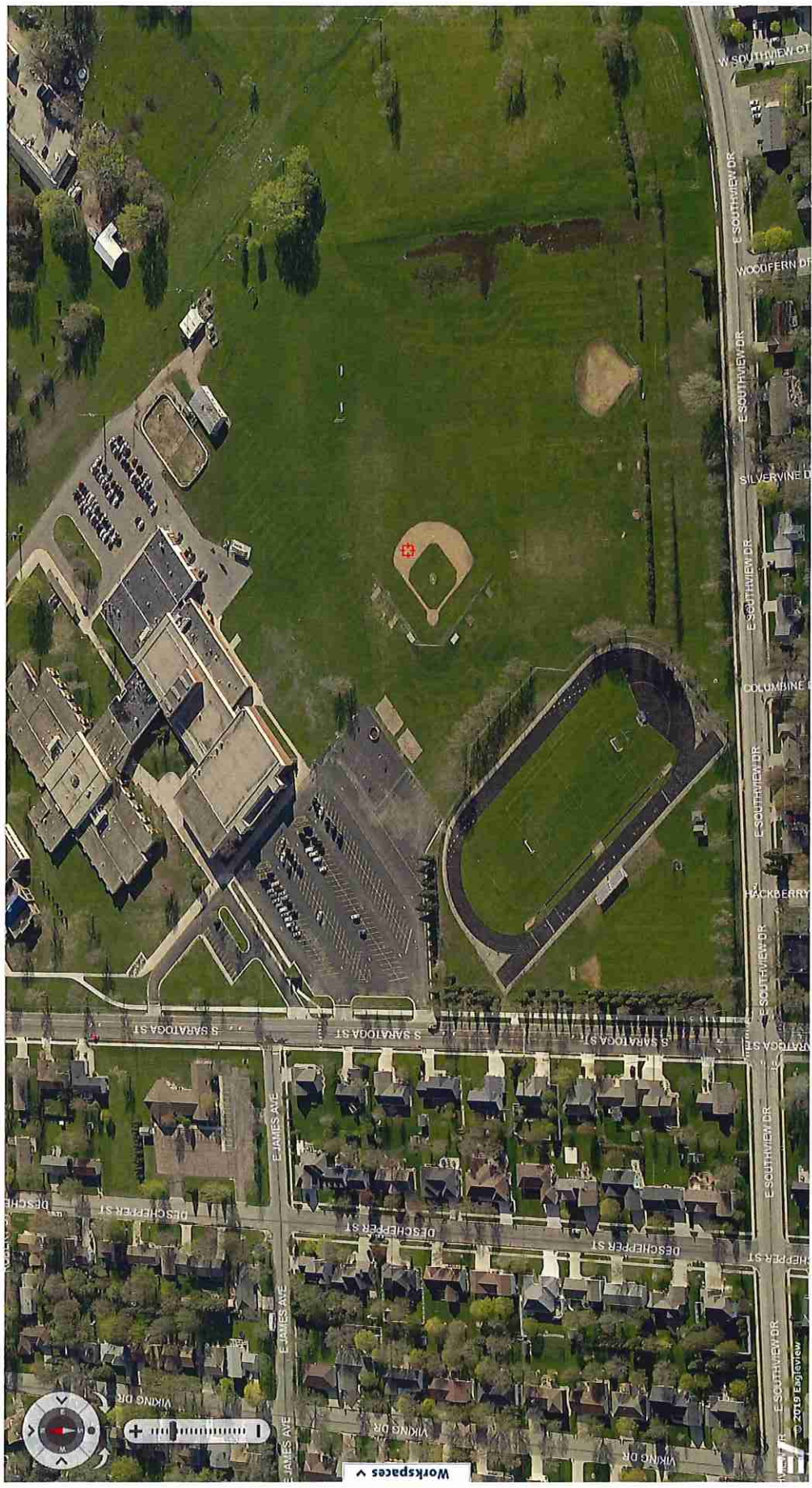


CONNECTExplorer



map: Auto (Oblique) May 2019 May 2019 < image 1 of 7 > 05/13/2019





Building a Better World  
for All of Us®

## SUMMARY OF FINDINGS

TO: Chris Ziemer, Project Manager  
ICS Consulting

FROM: Mike Kotila, PE (MN)  
Justin Anibas, EIT

DATE: October 29, 2019

RE: Marshall Elementary School Traffic Impact Study Summary  
SEH No. ICSCO 151050

This memorandum provides a summary of traffic study findings and recommendations related to the planned grades 2-4 elementary school in the City of Marshall. Additional detail related to the study process is available in the Final Traffic Study Memorandum dated October 23, 2019.

### EXISTING CONDITIONS

The following figure shows the study area, the existing Middle School, and the study intersections and associated intersection numbers that correlate to the map.

**Study Area and Intersections**



Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 10901 Red Circle Drive, Suite 300, Minnetonka, MN 55343-9302  
SEH is 100% employee-owned | [sehinc.com](http://sehinc.com) | 952.912.2600 | 800.734.6757 | 888.908.8166 fax

The study intersections currently have the following intersection control:

1. Main Street (US 59) at C Street – Traffic Signal
2. C Street at Progress Drive – Minor Street Stop
3. Saratoga Street at C Street – Minor Street Stop
4. Saratoga Street at Bus Exit – Minor Street Stop
5. Saratoga Street at James Avenue – Minor Street Stop
6. Saratoga Street at Bus Entrance – Minor Street Stop
7. Saratoga Street North Parking Access – Minor Street Stop
8. Saratoga Street at South Parking Access – Minor Street Stop
9. Saratoga Street at Southview Drive – All-way Stop
10. Southview Drive at Silvervine Drive – Minor Street Stop
11. Southview Drive at Woodfern Drive – Minor Street Stop
12. Southview Drive at W Southview Court – Minor Street Stop
13. Main Street (US 59) at Southview Drive – Traffic Signal

#### EXISTING TRAFFIC DEMANDS

AM, School Dismissal, and PM peak period (7-9 am, 2-6 pm) turning movements counts were collected at the 13 study intersections in May 2019. 13-hour (6 am – 7 pm) counts were performed at locations where evaluation of potential change to all-way stop control was planned as part of this study. (see Final Traffic Study Memorandum for traffic volume counts)

#### FUTURE TRAFFIC DEMANDS

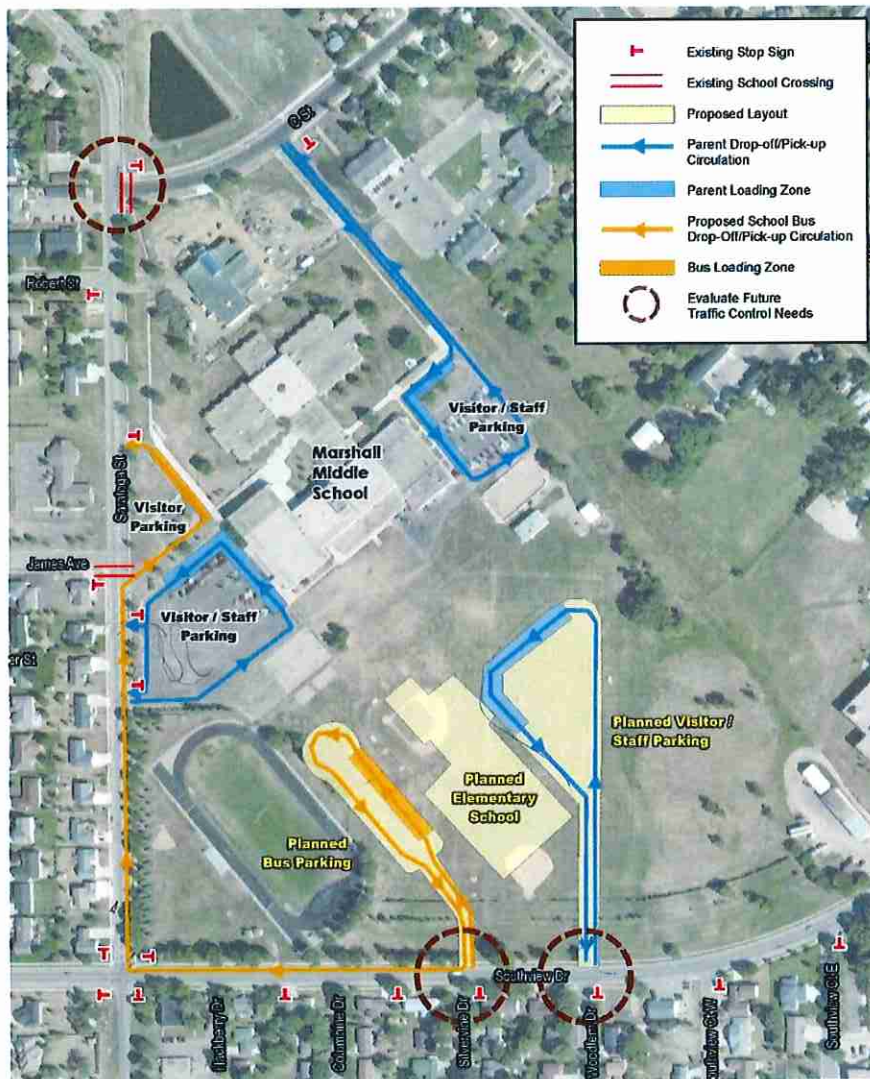
The proposed Elementary School is projected to have an enrollment of 600 students. The Middle School is projected to grow in enrollment from 700 to 750 students over the same period. **Table 3** shows the AM, School Dismissal, and PM peak hour trips estimated to be generated by both the proposed elementary school and the additional students at the middle school.

**Table 3 – New Trips Generated**

Land Use	AM Peak Hour			School Dismissal Peak Hour			PM Peak Hour			Daily
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	
Elementary School	211	179	390	92	112	204	49	53	102	1,134
Middle School	19	16	35	8	10	18	4	5	9	107
<b>Total</b>	<b>230</b>	<b>195</b>	<b>425</b>	<b>100</b>	<b>122</b>	<b>222</b>	<b>53</b>	<b>58</b>	<b>111</b>	<b>1,241</b>



### Site Plan and Traffic Circulation



### Summary of Findings and Recommendations

The following improvements are recommended to serve future traffic demands when the new elementary school is constructed:

#### Middle School Related

Based on existing operational issues observed and new traffic demands at the Middle School, the following treatments would be beneficial.

- Add a northbound right turn lane on Progress Drive approaching C Street to allow elimination of the existing northbound left turn restriction which experiences a poor level of compliance. The need for this improvement should be monitored after relocation of the Early Childhood Education Program from the Middle School to Park Side Elementary.
- To reduce traffic queues from the west parent pick up drive aisle, consider facilitating greater use of available parking spaces for waiting parents; This would require creating a safe walking route from the

school into the parking lot; likely requiring additional staff members to be assigned to manage the conflict areas and walking routes through the parking lot.

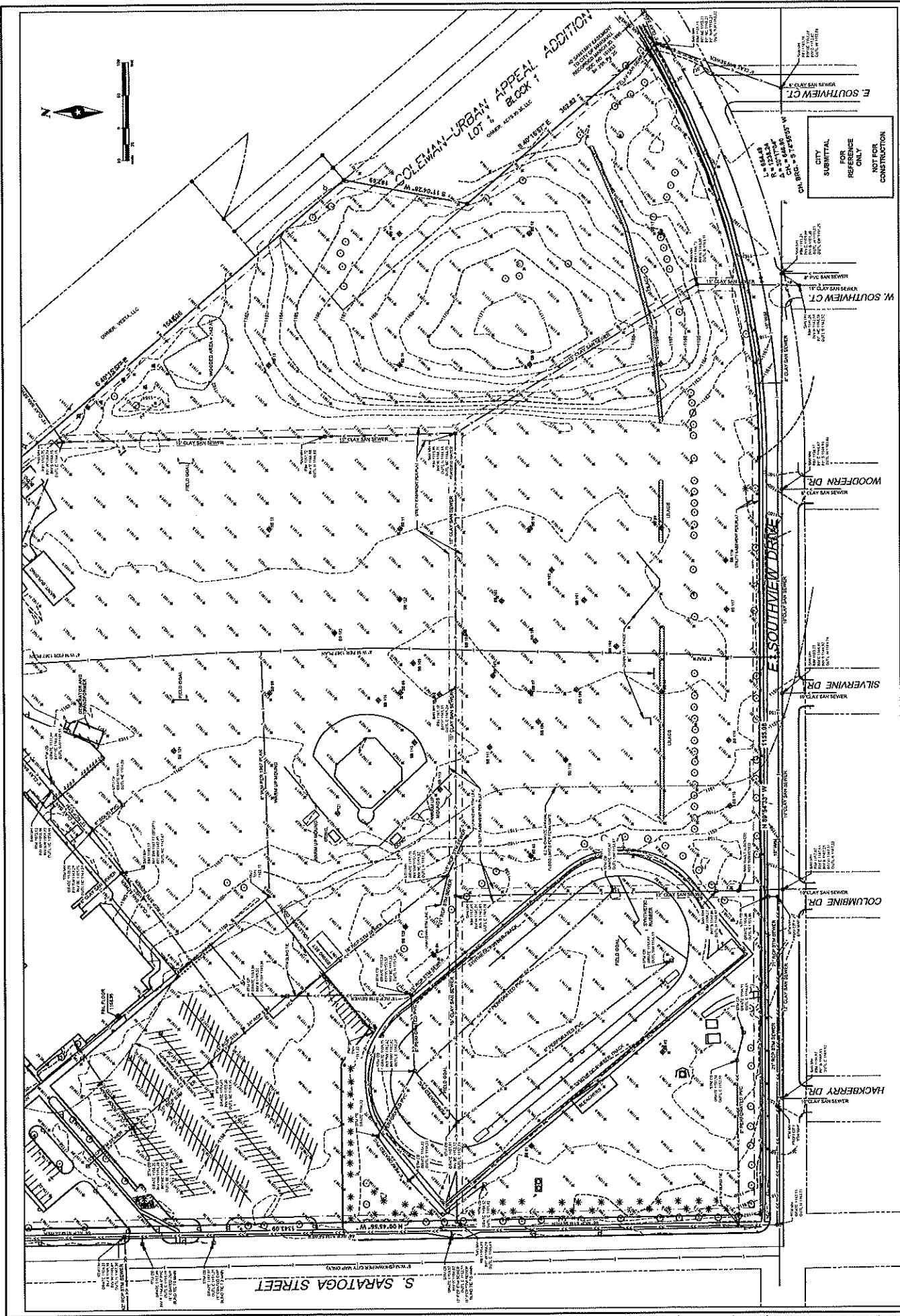
- Utilize the City's Safe Route to School (SRTS) grant to construct an enhanced school crossing warning system with a Rectangular Rapid Flashing Beacons (RRFB's) on Saratoga Street at the James Avenue crossing; also, with the SRTS grant, install school speed zone signing on Saratoga Street reducing the speed limit from 30 mph to 20 mph when children are present.
- Continue to staff the James Avenue crossing with an adult crossing guard; the guard can use the RRFB system to assist with stopping traffic. While providing safe student crossing opportunities is the priority; traffic queue lengths on Saratoga Street may also be managed based upon the duration of each traffic stoppage for student crossing.

#### **Elementary School Related**

Based on existing operational issues and new traffic demands generated by the Elementary School, the following treatments would be beneficial.

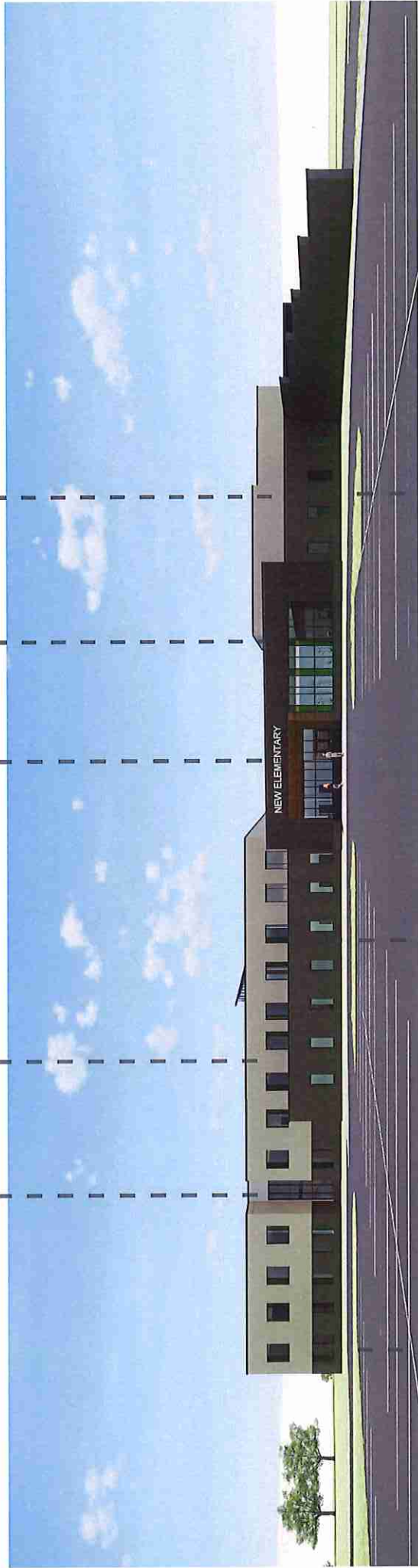
- Prepare educational materials for parents with instructions for safe and efficient procedures for dropping off and picking up students.
- During the first several weeks after school opening, the City should plan for periodic police presence during arrival and dismissal peak traffic periods to manage any safety issues that may occur as drivers become accustomed to the new traffic patterns.
- Provide a sidewalk or trail between the Elementary School drop off lane and the Middle School to make walking between schools convenient to allow parents to potentially drop-off/pick-up elementary and middle school students at one location.
- Maximize on-site (off street) storage of traffic queues generated by parent drop-off and/or pick up lanes. Also maximize the right turn and left/through lane storage length for southbound traffic departing from the school site approaching Southview Drive such that the exiting traffic delays do not interfere with incoming traffic and/or student loading activities.
- Provide left turn lanes on Southview Drive for entering the school main entrance driveway and the bus driveway. The turn lanes will improve operations during the highest school traffic peak periods and will provide storage should the queue in the school parking lot back out of the parking lot onto the street.
- Provide a school crossing of Southview Drive at Silvervine Drive. The crossing should be staffed by an adult crossing guard.
- Utilize the City's SRTS grant to construct an enhanced school crossing warning system with a Rectangular Rapid Flashing Beacons (RRFB's) on Southview Drive at the Silvervine school crossing; also, with the SRTS grant, install school speed zone signing on Southview Drive reducing the speed limit from 30 mph to 20 mph when children are present.
- Restripe Southview Drive as a three lane roadway with continuous center left turn lanes serving all intersections from Saratoga Street to Main Street. The three lane configuration will require elimination of parking on one side of the street; eliminating parking on the north side is recommended while retaining parking along the south side. Restriping will require elimination of the existing bike lanes, so a multi-use trail should be constructed along the north side of Southview Drive.
- Because the elementary and middle schools plan to share buses, it is recommended that buses drop-off/pick-up students at the Elementary School first before going to the Middle School. Buses would take a right turn out of the elementary school lot, a right turn onto Saratoga Street, and a right turn into the middle school, all of which are low delay movements.





MARSHALL MIDDLE SCHOOL EXISTING CONDITIONS SURVEY LOT 1, BLOCK 1: PROGRESS ADDITION		2
MARSHALL, MINNESOTA		2
PREPARED BY: SEH CHECKED BY: [ ] DATE: [ ]		DATE: [ ] BY: [ ] FOR: [ ]

METAL PANEL      BRICK      HPL PANEL      METAL PANEL      METAL PANEL



BRICK

New 2-4 Elementary School  
MARSHALL PUBLIC SCHOOL





METAL PANEL

BRICK

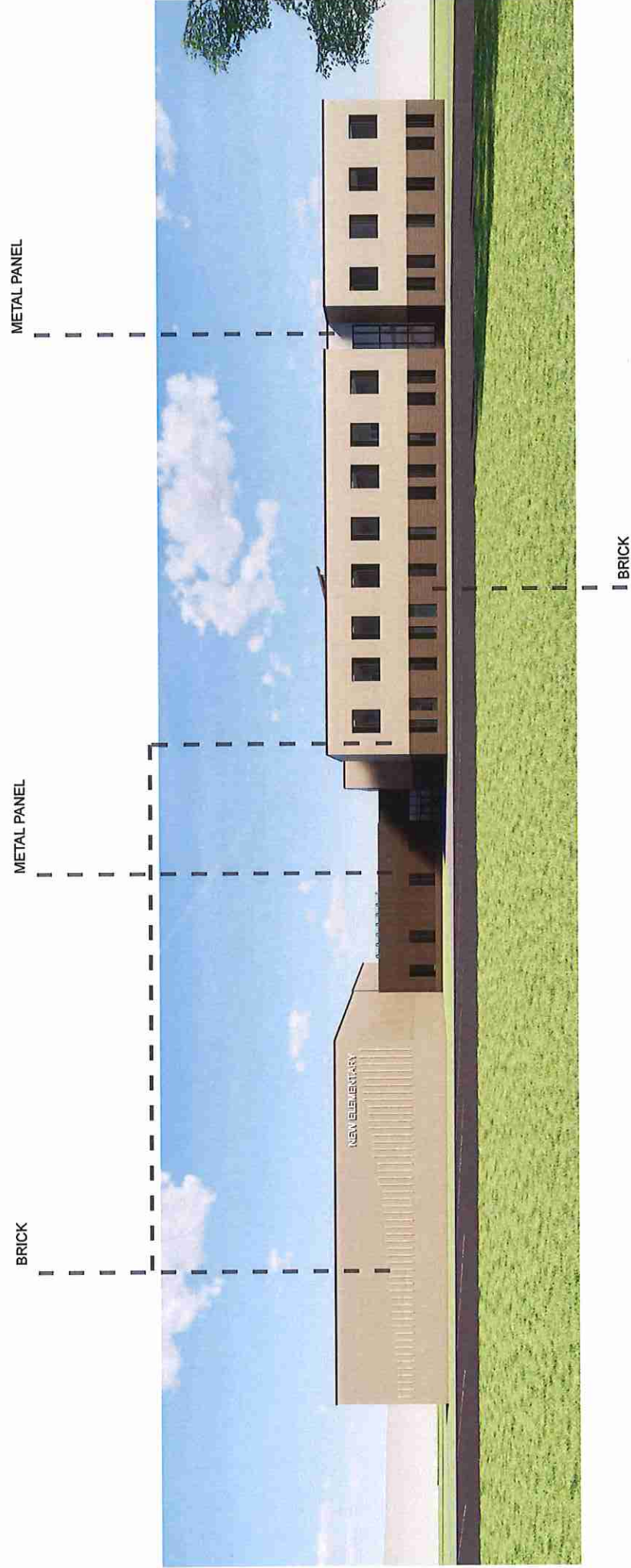
METAL PANEL

BRICK



New 2-4 Elementary School  
MARSHALL PUBLIC SCHOOL





New 2-4 Elementary School  
MARSHALL PUBLIC SCHOOL



BRICK

BRICK

New 2-4 Elementary School  
MARSHALL PUBLIC SCHOOL

