunesys, LLC 630-613-3280	04/20/2017		✔		
Frank Duffy 01-MDE/Thermal Chicago Corporation 312-447-1600	04/20/2017		✔		
Leslie Paschal 01-ComEd - Transmission 630-437-4767	04/20/2017		✔		
Aiden Schenkus Peoples Gas 312-240-4993	04/21/2017	0		✔	
Comments:	Please see attached for PGL facilities.				
Grazyna Lewandowska CTR - CDWM Water Section Consultant 312-894-4472	04/24/2017	0		✔	
Comments:	Dimensions as shown on this drawing are approximate. Actual locations of water mains should be obtained from test holes. If test holes are desired, contact Bureau of Engineering Services - Water Section for an estimate of cost.				

Jim Todd 01-MCI 708-458-6410	04/25/2017		✔		
Brian Howard 01-CTA- Engineering 312-922-0508	04/26/2017		✔		
Antonio Bautista 01-CDOT - Division of Electrical Operations 312-746-8180	04/27/2017	0		✔	
Comments:	DETAILS SHOWN IN THE ATTACHED DRAWINGS ARE APPROXIMATE AND MAY NOT BE UP-TO-DATE. UTILITIES SHOWN OR NOT SHOWN IN THE DRAWINGS MUST BE FIELD VERIFIED.				
Michel Soreze 01-ComCast 312-296-8717	05/01/2017		✔		
Matthew Rahn 01-RCN 309-613-0689	05/03/2017		✔		
Katherine Zulawski 01-Level 3 Communications (847) 471-1465	05/03/2017		✔		
Samantha Morales 01-Abovenet / Zayo Communications, Inc. (708) 699-9012	05/03/2017		✔		
Joseph McCarthy 01-Bureau of Forestry (312) 746-5254	05/03/2017	0			✔
Comments:	The Bureau of Forestry is not involved at this time. The applicant should include a drawing(s) indicating existing trees as well as proposed landscaping for the project area on the proposed project drawings for the "Existing Facility Protection" phase of OUC review. The drawing(s) must indicate tree size in diameter measured at 4.5' above the ground and tree species. Any existing parkway tree proposed for removal must be clearly identified on the drawings. Forestry will further review for involvement at that time.				
Amanullah Shaikh M.W.R.D. 312-751-3199	05/05/2017	0		✔	
Joseph Osowski 01-CTA - Traffic 312-681-4151	05/05/2017				✔
Comments:	CTA operates buses on Hoaward, Ridge and on California/Dodge.. Please contact CTA Traffic Planning to discuss impacts should there be a disruption to bus routing or bus stop locations. AT LEAST TWO WEEKS' NOTICE IS REQUIRED FOR BUS SERVICE CHANGES.				
Terrance House 01-Wide Open West LLC 630-770-4956	05/06/2017		✔		
Robert Wilson 01-Mobilitie, LLC (312) 638-5363	05/08/2017		✔		
Craig Winfield AT&T-Illinois/SBC (708) 396-8076	05/10/2017			✔	

Israel Perez 01-Department of Water Management - Sewer Section 312-742-7103	05/10/2017		✔
William McIntyre 01-CDOT Engineering 312-742-3219	05/15/2017	✔	
Bobby Akhter 01-AT&T Local Network Services (630) 719-1483	05/19/2017	✔	
Derrek Harvey 01-CDOT-Red Light Cameras Reviewed By Xerox 312-762-0116	05/19/2017	✔	
John Obrien 01-ComEd - Distribution 630-437-2463	05/19/2017		✔
Matthew Williams 01-JC Decaux 312-456-2977	05/23/2017	✔	
Vasudeva Vadali 01-Chicago Park District (312) 742-4678	06/13/2017	✔	

OUC Project Manager Comments

Comments: NOTE: ANY work in the public way and/or any excavation/penetration 12 ft or grater in private property REQUIRES an OUC Existing Facility protection (EFP) Review. Please visit our website for submittal details.

http://www.cityofchicago.org/city/en/depts/cdot/provdrs/office_of_undergroundcoordination.html

MISSING UTILITY: LAKESIDE TECHNOLOGY

JK

Project Manager: LaShanda Cokley Date: 06/19/2017

End of Transmittal & Review Form

TAB 9

Sam Schwartz Consulting, L.L.C.
303 W. Erie Street, Suite 600
Chicago, IL 60654
phone: (773) 305-0800
samschwartz.com

Sam Schwartz
Transportation Consultants

Memorandum

To: Martin Michalowicz, Christopher B. Burke Engineering, Ltd.
From: Kelly Conolly
Date: September 15, 2017
Re: Howard Street Corridor Improvement Project - CTA/Pace Coordination
Project No: 16-03-5490

Sam Schwartz coordinated with the Chicago Transit Authority (CTA) and Pace Suburban Bus to solicit input on access to transit service and traffic interaction along the corridor. The lead representatives from CTA were Elsa Gutierrez, Jason Meter and Christina Arthur. The contacts at Pace for the project were Robert Huffman and Ryan Ruehle. Below is a brief timeline of key coordination points.

- *Sam Schwartz* introduced the project to CTA on June 30, 2017 at a meeting at CTA headquarters.
    - CTA and Pace are conducting a North Shore Transit Service Coordination Plan and Market Analysis including the subject corridor.
- A follow-up conference call between *Sam Schwartz* and CTA was held on July 14, 2017 to discuss specific CDOT issues. CTA indicated they would be conducting a sight visit the following week. CTA requested to see preliminary section alternatives so *Sam Schwartz* sent those following the call on July 14, 2017.
- CTA sent preliminary comments and a typical detail exhibit to *Sam Schwartz* on July 25, 2017 (see Attachment A.)
- CTA and Pace sent additional comments and typical details on July 26, 2017 (see Attachment B.) It was suggested that where dimension discrepancies exist between CTA and Pace, the project team should use the more conservative dimension where possible.
- CTA sent preliminary bus stop relocation recommendations on July 31, 2017 which they would like to have included as part of the overall proposed plan for the corridor (see Attachment C.) Pace reviewed these recommendations and approved them on September 15, 2017.
- Representative from CTA and Pace attended Open Houses on August 2 and August 28, 2017.
- Both agencies request to be given further opportunities to review as design progresses.

Attachments A (2 pages), B (5 pages), and C (1 page) follow this memorandum.

Howard - Sacramento to Callan

Location	Direction	CTA Comments 7/25/2017
Rockwell	EB	Eliminate Stop
Florence	WB	Eliminate Stop
Western	EB	Eliminate near side stop (Keep far side stop in current location)
Barton	WB	Move stop east, in front of 1015 Howard (just east of driveway)
Oakley	EB	Move stop east to near side Bell
Hoyne	EB	Eliminate Stop
Elmwood	WB	Eliminate Stop
Damen	EB	Relocate stop to far side
Custer	WB	Relocate stop to far side
Projectwide		All bus stops require a minimum of 85' of curb without parking
Projectwide		Bike lanes through bus stops should use dotted line markings per MUTCD Figure 9C-6 (85' min)
Projectwide		Ensure that sidewalk and clear space dimensions at bus stops and shelters follow the ADA and shelter placement requirements as shown in the attached bus stop dimensions exhibit.
Projectwide		For pedestrian safety/sight lines, it is preferred that crosswalks without traffic control not be placed immediately in front of a bus stop.
Projectwide		If the design includes bus boarding bumpouts ("bus bulbs"): 65’ min bumpout length, to accommodate 60’ long buses, which stop ~5’ from the end of the bumpout. The back of a stopped bus should be at least 10’ away from a crosswalk or radius return

While nearside stops have been standard in Chicago, recently, farside stops have been implemented to decrease travel time and improve bus operation. Farside stops have been installed in conjunction with the City's program of installing concrete bus pads and the JCDecaux shelter program, as well as in anticipation of transit signal priority (TSP).[3]

C. Stop Accessibility and Boarding Area Specifications

When designing bus stops, convenient and safe pedestrian access is essential.

- Accessibility

In accordance with ADA requirements, all CTA bus stops must have a firm surface with a minimum clear length of 96" (measured from the curb or vehicle roadway edge) and a minimum clear width of 60" (measured parallel to the vehicle roadway) to the maximum extent allowed by site constraints.[4] A maximum slope of 2% is allowed for the roadway surface.

- Shelters

New or replaced shelters are required to provide wheelchair use and space. A wheelchair user must be able to enter from the public way and reach the 30" by 48" minimum, clear floor area entirely within the shelter.

- Landscaping

Although landscaping improves the overall aesthetic of street frontages; it can also impede bus boarding and alighting if placed within a bus stop zone. Raised planters and planting beds are not recommended within the 85'-140' bus stop zone (zone length depends on location of the stop). Only trees in grates, flush with sidewalk, should be used within the bus stop zone. No trees or landscaping are permitted within the first 7' length (measured parallel to the vehicle roadway) of the bus stop zone to provide for clear accessibility to the front door of a bus.

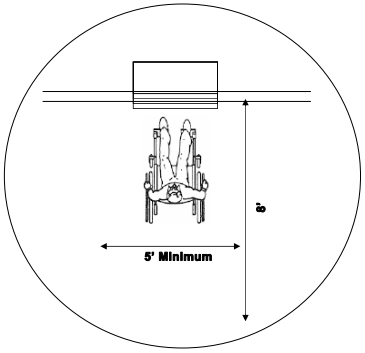


Figure 6: Wheelchair Accessibility Detail
Minimum clearance area for adequate wheelchair accessibility.

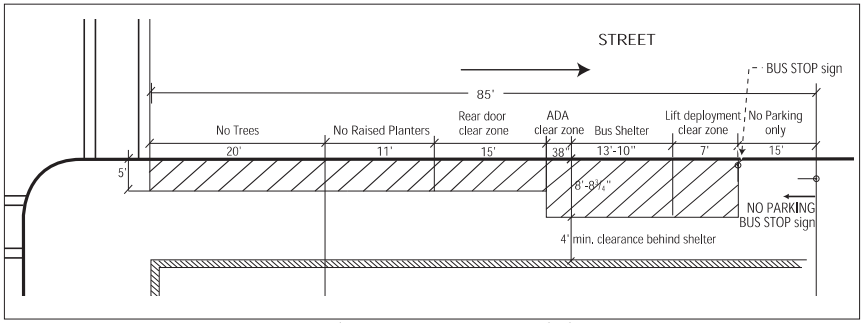


Figure 7: Farside Bus Stop Accessibility Restrictions

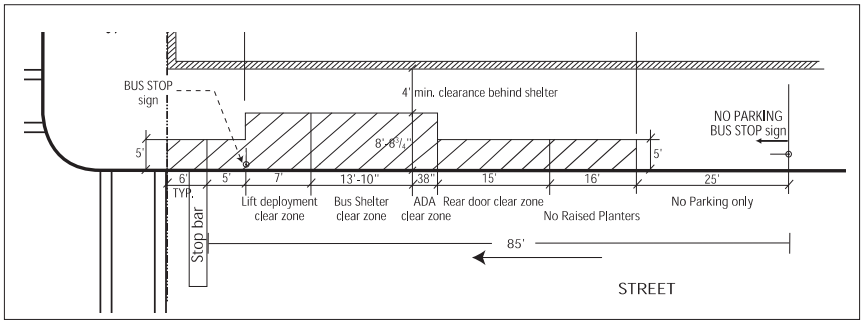
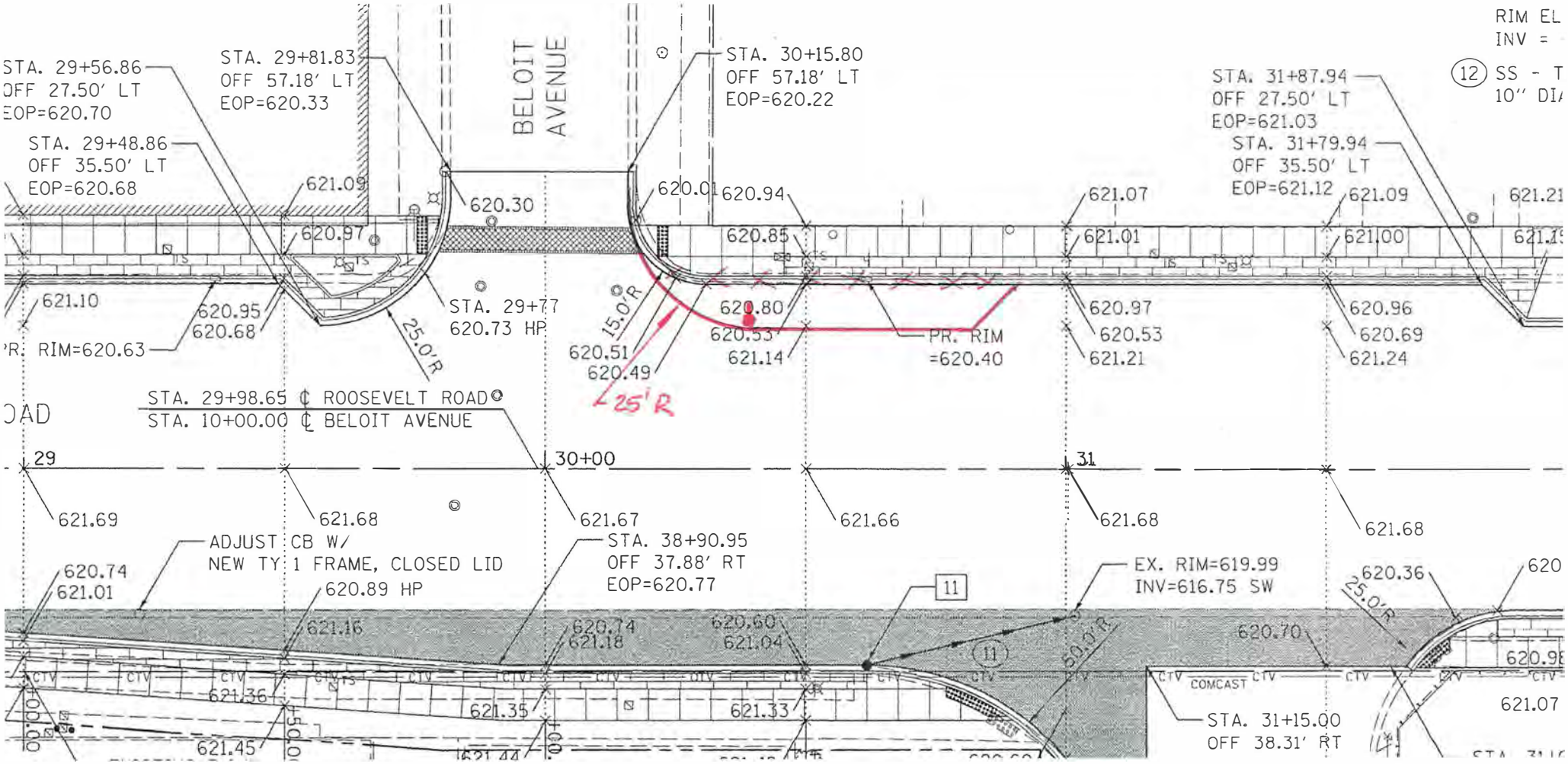


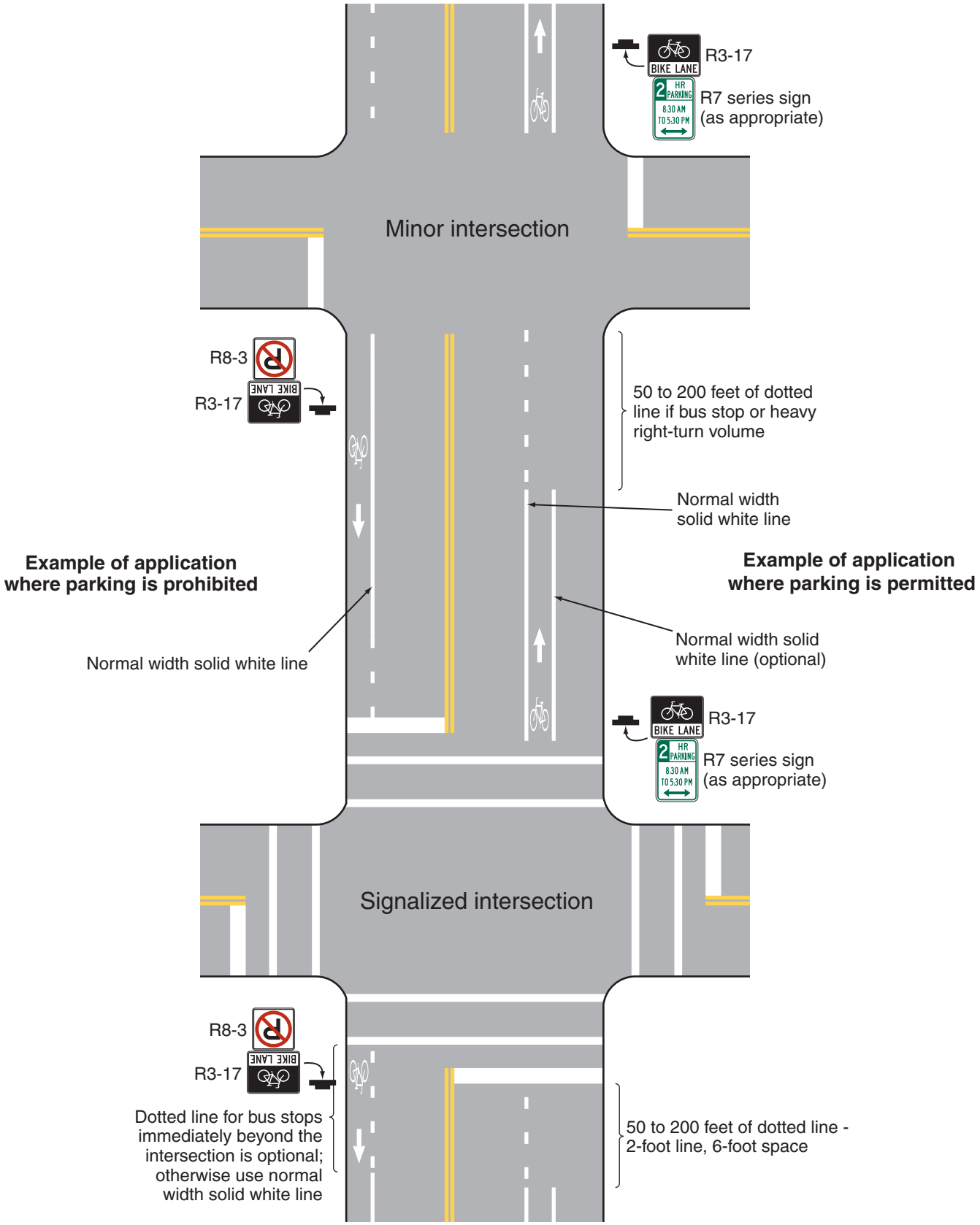
Figure 8: Nearside Bus Stop Accessibility Restrictions

Attachment B



SHEET 17 OF 151

Figure 9C-6. Example of Pavement Markings for Bicycle Lanes on a Two-Way Street



Pace Comments (Attachment B)

The Howard Avenue Corridor Review Study appears to be located between Hartrey/Sacramento and Callan/Winchester. The study is considering various improvement alternatives that would include additional parking, bike lanes, and pedestrian bump outs. Of particular concern to Pace is that the proposed improvements being studied include accommodations for buses to access the curb at all bus stops. Noting that this project is in the study phase, and we do not have definite specific geometric plans to review at this time, our review comments will be of a general nature, as follow:

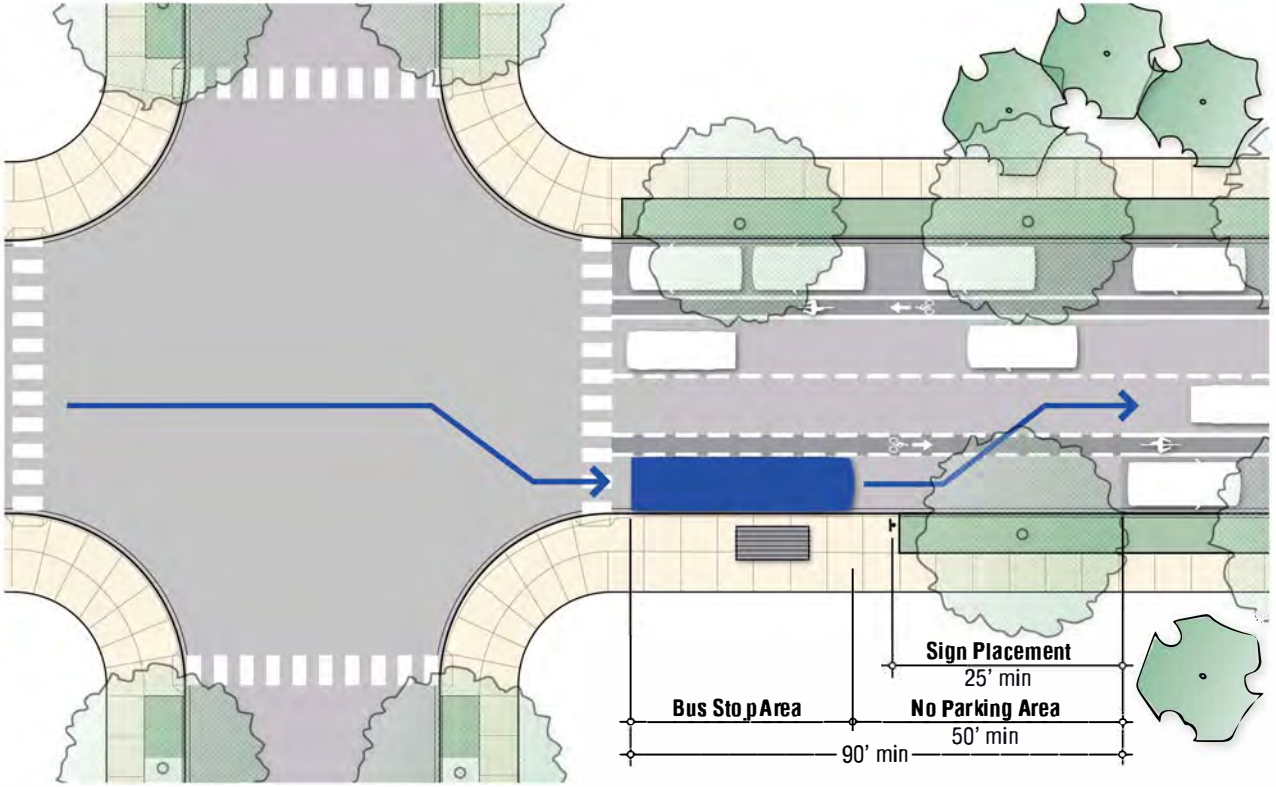
- Where pedestrian bump outs are being proposed, please consider extending the bump out 40 feet past the crosswalk for a far side bus stop and 40 feet before the crosswalk on a near side bus stop. Please see the attached sample bump out sketch that was used on a similar project in another community.
- Where bicycle lanes are marked on the pavement, the requirements and recommendations of the US DOT's *Manual on Uniform Traffic Control Devices* should be followed. Attached is an example sheet from the MUTCD pertaining to bicycle lane markings on two-way streets, which includes two examples of bicycle lane pavement markings in the vicinity of bus stops.
- To provide adequate bus access to the curb for boarding and alighting passengers, please see the attached recommendations from pages 52 and 53 of the *Pace – Transit Supportive Guidelines for the Chicagoland Region*. Please note that the recommendations include a no parking section of 100 feet before the crosswalk for near side bus stops and a no parking section of 90 feet past the crosswalk for far side bus stops.
- The project section includes many Pace bus stops with high ridership. Bus stops are located at the following intersections with Howard Avenue, in both directions:
    - Hartrey/Sacramento
    - Francisco/Grey
    - California/Dodge
    - Washtenaw (EB)
    - Dewey (WB)
    - Rockwell/Florence
    - Ashland/Maplewood
    - Western/Asbury
    - Oakley
    - Ridge
    - Hoyne/Elmwood
    - Custer/Damen
- For information, the project section is served by Pace Route 215, which operates 7 days per week, with a total of 75 bus runs per weekday, operating between the hours of 5:30 AM until just past midnight.

Attachment B

FAR-SIDE BUS STOPS

Far-side bus stops are located immediately after an intersection, allowing the vehicle to pass through the intersection before stopping for passenger loading and unloading. When the bus reenters the traffic stream, the upstream signal regularly generates gaps in traffic allowing buses to reenter the traffic lane. Far-side stops require shorter deceleration distances and provide for additional right turn capacity by eliminating bus blockage within the curb lane on the approach to the intersection. Additionally, the location of the stop encourages pedestrians to cross behind the bus. For these safety and capacity benefits, far-side stops are preferred by IDOT (Bureau of Local Roads & Streets Manual, Special Design Elements, IDOT, pg. 41-4(1), 2006) and Pace if traffic signal and geometry conditions are favorable.

During peak periods, however, when bus queuing is possible, intersections may be blocked by buses waiting to access the bus stop. The act of accelerating at an intersection and then immediately decelerating at the bus stop has the potential to increase the number of rear-end collisions. Additionally, queued buses may restrict sight distances for crossing vehicles and pedestrians.



ADVANTAGES

- Saves running time of the route
- Eliminates conflicts with right turning vehicles
- Facilitates bus reentry into the traffic stream
- Requires shorter deceleration distance
- Encourages pedestrians to cross behind the bus

DISADVANTAGES

- Potential for intersection blockage by queued buses
- Potential for increased rear-end collisions
- Obstructed sight distances for crossing vehicles and pedestrians

RECOMMENDED USES

- When near-side traffic is heavier than far-side traffic
- At intersections with heavy right turn volumes
- At intersections with transit signal priority

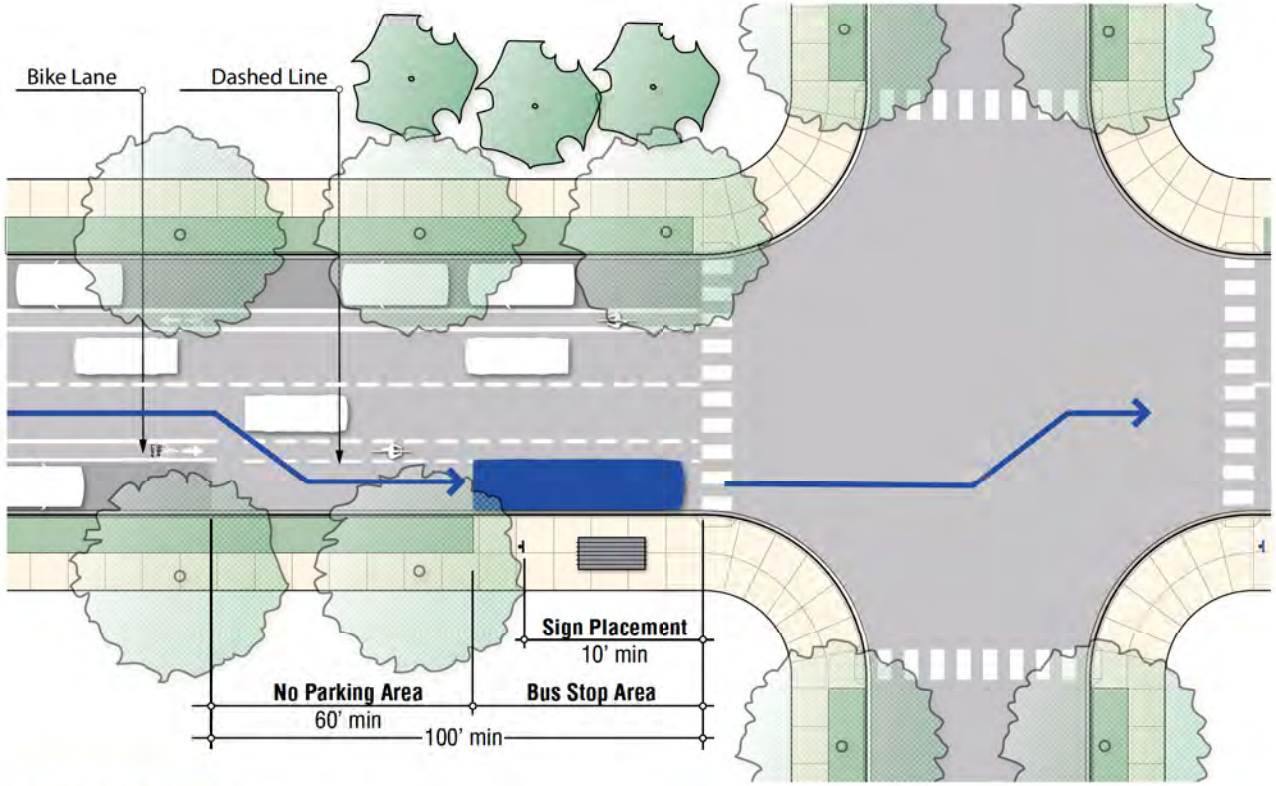
see the Technical Appendix

see references (page iii)

NEAR-SIDE BUS STOPS

C Near-side bus stops are located immediately before an intersection, allowing for passenger unloading and loading while the vehicle is stopped at a red light, preventing double-stopping. When the bus is ready to reenter the traffic stream, the intersection is available to assist in pulling away from the curb and provides the driver with an opportunity to look for oncoming traffic and pedestrians. Near-side stops also allow passengers to board the bus immediately adjacent to the crosswalk, minimizing walk distances.

During peak periods, however, queued buses may block the through lane on the approach to the intersection, potentially disrupting traffic flow. The stop configuration also generates conflicts with right turning vehicles, and delays associated with loading and unloading may lead to unsafe driving in which right turning vehicles drive around the transit vehicle to make a right turn in front of a bus. Additionally, queued buses may restrict sight distances for crossing pedestrians.



ADVANTAGES

- Allows transit drivers to utilize the intersection and available sight distance when pulling away from the curb
- Provides pedestrian access closest to the crosswalk

DISADVANTAGES

- Potentially creates double stopping at intersection
- Generates conflicts with right turning vehicles
- Potential for through lane blockage by queued buses
- Obstructs sight lines for crossing pedestrians
- May result in increased delay to buses and other vehicular traffic

RECOMMENDED USES

- When far-side traffic is heavier than near-side traffic
- At intersections with pedestrian safety concerns on the far side

X see the Technical Appendix

Howard Street

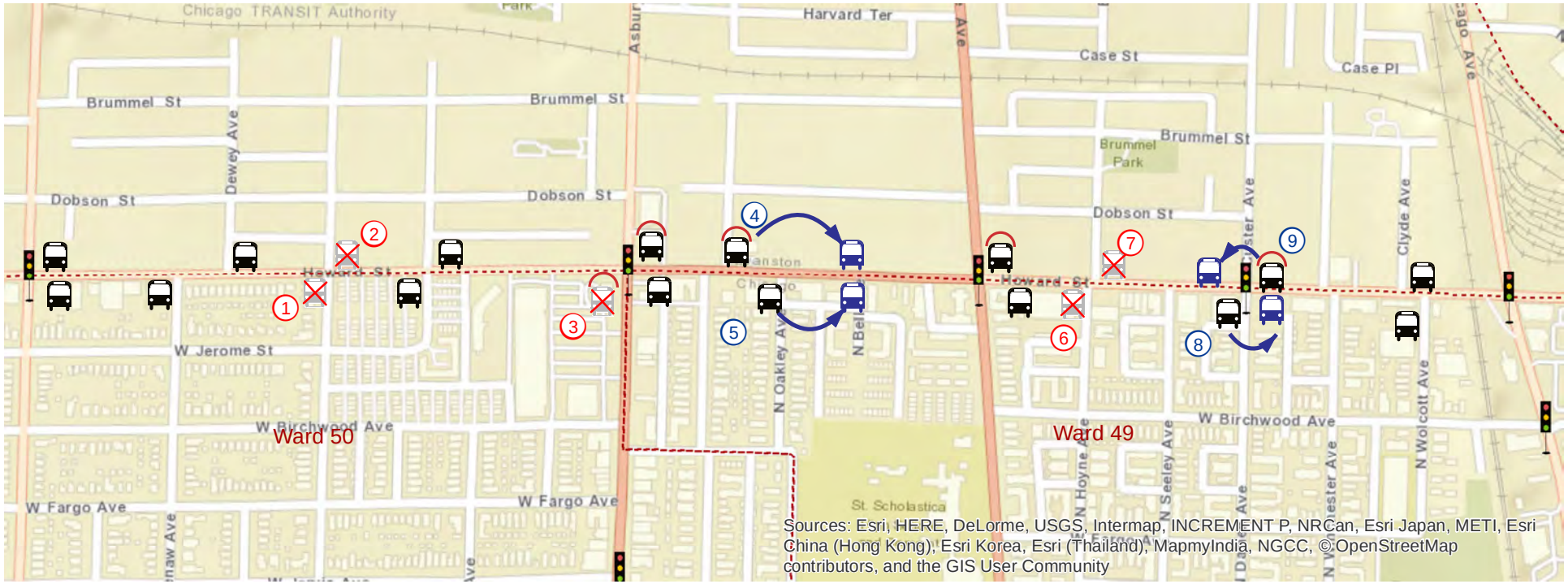
Proposed bus stop changes for corridor improvements

Chicago (South of Howard) Ward 49 (East of Western) Ward 50 (West of Western)
City of Evanston (North of Howard) Ward 8

Howard St

Legend

- Current Bus Stop
- Bus Stop Elimination
- Bus Stop Relocation
- Bus Stop With Shelter
- Ward Boundary (2015)
- Signalized Intersection



1. Spacing is less than CTA service standard (<660 ft).
2. Spacing is less than CTA service standard (<660 ft).
3. Spacing is less than CTA service standard (<660 ft).
4. Relocate stop
5. Relocate stop
6. Spacing is less than CTA service standard (<660 ft).
7. Spacing is less than CTA service standard (<660 ft).
8. Service preference is to stop farside of signalized intersections.
9. Service preference is to stop farside of signalized intersections.

DRAFT | 7/31/31 | JO

TAB 10

Cost Estimate Summary

Howard Street Corridor Improvement Project
Hartrey/Sacramento to Callan/Winchester
12/1/2017

Total Project Cost Summary

	EVANSTON	CHICAGO	TOTAL COST
Phase II Engineering @ 7.5% (2018)	$300,000	$300,000	$600,000
Construction Engineering @ 9.5% (FY 2019/CY 2020)	$380,000	$380,000	$760,000
Construction (FY 2019/CY 2020)	$4,840,339	$3,148,844	$7,989,182
Total	$5,520,339	$3,828,844	$9,349,182

Total Construction Cost Summary

	EVANSTON	CHICAGO	TOTAL COST
Roadway	$3,106,384	$2,395,364	$5,501,747
Non-Participating	$720,000	$0	$720,000
Lighting	$786,025	$525,550	$1,311,575
Street Furnishing	$227,930	$227,930	$455,860
Total	$4,840,339	$3,148,844	$7,989,182

Total Chicago Construction Cost Summary per Ward

	WARD 50	WARD 49	TOTAL COST
Roadway	$1,169,928	$1,225,436	$2,395,364
Non-Participating	$0	$0	$0
Lighting	$227,470	$298,080	$525,550
Street Furnishing	$69,575	$158,355	$227,930
Total	$1,466,973	$1,681,871	$3,148,844
	47%	53%	

Cost Estimate - Roadway

Howard Street Corridor Improvement Project

Howard Street - Hartrey/Sacramento to Callan/Winchester

12/1/2017

	EVANSTON	CHICAGO	TOTAL COST
	$3,826,384	**$2,395,364**	**$6,221,747**

ITEM	UNIT	UNIT COST	TOTAL QUANTITY	EVANSTON QUANTITY	CHICAGO QUANTITY	EVANSTON TOTAL COST	CHICAGO TOTAL COST	TOTAL COST
ROADWAY								
Bituminous Pavement Removal, 4"	SY	$10	36,200	21,720	14,480	$217,200	$144,800	$362,000
Curb and Gutter Removal	FT	$8	9,170	4,655	4,515	$37,240	$36,120	$73,360
Pavement Removal	SY	$15	1,100	660	440	$9,900	$6,600	$16,500
Class B Patching	SY	$75	3,620	2,172	1,448	$162,900	$108,600	$271,500
Bituminous Pavement, 4"	SY	$30	36,200	21,720	14,480	$651,600	$434,400	$1,086,000
Curb and Gutter	FT	$25	9,500	4,805	4,695	$120,125	$117,375	$237,500
Concrete Pavement for Driveways	SY	$85	755	1,000	245	$85,000	$20,825	$64,175
Striping	FT	$2	32,775	19,665	13,110	$39,330	$26,220	$65,550
Sidewalk Replacment	SF	$8	37,860	17,715	20,145	$141,720	$161,160	$302,880
Brick Sidewalk	SF	$25	11,335	6,185	5,150	$154,625	$128,750	$283,375
Brick Sidewalk (Remove and Reinstall)	SF	$15	5,975	3,200	2,775	$48,000	$41,625	$89,625
Trees	EA	$500	41	24	17	$12,000	$8,500	$20,500
						$1,679,640	$1,193,325	$2,872,965
WATER MAIN								
Water Main 8"	FT	$450	1600	1600	0	$720,000	$0	$720,000
						$720,000	$0	$720,000
DRAINAGE								
Structures to be Adjusted	EA	$500	181	109	72	$54,300	$36,200	$90,500
Structures to be Replaced	EA	$3,000	30	18	12	$54,000	$36,000	$90,000
Storm Sewer Laterals	FT	$75	130	78	52	$5,850	$3,900	$9,750
						$114,150	$76,100	$190,250
TRAFFIC SIGNAL MODIFICATIONS								
Traffic Signal Replacement (includes temporary signals)	EA	$325,000	2	1	1	$325,000	$325,000	$650,000
Traffic Signal Interconnect	LS	$250,000	1	0.5	0.5	$125,000	$125,000	$250,000
Traffic Signal Modification	EA	$50,000	2	1	1	$50,000	$50,000	$100,000
						$500,000	$500,000	$1,000,000
MAINTENANCE OF TRAFFIC/ADMINISTRATIVE								
Maintenance of Traffic	LS	$285,000	1	0.5	0.5	$142,500	$142,500	$285,000
Construction Layout	LS	$32,500	1	0.5	0.5	$16,250	$16,250	$32,500
Erosion Control	LS	$32,500	1	0.5	0.5	$16,250	$16,250	$32,500
Field Office	CAL MO	$6,000	4.5	2.25	2.25	$13,500	$13,500	$27,000
Mobilization	LS	$250,000	1	0.5	0.5	$125,000	$125,000	$250,000
						$313,500	$313,500	$627,000
					Sub-Total	$3,327,290	$2,082,925	$5,410,215
					Contingency 15%	$499,094	$312,439	$811,532
					Total	**$3,826,384**	**$2,395,364**	**$6,221,747**

Cost Estimate - Lighting

12/1/2017

Howard Street Corridor Improvement Project

Howard Street - Hartrey/Sacramento to Callan/Winchester

	EVANSTON	CHICAGO	TOTAL COST
	$786,025	**$525,550**	**$1,311,575**

ITEM **LIGHTING**	UNIT	UNIT COST	TOTAL QUANTITY	EVANSTON QUANTITY	CHICAGO QUANTITY	EVANSTON TOTAL COST	CHICAGO TOTAL COST	TOTAL COST
Lights*	EA	$11,500	16	16	0	$184,000	$0	$184,000
Lights (Streetscape - Pedestrian)*	EA	$10,000	28	14	14	$140,000	$140,000	$280,000
Lights (Streetscape - Roadway)*	EA	$15,000	26	13	13	$195,000	$195,000	$390,000
Tree grate electrical receptacles (streetscape)	EA	$2,000	117	74	43	$148,000	$86,000	$234,000
Light Fixtures (on existing Streetscape light poles)	EA	$750	45	22	23	$16,500	$17,250	$33,750
Light Fixtures (on existing light poles)	EA	$750	25	0	25	$0	$18,750	$18,750
						$683,500	$457,000	$1,140,500

* Conduit, cable and controller included.

Sub-Total	$683,500	$457,000	$1,140,500
Contingency 15%	$102,525	$68,550	$171,075
Total	**$786,025**	**$525,550**	**$1,311,575**

Cost Estimate - Street Furniture

12/1/2017

Howard Street Corridor Improvement Project

Howard Street - Hartrey/Sacramento to Callan/Winchester

	EVANSTON	CHICAGO	TOTAL COST
	$227,930	**$227,930**	**$455,860**

ITEM **STREETSCAPE**	UNIT	UNIT COST	TOTAL QUANTITY	EVANSTON QUANTITY	CHICAGO QUANTITY	EVANSTON TOTAL COST	CHICAGO TOTAL COST	TOTAL COST
Benches	EA	$2,000	34	17	17	$34,000	$34,000	$68,000
Trash Bins	EA	$1,400	22	11	11	$15,400	$15,400	$30,800
Community Identifiers	EA	$7,000	36	18	18	$126,000	$126,000	$252,000
Bike Rack	EA	$600	76	38	38	$22,800	$22,800	$45,600
						$198,200	$198,200	$396,400
				Sub-Total		$198,200	$198,200	$396,400
				Contingency 15%		$29,730	$29,730	$59,460
				Total		**$227,930**	**$227,930**	**$455,860**

Howard Street Corridor Improvement Project
12/1/2017

Quantity Assumptions

General - All segments

a. Roadway quantities 60/40 split, Evanston/Chicago respectfully.
b. North side CB/Sidewalk quantities to Evanston, south side to Chicago.
c. North side lighting and streetscape quantities to Evanston, south side to Chicago.

Roadway - Hartrey/Sacramento to Callan/Winchester

a. Limits start at Hartrey/Sacramento on the west and Callan/Winchester on the east.
b. Traffic signal replacement at Dodge/California and Custer/Damen intersections.
c. Traffic signal modification at Asbury/Western and Ridge intersections.
d. Roadway resurfacing.
e. Sidewalk widening between Asbury/Western to Ridge.
f. Streetscape improvements between Dodge/California to Washtenaw and Asbury/Western to Ridge.
g. Streetscape upgrades between Ridge to Custer/Damen.

Lighiting - Hartrey/Sacramento to Callan/Winchester

a. New light poles on Evanston side in non streetscape area.
b. New light fixtures on Chicago side in non streetscape area.
c. New Streetscape light system on both sides between Dodge/California to Washtenaw and Asbury/Western to Ridge.
e. New streetscape light fixtures on both sides from Ridge to Callan/Winchester.

Street Furniture - Hartrey/Sacramento to Callan/Winchester

a. Benches, trash bins, bike racks and community identifiers.

Howard Street Corridor Improvement Project

Quantity Assumptions

General - All segments

a. Roadway quantities 60/40 split, Evanston/Chicago respectfully.
b. North side CB/Sidewalk quantities to Evanston, south side to Chicago.
c. North side lighting and streetscape quantities to Evanston, south side to Chicago.
e. Striping is an approximate quantity. (4.5 times segment length) 60/40 split.
d. Patching is 10% of Bit. Pavment quantity. Class B used since sub-base is PCC.

Howard Street - Hartrey/Sacremento to Dodge/California - STA 53+60 to STA 66+8

a. Limit starts west of Dodge/California intersection.
b. Structures to be adjusted is an approximate quantity, need to field verify.
c. New light fixtures added to all existing light poles on Chicago side.
d. New light poles on Evanston side. Spacing every 150 feet.
e. New streetscape poles on both sides within streetscape limits. Spcaing every 100 feet.
f. Tree grate electrical receptacles within streetscape limits.
g. Sidewalk replacement between corners on Chicago side. 30% of total area. (1,500 SF)
h. Sidewalk replacement betweens corners on Evanston side. 15% of total area. (750 SF)
i. Curb and Gutter remove and replace is 20% of total curb and gutter length.
j. Curb removal and replacement for bump outs included separately.

Howard Street - Dodge/California to Asbury/Western - STA 66+80 to STA 92+40

a. Limits include Dodge/California intersection.
b. Limits do not include Asbury/Western intersection.
c. New light fixtures added to all existing light poles on Chicago side and painted.
d. New light poles on Evanston side. Spacing every 150 feet.
e. Tree grate electrical receptacles within streetscape limits.
f. Traffic Signal replacment at Dodge/California. 60/40 split.
g. Sidewalk replacement between corners on Chicago side. 30% of total area. (3,750 SF)
h. Sdiewalk replacment between corners on Evanston side. 15% of total area. (1,875 SF)
i. Curb and Gutter remove and replace is 20% of total curb and gutter length.

Howard Street - Asbury/Western to Ridge - STA 92+40 to STA 107+50

a. Limits include Asbury/Western intersection.
b. Limits do not include Ridge intersection.
c. New lights on both sides of roadway (streetscape).
d. Tree grate electrical receptacles within streetscape limits.
e. Water main 100% City of Evanston Cost.
f. Sidewalk widening on Evanston side.
g. Sidewalk widening for bump outs on Chicago side.
h. Curb and gutter remove and replace entire limit both sides.

Howard Street - Ridge to Custer/Damen - STA 107+50 to STA 119+70

a. Limits include Ridge intersection.
b. Limits include Custer/Damen intersection.
c. New light fixtures added to all existing light poles and poles painted.
d. Tree grate electrical receptacles within streetscape limits.
e. Brick sidewalk, is remove and replace. Install 5" PCC underneath.
f. Sidewalk replacement except next to building.
g. Curb and gutter remove and replace entire limit both sides.

Howard Street - Custer/Damen to Callan/Winchester - STA 119+70 to STA 123+65

a. New light fixtures added to all existing light poles and poles painted.
b. Tree grate electrical receptacles within streetscape limits.
c. Brick sidewalk, is remove and replace. Install 5" PCC underneath.
d. Sidewalk replacement except next to building.
e. Curb and gutter remove and replace entire limit both sides.