

# State Of Minnesota – S.P. 139–591–001

## City of Marshall, Minnesota

### Project Number ST-006

Construction Plans for Sidewalk, Curb and Gutter, Signs and Miscellaneous Work

School Pedestrian Crossing Signage and Improvements Project

Various Locations in SECTIONS 3, 4, 9, 10 T111N, R41W

MN Proj. No.

### INDEX

SHEET NO.	DESCRIPTION
1	Title Sheet
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8	Traffic Control Details
9 - 10	Traffic Control Layouts
11 - 12	Removal Sheets
13 - 17	Plan Sheets
18 - 23	Pedestrian Curb Ramp Details
24 - 27	Driveway and Sidewalk Details

THIS PLAN CONTAINS 27 SHEETS.

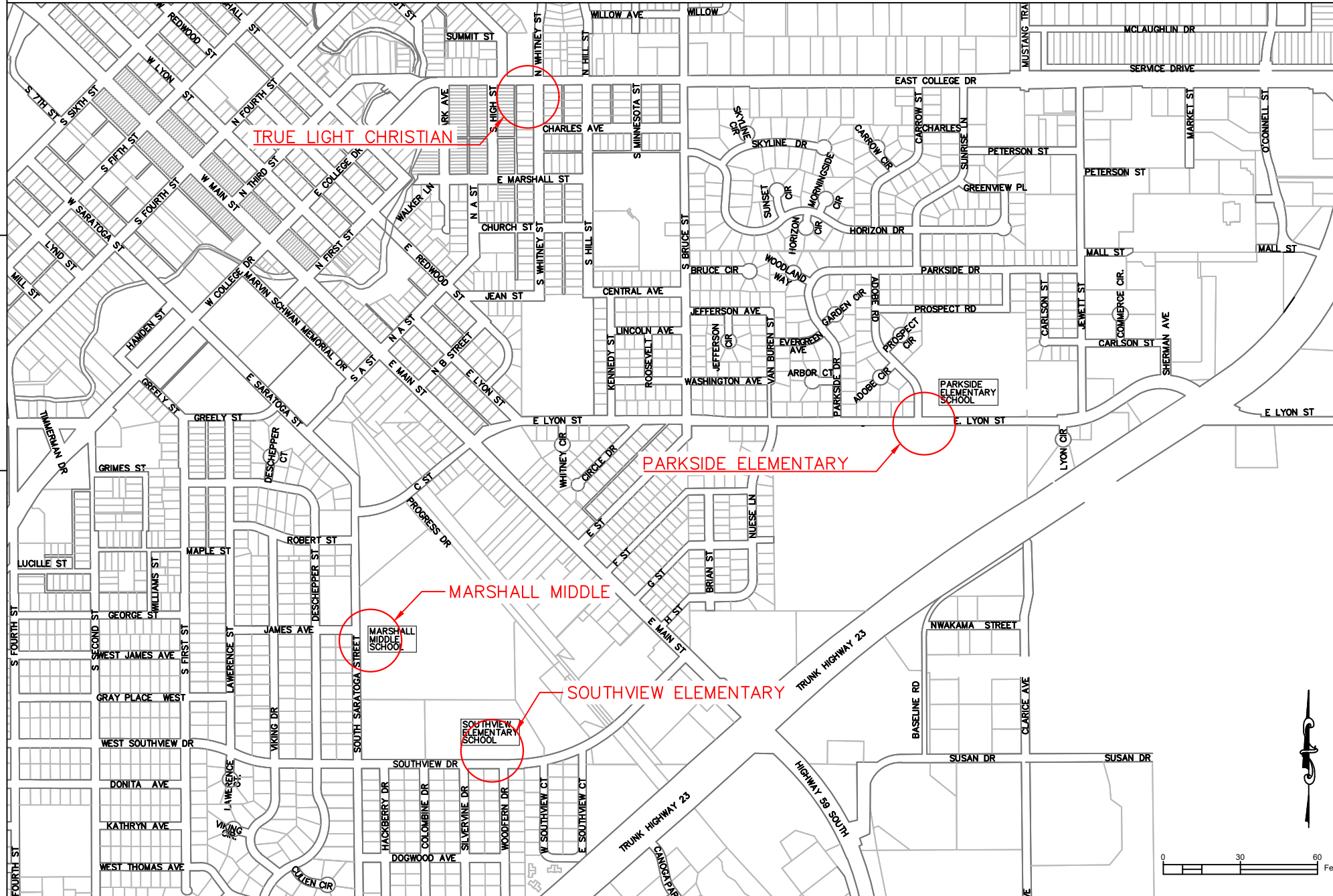
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSE PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

APPROVED: JASON R. ANDERSON, P.E. \_\_\_\_\_ DATE \_\_\_\_\_  
REG NO 53322

APPROVED: CITY ENGINEER, MARSHALL MINNESOTA \_\_\_\_\_ DATE \_\_\_\_\_  
REG NO 53322

DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE AID RULES/POLICY \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED FOR FEDERAL AND STATE AID FUNDING: STATE AID ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_



### LEGEND

ALIGNMENT STATIONS	_____
EXISTING GAS LINE	_____
EXISTING COMMUNICATION LINE	_____
EXISTING FIBER LINE	— FIB — FIB —
EXISTING UNDERGROUND POWER	_____
EXISTING STREET LIGHT	⊙
EXISTING CATCH BASIN	□
EXISTING STORM MANHOLE	⊙
EXISTING SANITARY MANHOLE	⊙
EXISTING HYDRANT	⊙
EXISTING WATER VALVE	⊙
NEW CATCH BASIN	□
NEW HYDRANT	⊙
NEW WATER VALVE	⊙
NEW SANITARY MANHOLE	⊙
NEW STORM MANHOLE	⊙
BENCHMARK TOP NUT HYDRANT	⊙

### SPECIFICATION REFERENCE

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

THE CITY OF MARSHALL STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

### PROJECT LENGTH

GROSS LENGTH TRUE LIGHT CHRISTIAN	3504	FEET	0.66	MILES
GROSS LENGTH MARSHALL MIDDLE	659	FEET	0.13	MILES
GROSS LENGTH SOUTHVIEW ELEMENTARY	662	FEET	0.13	MILES
GROSS LENGTH PARKSIDE ELEMENTARY	1173	FEET	0.22	MILES
EXCEPTIONS	0	FEET	0	MILES
NET LENGTH	5998	FEET	1.14	MILES

### DESIGN DATA


DESIGN SPEED 30 MPH  
STOPPING SIGHT DISTANCE BASED ON 3.5' HEIGHT OF EYE  
0.5' HEIGHT OF OBJECT

### SCALES

PLAN	N.T.S.
PROFILE	N/A
INDEX MAP	N.T.S.
GENERAL LAYOUT	VAR.

DESIGNED BY: J.L.D.
DRAWN BY: J.L.D.
APPROVED BY: J.R.A.
SCALE: N.T.S.

DATE	REVISIONS	INIT.



**ENGINEERING DEPARTMENT**  
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**MARSHALL**

SCHOOL PED. CROSSING SIGNAGE AND IMPROVEMENTS

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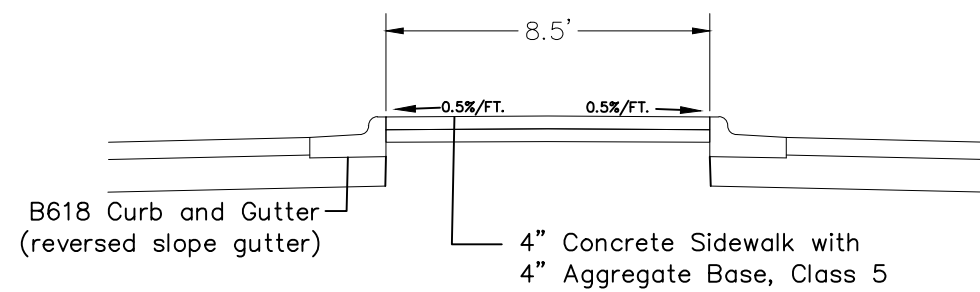
TITLE SHEET

CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. SP 139-591-001	SHEET NO. 1 OF 27

# Proposed Typical Section

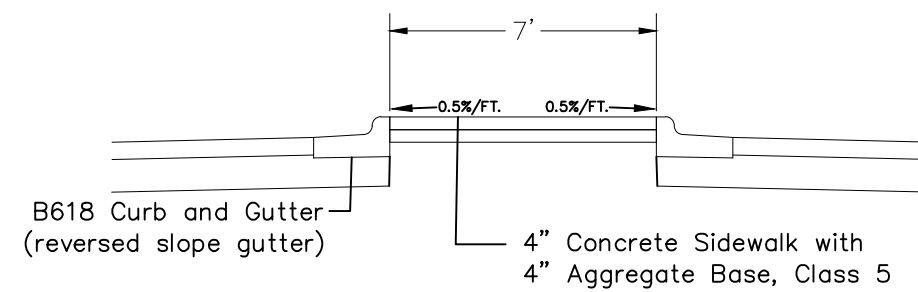
## Profile Across Median

Marshall Middle  
Southview Elementary



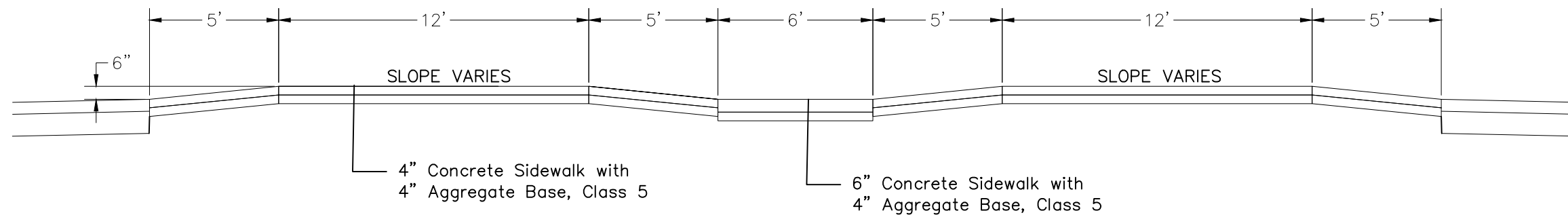
Not to Scale

Parkside Elementary



Not to Scale

## Profile Along Median



Not to Scale

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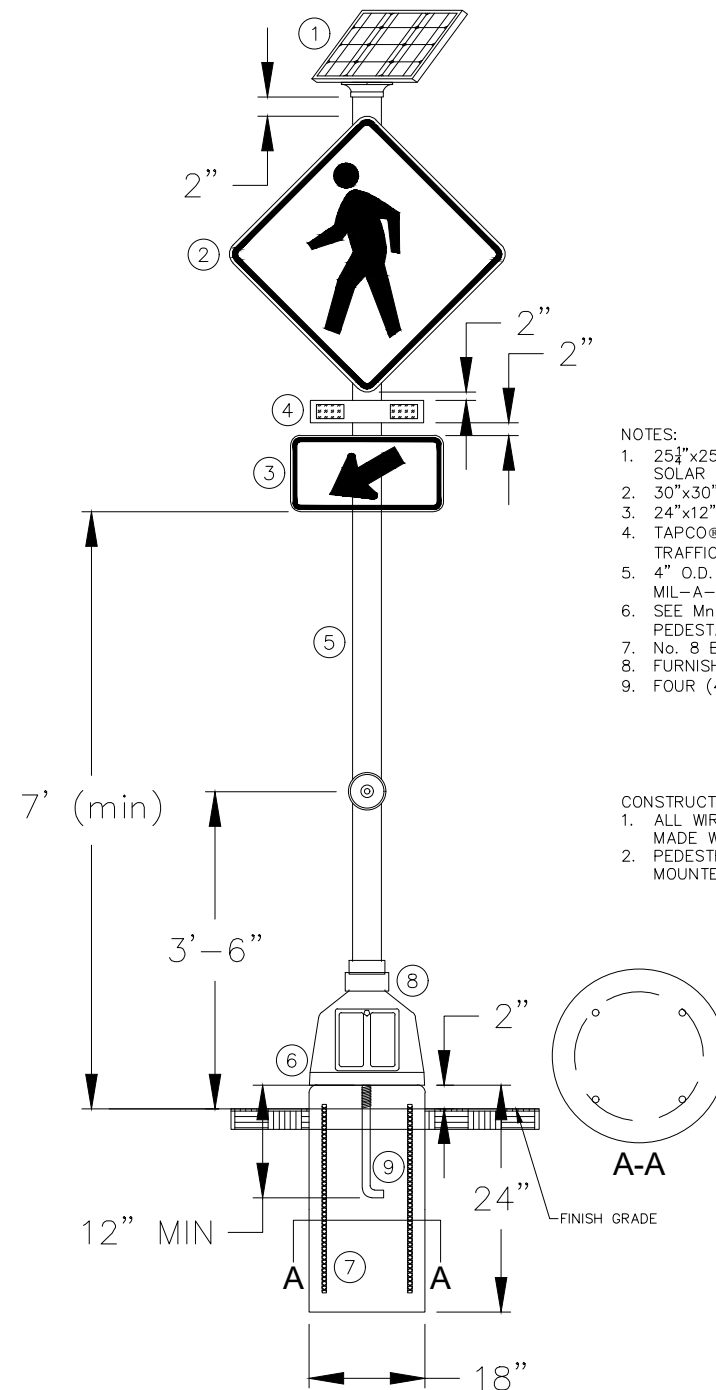
PEDESTRIAN CROSSING IMPROVEMENTS  
REFUGE ISLAND MEDIAN DETAILS

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CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. 139-591-001	SHEET NO. 4 OF 27

# Signing Detail

## PEDESTRIAN CROSSWALK FLASHER SYSTEM (RRFB) DETAIL



- NOTES:
1. 25 1/4" x 25 3/4" (OR APPROVED EQUAL) 55W/12V SOLAR PANEL MOUNTED AT 45°-60° SOLAR PANEL TO BE POSITIONED FACING SOUTH WITH 50Ah 12V BATTERY
  2. 30" x 30" W11-2 YELLOW
  3. 24" x 12" W16-7P(L or R) YELLOW
  4. TAPCO® LED RECTANGULAR RAPID-FLASH BEACON (RRFB) WITH BEACON FACING TRAFFIC (OR APPROVED EQUAL)
  5. 4" O.D. SCHEDULE 40 ALUMINUM POLE & BASE WITH ANODIC COATING AS PER MIL-A-8625C FOR TYPE II, CLASS 1 COATING.
  6. SEE Mn/DOT STANDARD PLATE No. 8122 "PEDESTAL AND PEDESTAL BASE" FOR PEDESTAL DETAILS.
  7. No. 8 BARS WILL BE USED FOR REINFORCING IN THE PEDESTAL BASE
  8. FURNISH AND INSTALL WIND COLLAR ASSEMBLY.
  9. FOUR (4) 3/4" DIA. ANCHOR RODS, NUTS AND WASHERS PER SPEC. 3385

- CONSTRUCTION NOTE:
1. ALL WIRING SHALL BE KEPT INSIDE THE POLE. POLE OPENINGS SHALL BE MADE WATER TIGHT USING APPROVED GASKETS, GROMMETS & SEALANT.
  2. PEDESTRIAN PUSH BUTTON, STROBE BAR & SOLAR PANEL SHALL BE MOUNTED PER MANUFACTURER SPEC. USING VANDAL PROOF HARDWARE.

System A		
Note	Quantity	Description
1	2	25 1/4" x 25 3/4" (Or Approved Equal) Solar Panel
2	2	30" x 30" W11-2 Yellow Sign
3	2	24" x 12" W16-7P(L) Yellow Sign
4	2	TAPCO® LED Rectangular Rapid-Flash Beacon (RRFB)
5	2	4" O.D. Sch 40 Aluminum Pole & Base w/ Anodic Coating

System A shall consist of 2 Pole/Sign assemblies. Both shall be with single sign assembly (W11-2, W16-7P, and RRFB) mounted facing the adjacent direction of traffic. Systems shall include controllers to activate flashing beacon on all signs at that location when any push button is activated.

System B		
Note	Quantity	Description
1	3	25 1/4" x 25 3/4" (Or Approved Equal) Solar Panel
2	4	30" x 30" W11-2 Yellow Sign
3	2	24" x 12" W16-7P(L) Yellow Sign
3	2	24" x 12" W16-7P(R) Yellow Sign
4	4	TAPCO® LED Rectangular Rapid-Flash Beacon (RRFB)
5	3	4" O.D. Sch 40 Aluminum Pole & Base w/ Anodic Coating

System B shall consist of 3 Pole/Sign assemblies. Two shall be with single sign assembly (W11-2, W16-7P, and RRFB) mounted facing one direction of traffic. Third shall be a single pole with back-to-back sign assemblies facing both directions of traffic. Push button on the third shall be facing towards the pedestrian crossing location. Systems shall include controllers to activate flashing beacon on all signs at that location when any push button is activated.

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DRAWN BY: J.L.D.			
APPROVED BY:			
SCALE: N/A			

  
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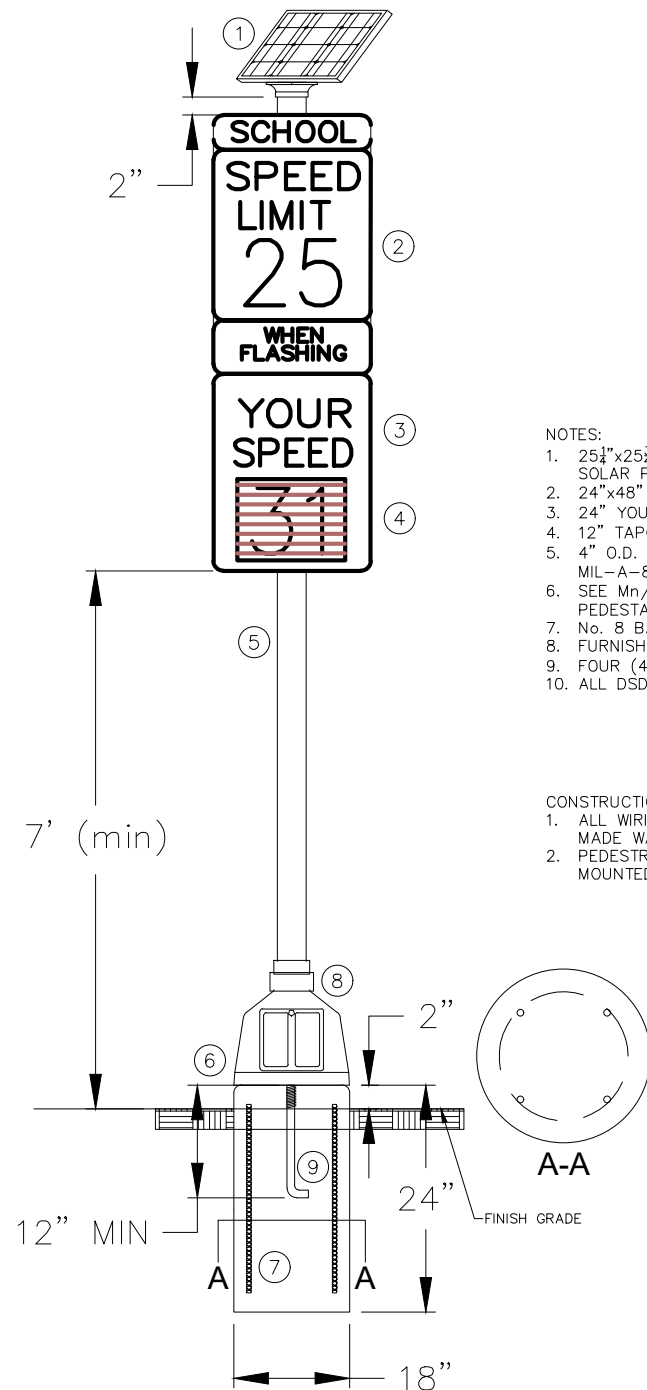
PEDESTRIAN CROSSING IMPROVEMENTS
SIGNING DETAILS

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CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. 139-591-001	SHEET NO. 5 OF 27

# Signing Detail

## SPEED LIMIT FLASHER SYSTEM (DSD) DETAIL



- NOTES:
1. 25 1/4" x 25 3/4" (OR APPROVED EQUAL) 85W/12V SOLAR PANEL MOUNTED AT 45°-60° SOLAR PANEL TO BE POSITIONED FACING SOUTH WITH 35Ah 12V BATTERY
  2. 24"x48" S5-1 WHITE WITH FLASHING LED (ONE SIDE OF POLE FACING TRAFFIC)
  3. 24" YOUR SPEED STATIC YELLOW (ONE SIDE OF POLE FACING TRAFFIC)
  4. 12" TAPCO@LED RADAR FEEDBACK SIGN PANEL (OR APPROVED EQUAL)
  5. 4" O.D. SCHEDULE 40 ALUMINUM POLE & BASE WITH ANODIC COATING AS PER MIL-A-8625C FOR TYPE II, CLASS 1 COATING.
  6. SEE Mn/DOT STANDARD PLATE No. 8122 "PEDESTAL AND PEDESTAL BASE" FOR PEDESTAL DETAILS.
  7. No. 8 BARS WILL BE USED FOR REINFORCING IN THE PEDESTAL BASE
  8. FURNISH AND INSTALL WIND COLLAR ASSEMBLY.
  9. FOUR (4) 3/4" DIA. ANCHOR RODS, NUTS AND WASHERS PER SPEC. 3385
  10. ALL DSD SYSTEMS SHALL INCLUDE ABILITY TO REMOTE ACTIVATE THE SYSTEMS.

- CONSTRUCTION NOTE:
1. ALL WIRING SHALL BE KEPT INSIDE THE POLE. POLE OPENINGS SHALL BE MADE WATER TIGHT USING APPROVED GASKETS, GROMMETS & SEALANT.
  2. PEDESTRIAN PUSH BUTTON, STROBE BAR & SOLAR PANEL SHALL BE MOUNTED PER MANUFACTURER SPEC. USING VANDAL PROOF HARDWARE.

System Details		
Note	Quantity	Description
1	2	25 1/4" x 25 3/4" (Or Approved Equal) Solar Panel
2	2	24" x 48" S5-1 White Sign w/ Flashing LED
3	2	24" Your Speed Static Yellow Sign
4	2	12" TAPCO LED Radar Feedback Sign Panel (or approved equal)
5	2	4" O.D. Sch 40 Aluminum Pole & Base w/ Anodic Coating
6	2	24" x 30" S5-3 White Sign on Square Tubing Post

System shall consist of 4 Pole/Sign assemblies. 2 Pole assemblies will consist of the Dynamic Speed Display (as shown). Remaining 2 Pole assemblies will be the S5-3 sign on square tubing post. Both shall assemblies will have signs mounted facing the adjacent direction of traffic.

DESIGNED BY: J.L.D.	DATE	REVISIONS	INIT.
DRAWN BY: J.L.D.			
APPROVED BY:			
SCALE: N/A			


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PEDESTRIAN CROSSING IMPROVEMENTS
SIGNING DETAILS

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CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. 139-591-001	SHEET NO. 6 OF 27

# True Light Christian – Installation

MN TH 19/College Drive

Item	1	2
B624 Curb & Gutter	13.5 LF	11 LF
Bituminous Patching	3 SY	2.4 SY
4" Concrete Walk	184 SF	98 SF
6" Concrete Walk	84 SF	49 SF
Truncated Domes	13 SF	9 SF

# True Light Christian – Sign Locations

MN TH 19/College Drive

Install  
 Pedestrian Crosswalk Flasher System (RRFB) – System A – 1 System  
 Speed Limit Flasher System (DSD) – 1 System

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DRAWN BY: J.L.D.			
APPROVED BY:			
SCALE: N.T.S.			



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PEDESTRIAN CROSSING IMPROVEMENTS  
 PLAN – TRUE LIGHT CHRISTIAN

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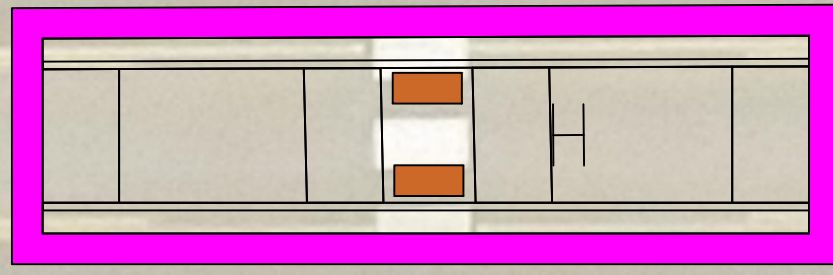
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 STATE AID PROJECT NO. 139-591-001  
 DATE 11/03/2021  
 SHEET NO. 13 OF 27

# Marshall Middle – Installation

Existing MMU Electric

Existing MMU Water

Saratoga Street



Install  
 B618 Curb & Gutter = 100 LF  
 Bituminous Patch = 29.6 SY  
 4" Concrete Walk = 392 SF  
 6" Concrete Walk = 51 SF  
 Truncated Domes = 18 SF

# Marshall Middle – Sign Locations

S5-3

DSD

RRFB – 1 Sided

Saratoga Street

RRFB – 2 Sided

DSD

S5-3

200'

215'

Install  
 Pedestrian Crosswalk Flasher System (RRFB) – System B – 1 System  
 Speed Limit Flasher System (DSD) – 1 System

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DRAWN BY: J.L.D.			
APPROVED BY:			
SCALE: N.T.S.			

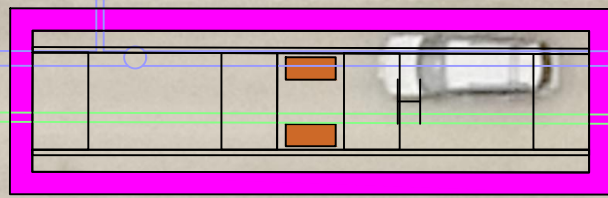
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PEDESTRIAN CROSSING IMPROVEMENTS  
 PLAN – MARSHALL MIDDLE

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CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. 139-591-001	SHEET NO. 14 OF 27

# Southview Elementary – Installation



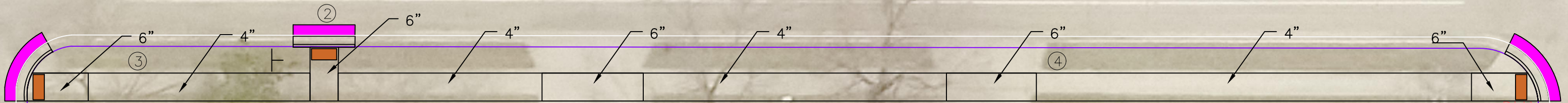
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Existing MMU Water

Existing Sanitary Sewer

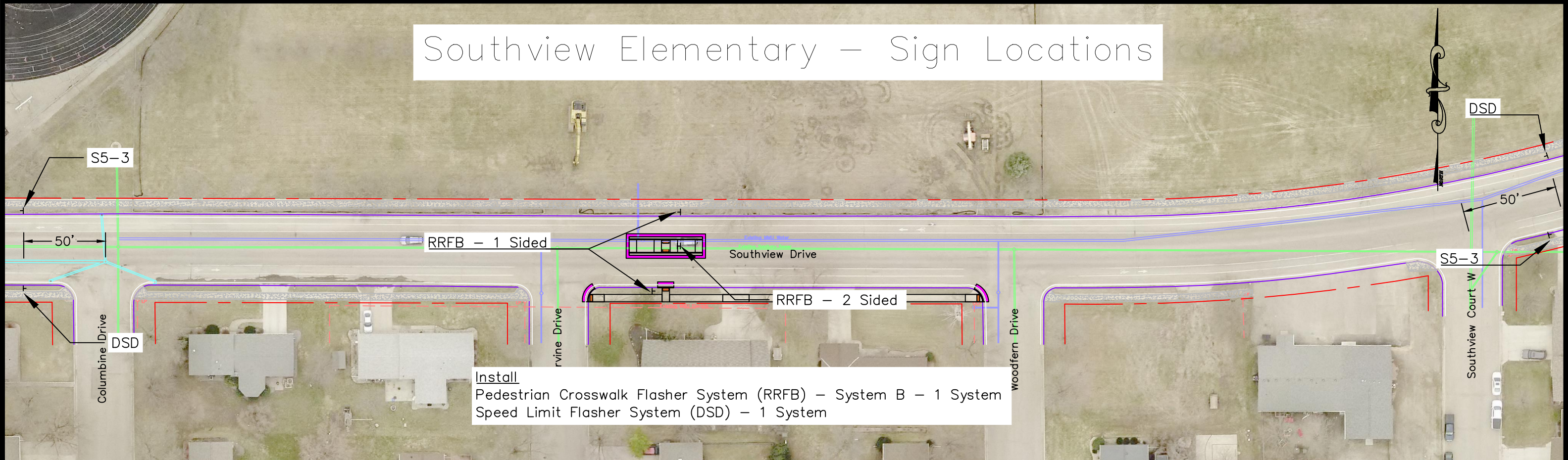
## Southview Drive

Item	1	2	3	4
B618 Curb & Gutter	100 LF	11 LF	12 LF	12 LF
Bituminous Patching	32.1 SY	2.4 SY	2.7 SY	2.7 SY
4" Concrete Walk	392 SF	0	198 SF	837 SF
6" Concrete Walk	51 SF	49 SF	53 SF	56 SF
6" Concrete Driveway Pavement	0	0	0	18.9 SY
Truncated Domes	18 SF	9 SF	9 SF	9 SF



Existing MMU Electric

# Southview Elementary – Sign Locations



Install  
 Pedestrian Crosswalk Flasher System (RRFB) – System B – 1 System  
 Speed Limit Flasher System (DSD) – 1 System

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 APPROVED BY:  
 SCALE: N.T.S.

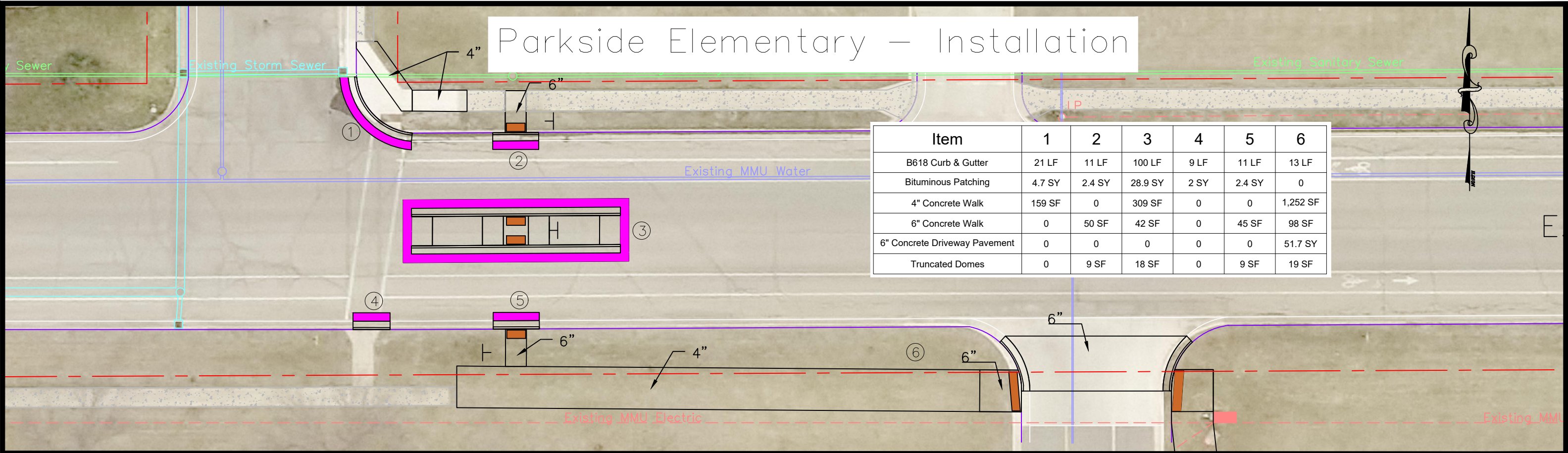
DATE	REVISIONS	INIT.

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PEDESTRIAN CROSSING IMPROVEMENTS  
 PLAN – SOUTHVIEW ELEMENATARY

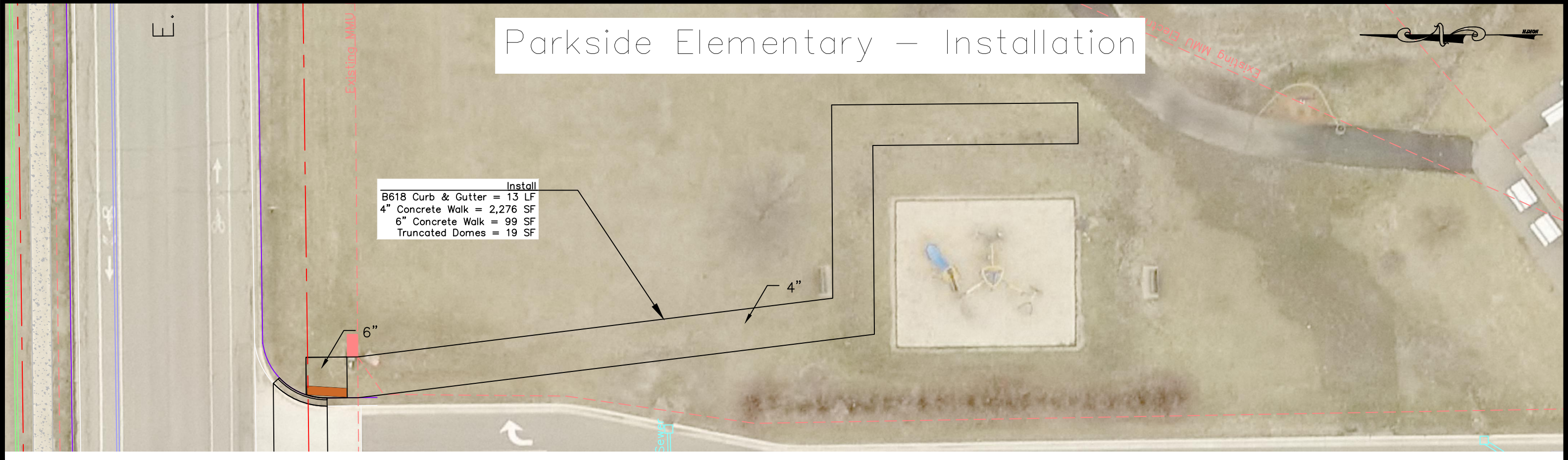
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 STATE AID PROJECT NO. 139-591-001  
 DATE 11/03/2021  
 SHEET NO. 15 OF 27



# Parkside Elementary – Installation

Item	1	2	3	4	5	6
B618 Curb & Gutter	21 LF	11 LF	100 LF	9 LF	11 LF	13 LF
Bituminous Patching	4.7 SY	2.4 SY	28.9 SY	2 SY	2.4 SY	0
4" Concrete Walk	159 SF	0	309 SF	0	0	1,252 SF
6" Concrete Walk	0	50 SF	42 SF	0	45 SF	98 SF
6" Concrete Driveway Pavement	0	0	0	0	0	51.7 SY
Truncated Domes	0	9 SF	18 SF	0	9 SF	19 SF



# Parkside Elementary – Installation

Install  
 B618 Curb & Gutter = 13 LF  
 4" Concrete Walk = 2,276 SF  
 6" Concrete Walk = 99 SF  
 Truncated Domes = 19 SF

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 APPROVED BY:  
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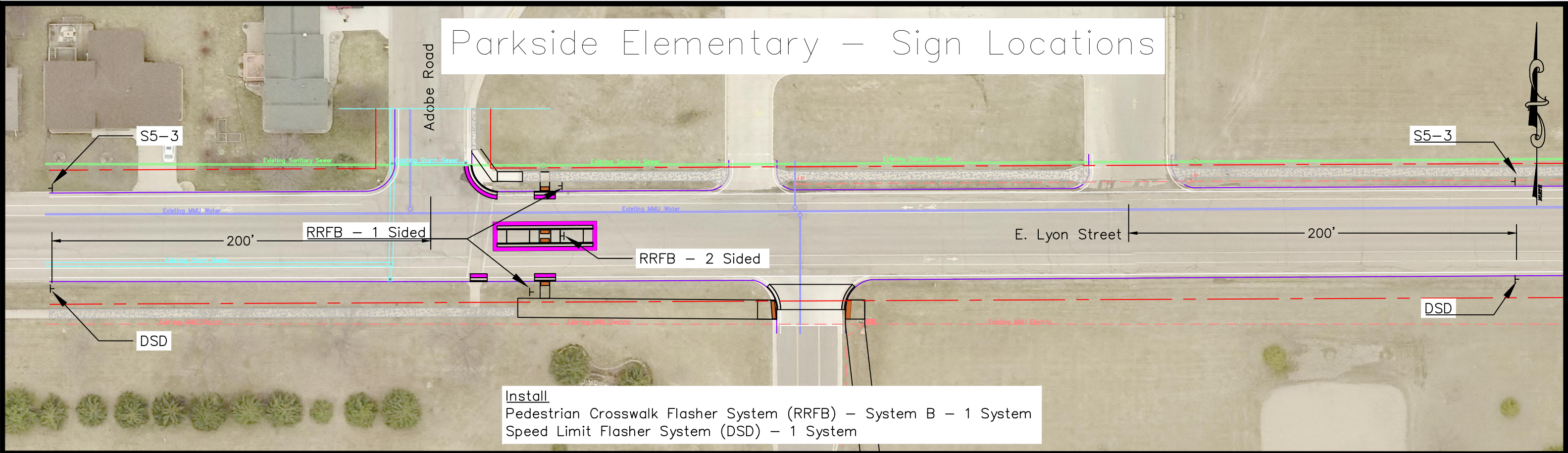
PEDESTRIAN CROSSING IMPROVEMENTS  
 PLAN – PARKSIDE ELEMENATARY

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CITY PROJECT NO. ST-006  
 STATE AID PROJECT NO. 139-591-001  
 DATE 11/03/2021  
 SHEET NO. 16 OF 27



# Parkside Elementary – Sign Locations



**Install**  
 Pedestrian Crosswalk Flasher System (RRFB) – System B – 1 System  
 Speed Limit Flasher System (DSD) – 1 System

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 DRAWN BY: J.L.D.  
 APPROVED BY: \_\_\_\_\_  
 SCALE: N.T.S.

DATE	REVISIONS	INIT.



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PEDESTRIAN CROSSING IMPROVEMENTS  
 PLAN – PARKSIDE ELEMENATARY

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CITY PROJECT NO. ST-006	DATE 11/03/2021
STATE AID PROJECT NO. 139-591-001	SHEET NO. 17 OF 27