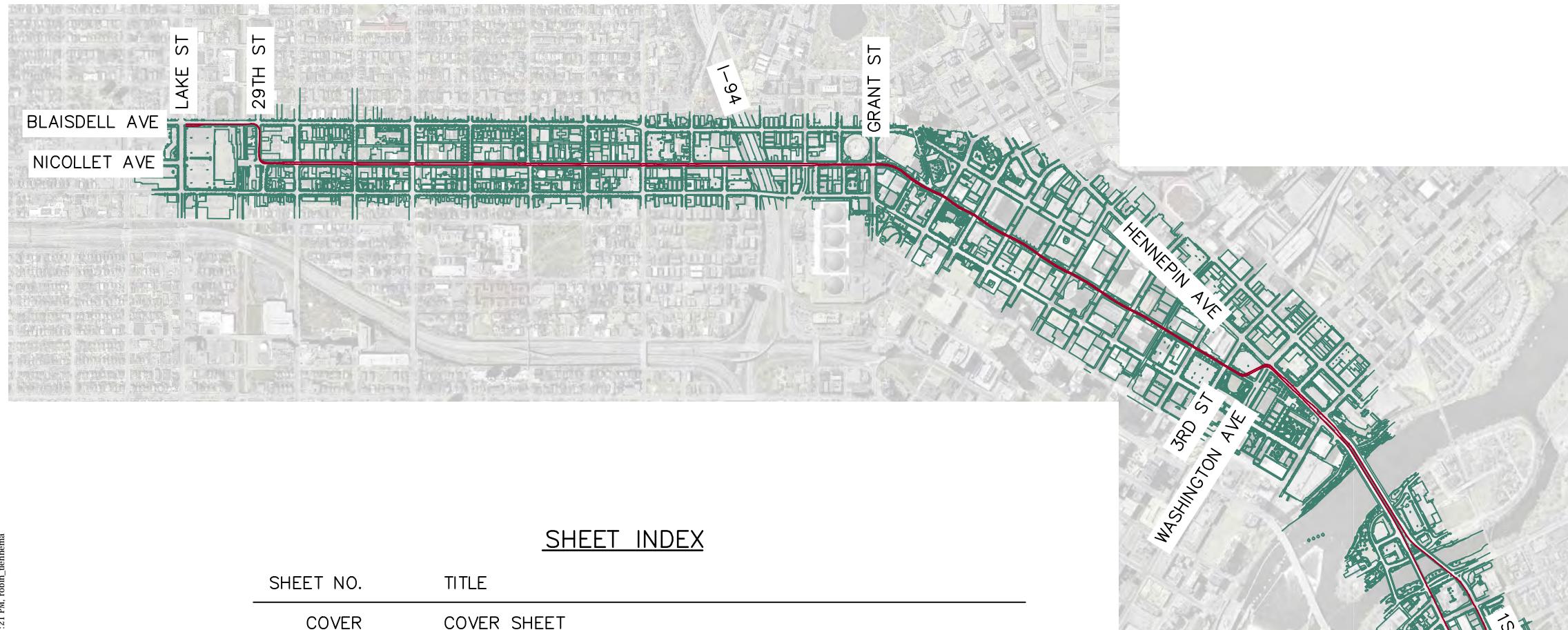


# NICOLLET – CENTRAL MODERN STREETCAR

## ENVIRONMENTAL ASSESSMENT CONCEPT DESIGN SET

### OCTOBER 2014



#### SHEET INDEX

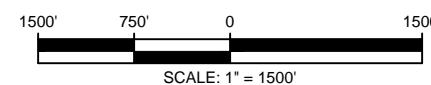
| SHEET NO.  | TITLE   |
|------------|---|
| COVER      | COVER SHEET   |
| 1 THRU 6   | MAINLINE PLANS AND TYPICAL SECTIONS ALONG NICOLLET      |
| 7 THRU 9   | MAINLINE PLANS AND TYPICAL SECTIONS ALONG NICOLLET MALL |
| 10 THRU 13 | MAINLINE PLANS AND TYPICAL SECTIONS ALONG HENNEPIN      |
| 14         | MAINLINE PLANS AND TYPICAL SECTIONS ALONG CENTRAL/8TH   |
| 15         | MAINTENANCE FACILITY LOCATION PLAN ALONG HARRISON       |
| 16         | TYPICAL CURBSIDE STREETCAR STOP LAYOUT                  |
| 17         | TYPICAL MEDIAN STREETCAR STOP LAYOUT                    |

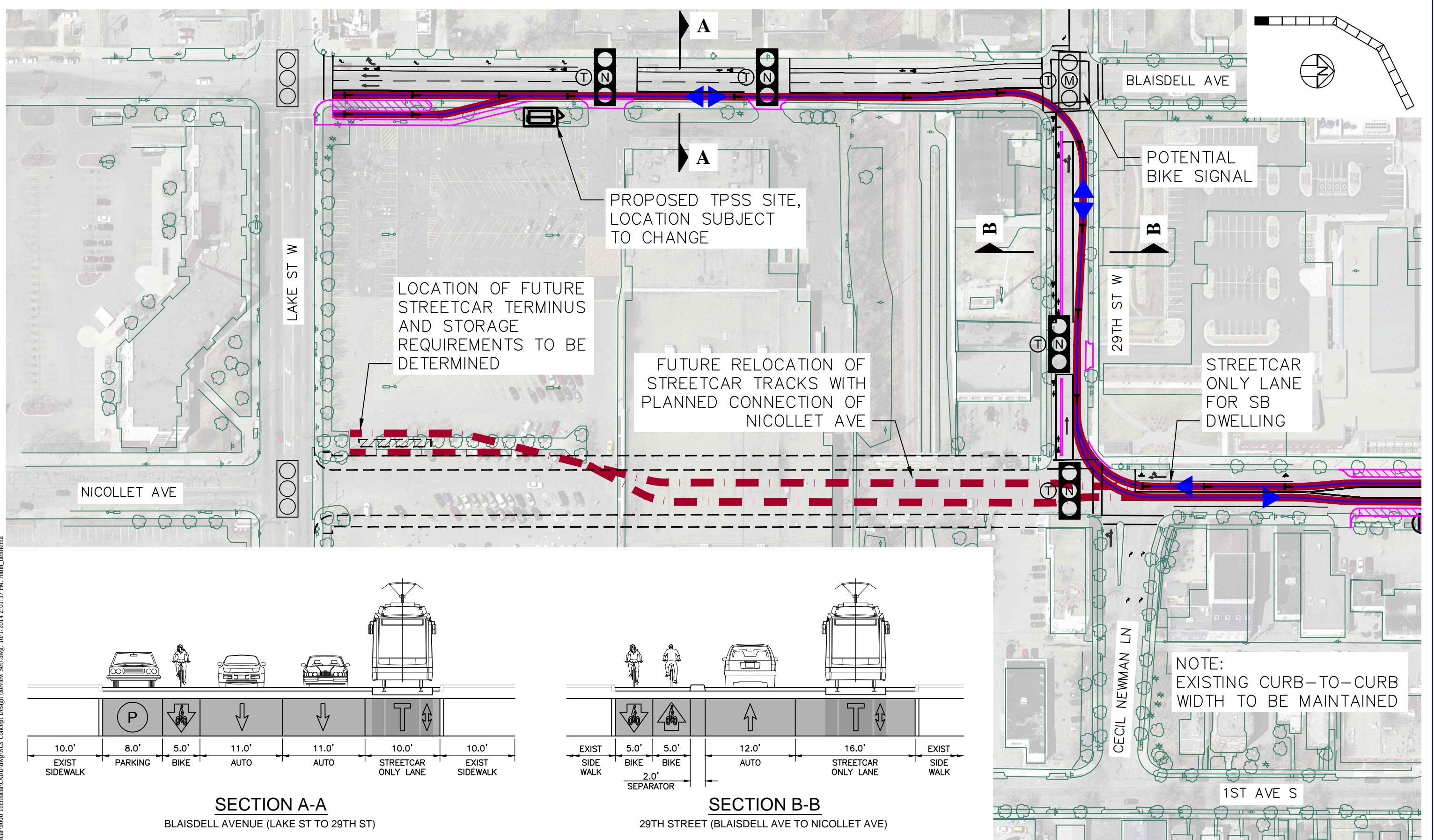


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NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
CONCEPT DESIGN SET





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**URS**

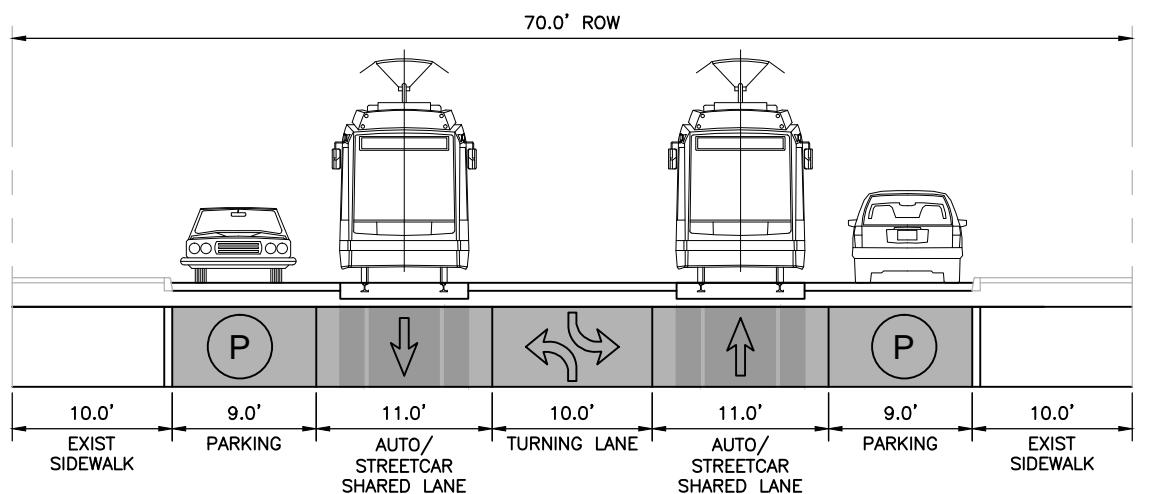
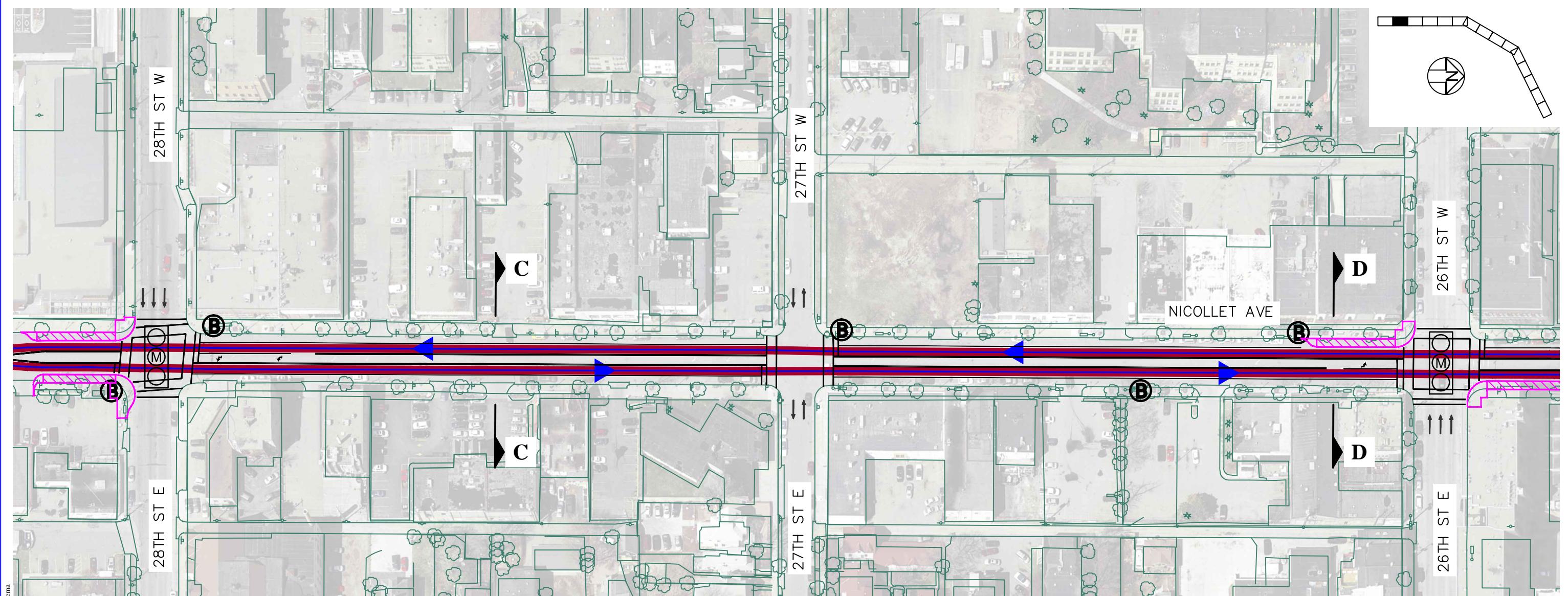


NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

- |                     |   |
|---------------------|---|
| <b>LEGEND:</b>      | EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS) |
| TRACK ALIGNMENT     | PROPOSED TRAFFIC SIGNAL                   |
| PROPOSED CURB WORK  | TRANSIT ONLY TRAFFIC SIGNAL PHASE         |
| DIRECTION OF TRAVEL | EXISTING BUS STOP                         |
|                     | PROPOSED STREETCAR STOP                   |

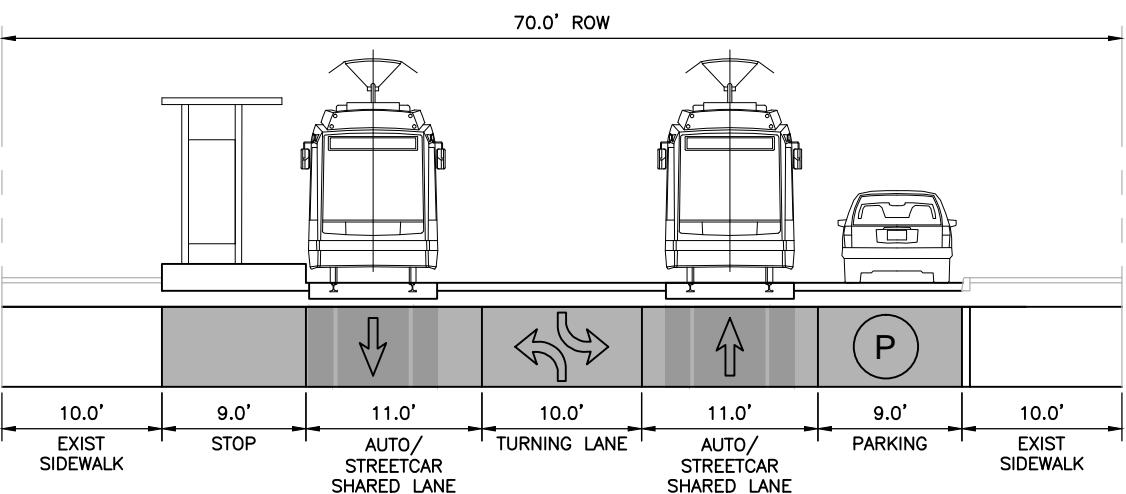
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Date: OCTOBER 2014  
Sheet No.: 01

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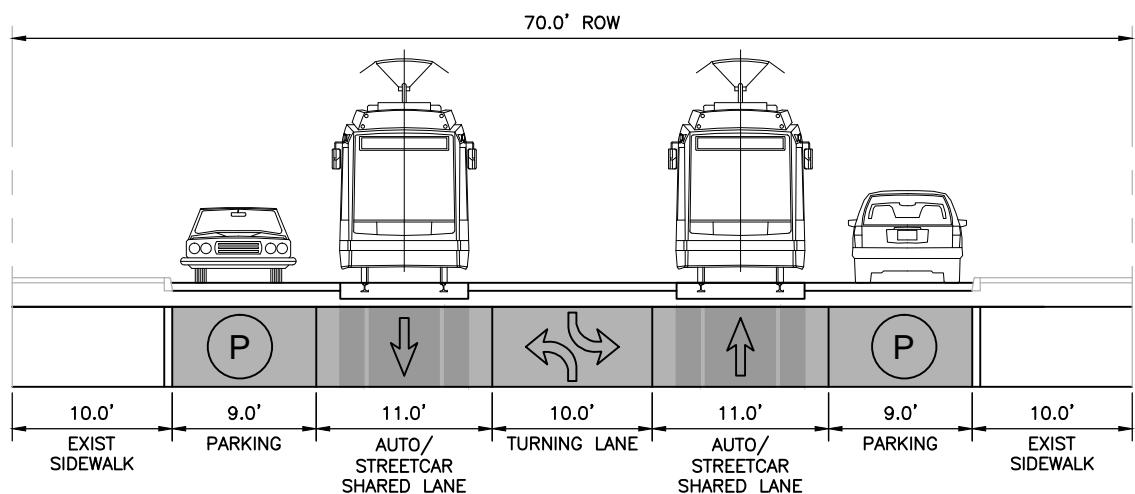
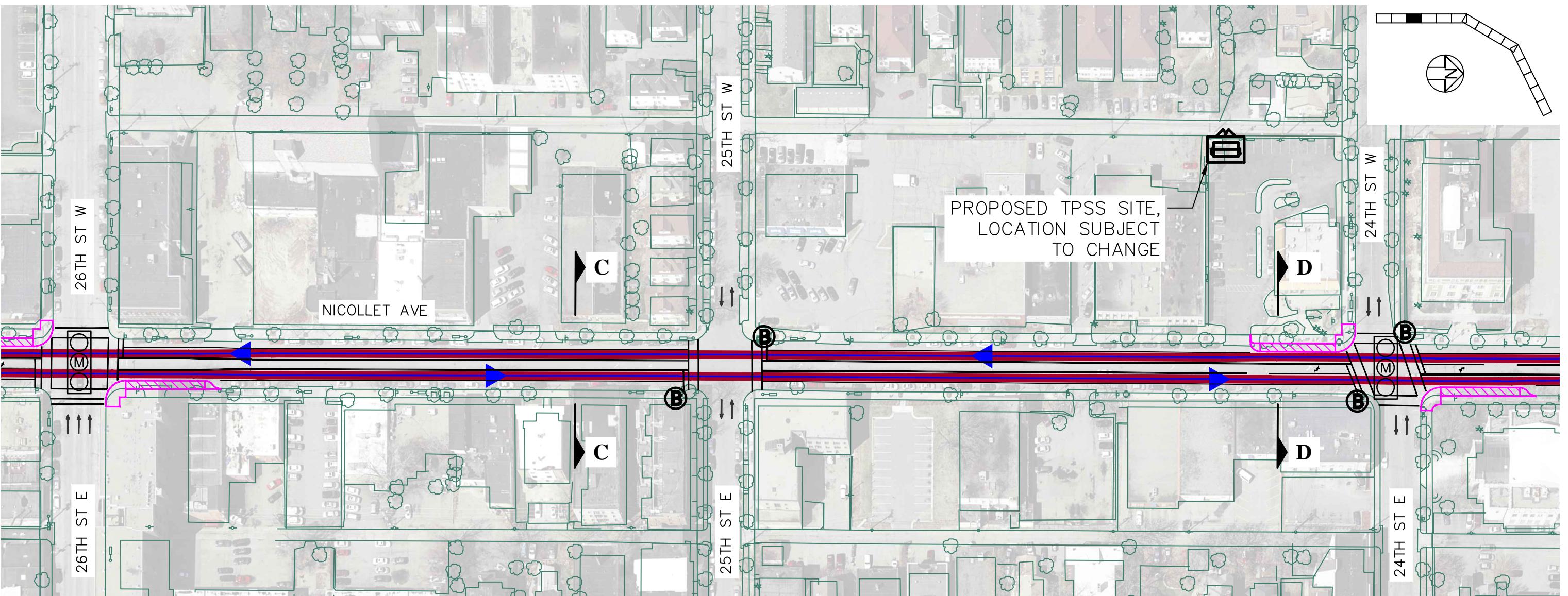


**SECTION C-C (AT MID-BLOCK)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)

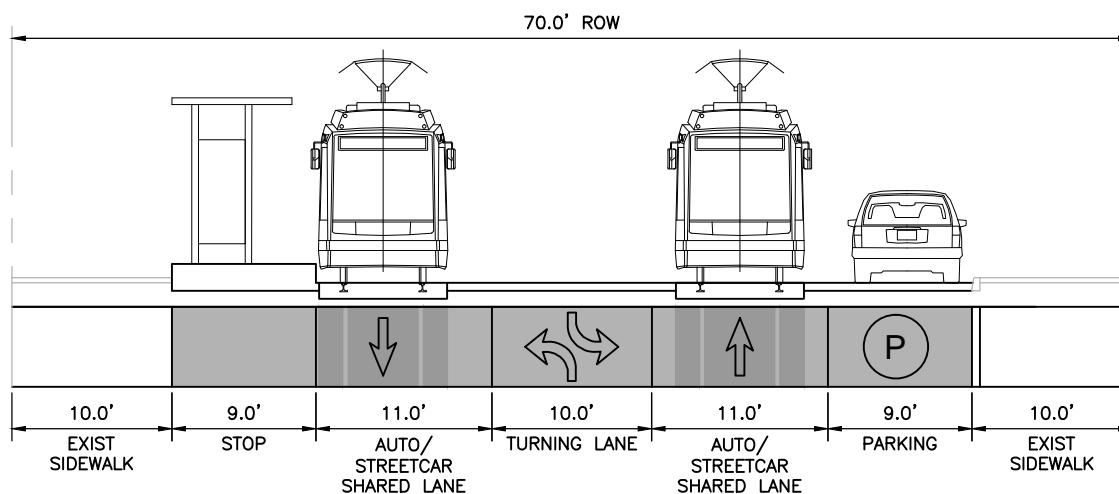
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EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED



**SECTION D-D (AT STOP)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)



**SECTION C-C (AT MID-BLOCK)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)



**NOTE:**  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

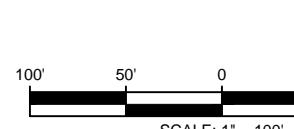
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**URS**



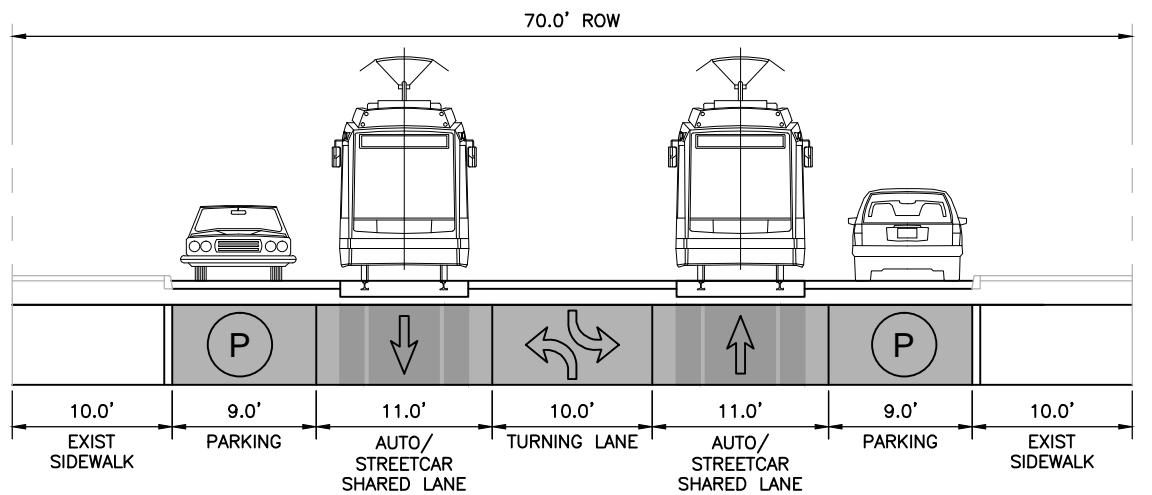
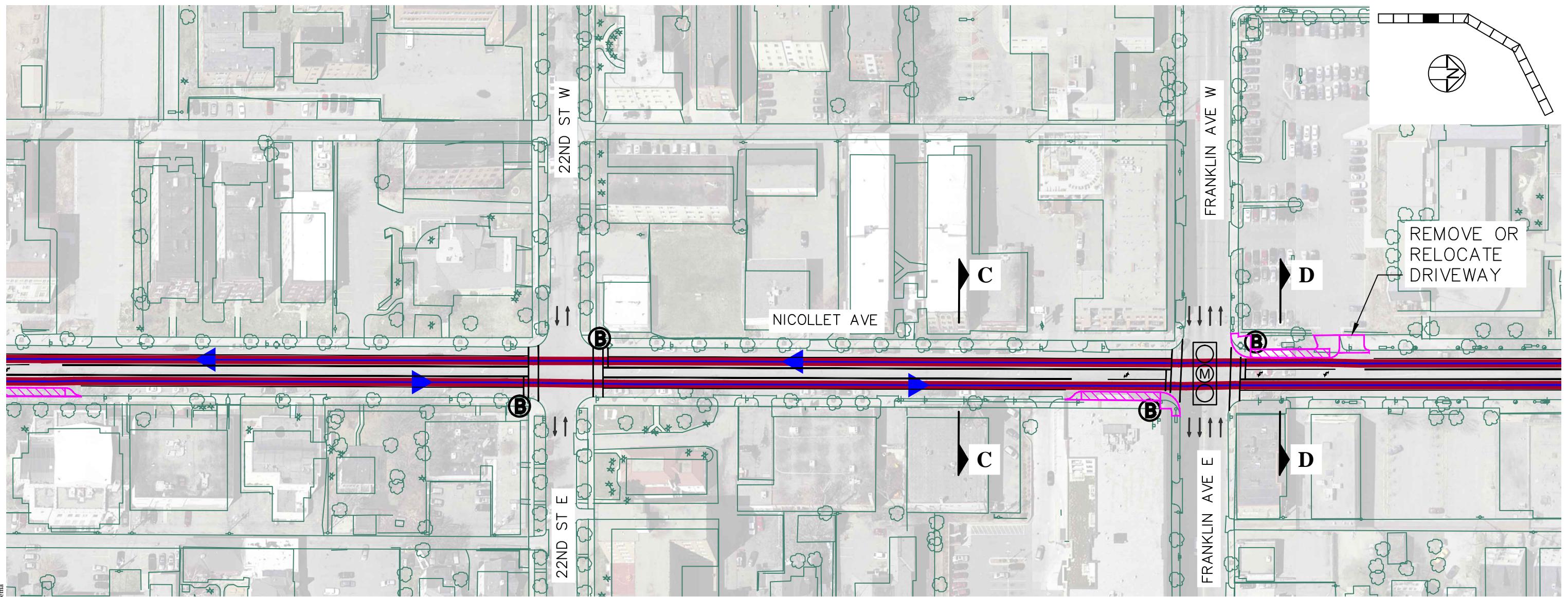
NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- EXISTING BUS STOP
- TRANSIT ONLY TRAFFIC SIGNAL PHASE
- PROPOSED STREETCAR STOP

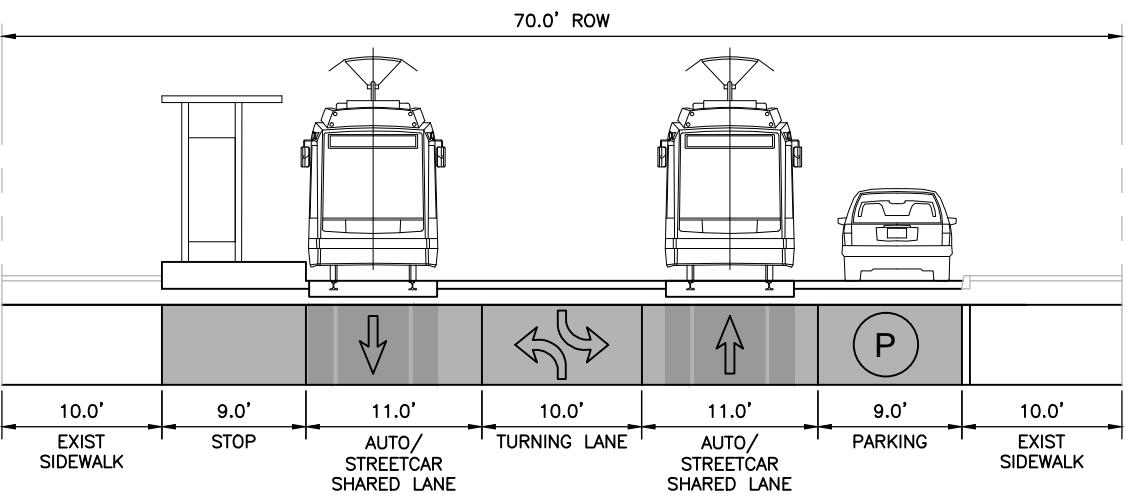


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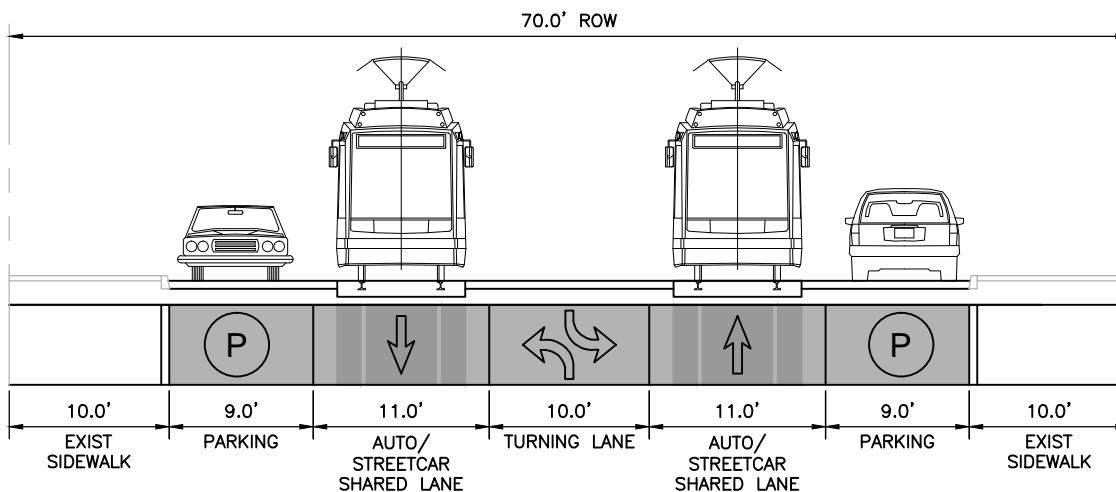
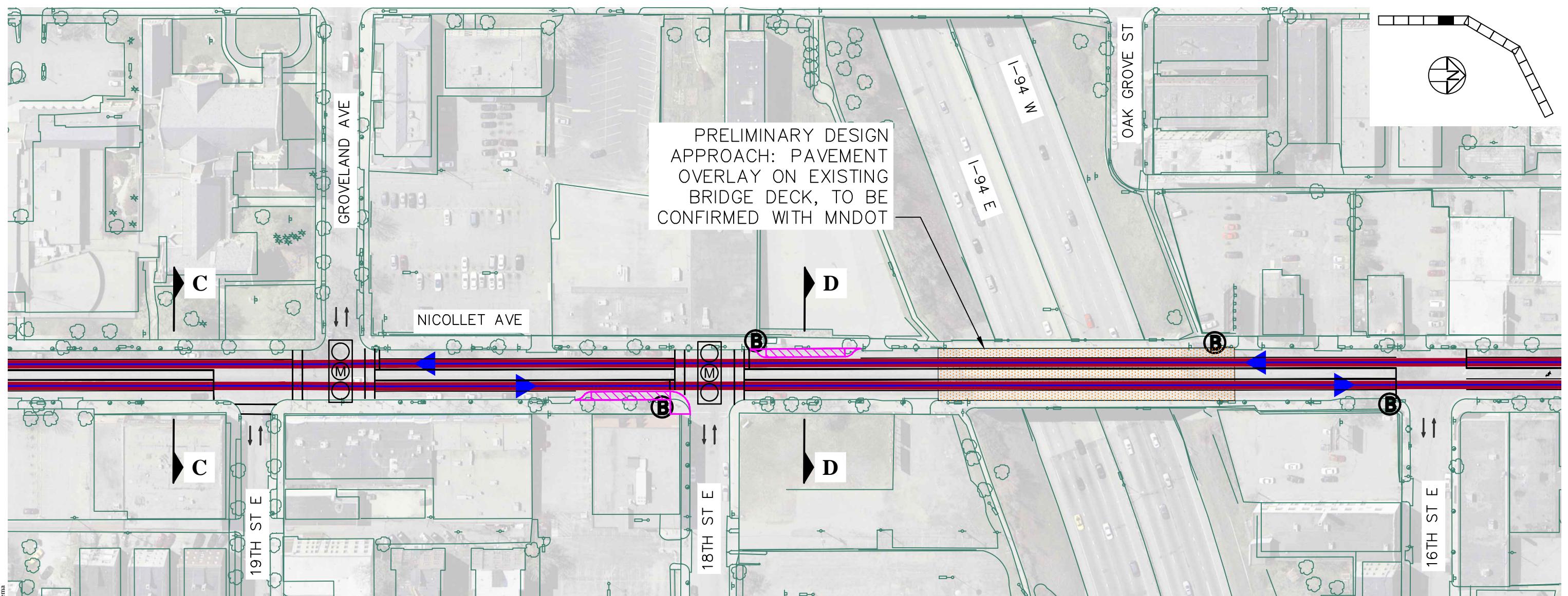


**SECTION C-C (AT MID-BLOCK)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

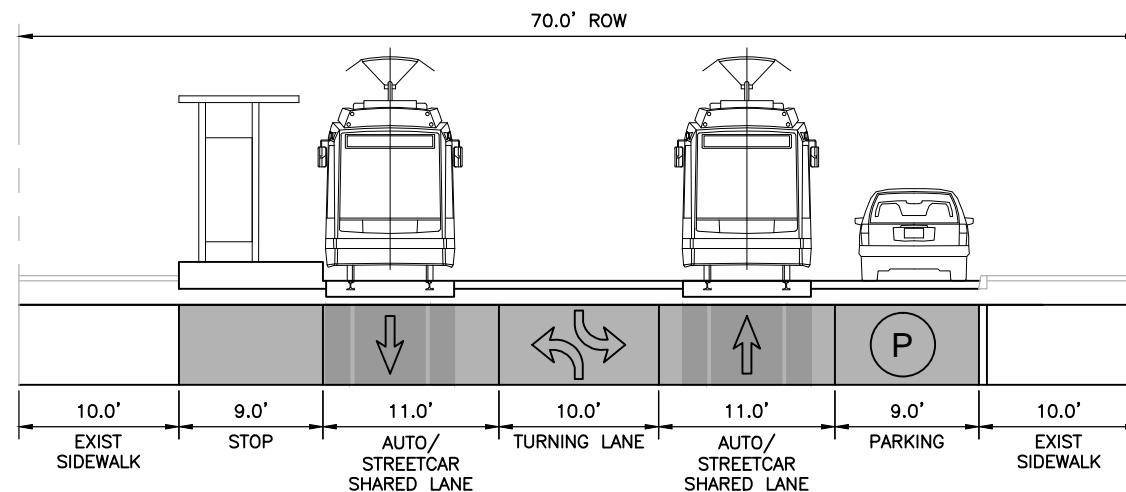


**SECTION D-D (AT STOP)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)

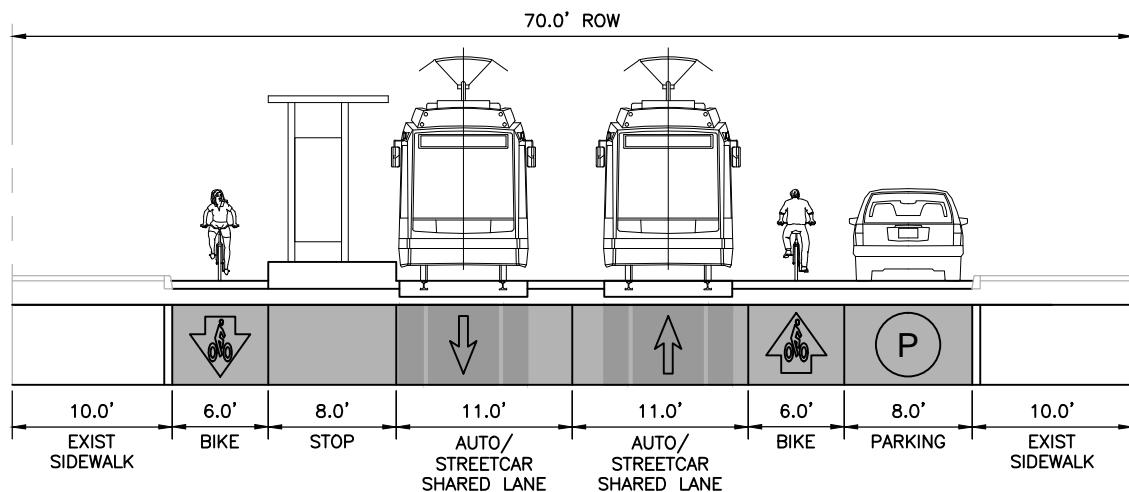
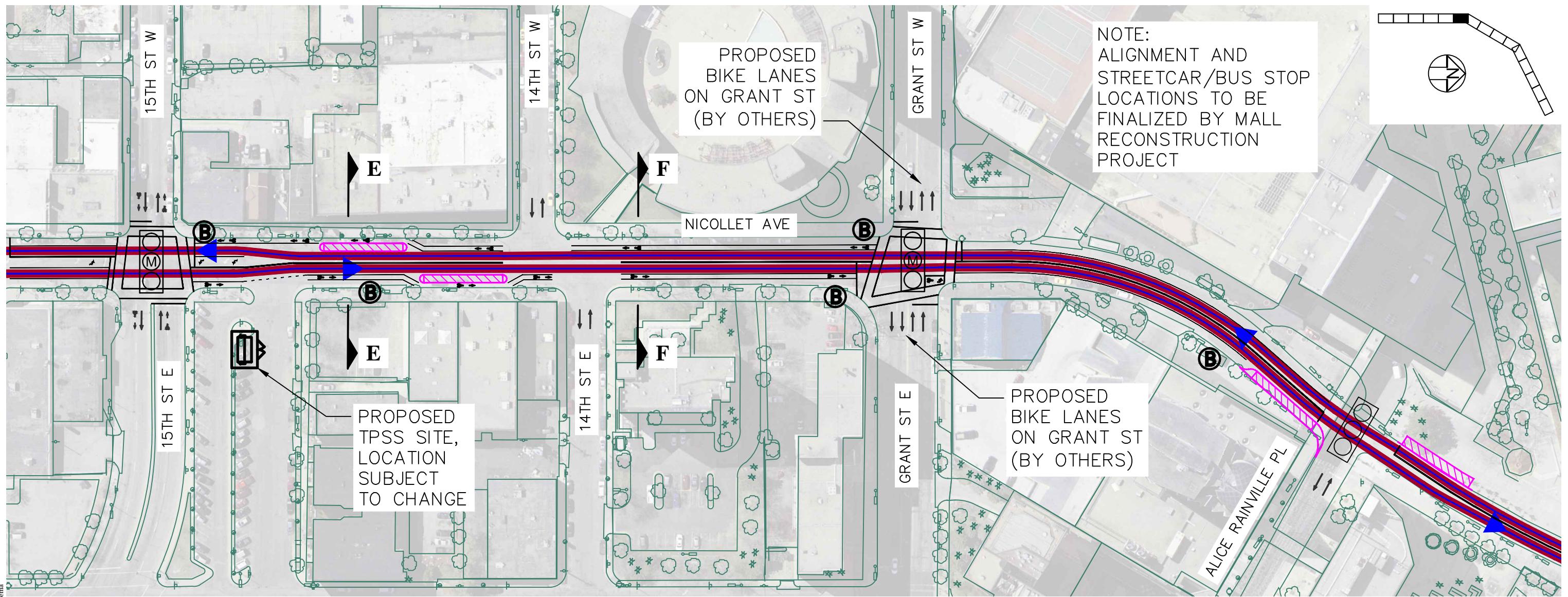


**SECTION C-C (AT MID-BLOCK)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

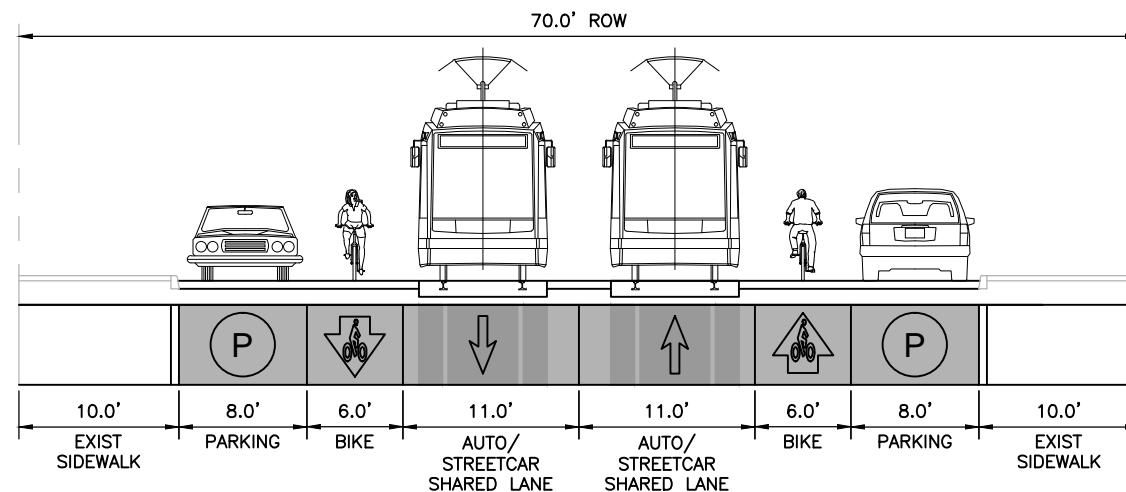


**SECTION D-D (AT STOP)**  
NICOLLET AVENUE (29TH ST TO 15TH ST)



**SECTION E-E (AT STOP)**  
NICOLLET AVENUE (15TH ST TO GRANT ST)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED



**SECTION F-F (MID-BLOCK)**  
NICOLLET AVENUE (15TH ST TO GRANT ST)

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**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

**LEGEND:**

- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)

PROPOSED TRAFFIC SIGNAL

EXISTING BUS STOP

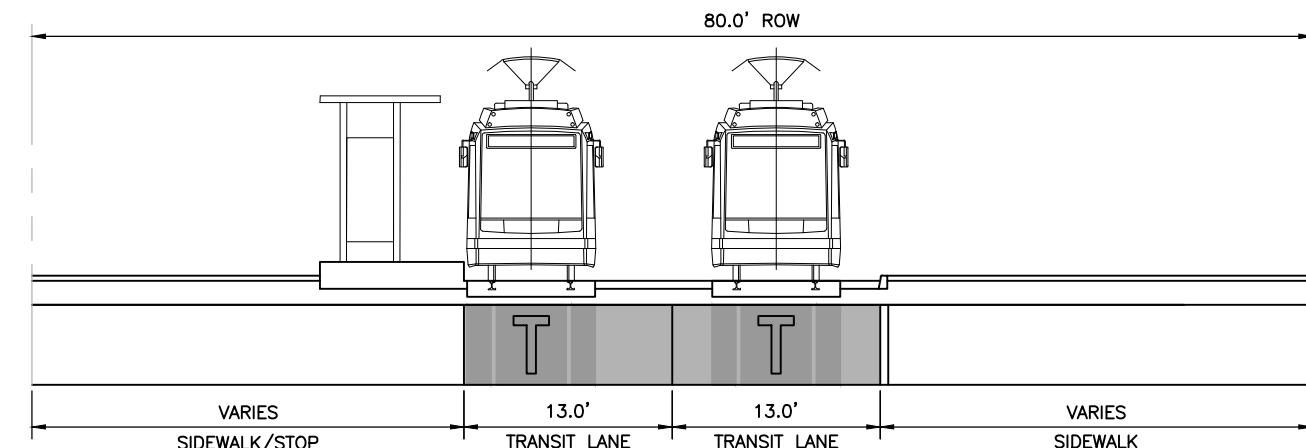
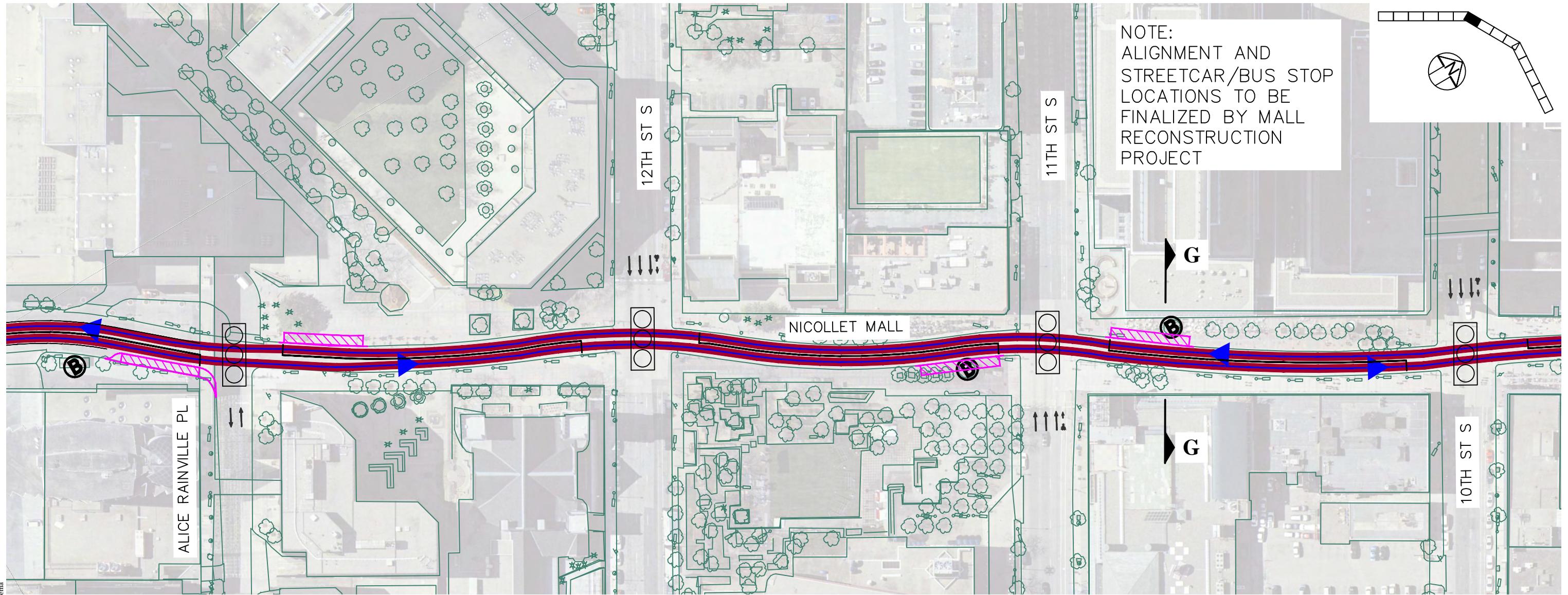


PROPOSED  
STREETCAR  
STOP

100'  
50'  
0  
100'

SCALE: 1" = 100'

Scale:  
1"=100'  
Date:  
OCTOBER 2014  
Sheet No.:  
06



**SECTION G-G**  
NICOLLET MALL (GRANT ST TO 3RD ST)

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**URS**

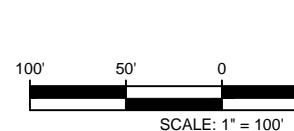


NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

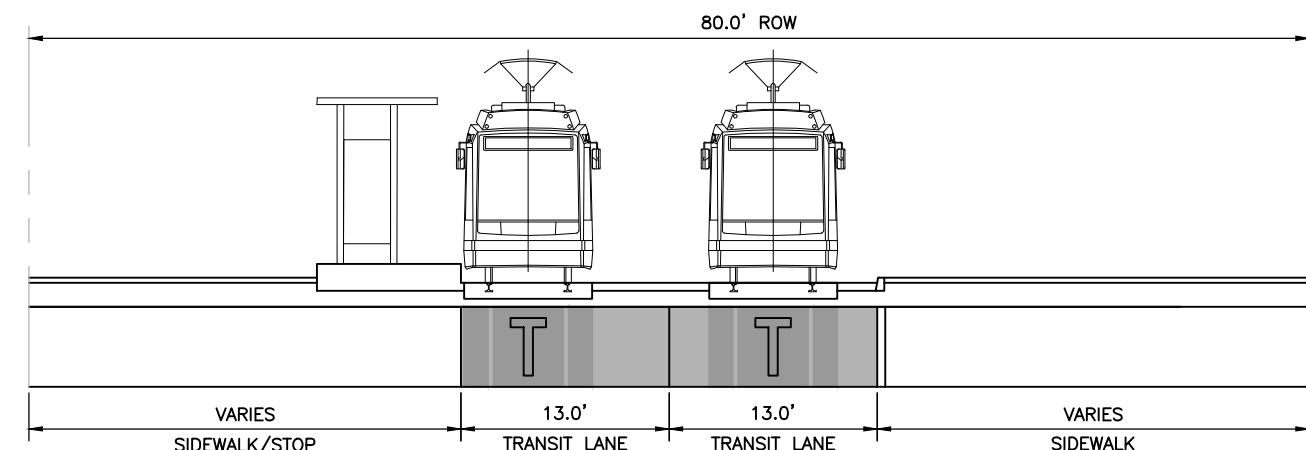
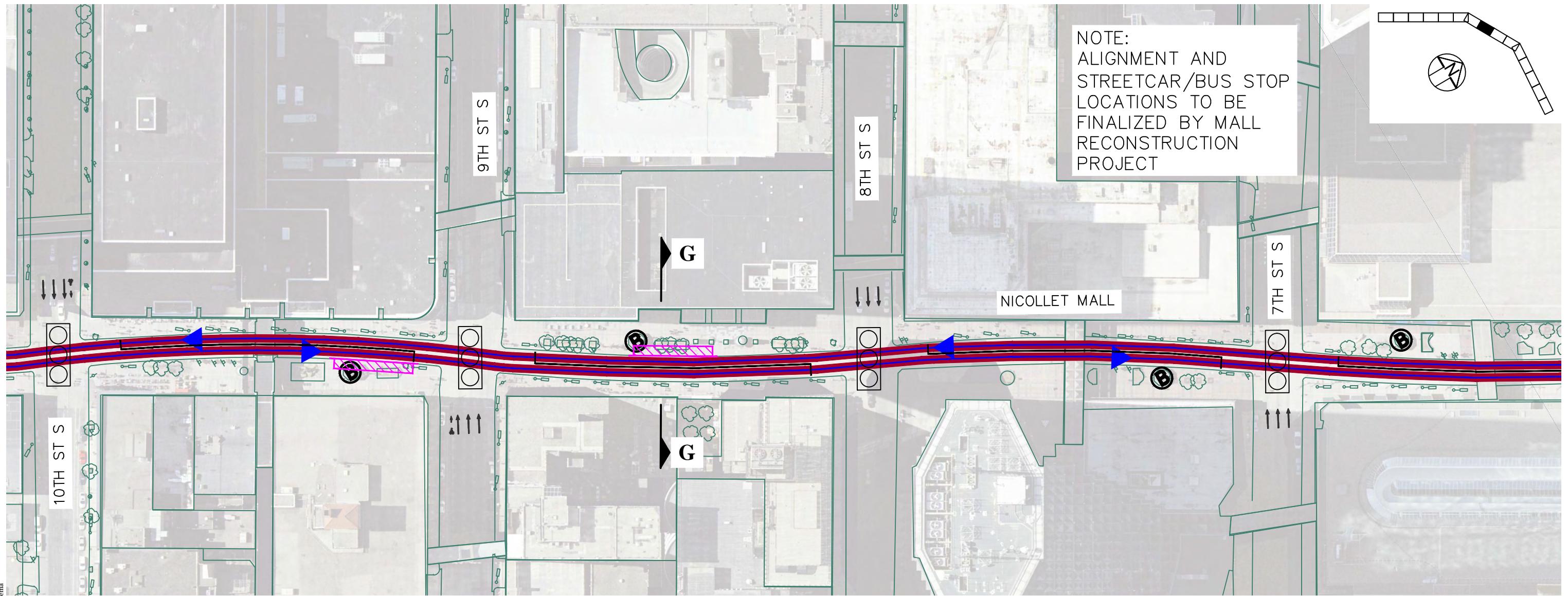
- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- MODIFY EXISTING TRAFFIC SIGNAL

- EXISTING BUS STOP
- PROPOSED STREETCAR STOP
- TRANSIT ONLY TRAFFIC SIGNAL PHASE



Scale:  
1"=100'  
Date:  
OCTOBER 2014  
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**SECTION G-G**  
NICOLLET MALL (GRANT ST TO 3RD ST)

**DRAFT**  
**URS**

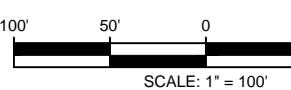


NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

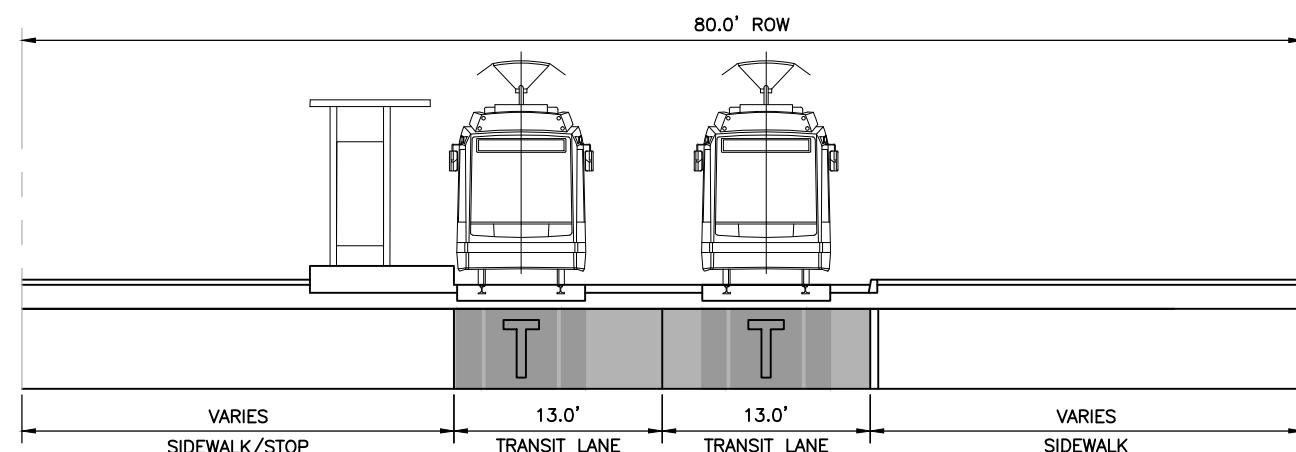
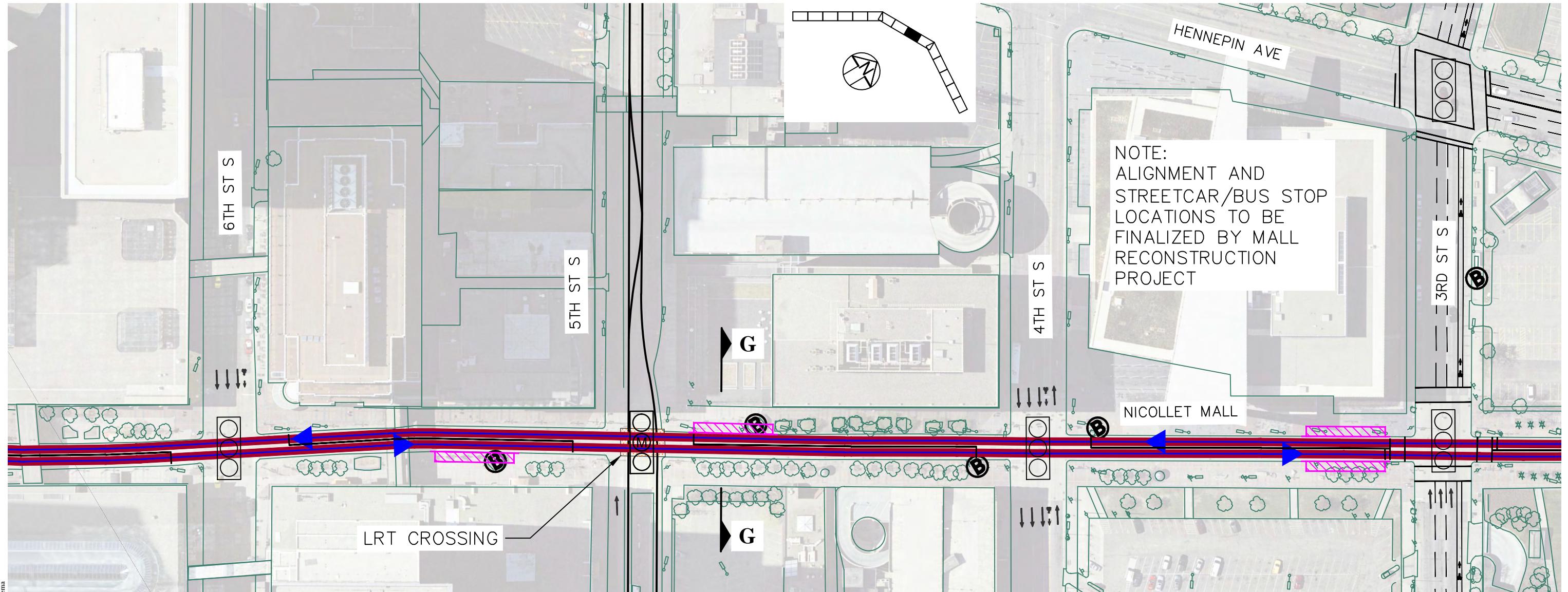
- LEGEND:**
- TRACK ALIGNMENT (Red line)
  - PROPOSED CURB WORK (Pink hatched area)
  - DIRECTION OF TRAVEL (Blue arrow)

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS) (Black circle with two vertical lines)
- PROPOSED TRAFFIC SIGNAL (Black circle with three vertical lines)
- MODIFY EXISTING TRAFFIC SIGNAL (Black circle with diagonal line)

- EXISTING BUS STOP (Black circle with 'B')
- PROPOSED STREETCAR STOP (Pink hatched area)
- TRANSIT ONLY TRAFFIC SIGNAL PHASE (Black circle with 'T')



Scale:  
1"=100'  
Date:  
OCTOBER 2014  
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**SECTION G-G**  
NICOLLET MALL (GRANT ST TO 3RD ST)

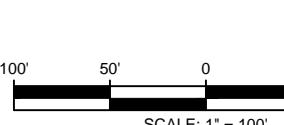
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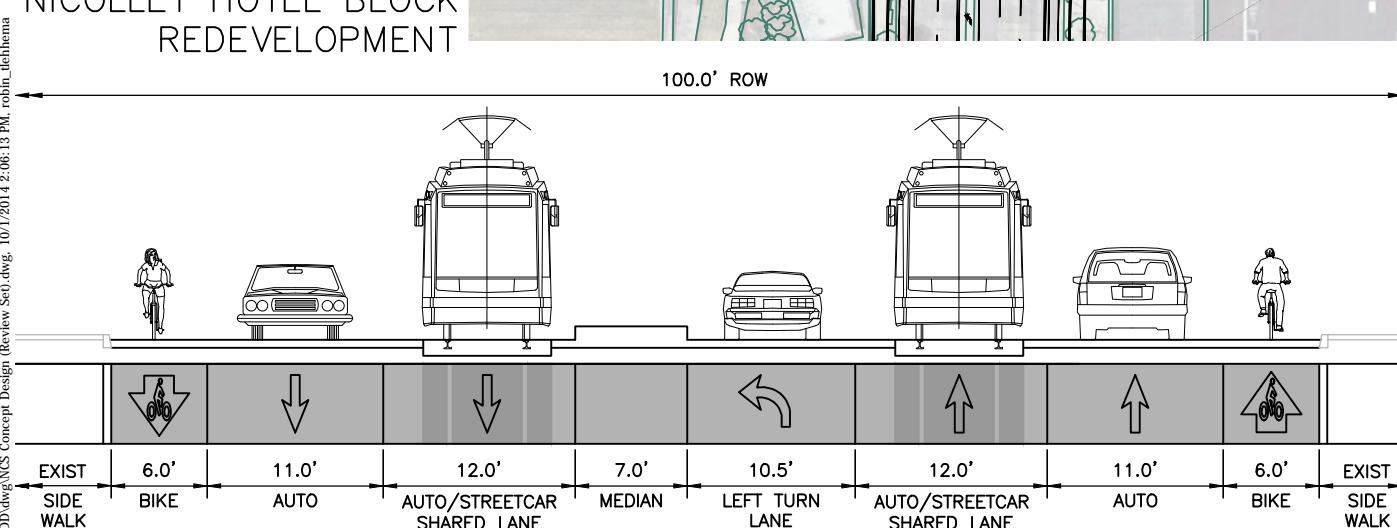
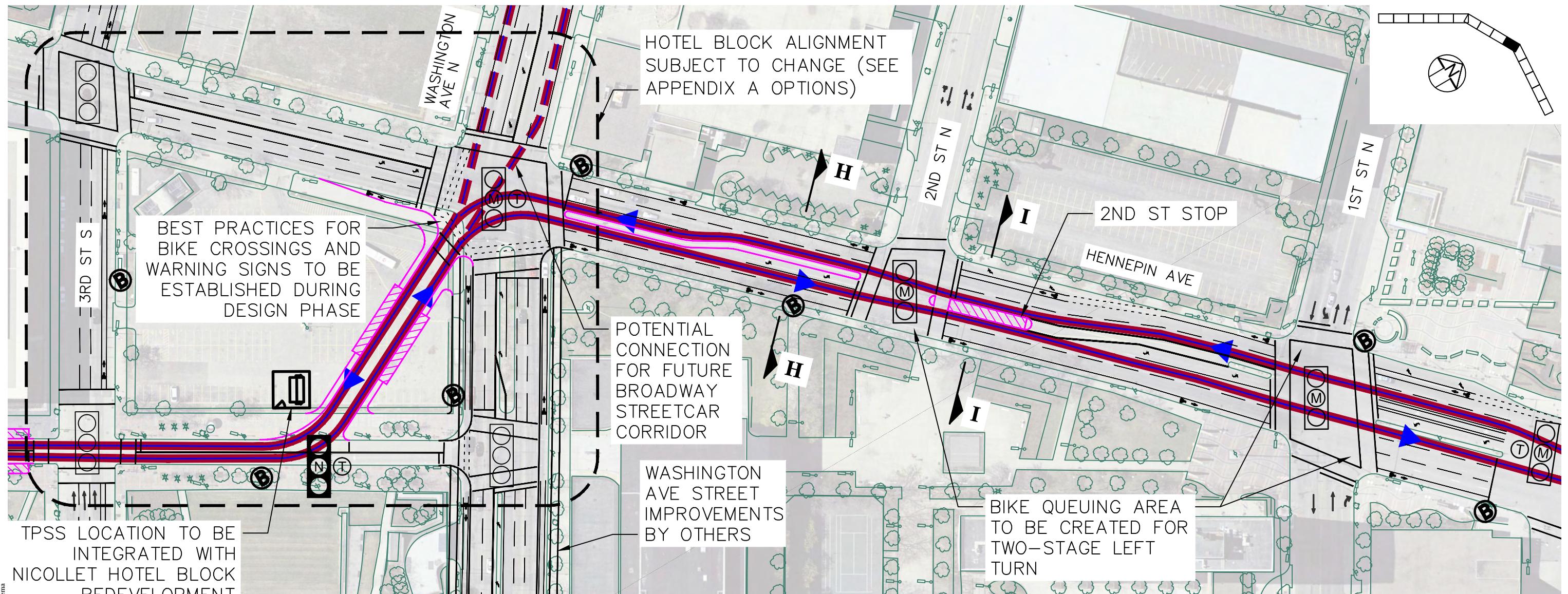
NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
NICOLLET AVENUE

- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- TRANSIT ONLY TRAFFIC SIGNAL PHASE
- ▨ PROPOSED STREETCAR STOP



Scale:  
1"=100'  
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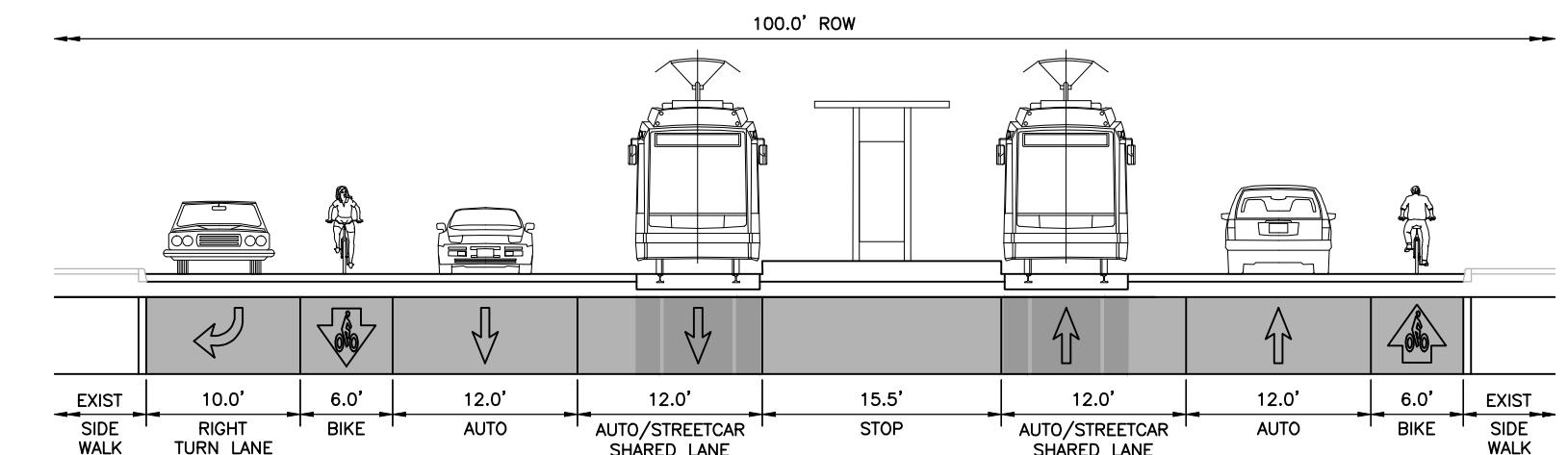
**SECTION H-H**  
HENNEPIN AVENUE (WASHINGTON AVE TO 2ND ST)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

**LEGEND:**

- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

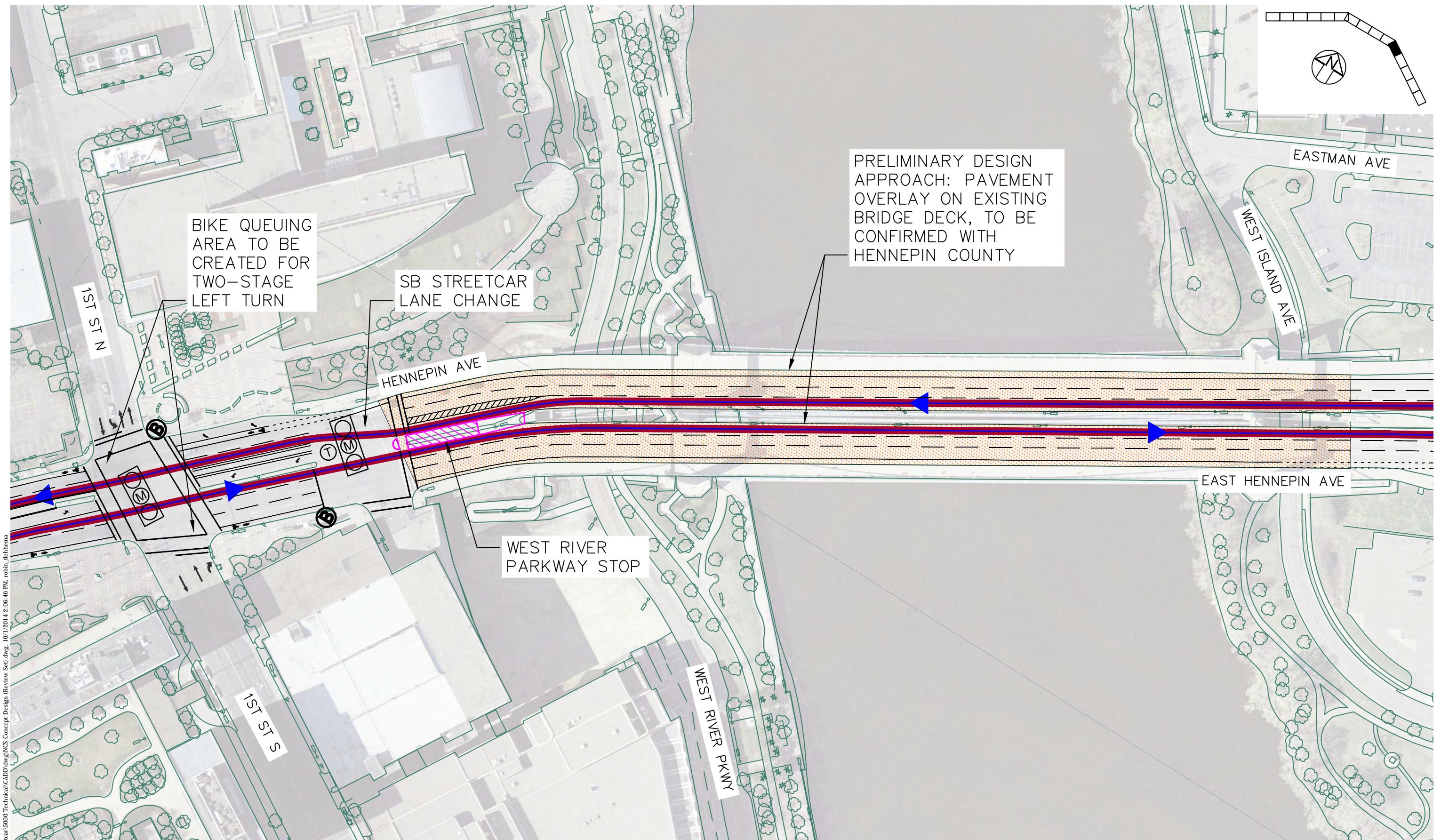
- (○) EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- (○) PROPOSED TRAFFIC SIGNAL
- (○) TRANSIT ONLY TRAFFIC SIGNAL PHASE
- (■) PROPOSED STREETCAR STOP



**SECTION I-I**  
HENNEPIN AVENUE (2ND ST TO 1ST ST)

Scale: 1"=100'  
Date: OCTOBER 2014  
Sheet No.: 10

100' 50' 0 100'  
SCALE: 1" = 100'



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**URS**



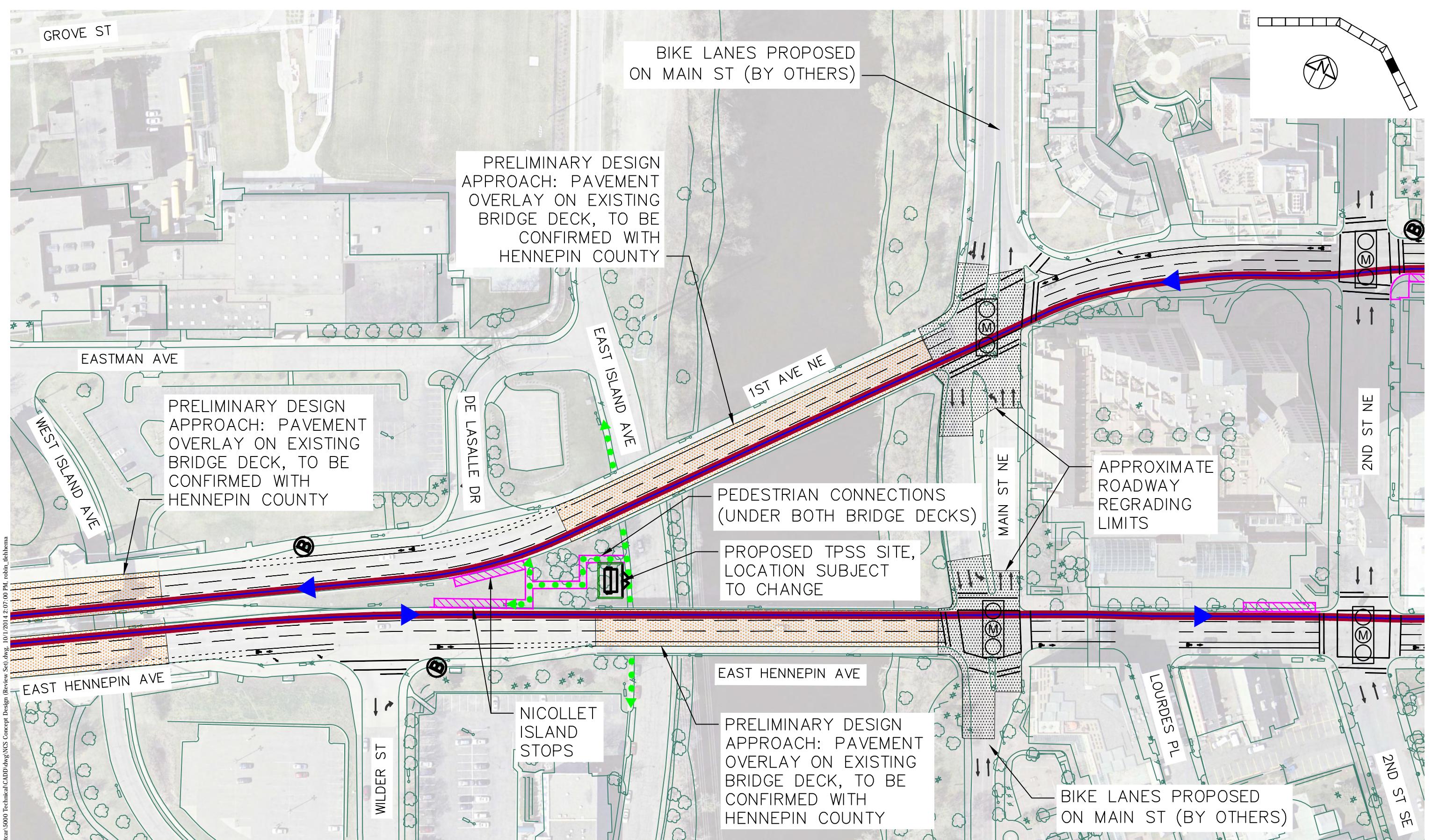
NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
HENNEPIN AVENUE

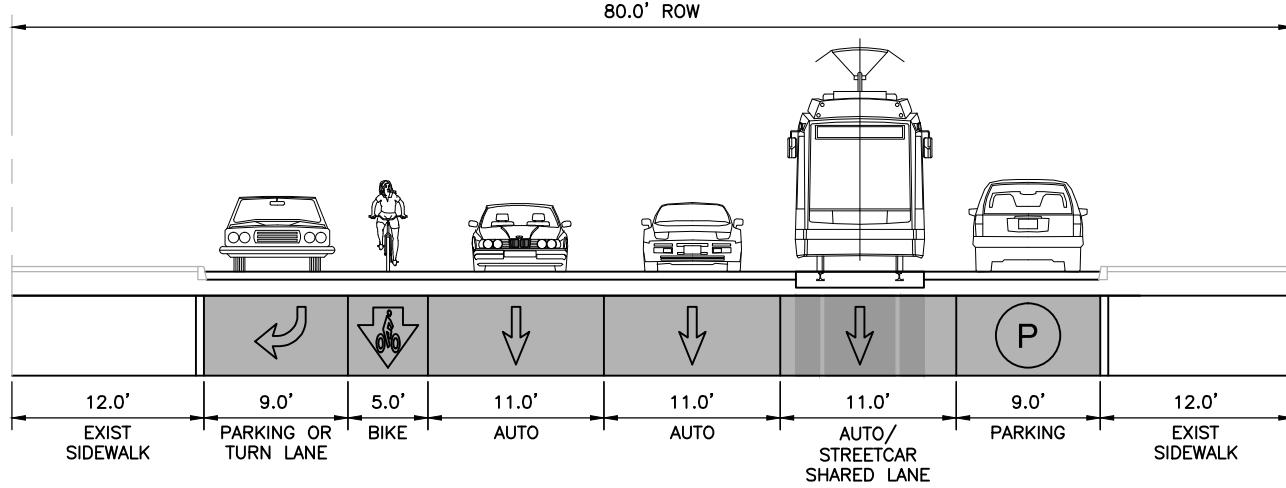
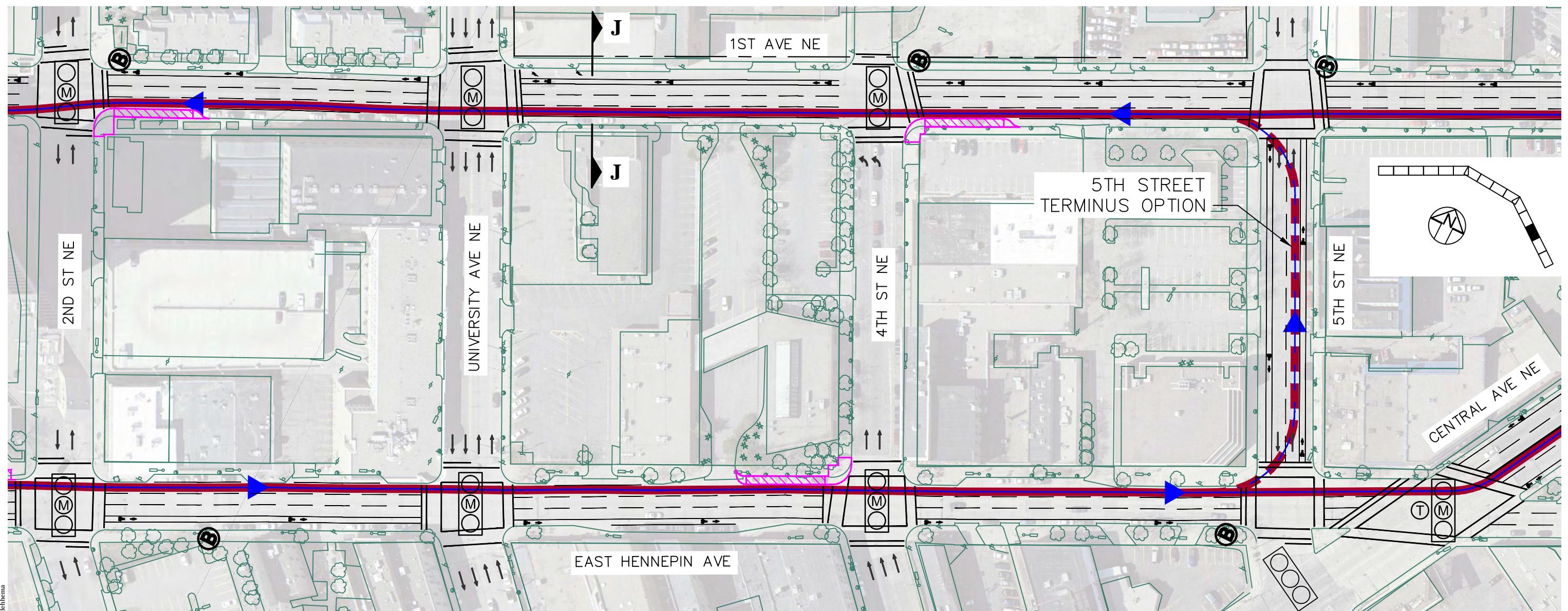
- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- EXISTING BUS STOP
- TRANSIT ONLY TRAFFIC SIGNAL PHASE
- PROPOSED STREETCAR STOP

100' 50' 0 100'  
SCALE: 1" = 100'

Scale:  
1"=100'  
Date:  
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**SECTION J-J**  
1ST AVENUE (DE LASALLE DR TO CENTRAL AVE)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

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**URS**



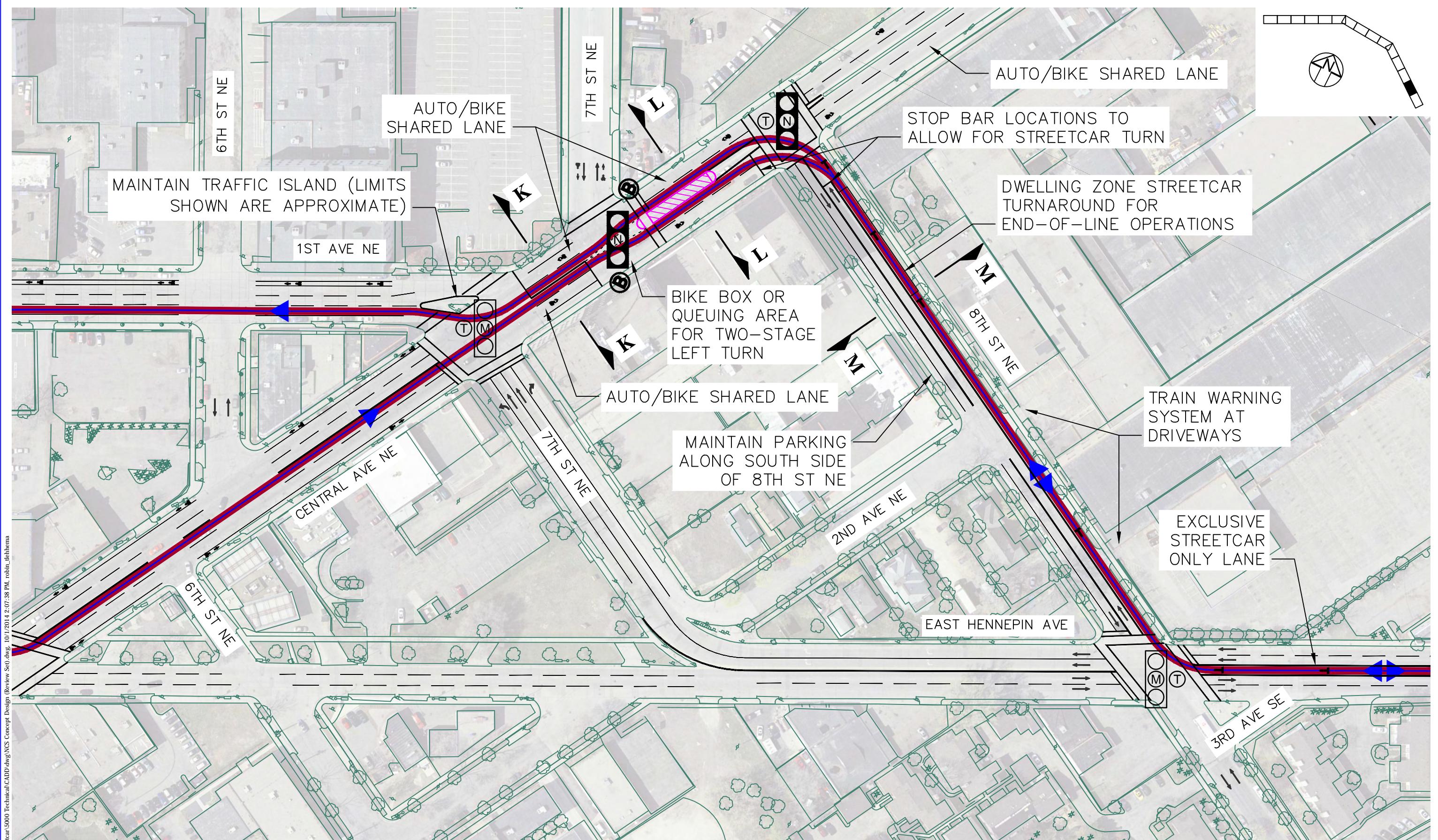
NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
HENNEPIN AVENUE/1ST AVENUE

- LEGEND:**
- TRACK ALIGNMENT (Red line)
  - PROPOSED CURB WORK (Pink arrow/hatching)
  - DIRECTION OF TRAVEL (Blue arrow)

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS) (Circle with 'M')
- PROPOSED TRAFFIC SIGNAL (Circle with 'P')
- TRANSIT ONLY TRAFFIC SIGNAL PHASE (Circle with 'T')
- PROPOSED STREETCAR STOP (Pink hatched area)



Scale:  
1"=100'  
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**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
CENTRAL AVENUE/8TH STREET

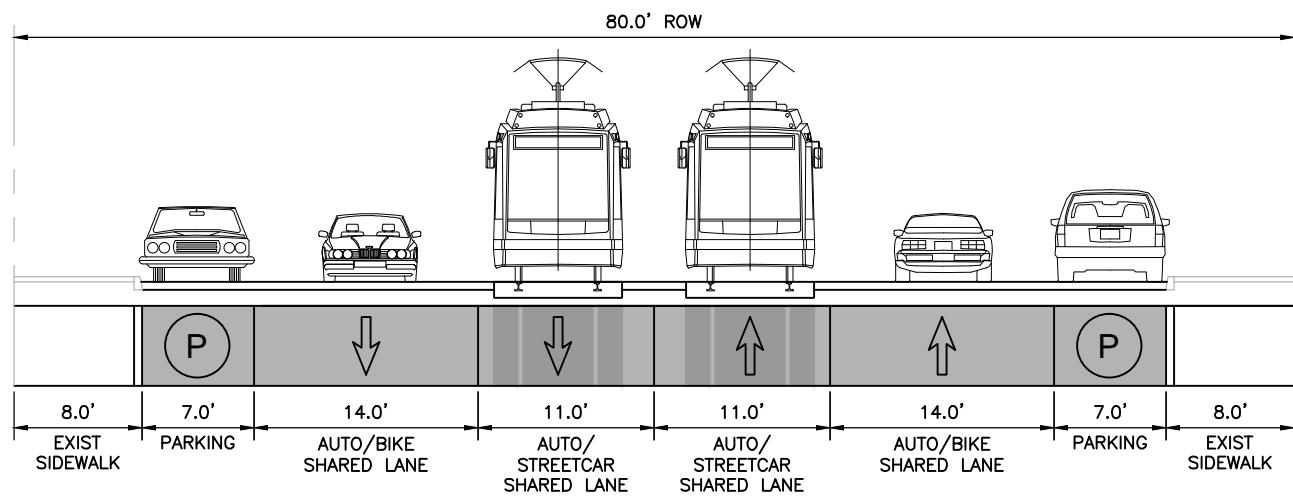
- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- MODIFY EXISTING TRAFFIC SIGNAL

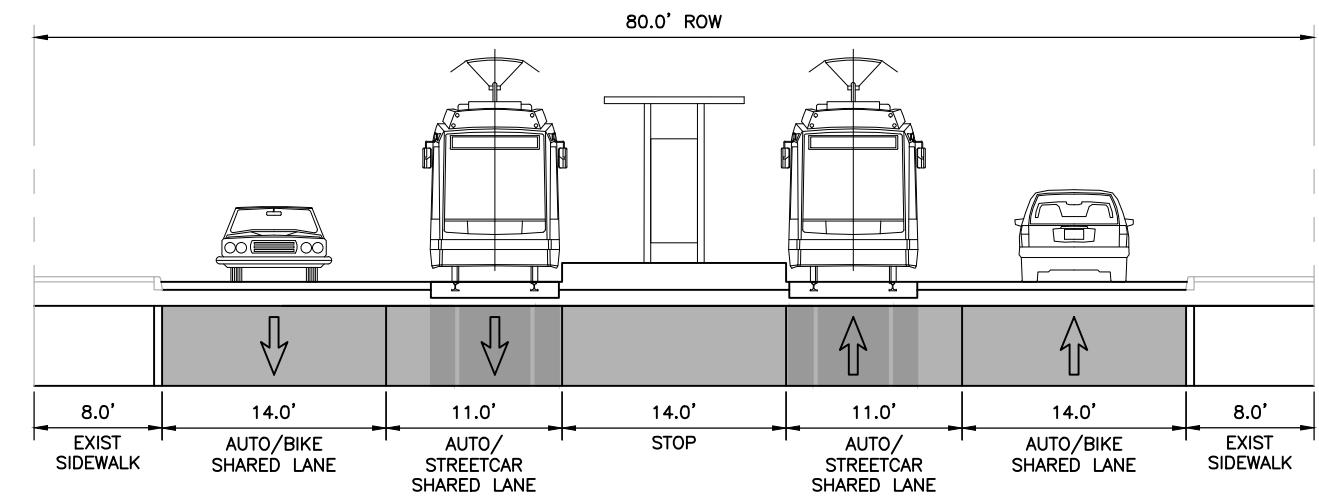
- (B) EXISTING BUS STOP
- (T) TRANSIT ONLY TRAFFIC SIGNAL PHASE
- (M) PROPOSED STREETCAR STOP

100' 50' 0 100'  
SCALE: 1" = 100'

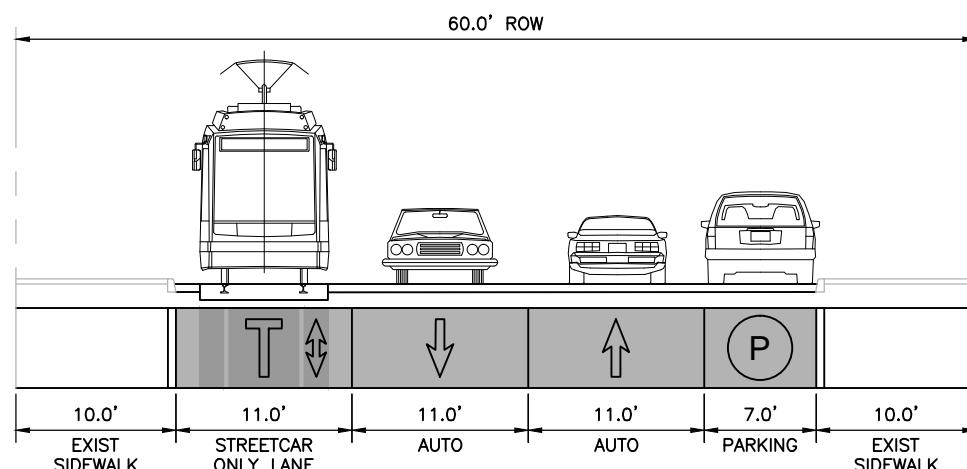
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1"=100'  
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**SECTION K-K**  
CENTRAL AVENUE (7TH ST TO 8TH ST)



**SECTION L-L**  
CENTRAL AVENUE (7TH ST TO 8TH ST)

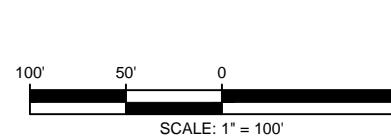
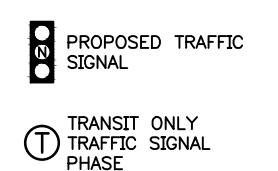
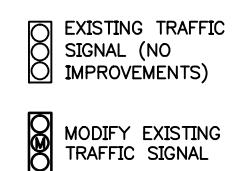


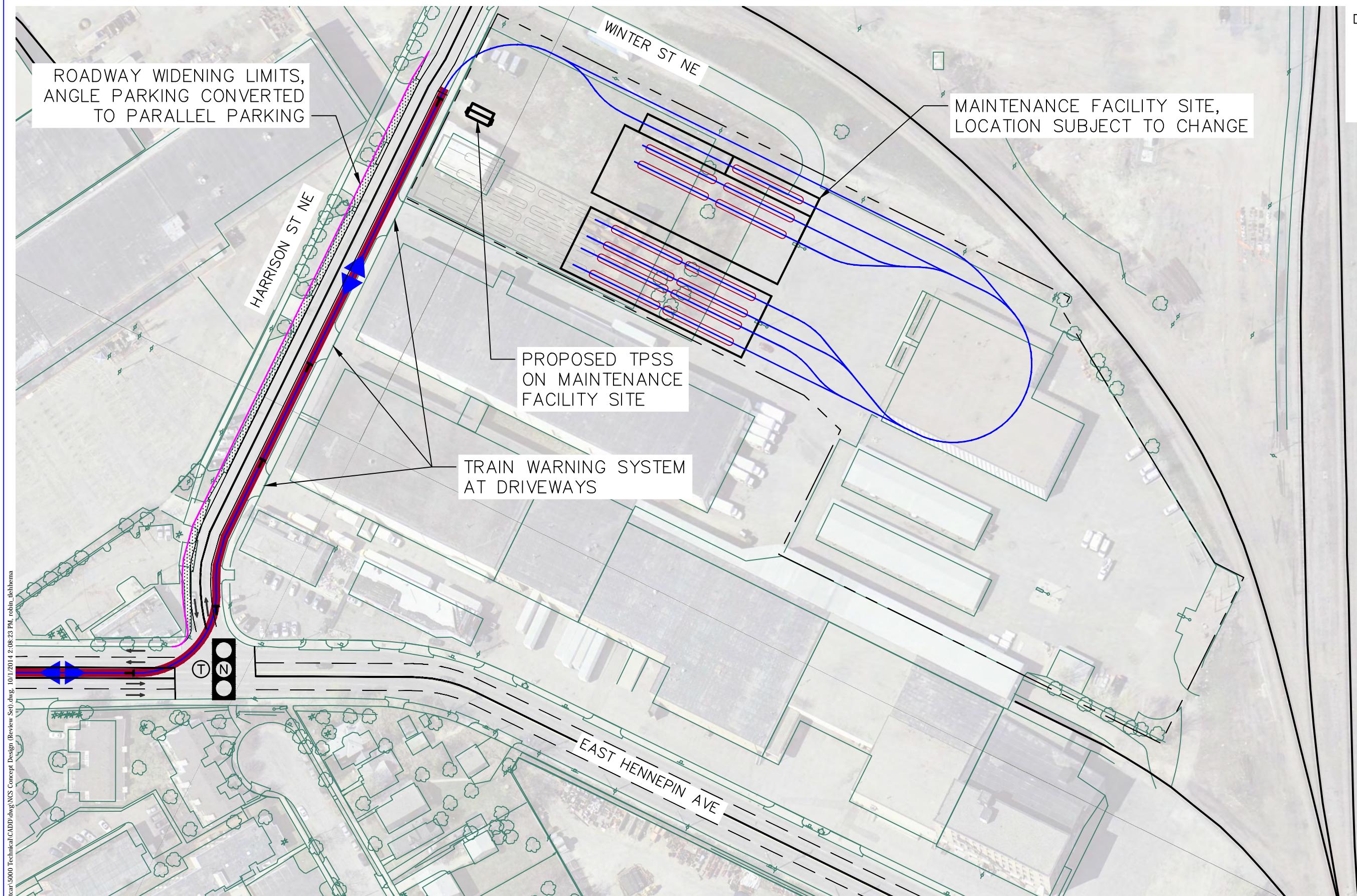
**SECTION M-M**  
8TH STREET (CENTRAL AVE TO HENNEPIN AVE)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED

**LEGEND:**

- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL





O:\25688\074 Nicollet Central\5000 Technical\CADD\dwg\NCS Concept Design (Review Set).dwg 10/1/2014 2:08:23 PM, robin\_lebhema

**DRAFT**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
(LAKE STREET TO CENTRAL AVENUE MOS)  
HARRISON STREET

**LEGEND:**

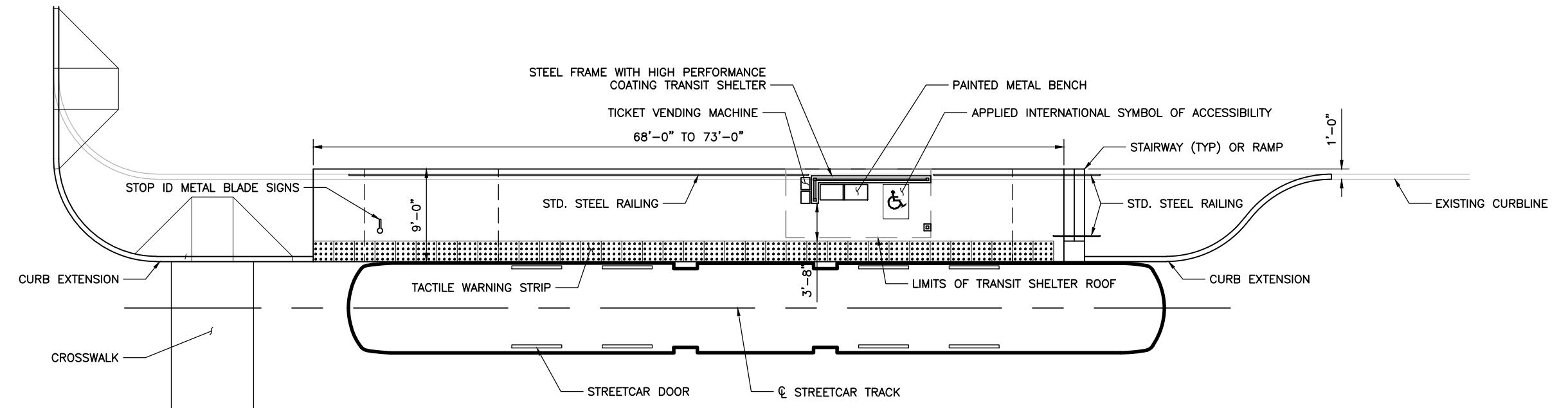
- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- TRANSIT ONLY TRAFFIC SIGNAL PHASE

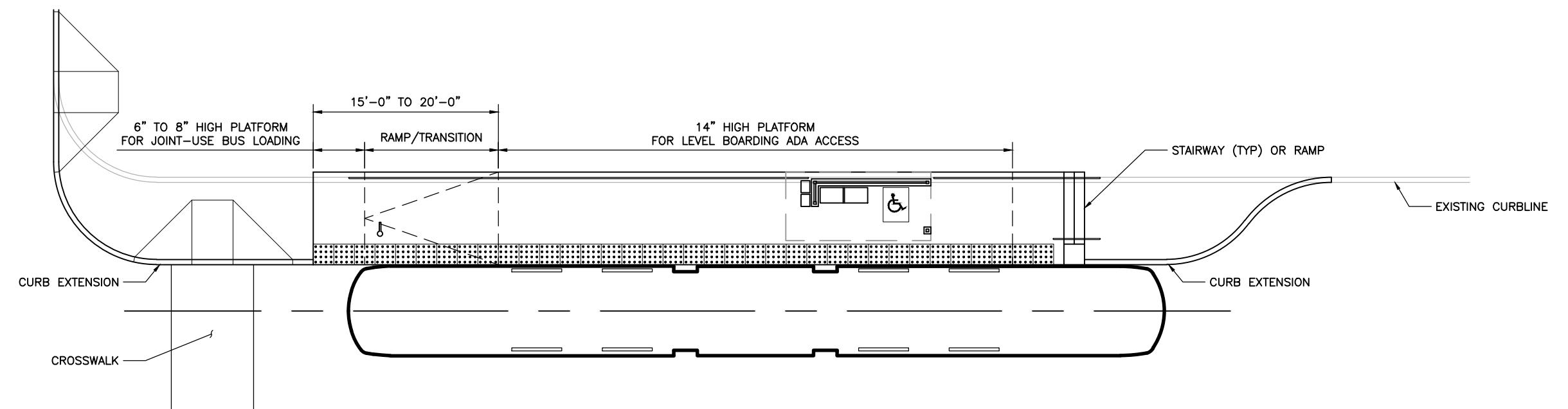
- EXISTING BUS STOP
- PROPOSED STREETCAR STOP

100' 50' 0 100'  
SCALE: 1" = 100'

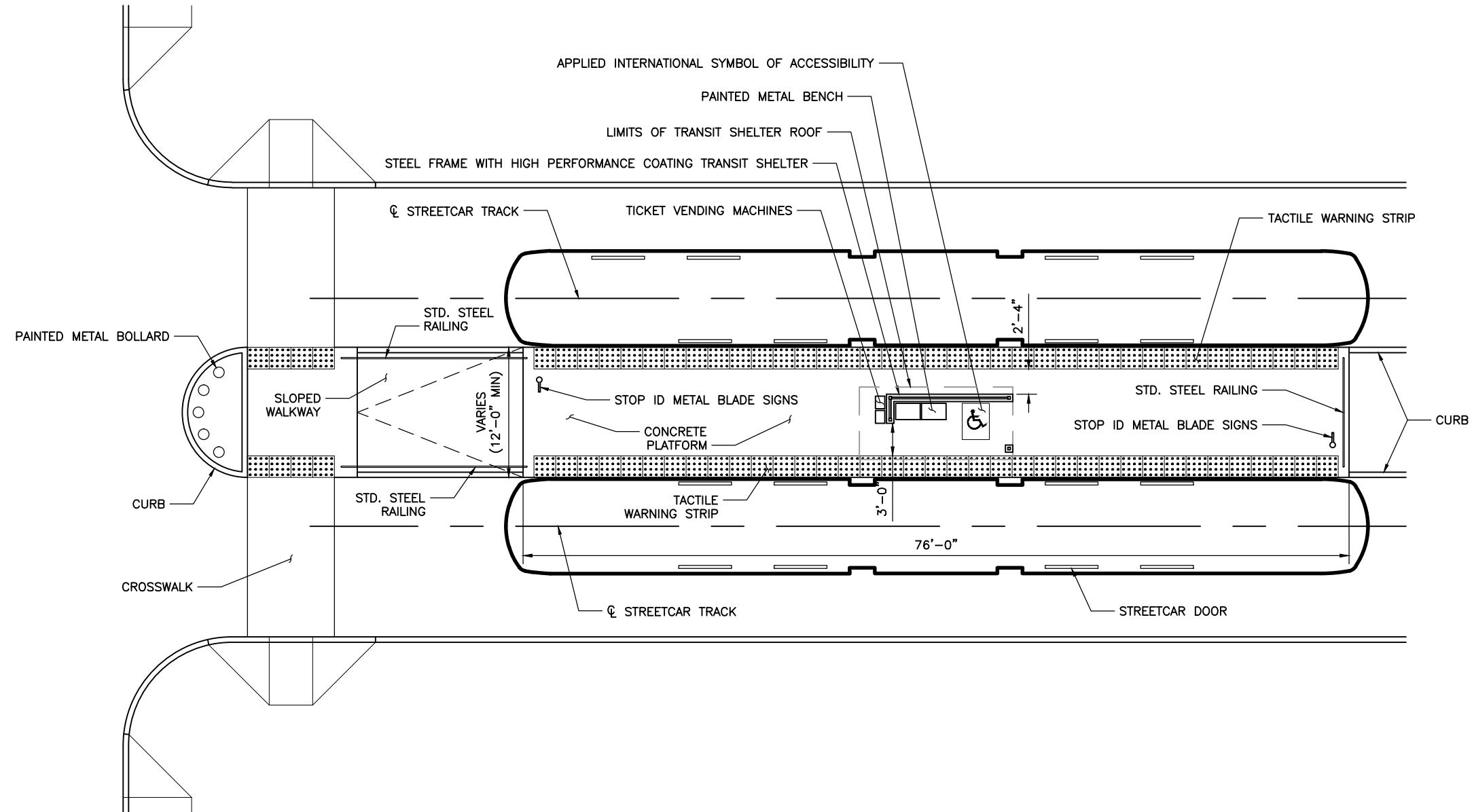
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1"=100'  
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CURBSIDE STREETCAR STOP (9FT WIDE MIN)  
LAYOUT PLAN



CURBSIDE STREETCAR STOP (9FT WIDE MIN)  
CONCEPT GRADING DIAGRAM



MEDIAN STREETCAR STOP (12FT WIDE MIN)  
LAYOUT PLAN

DRAFT



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
MEDIAN STREETCAR STOP LAYOUT

|            |              |
|------------|--------------|
| Scale:     | 1"=1'-0"     |
| Date:      | OCTOBER 2014 |
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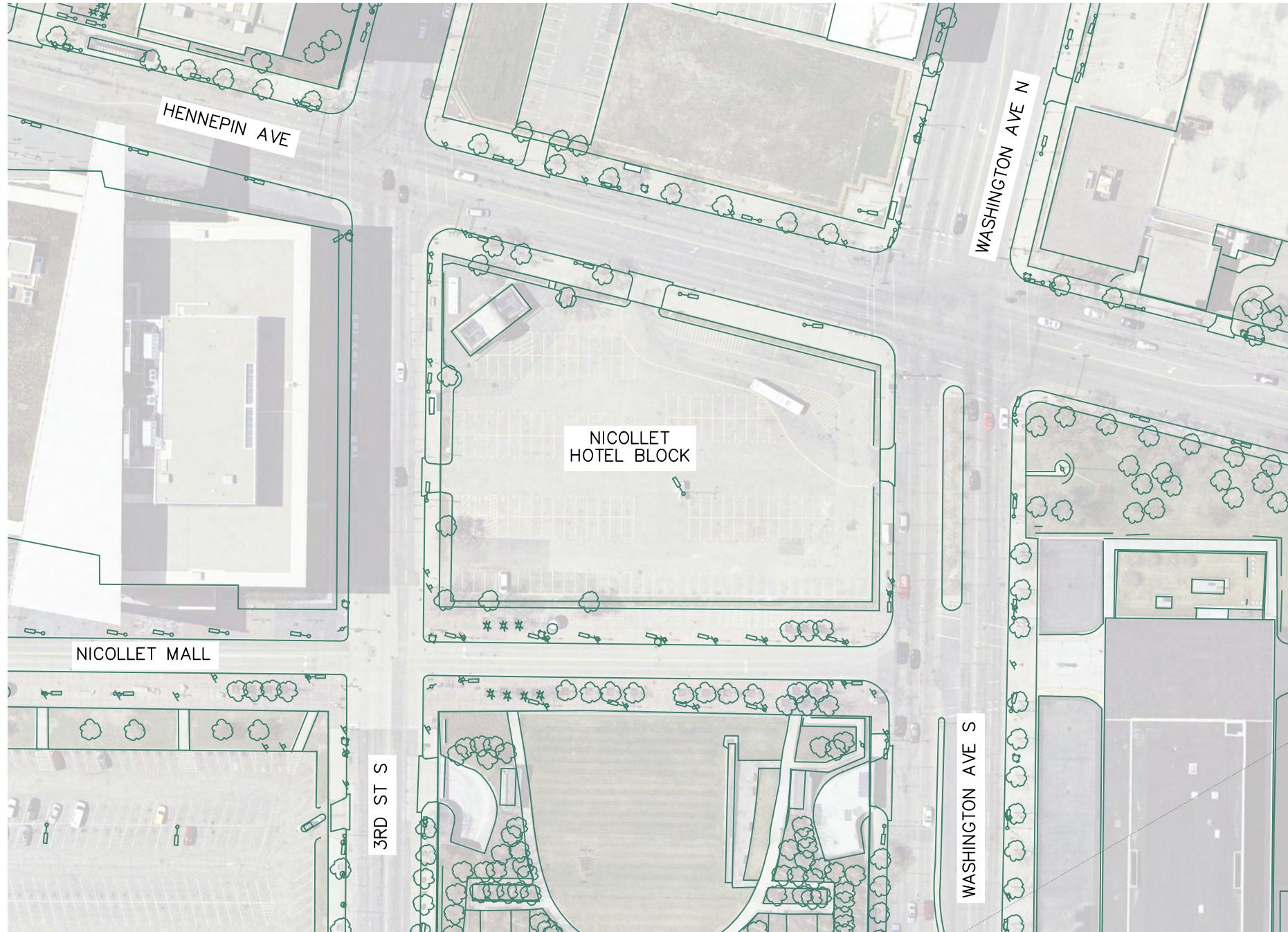
# NICOLLET – CENTRAL MODERN STREETCAR

## ENVIRONMENTAL ASSESSMENT

### APPENDIX A

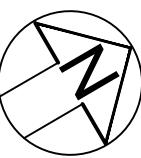
#### HOTEL BLOCK ALIGNMENT OPTIONS

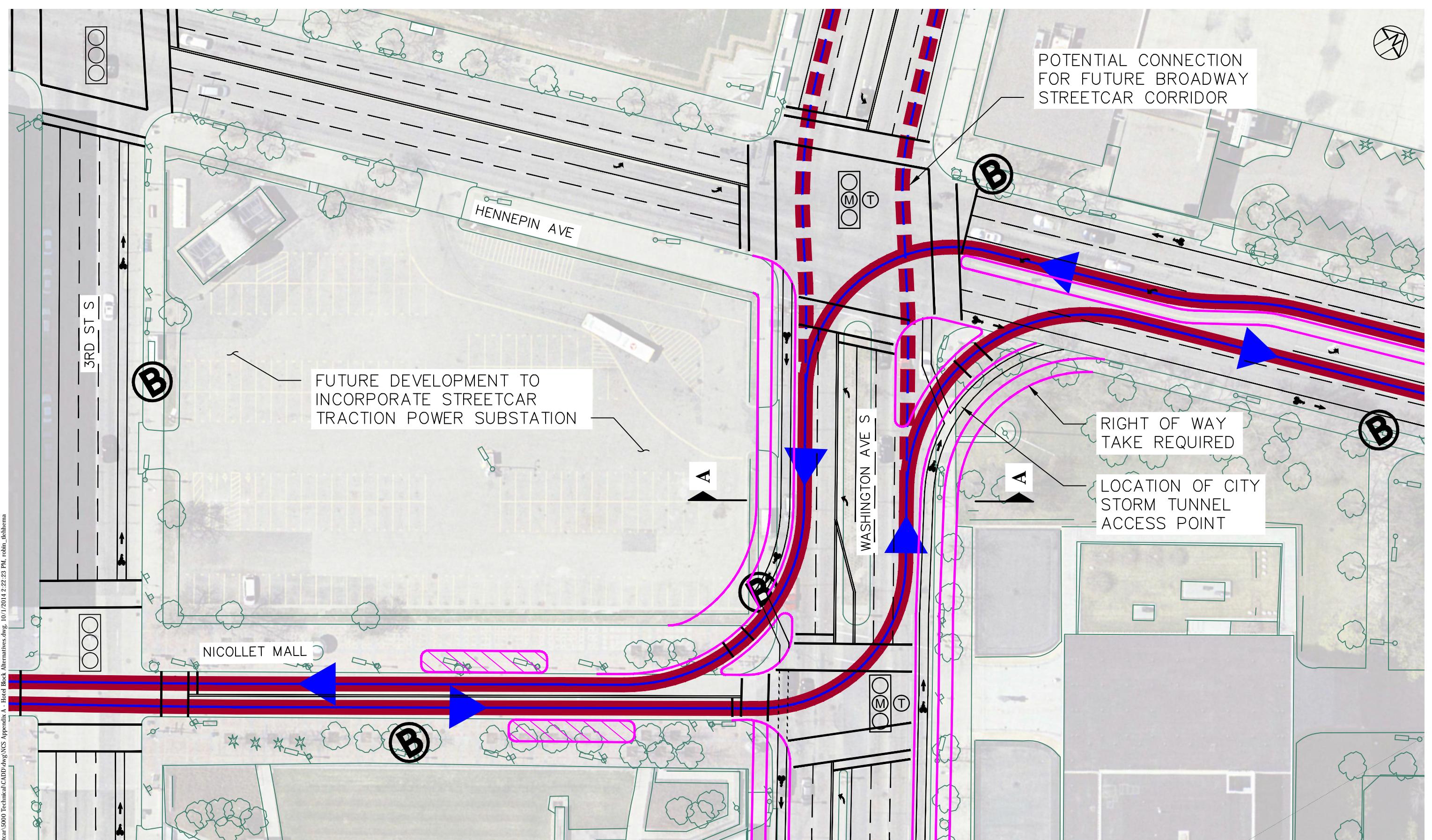
#### OCTOBER 2014



#### SHEET INDEX

| SHEET NO. | TITLE                                     |
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| COVER     | COVER SHEET                               |
| 1         | OPTION 2: IN WASHINGTON                   |
| 2         | OPTION 4A: IN 3RD STREET WITH CYCLE TRACK |
| 3         | OPTION 5A: AROUND THE BLOCK               |
| 4         | OPTION 6A: DIAGONAL                       |
| 5         | OPTION 7: CLOCKWISE AROUND THE BLOCK      |
| 6         | TYPICAL SECTIONS                          |





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**URS**



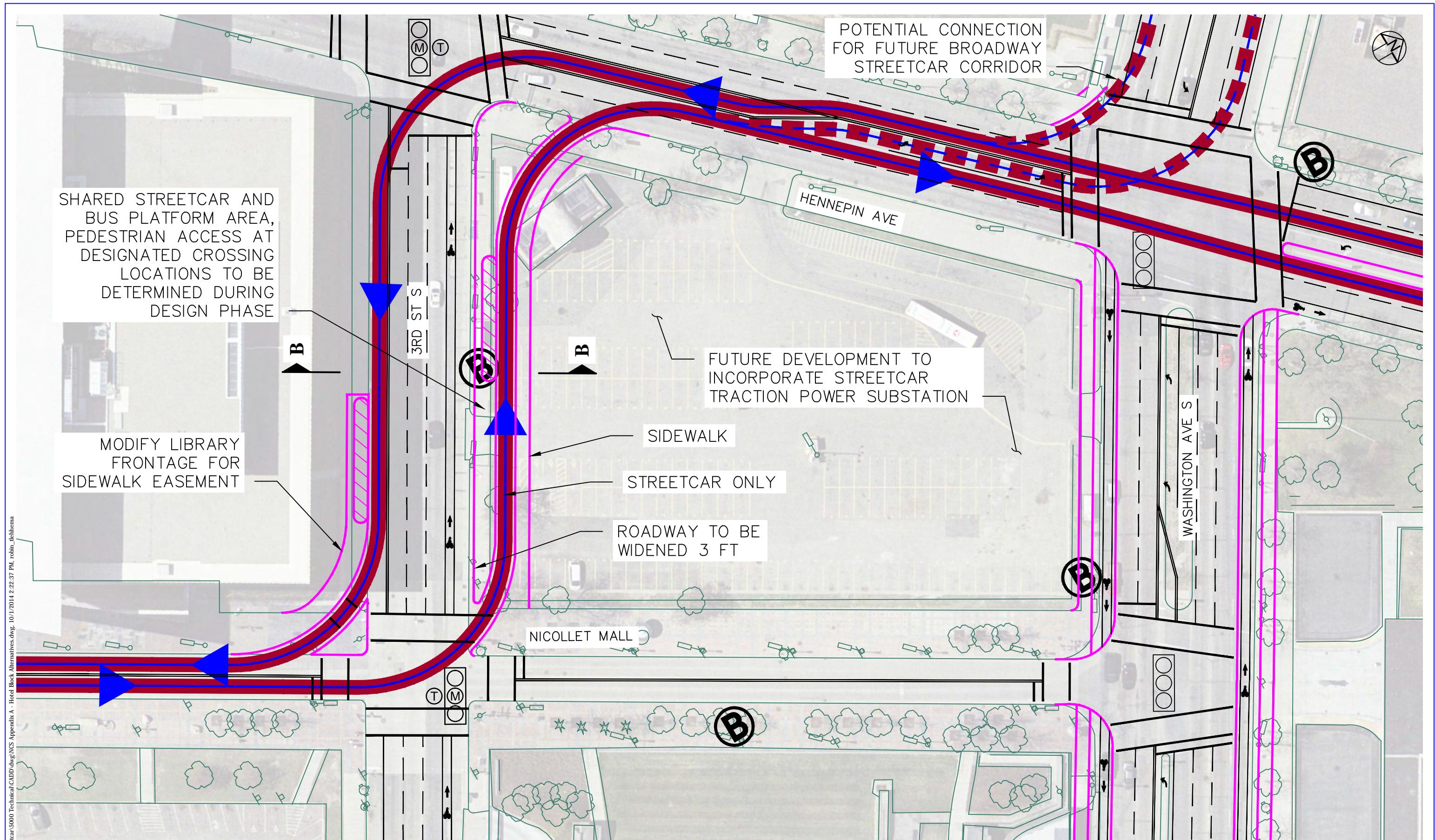
**NICOLLET-CENTRAL MODERN STREETCAR ENVIRONMENTAL ASSESSMENT HOTEL BLOCK ALIGNMENTS OPTION 2: IN WASHINGTON**

**LEGEND:**

- TRACK ALIGNMENT**
- PROPOSED CURB WORK**
- DIRECTION OF TRAVEL**
- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)**
- PROPOSED TRAFFIC SIGNAL**
- MODIFY EXISTING TRAFFIC SIGNAL PHASE**
- EXISTING BUS STOP**
- TRANSIT ONLY TRAFFIC SIGNAL PHASE**
- PROPOSED STREETCAR STOP**

**50'**      **25'**      **0**      **50'**  
SCALE: 1" = 50'

Scale:  
1"=50'  
Date:  
OCTOBER 2014  
Sheet No.:  
01



**DRAFT**  
**URS**



NICOLLET-CENTRAL MODERN STREETCAR ENVIRONMENTAL ASSESSMENT  
HOTEL BLOCK ALIGNMENTS  
OPTION 4A: IN 3RD STREET WITH CYCLE TRACK

**LEGEND:**

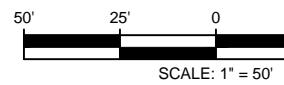
- TRACK ALIGNMENT
- PROPOSED CURB WORK
- ▶ DIRECTION OF TRAVEL

○ EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)

● PROPOSED TRAFFIC SIGNAL

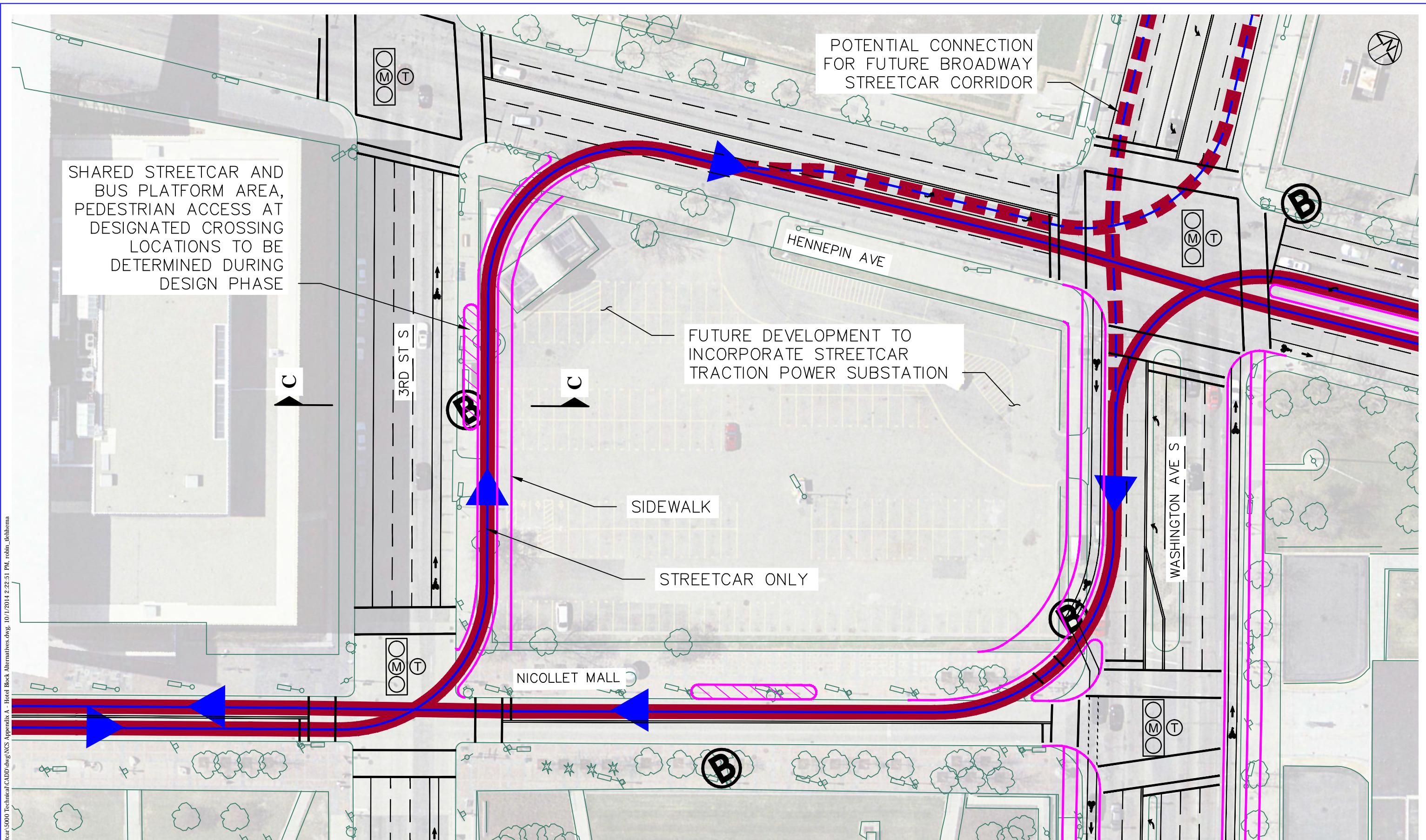
○ TRANSIT ONLY TRAFFIC SIGNAL PHASE

○ PROPOSED STREETCAR STOP



SCALE: 1" = 50'

Scale: 1"=50'  
Date: OCTOBER 2014  
Sheet No.: 02



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
HOTEL BLOCK ALIGNMENTS  
OPTION 5A: AROUND THE BLOCK

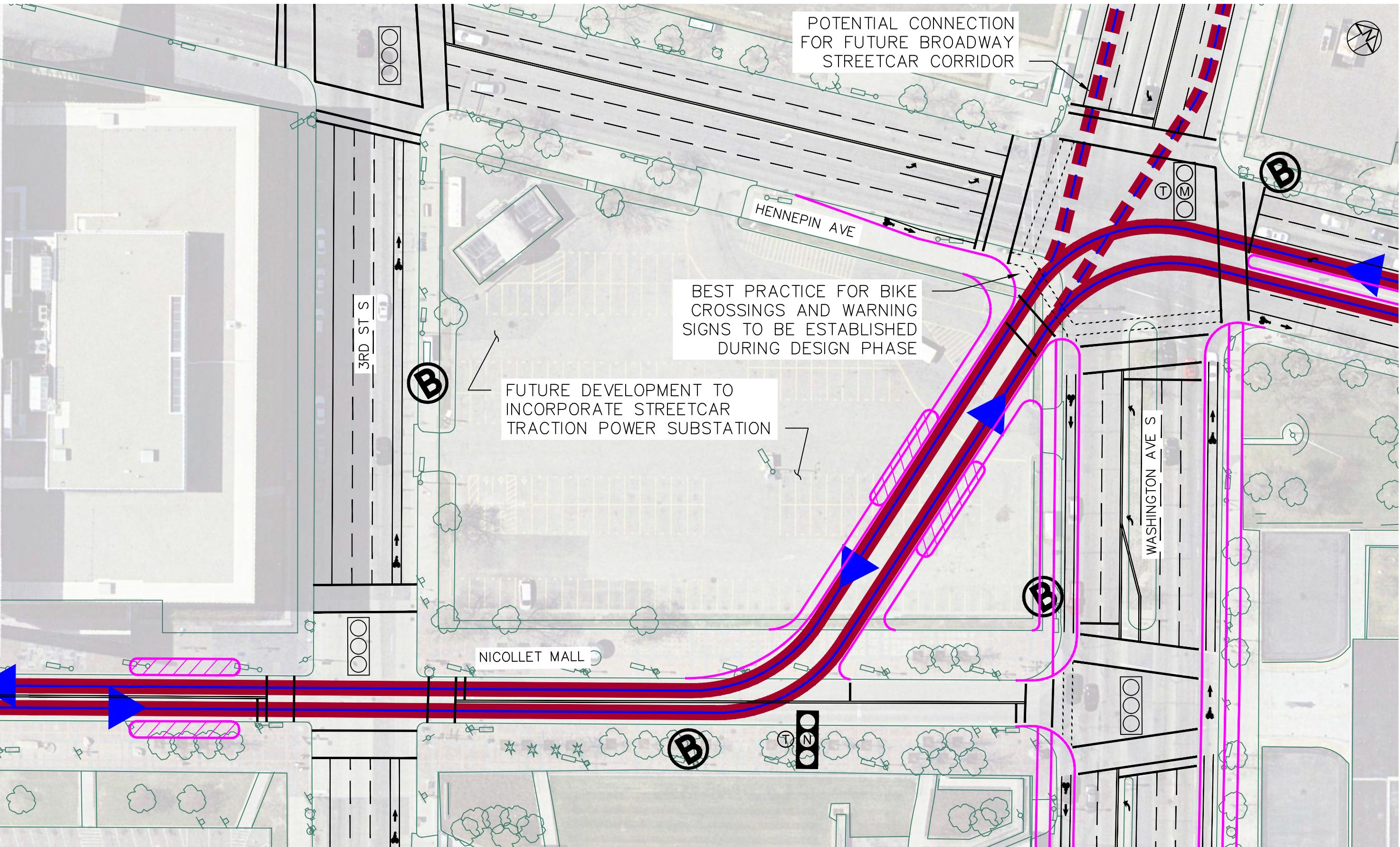
**LEGEND:**

- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)  
PROPOSED TRAFFIC SIGNAL  
MODIFY EXISTING TRAFFIC SIGNAL PHASE  
TRANSIT ONLY TRAFFIC SIGNAL PHASE  
PROPOSED STREETCAR STOP



Scale:  
1"=50'  
Date:  
OCTOBER 2014  
Sheet No.:  
03



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**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
HOTEL BLOCK ALIGNMENTS  
OPTION 6A: DIAGONAL

**LEGEND:**

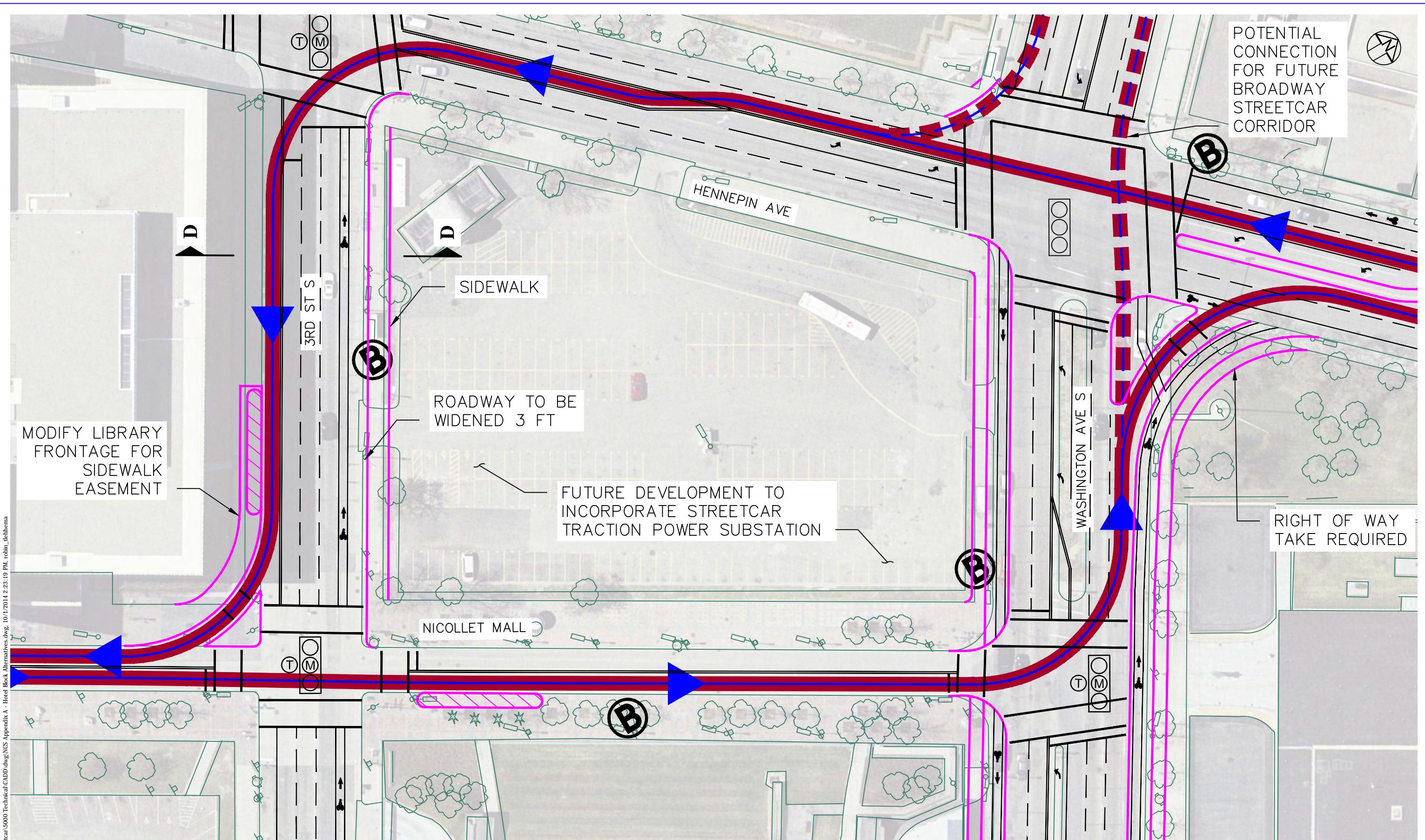
- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

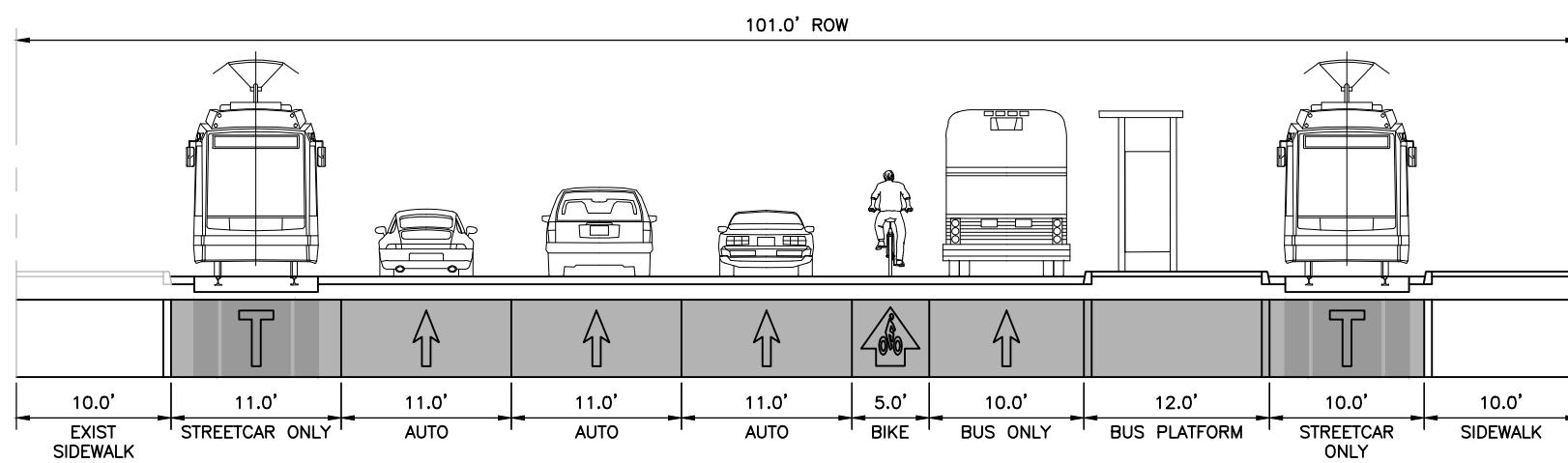
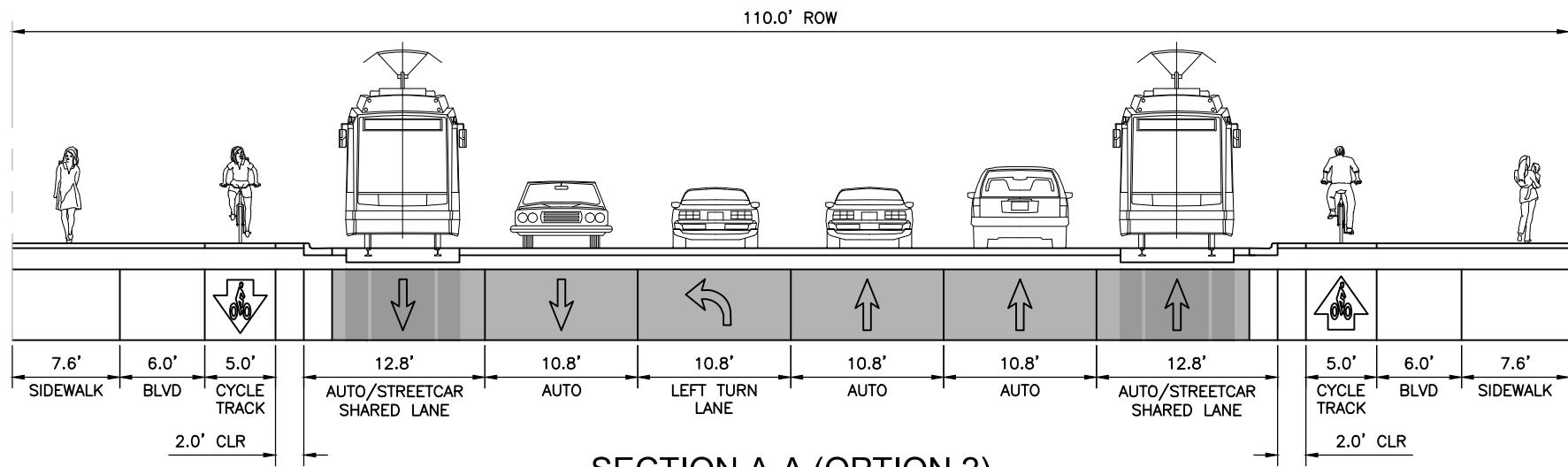
- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- PROPOSED TRAFFIC SIGNAL
- EXISTING BUS STOP (B)
- TRANSIT ONLY TRAFFIC SIGNAL PHASE
- PROPOSED STREETCAR STOP



SCALE: 1" = 50'

Scale:  
1"=50'  
Date:  
OCTOBER 2014  
Sheet No.:  
04





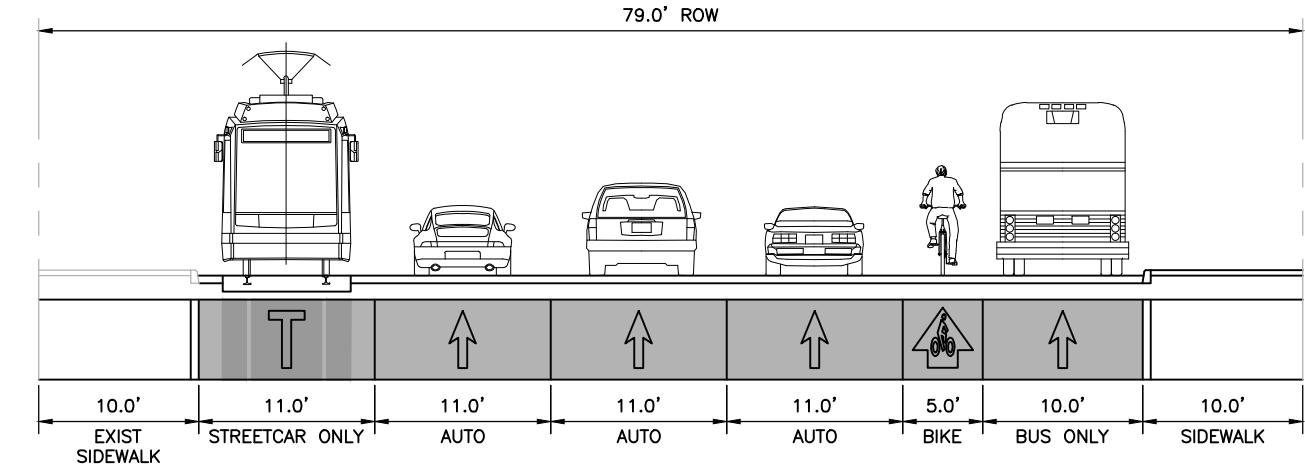
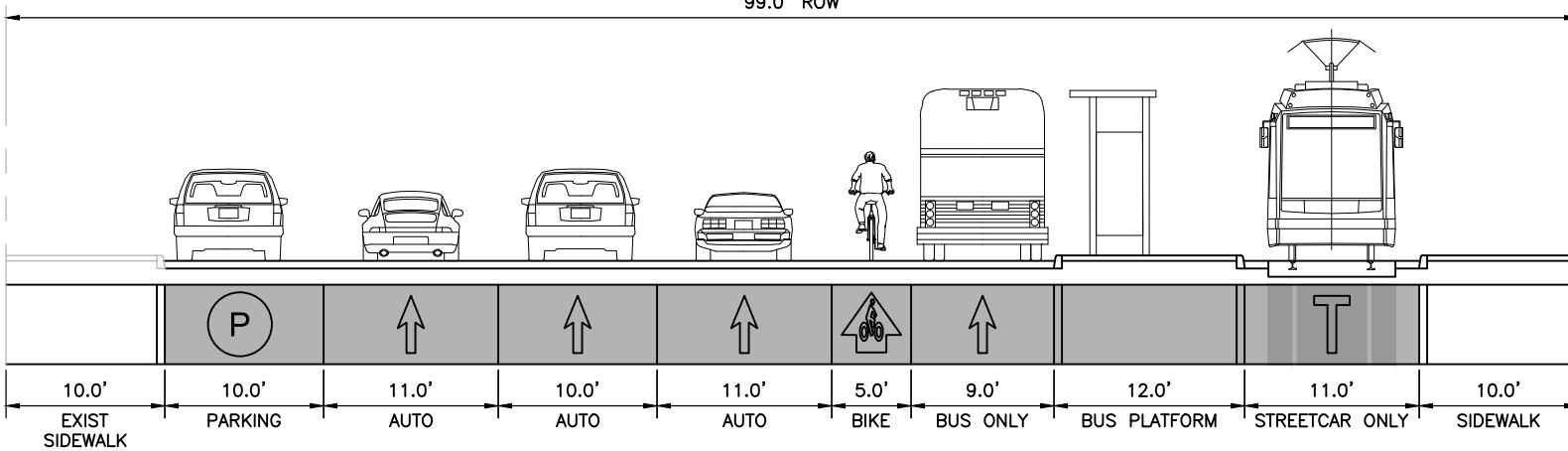
**DRAFT**  
**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
HOTEL BLOCK ALIGNMENTS  
TYPICAL SECTIONS

**SECTION C-C (OPTION 5A)**

3RD STREET (HENNEPIN AVE TO NICOLLET MALL)



Scale:  
1"=12'  
Date:  
OCTOBER 2014  
Sheet No.:  
06

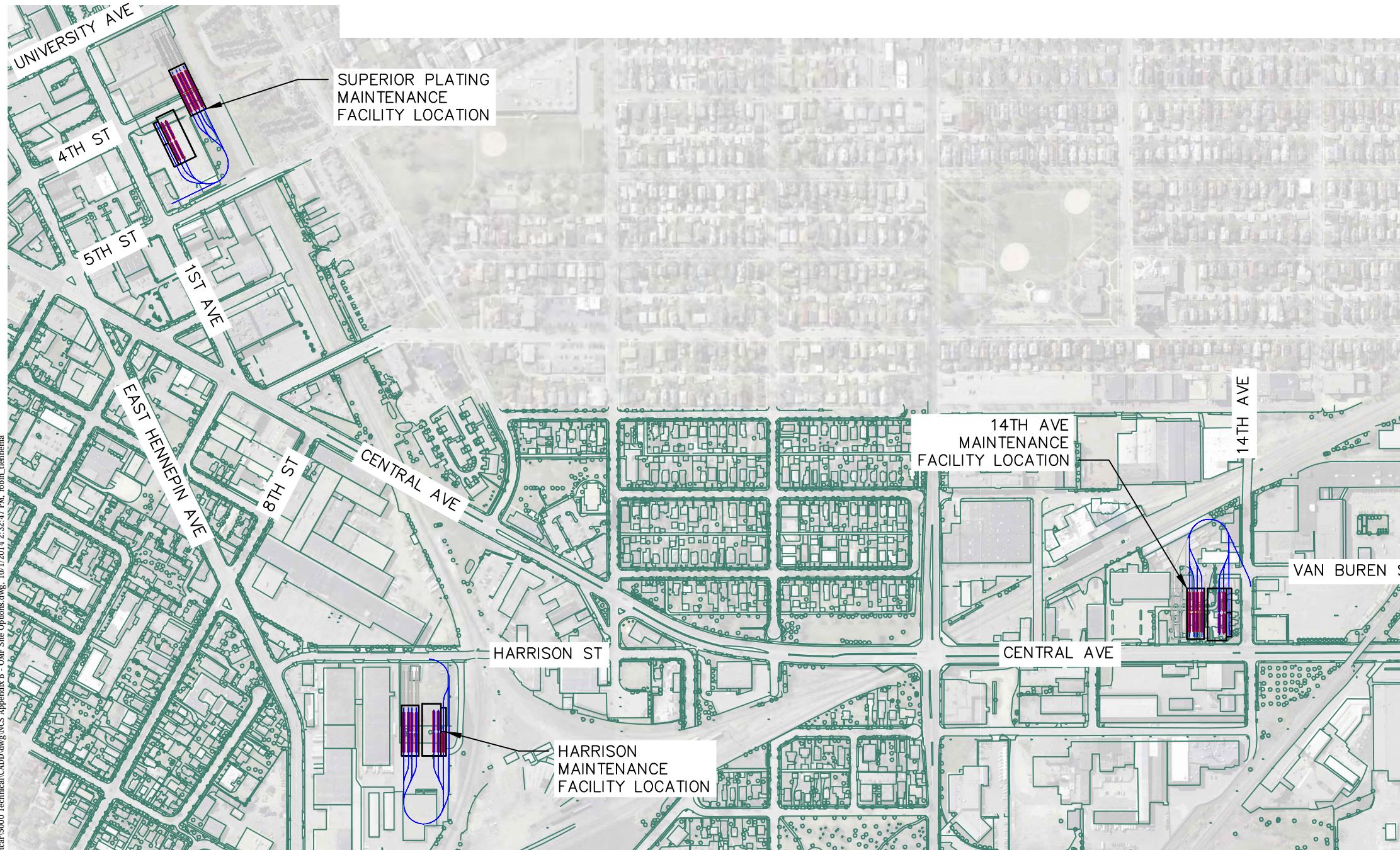
# NICOLLET – CENTRAL MODERN STREETCAR

## ENVIRONMENTAL ASSESSMENT

### APPENDIX B

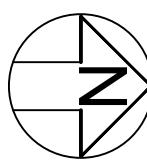
### OMF SITE OPTIONS

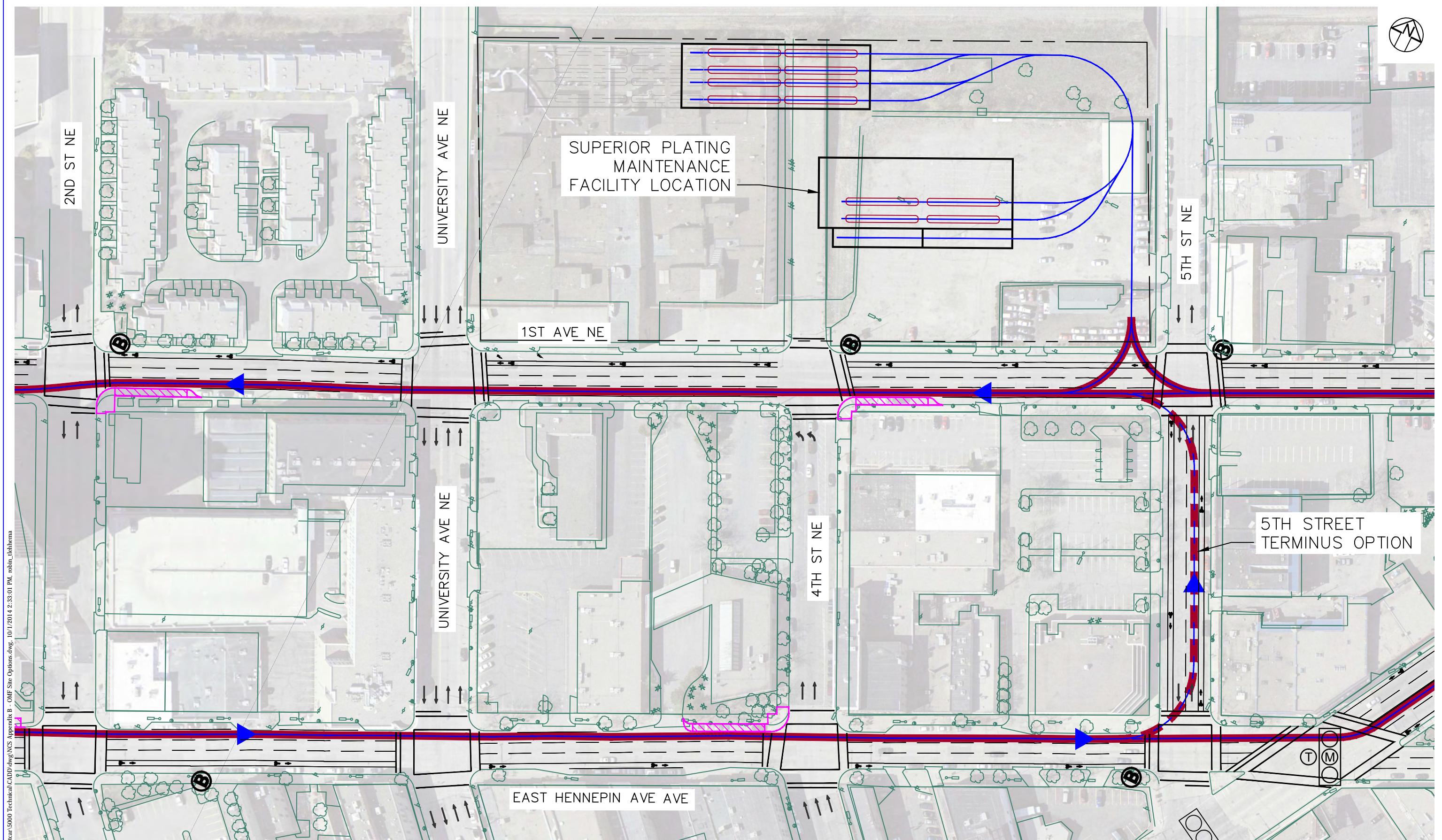
### OCTOBER 2014



#### SHEET INDEX

| SHEET NO. | TITLE                 |
|-----------|-----------------------|
| COVER     | COVER SHEET           |
| 1         | SUPERIOR PLATING SITE |
| 2 THRU 5  | 14TH AVE SITE         |
| 6         | TYPICAL SECTIONS      |





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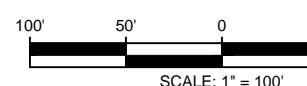
O:\25088\074 Nicollet Central\5000 Technical\CADD\dwg\NCS Appendix B - OMF Site Options.dwg, 10/1/2014 2:33:01 PM, robin.liebhima

NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
OMF SITE OPTIONS  
SUPERIOR PLATING SITE

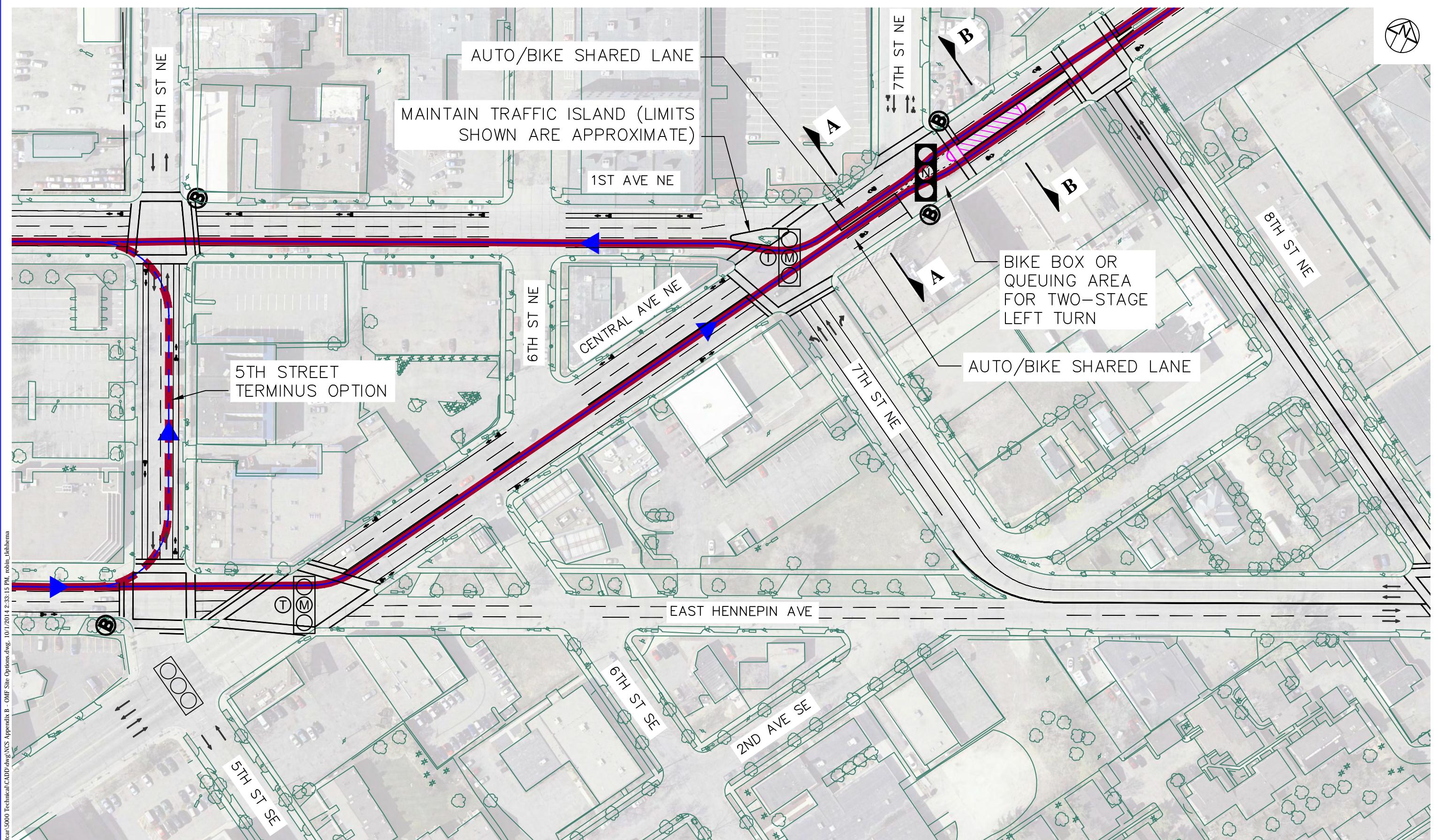
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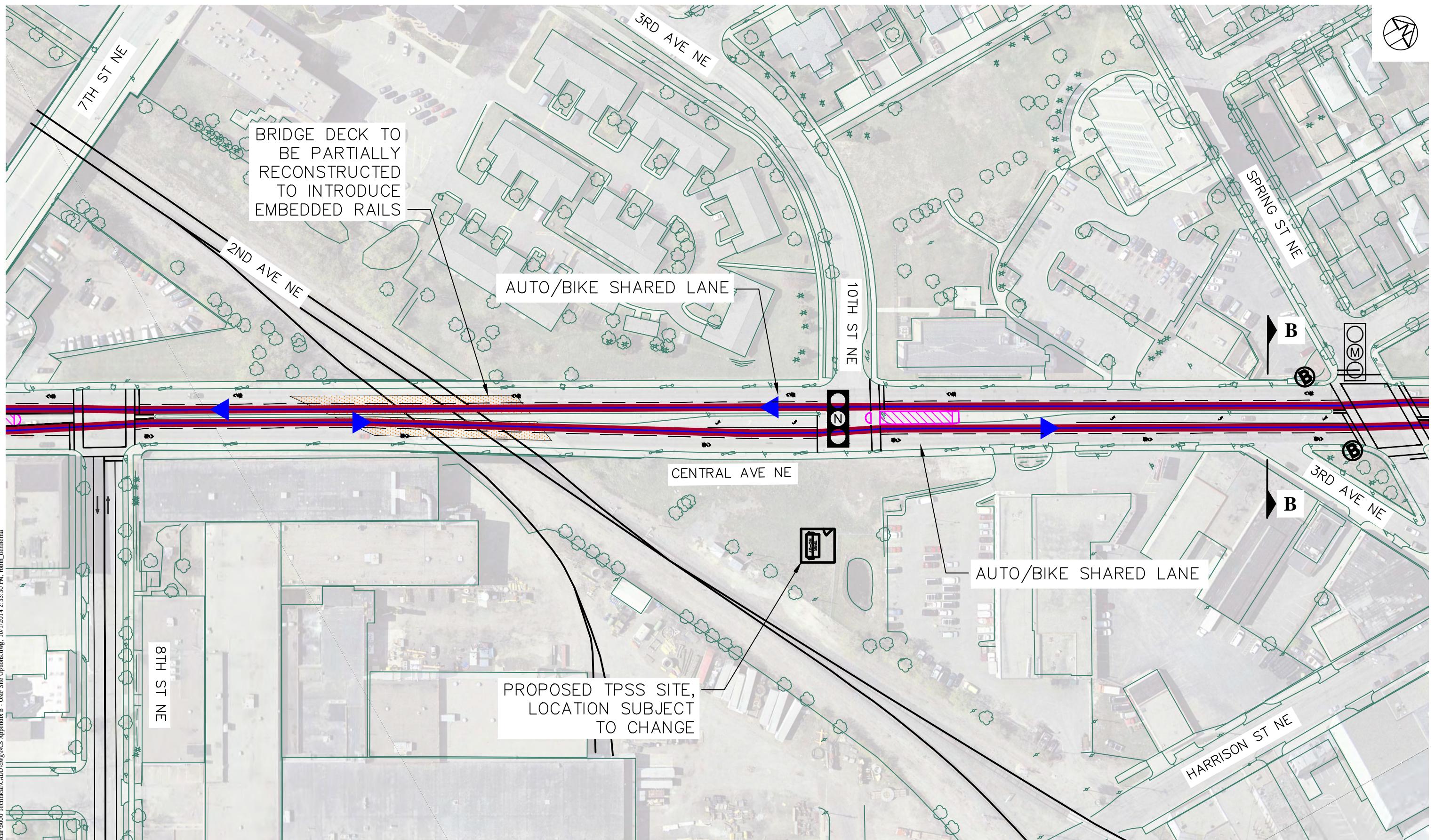
- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

- ( ) EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- ( ) PROPOSED TRAFFIC SIGNAL
- (B) EXISTING BUS STOP
- (T) TRANSIT ONLY TRAFFIC SIGNAL PHASE
- (P) PROPOSED STREETCAR STOP



Scale:  
1"=100'  
Date:  
OCTOBER 2014  
Sheet No.:  
01





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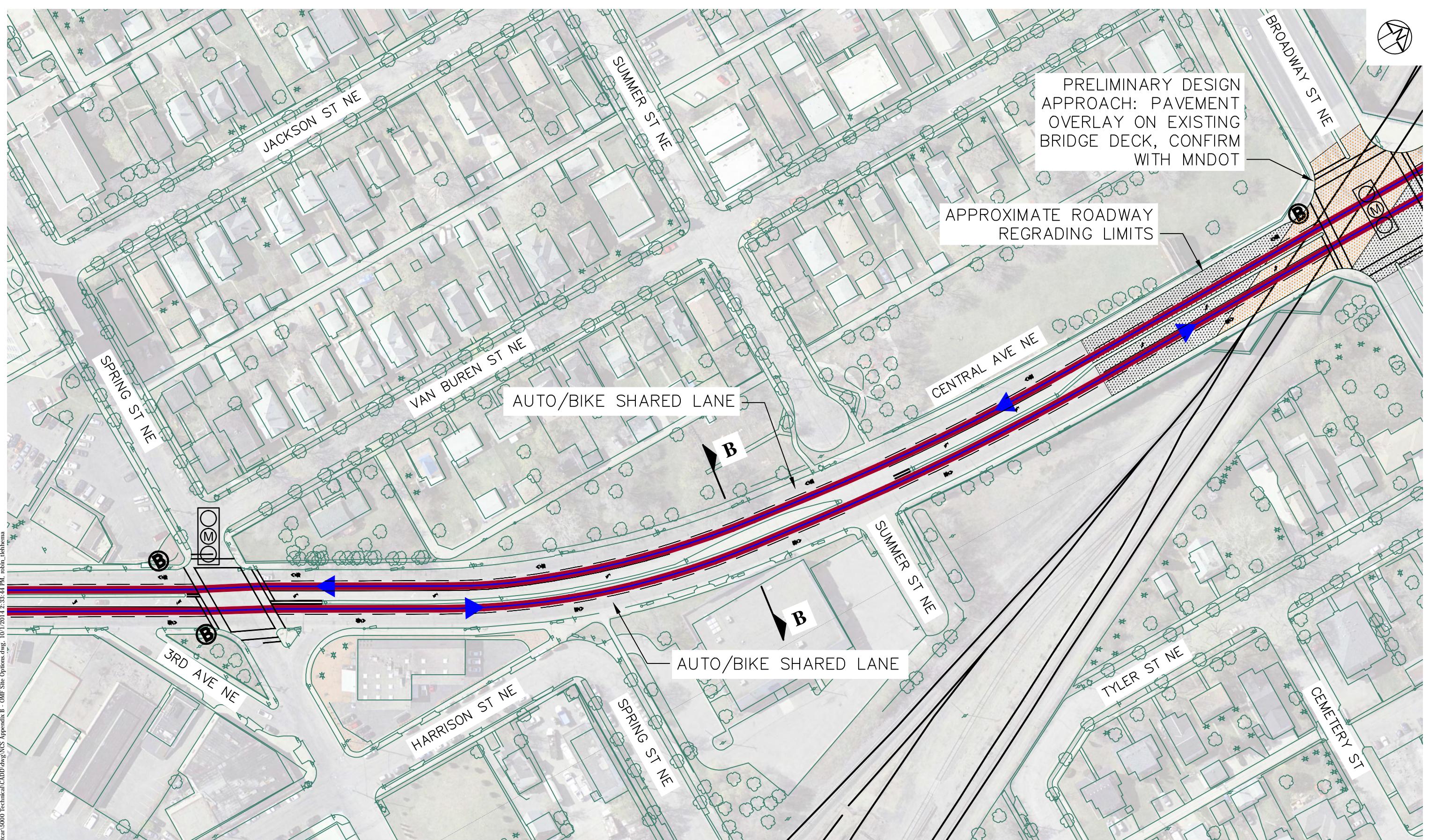


NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
OMF SITE OPTIONS  
14TH AVE SITE

**LEGEND:**

- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

- (○) EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- (●) PROPOSED TRAFFIC SIGNAL
- (●) EXISTING BUS STOP
- (●) TRANSIT ONLY TRAFFIC SIGNAL PHASE
- (●) PROPOSED STREETCAR STOP



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**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
OMF SITE OPTIONS  
14TH AVE SITE

- LEGEND:**
- TRACK ALIGNMENT
  - PROPOSED CURB WORK
  - DIRECTION OF TRAVEL

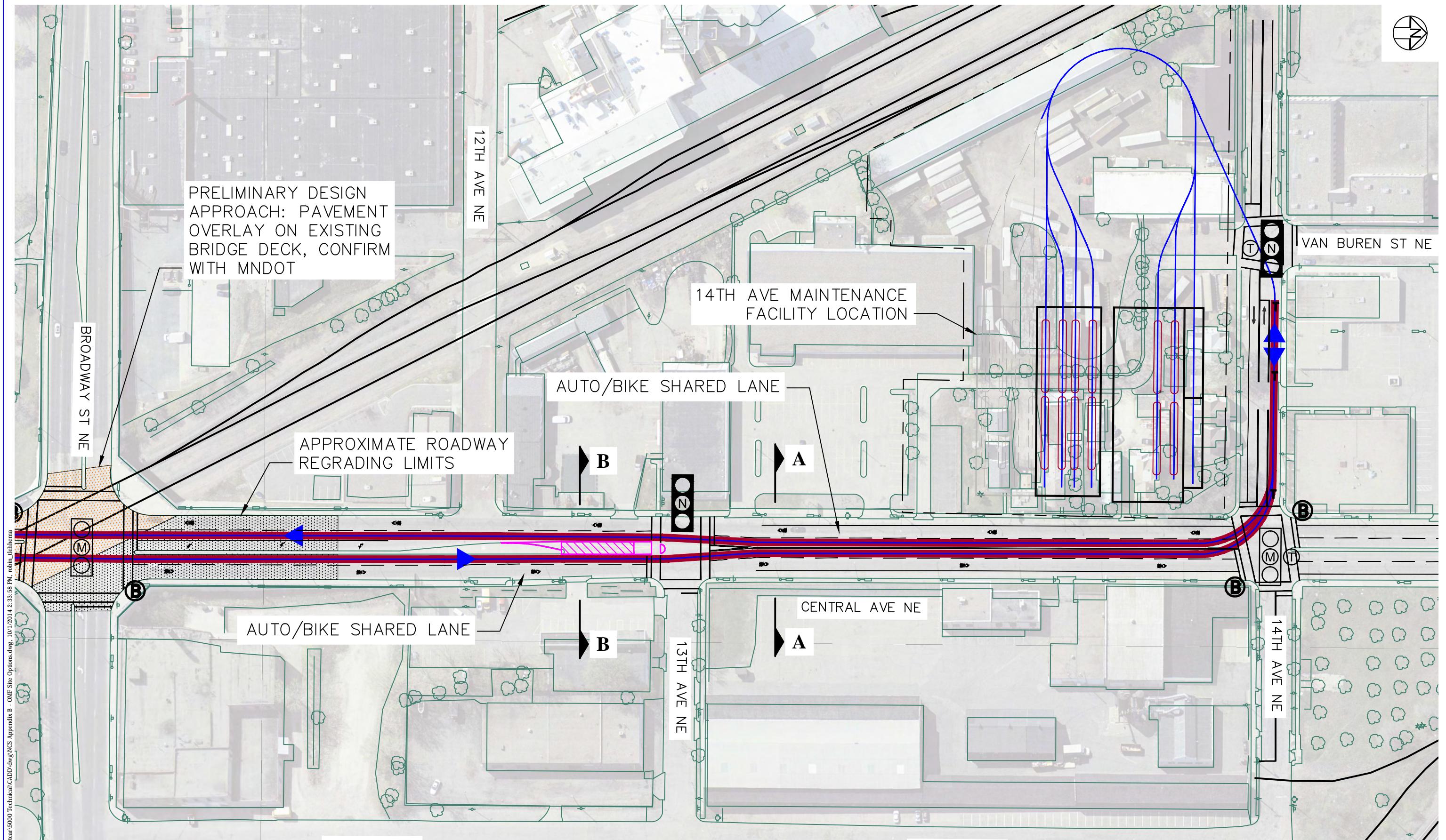
- EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- MODIFY EXISTING TRAFFIC SIGNAL PHASE

- PROPOSED TRAFFIC SIGNAL
- TRANSIT ONLY TRAFFIC SIGNAL PHASE

- EXISTING BUS STOP
- PROPOSED STREETCAR STOP



Scale:  
1"=100'  
Date:  
OCTOBER 2014  
Sheet No.:  
04



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**URS**



NICOLLET-CENTRAL MODERN STREETCAR  
ENVIRONMENTAL ASSESSMENT  
OMF SITE OPTIONS  
14TH AVE SITE

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LEGEND:

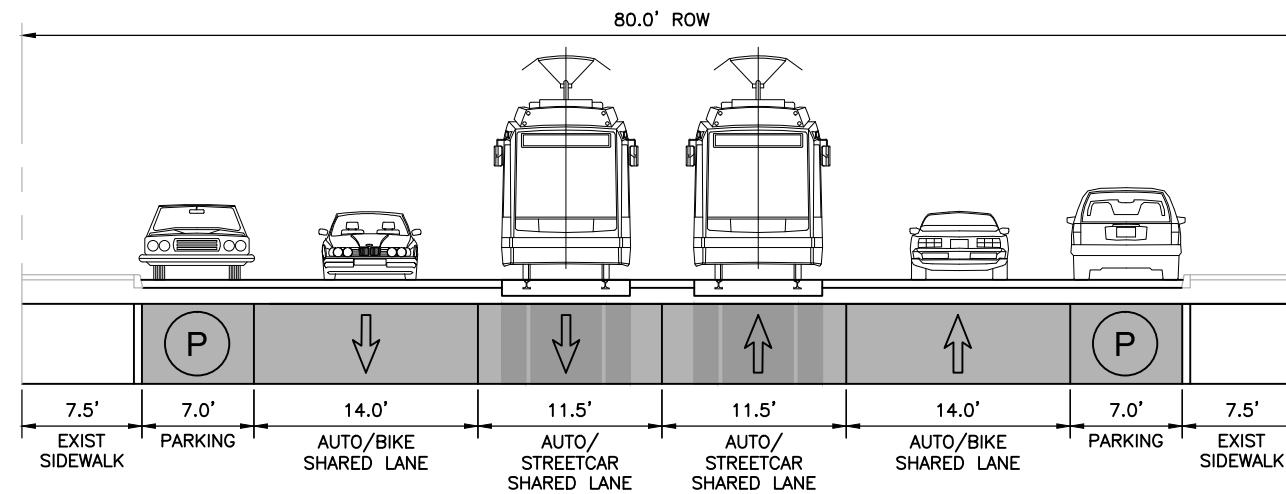
- TRACK ALIGNMENT
- PROPOSED CURB WORK
- DIRECTION OF TRAVEL

- ( ) EXISTING TRAFFIC SIGNAL (NO IMPROVEMENTS)
- ( ) PROPOSED TRAFFIC SIGNAL
- ( ) MODIFY EXISTING TRAFFIC SIGNAL

- (B) EXISTING BUS STOP
- (T) TRANSIT ONLY TRAFFIC SIGNAL PHASE
- (S) PROPOSED STREETCAR STOP

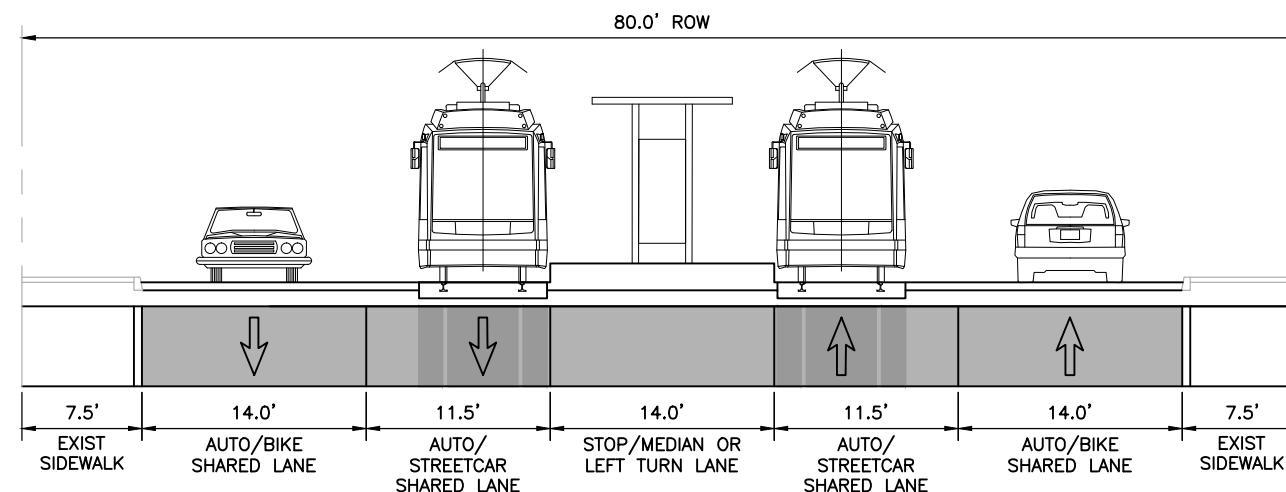
100' 50' 0 100'  
SCALE: 1" = 100'

Scale:  
1"=100'  
Date:  
OCTOBER 2014  
Sheet No.:  
05



**SECTION A-A**

CENTRAL AVENUE (7TH ST TO 8TH ST & 13TH AVE TO 14TH AVE)



**SECTION B-B**

CENTRAL AVENUE (7TH ST TO 14TH AVE)

NOTE:  
EXISTING CURB-TO-CURB  
WIDTH TO BE MAINTAINED