

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Comstock
Project Extent:	33 rd Avenue/Lincoln Drive intersection Estimate: \$134,000

Problem Statement: Residents of the Comstock neighborhood raised concerns over speeding and pedestrian crossings safety, specifically the visibility due to on-street parking and vegetation, at 33rd Avenue and Lincoln Drive intersection. The figure below shows the study intersection.



33rd Avenue and Lincoln Drive Intersection

Traffic Analysis

33rd Avenue and Lincoln Drive within the study area are classified as urban local access streets. 33rd Avenue to the west and Lincoln Drive to the south of the intersection have a posted speed limit of 25 miles per hour while 33rd Avenue to the east and Lincoln Drive to the north have posted speed limit of 20 miles per hour along the Comstock Park frontage. All approaches provide two lanes with on street parking. Sidewalks are provided along the Comstock Park frontage and the west side of Lincoln Drive north of 33rd Avenue.

The northeast corner of the intersection has a curb extension and marked crosswalks are provided on the north and east legs of the intersection. No bike facilities are available within the study area. Both 33rd Avenue and Lincoln Drive has current classification of bike friendly route per the Bicycle Facility Classification in the City Bicycle Master Plan. 33rd Avenue is a planned future neighborhood greenway while there is no plan designated for Lincoln Drive in the City's Bicycle Master Plan.

Spokane Traffic Calming Master Plan

The study intersection is uncontrolled. Vegetation (large trees) on the southwest and southeast corner and on-street parking appear to affect intersection sight distance and stopping sight distance, as shown in the below figure.



View Looking North on Lincoln Drive

The table below shows the 2022 daily traffic volumes and 85th percentile speeds on 33rd Avenue between Lincoln Drive and Howard Street (east of the study intersection). The daily volume within the study area was 451 vehicles on 33rd Avenue. The 85th percentile speed was 29 miles per hour (nine miles per hour greater than the posted speed limit), indicating there is a speeding concern.

2022 Daily Traffic and 85th Percentile Speeds on 33rd Avenue

Direction	# Lanes	2022 Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
Between Lincoln Drive and Howard Street				
EB	1	232	29	
WB	1	219	29	20
Both Dir.	2	451	29	

^a Traffic data collected in November 2022.

The need for enhanced pedestrian crossing treatments across 33rd Avenue was analyzed based on the National Cooperative Highway Research Program (NCHRP) Report 562.¹ Based on the finding, a marked crosswalk is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. Although pedestrian data is not available, it is assumed the 20 or more pedestrian crossing threshold is met due to the adjacent park and surrounding medium density, residential neighborhoods.

¹ NCHRP Report 562: *Improving Pedestrian Safety and Unsignalized Crossings*. National Cooperative Highway Research Program, 2006. <https://nacto.org/wp-content/uploads/2010/08/NCHRP-562-Improving-Pedestrian-Safety-at-Unsignalized-Crossings.pdf>

Spokane Traffic Calming Master Plan

One angle related crash was reported at the 33rd Avenue/Lincoln Drive intersection from 2017 through 2021 and caused property damage only, indicating citizen safety concerns are not appearing in the collision record.

Warrants to add stop signs on a local street intersection were assessed below per the MUTCD guidelines. At least one of the conditions must be true to consider the use of stop or yield signs. The analysis shows the sight distance limitation is met at the intersection, which could be mitigated by trimming/removing the adjacent vegetation and improving driver visibility at the intersection rather than installing stop or yield signs.

Local Road Single or Two-Way Stop Warrants

MUTCD	Description	Status?	
2B.04(04)A	Combined (vehicle, bicycle, ped) volume entering the intersection from all approaches averages more than 2,000 units per day	Lincoln Street data not available. Daily volume on 33 rd Avenue is 451 vehicles. Not likely to meet the criteria.	
2B.04(04)B	Ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop/yield in compliance with the normal right-of-way rule if such stopping/yielding is necessary.	Y	
2B.04(04)C	Crash records indicate that five or more crashes that involve failure to yield ROW at the intersection under the normal ROW rule have been reported within a 3-yr period or ≥ 3 have been reported within a 2-yr period.	2017	0
		2018	0
		2019	1
		2020	0
		2021	0


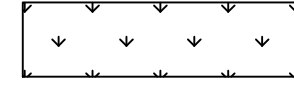
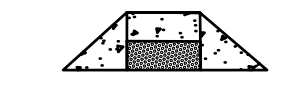

Recommended Solution:

The following improvements are recommended to manage vehicle speeds and improve driver visibility at the study intersection:

- Install speed bumps along the Comstock Park frontage at the following locations:
 - On 33rd Avenue midblock between Lincoln Street and Howard Street
 - On Lincoln Street midblock between Melinda Lane and Comstock Court
- Install a curb extension on the west side of the existing north leg crosswalk.
- Install a curb extension on the south side of the existing east leg crosswalk.
- Trim vegetation on the southwest and southeast corners to provide a full view of the intersection.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  PROPERTY LINE

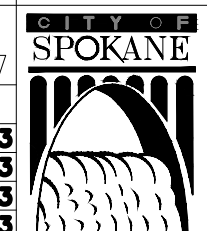
CONSTRUCTION NOTES

- 1** TRIM EXISTING VEGETATION.

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

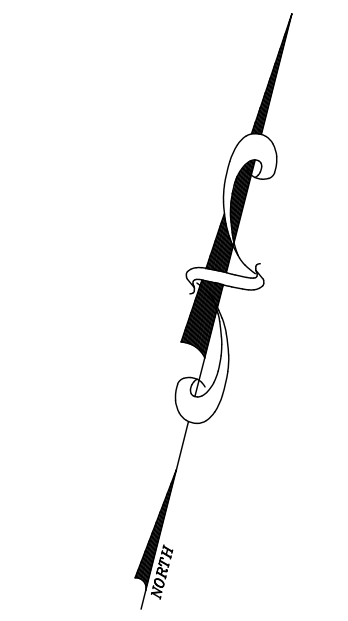
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											GRADE ORDINANCE LIST				

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NAV88 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
NAV88 DATUM	NAV88 DATUM
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HORIZONTAL PLAN/PROFILE	1" = 10'
VERTICAL PROFILE ONLY	N/A
SCALE	



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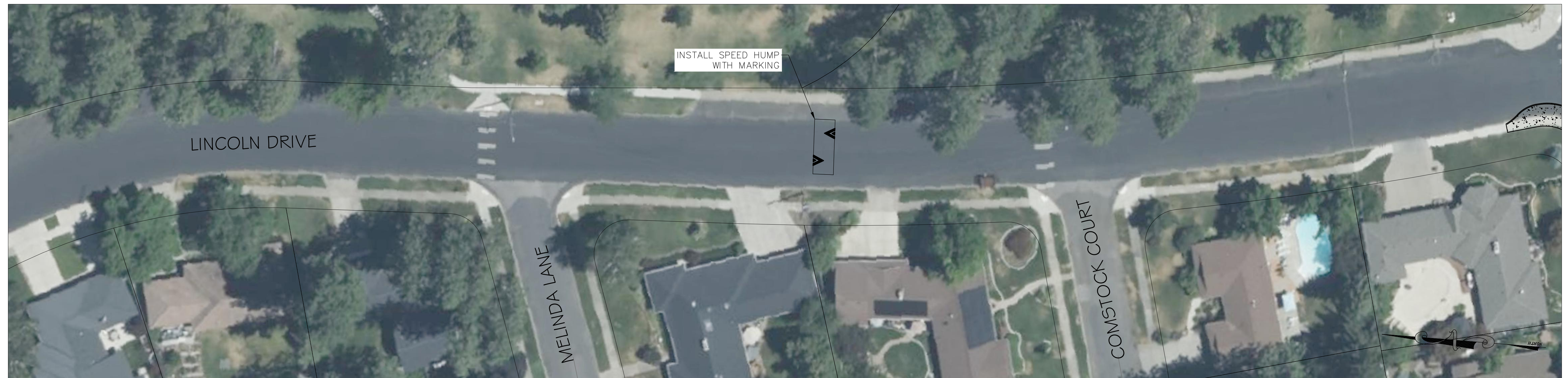
**PRELIMINARY
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1
 1 OF 8

PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	33RD AVENUE	
PROJECT LIMITS:	COMSTOCK NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER		
CITY PLAN NUMBER		

Plotted On May 15, 2023 - 5:09pm



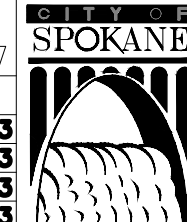
LEGEND

- INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
- INSTALL LANDSCAPING, NATIVE PLANTINGS
- INSTALL CURB RAMP PER COS STD PLAN F-105
- PROPERTY LINE

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REVISIONS		AS BUILT		GRADE		ORDINANCE LIST	
DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	DESCRIPTION

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NAV88 ELE: NONE GIVEN		DRAWN: KL 03/2023	
CBM NO: NONE GIVEN		REVISOR: KL 03/2023	
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY		CHECKED: SP 03/2023	
SCALE		APPROVED: AM 03/2023	



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2
 OF 8

PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN		TYPE OF IMPROVEMENT: TRAFFIC	
SEGMENT LIMITS: 33RD AVENUE		CITY PROJECT NUMBER: CITY PLAN NUMBER:	
PROJECT LIMITS: COMSTOCK NEIGHBORHOOD		EFT: TRAFFIC DESIGN	

Plotted On May 15, 2023 - 5:09pm

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Comstock
Project Extent:	37 th Avenue/Perry Street Intersection
	Estimate: \$520,000

Problem Statement: Residents of the Comstock neighborhood raised concerns over traffic volume and congestion at 37th Avenue and Perry Street intersection. Figure below shows the study intersection.



37th Avenue and Perry Street Intersection

Traffic Analysis

37th Avenue within the study area is classified as an urban minor arterial, Perry Street is classified as an urban major collector. Both streets provide two lanes, a posted speed limit of 30 miles per hour and no on-street parking. Sidewalks are provided within the study area while bike lanes are only available on 37th Avenue west of Perry Street. No marked crosswalks are provided at the study intersection. There are no marked pedestrian crossings near the intersection. The study intersection is all-way stop controlled and the 37th Avenue approaches are offset. Transit Route 43 travels on 37th Avenue and has bus stops at the study intersection.

The table below shows the estimated 2022 daily traffic volumes and 85th percentile speeds on 37th Avenue and Perry Street. The highest daily volume was 7,872 vehicles on Perry Street north of 33rd Avenue. The highest 85th percentile speed was 36 miles per hour on 37th Avenue (six miles per hour greater than the posted speed limit), indicating there is a speeding issue.

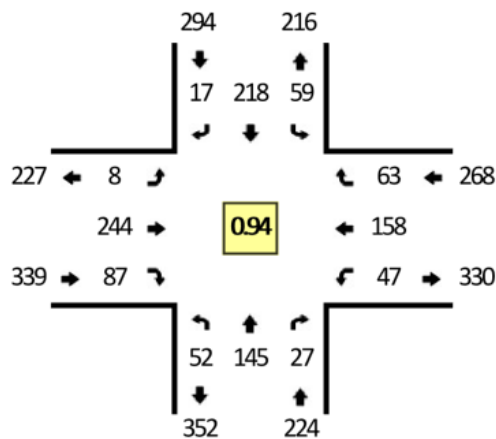
Spokane Traffic Calming Master Plan

2022 Estimated Daily Traffic and 85th Percentile Speeds on 37th Avenue and Perry Street

Direction	# Lanes	2022 Estimated Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
Perry Street South of 32 nd Avenue				
NB	1	4,168		
SB	1	3,704		30
Both Dir.	2	7,872	34	
37 th Avenue East of Perry Street				
EB	1	3,482		
WB	1	3,510		30
Both Dir.	2	6,992	36	

^a Traffic data collected March 2015 and April 2018. Traffic volumes were grown at a 1.0% annual growth rate, to estimate 2022 traffic conditions.

The figure below shows the existing PM peak hour traffic volumes at the study intersection, based on a traffic count conducted in November 2022.



PM Peak Hour Traffic on 37th Avenue and Perry Street

A review of the peak hour volumes suggests the current all-way stop control is appropriate with balanced volumes on each intersection approach. A signal warrant analysis was conducted for the intersection based on the PM peak hour volumes and was not met. The offset approaches on 37th Avenue likely contribute to longer turn movements and delays at the intersection compared to an aligned all-way stop controlled intersection. No change in intersection control is recommended.

The table below shows the severity and types of crashes occurring at the study intersection from 2017 through 2021. There were eight total crashes, including three injury crashes. Fixed objects related collisions were the most common crash type, representing 50 percent of all crashes. Three of the fixed objects related crashes, including one major injury crash, involving the influence of alcohol.

Spokane Traffic Calming Master Plan

Crashes at 37th Avenue/Perry Street (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Rear End	-	-	-	1	-	1
Angle	-	-	1	-	2	3
Fixed Objects	-	1	-	-	3	4
Total	0	1	1	1	5	8

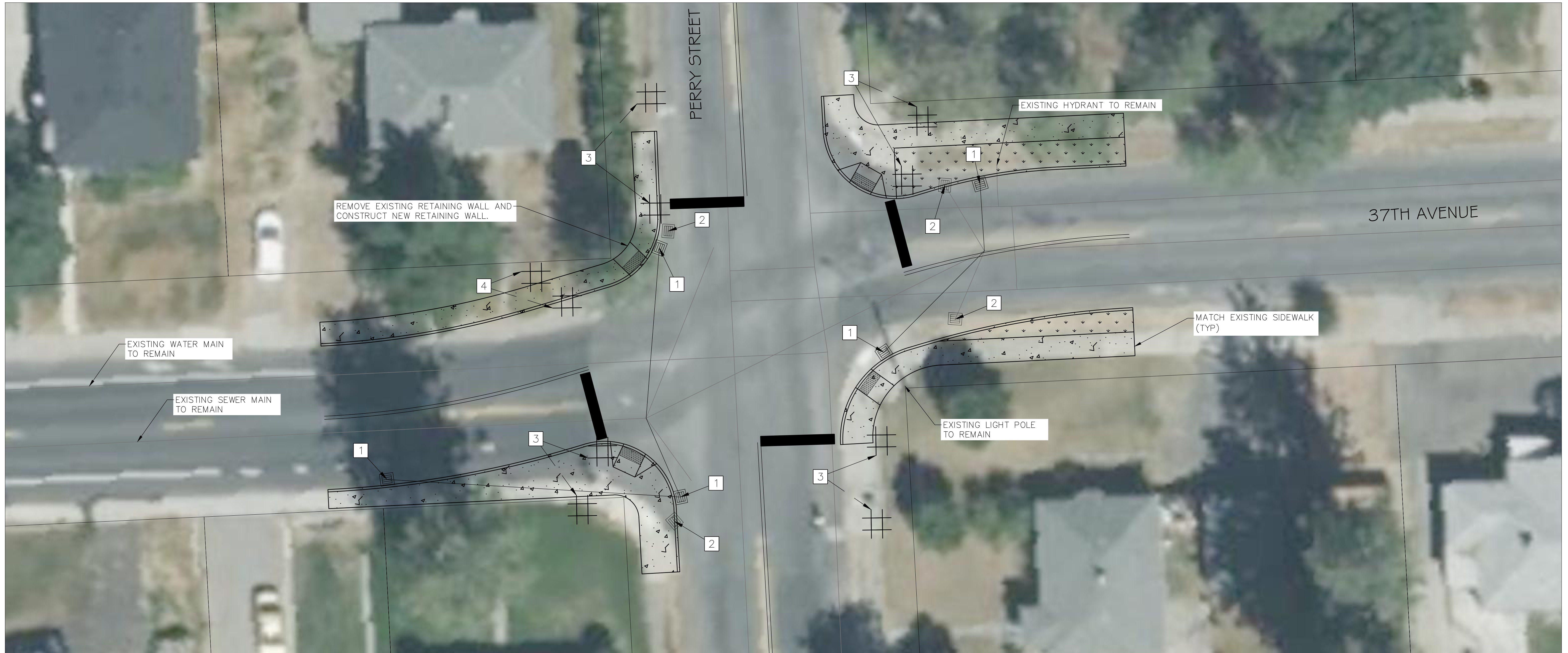
The need for enhanced pedestrian crossing treatments was analyzed for 37th Avenue and Perry Street based on NCHRP Report 562. Based on the findings, a crosswalk is the preferred treatment crossing if there are 20 or more pedestrian crossings during the peak hour. It was assumed the pedestrian crossing is met given the surrounding urban neighborhood and adjacent bus stops.

There is no on-street parking allowed near the intersections therefore curb extensions cannot be considered for traffic calming.


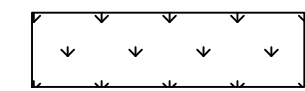
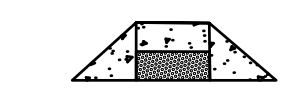


Recommended Solution:

The following improvements are recommended to calm traffic volumes and improve overall safety at the study intersection:

- Install curb extensions on the northeast and southwest corners to narrow the roadway and reduce the offset of the east and west approaches.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

CONSTRUCTION NOTES

- 1 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2 REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
- 3 RELOCATE EXISTING STOP SIGN AS SHOWN.
- 4 RELOCATE EXISTING BIKE LANE SIGN AS SHOWN.

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CHECKED: SP	03/2023	APPROVED: AM	03/2023



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 3 OF 8

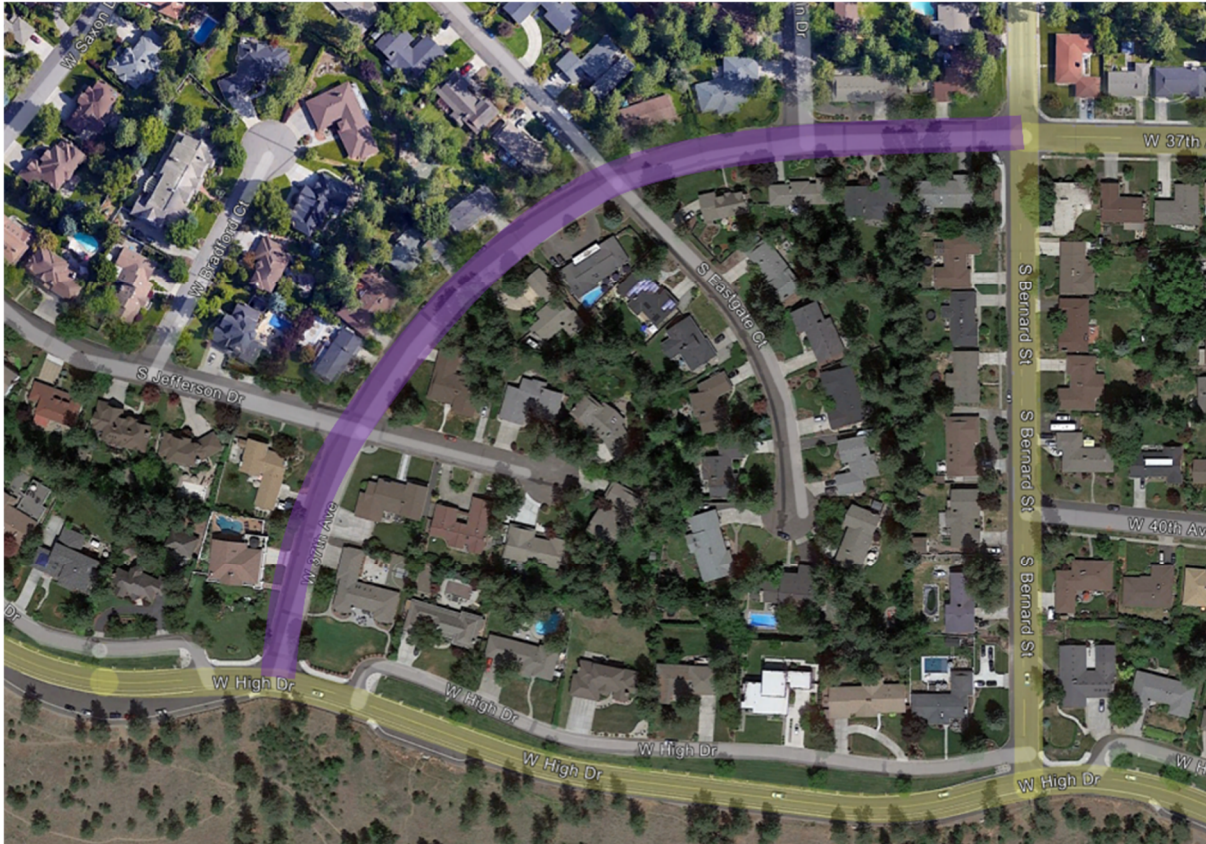
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SEGMENT LIMITS: 37TH AVENUE AND PERRY STREET	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: COMSTOCK NEIGHBORHOOD	EFN: TWPFC DESIGN

Plotted On May 15, 2023 - 5:10pm

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Comstock
Project Extent:	37 th Avenue from High Drive to Bernard Street Estimate: \$714,000

Problem Statement: Residents of the Comstock neighborhood raised concerns over speeding on 37th Avenue from High Drive to Bernard Street (approximately 0.27 miles). The figure below shows the study segment.



37th Avenue from High Drive to Bernard Street

Traffic Analysis

37th Avenue within the study area is classified as an urban local access street with a posted speed limit of 25 miles per hour. The study segment provides two lanes with on-street parking. Sidewalks, bike facilities, and protected crossings are not provided within the study area, the nearest marked crossing is located 0.25 miles to the east at Manito Boulevard. Transit Route 43 travels on 37th Avenue east of Bernard Street and has bus stops at the Bernard Street intersection. 37th Avenue within the study area is currently classified as bike friendly route per the Spokane Bicycle and Pedestrian Master Plan. The study corridor has no future plan per the Plan.

Spokane Traffic Calming Master Plan

The 37th Avenue intersections with High Drive and Bernard Street are controlled by stop signs on the 37th Avenue approach. The remaining intersection on the study corridor are uncontrolled.

The table below shows the 2022 daily traffic volumes on 37th Avenue within the study area. The daily volume on 37th Avenue was 694 vehicles between Jefferson Drive and Eastgate Court. The 85th percentile speed was 28 miles per hour (three miles per hour greater than the posted speed limit), indicating there might be a speeding issue.

2022 Daily Traffic and 85th Percentile Speeds on 37th Avenue

Direction	# Lanes	2022 Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
Between Jefferson Drive and Eastgate Court				
NB	1	263	27	
SB	1	431	29	25
Both Dir.	2	694	28	

^a Traffic data collected in November 2022.

The table below shows the severity and types of crashes occurring on 37th Avenue between High Drive and Bernard Street from 2017 through 2021 (excluding intersection crashes at the east and west ends). There were three total crashes which included no injury crashes. Two crashes were angle related and one crash involved a moving vehicle striking a parked vehicle.

Crashes 37th Avenue between High Drive and Bernard Street (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Angle	-	-	-	-	2	2
Fixed Object	-	-	-	-	1	1
Total	0	0	0	0	3	3

The need for enhanced pedestrian crossing treatments across 37th Avenue was analyzed based on NCHRP Report 562, using the estimated traffic data. Based on the findings, a crosswalk is the preferred treatment if there are 20 or more pedestrian crossings during the peak hour. Although pedestrian data is not available, it is assumed the 20 or more pedestrian crossing threshold is met due to the surrounding neighborhood, popular walking route on High Drive and bus stops at Bernard Street.

Since 37th Avenue does not have sidewalks in the study area, people are required to walk within the vehicle travel lane which may emphasize the vehicle speeding issue. Adding curb extensions and speed bumps at key locations would narrow the roadway and reduce vehicle speeds. 37th Avenue is approximately 42 feet wide measured curb to curb providing two 8-foot-wide parking areas and two 13-foot-wide vehicle lanes. Removing parking on one side of the street would provide room to add a sidewalk and landscape buffer. If on-street parking was retained, a sidewalk could be added without a landscape buffer.

Spokane Traffic Calming Master Plan

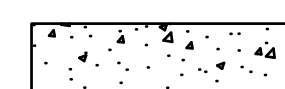
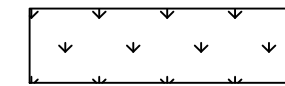
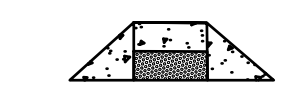
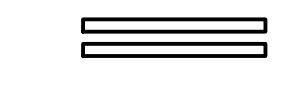
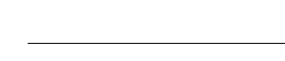
Recommended Solution:

The following improvements are recommended to manage vehicle speeds on the study corridor:

- Install curb extensions and a marked crosswalk on 37th Avenue east of High Drive to reduce vehicle speeds entering the neighborhood and increase pedestrian visibility.
- Install curb extensions on 37th Avenue west of Bernard Street to reduce vehicle speeds entering the neighborhood.
- Add a sidewalk on the north side of the street.
- Install speed bumps on 37th Avenue at the following locations:
 - Midblock between Jefferson Court and Eastgate Court
 - East of Lincoln Drive



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-G1
-  PROPERTY LINE

CONSTRUCTION NOTES

- 1 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING MANHOLE OR INLET WHERE SHOWN.
- 3 REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
- 4 EXISTING MANHOLE TO REMAIN IN PLACE.
- 5 EXISTING INLET TO REMAIN IN PLACE.

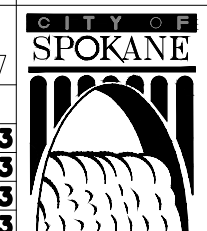
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4 OF 8

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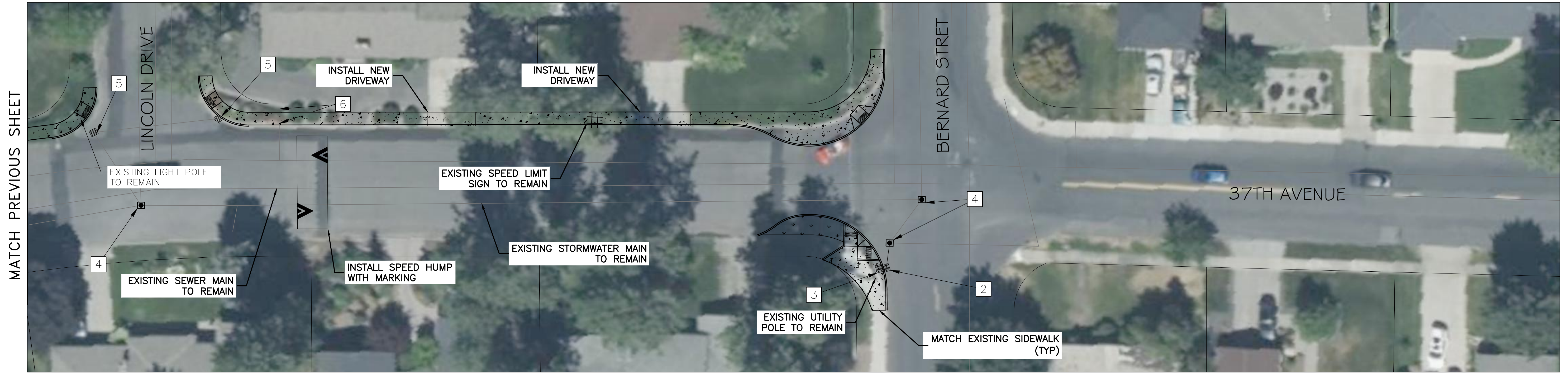
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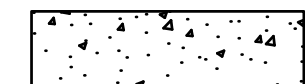
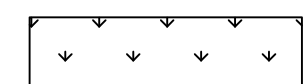
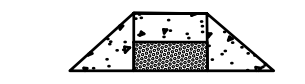
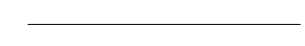
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SEGMENT LIMITS: 37TH AVENUE HIGH DRIVE TO BERNARD STREET	CITY PROJECT NUMBER: CITY PLAN NUMBER
PROJECT LIMITS: COMSTOCK NEIGHBORHOOD	

Plotted On: May 15, 2023 - 5:10pm



MATCH PREVIOUS SHEET

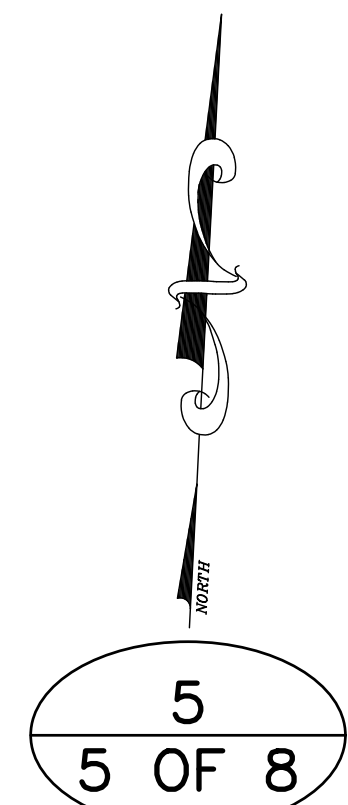
LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL LANDSCAPING, NATIVE PLANTINGS
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  PROPERTY LINE

CONSTRUCTION NOTES

- 1 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING PIPE WHERE SHOWN.
- 2 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING MANHOLE OR INLET WHERE SHOWN.
- 3 REMOVE EXISTING INLET. PLUG AND ABANDON EXISTING PIPE.
- 4 EXISTING MANHOLE TO REMAIN IN PLACE.
- 5 EXISTING INLET TO REMAIN IN PLACE.
- 6 RELOCATE EXISTING FIRE HYDRANT AS SHOWN.

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DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	DESCRIPTION

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NAV88 ELE	NONE GIVEN
CBM NO.	NONE GIVEN
BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL SCALE 1" = 20'
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	VERTICAL PROFILE ONLY N/A
NAV88 DATUM	SCALE

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SPOKANE, WASHINGTON 99201-3343
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PROJECT NAME: SPOKANE TRAFFIC CALMING MASTER PLAN		TYPE OF IMPROVEMENT: TRAFFIC	
SEGMENT LIMITS: 37TH AVENUE HIGH DRIVE TO BERNARD STREET		CITY PROJECT NUMBER: CITY PLAN NUMBER:	
PROJECT LIMITS: COMSTOCK NEIGHBORHOOD		EPA TRAFFIC DESIGN	

Plotted On: May 15, 2023 - 5:10pm

Spokane Traffic Calming Master Plan

District: 2
Neighborhood: Comstock
Project Extent: 37th Avenue from Bernard Street to Grand Boulevard
Estimate: \$94,000

Problem Statement: Residents of the Comstock raised concerns over children biking with a lack of dedicated bicycle facilities and vehicles parking on the sidewalk on 37th Avenue from Bernard Street to Grand Boulevard (approximately 0.7 miles). Figure below shows the study segment.



37th Avenue from Bernard Street to Grand Boulevard

Traffic Analysis

37th Avenue within the study area is classified as an urban minor arterial with two lanes and a posted speed limit of 30 miles per hour. Jefferson Elementary School is located north of 37th Avenue between Grand Boulevard and Manito Boulevard, with a school zone speed of 20 miles per hour. Sidewalks are provided but no bicycle facilities are available. Marked crosswalks are provided on 37th Avenue at Manito Boulevard, Latawah Street, and Grand Boulevard. Transit Route 43 provides service on 37th Avenue and has bus stops at Bernard Street, Manito Boulevard, Skyview Drive, Latawah Street, and Grand Boulevard. The 37th Avenue/Grand Boulevard intersection is signalized. 37th Avenue is stop sign controlled at Bernard Street. The remaining intersections on the study corridor are controlled by a stop sign on the side street approach (not 37th Avenue).

On-street parking is allowed on both sides of the street west of Latawah Street. Neighbors expressed concerns regarding vehicles parking on the sidewalk, an example is shown in the figure below. The corridor is approximately 40-foot wide measured curb-to-curb allowing for two 12-foot-wide vehicle

Spokane Traffic Calming Master Plan

lanes and an 8-foot-wide parking area on each side of the street. It is unclear why drivers choose to park partially on the sidewalk. The on-street parking demand on the corridor appears to be low.



The table below shows the 2022 daily traffic volumes and 85th percentile speeds on 37th Avenue within the study area. The daily volume within the study area was 3,655 vehicles and the 85th percentile speed was 34 miles per hour (four miles per hour greater than posted speed limit), indicating a moderate speeding issue.

2022 Daily Traffic and 85th Percentile Speeds on 37th Avenue

Direction	# Lanes	2022 Daily Traffic (Vehicles per day) ^a	85 th Percentile Speed (mph)	Posted Speed (mph)
Between Skyline Drive and Lamonte Street				
EB	1	1,689	36	
WB	1	1,966	34	30
Both Dir.	2	3,655	34	

^a Traffic data collected on November 15, 2022.

The table below shows the severity and types of crashes occurring on 37th Avenue Bernard Street and Grand Boulevard from 2017 through 2021 (excluding intersection crashes at the east and west ends). There were five total crashes and included three injury crashes. The pedestrian related crash involved a left turning vehicle at Manito Boulevard. The fixed object crash involved a moving vehicle striking a parked vehicle.

Crashes on Cliff Drive at 5th Avenue and Monroe Street (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Rear End	-	-	-		1	1
Turning	-	-	-	1	-	1
Angle	-	-	1	-	-	1
Fixed Objects	-	-	-	-	1	1
Ped/Bike	-	-	-	1	-	1
Total	0	0	1	2	2	5

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37th Avenue within the study area has a current condition of moderate traffic with shared facility in the Spokane Bicycle Master Plan. The study corridor has a future plan for bike lane installation east of Manito Boulevard per the Bicycle Master Plan. The daily volumes and speeds support the need for dedicated bike lanes on 37th Avenue.

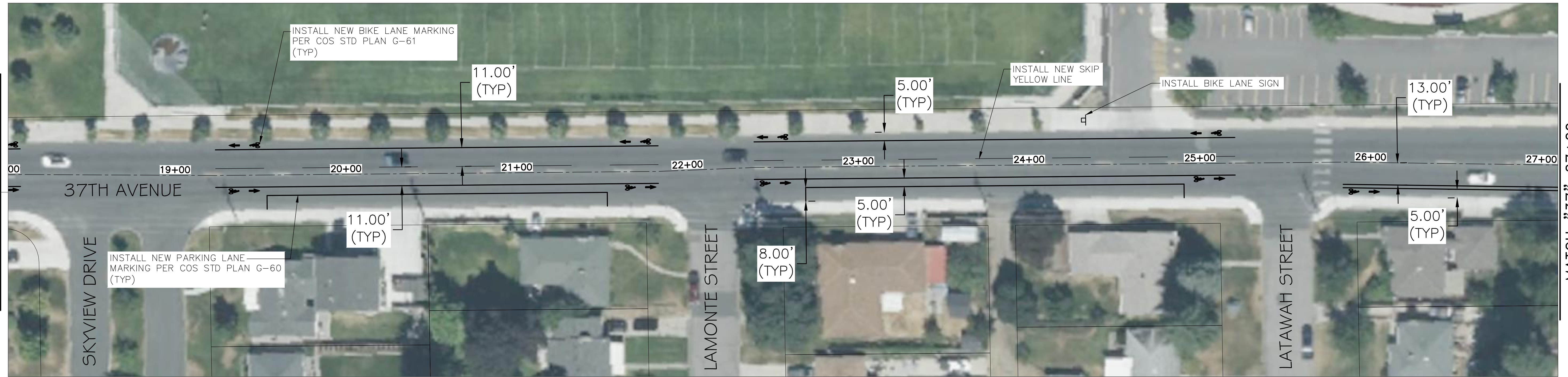
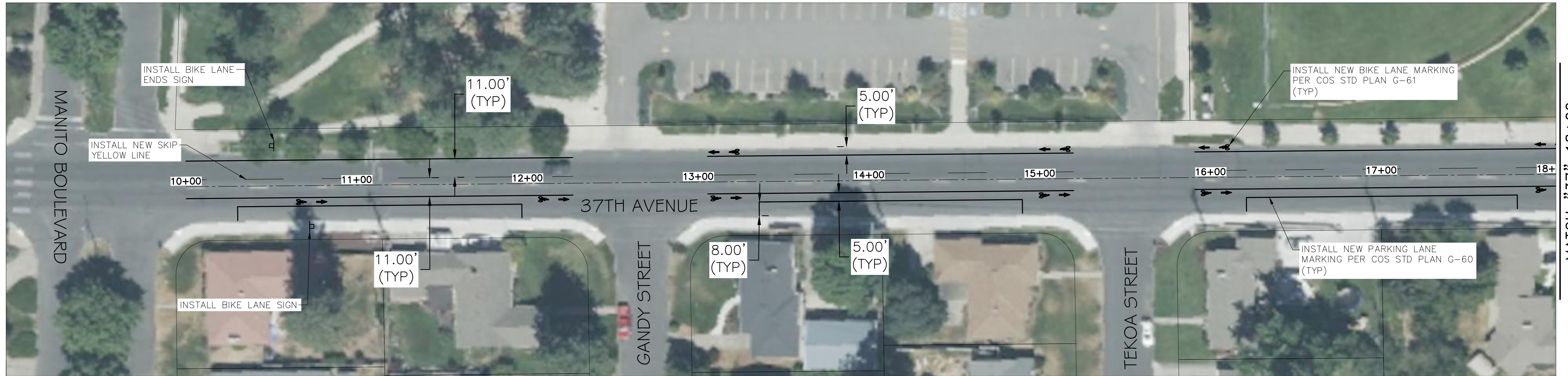
With the current roadway cross-section, bike lanes could not be accommodated if on-street parking was retained. If on street parking was removed from one side of the street, bike lanes could be provided in each direction. The resulting cross-section would provide approximately two 11-foot-wide vehicle lanes, two 5-foot-wide bike lanes and an 8-foot-wide parking area on one side of the street.

The roadway curb-to-curb width narrows to approximately 36 feet between Latawah Street and Grand Boulevard where no on-street parking is allowed except bus parking on the north curb to support the adjacent sports fields. A westbound bike lane could not be accommodated on this section due to the permitted bus parking. The westbound bike lane could transition to a shared bike route east of Latawah Street.

Recommended Solution:

The following improvements are recommended to accommodate bicyclist safely on the study corridor:

- Restripe 37th Avenue between Bernard Street and Latawah Street to add bike lanes and remove parking on one side of the street. The north side is the preferred location for a parking restriction due to the lack of fronting residential property along the school frontage east of Manito Boulevard. The proposed cross-section would provide approximately two 11-foot-wide vehicle lanes, two 5-foot-wide bike lanes, and an 8-foot-wide parking area on one side of the street.
- An alternative option is to restripe 37th Avenue between Manito Boulevard and Latawah Street if the removal of parking on one side of the street is not supported between Manito Boulevard and Bernard Street.
- Install westbound shared bike route pavement markings and an eastbound bike lane on 37th Avenue between Latawah Street and Grand Boulevard.



LEGEND

	PROPERTY LINE
	PROPOSED SIGN



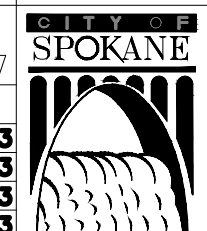
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6
6 OF 8

RIGHT OF WAY LINES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY

DATE	BY	PROJ	DESCRIPTION	DATE	BY	PROJ	E.F.N.	U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
REVISIONS																
AS BUILT																
GRADE ORDINANCE LIST																

NAV88 = (OLD CBM ELEV.) - (13.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)	BENCH MARK LOCATION	NONE GIVEN	CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007
NAV88 ELE	NONE GIVEN	BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL SCALE/PROFILE 1" = 30'
CBM NO.	NONE GIVEN	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	VERTICAL PROFILE ONLY N/A
NAV88 DATUM			SCALE



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DEPARTMENT OF ENGINEERING SERVICES
808 WEST SPOKANE FALLS BLVD.
SPOKANE, WASHINGTON 99201-3343
(509) 625-6700

PROJECT NAME:	SPOKANE TRAFFIC CALMING MASTER PLAN	
SEGMENT LIMITS:	37TH AVENUE MANITO BOULEVARD TO GRAND BOULEVARD	
PROJECT LIMITS:	COMSTOCK NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER:		
CITY PLAN NUMBER:		

MATCH "37" 27+09

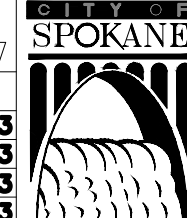


LEGEND
 _____ PROPERTY LINE

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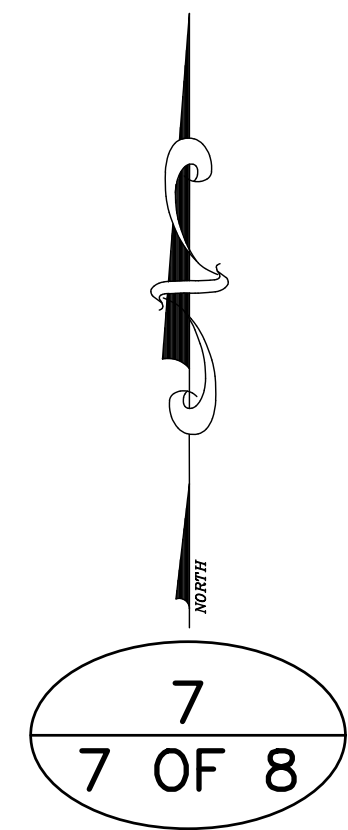
DATE	BY	PROJ.	DESCRIPTION	DATE	BY	PROJ.	E.F.N. / U.S.N.	FROM	TO	COUNCIL ACCEPT DATE	FROM	TO	ORD. NO.	DATE	FILE NO.
AS BUILT															
REVISIONS															
GRADE ORDINANCE LIST															

NAV88 = (OLD CBM ELEV.) - (13.13)	AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)	
BENCH MARK LOCATION	NONE GIVEN	
NAV88 ELEV.	NONE GIVEN	
CBM NO.	NONE GIVEN	
NAV88 DATUM	NONE GIVEN	
BAR IS ONE INCH ON ORIGINAL DRAWING: HORIZONTAL PLAN & PROFILE 1" = 30' VERTICAL PROFILE ONLY N/A SCALE		



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TYPE OF IMPROVEMENT:	TRAFFIC		
CITY PROJECT NUMBER:			
CITY PLAN NUMBER:			
PROJECT LIMITS:	COMSTOCK NEIGHBORHOOD		

Spokane Traffic Calming Master Plan

District:	2
Neighborhood:	Comstock
Project Extent:	33 rd Avenue and Grand Boulevard Intersection
	Estimate: \$307,000

Problem Statement: Residents of the Comstock neighborhood raised concerns over bottleneck and traffic flow difficulties at 33rd Avenue and Grand Boulevard. Figure below shows the study intersection.



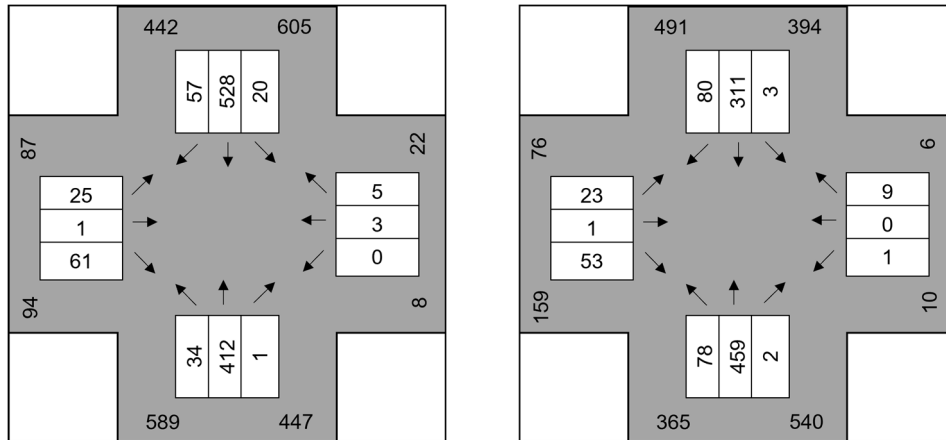
33rd Avenue and Grand Boulevard Intersection

Traffic Analysis

Grand Boulevard within the study area is classified as an urban major arterial with a posted speed limit of 30 miles per hour. 33rd Avenue within the study area is classified as an urban local access street with a posted speed limit of 25 miles per hour. Grand Boulevard provides two lanes with a two-way-left-turn lane, 33rd Avenue provides two lanes with on-street parking. Sidewalks are provided within the study area while no bicycle facilities are available. The study intersection is two-way-stop controlled on 33rd Avenue with a marked crossing and warning signs on the north leg. Sacajawea Middle School is located north of 33rd Avenue on the west side of Grand Boulevard and Jefferson Elementary School is located on 37th Avenue and west of Grand Boulevard. Manito United Methodist Church is located at the northwest corner of the intersection.

The figure below shows the existing AM and PM peak hour traffic volumes at the study intersection, based on a traffic count from May 2019, factored up to 2022.

Spokane Traffic Calming Master Plan



AM (Left) and PM (Right) Peak Hour Traffic at 33rd Avenue and Grand Boulevard

According to the Spokane Grand Boulevard Study, the 2019 peak hour operations at the 33rd Avenue/Grand Boulevard intersection meets the City’s performance standards but is forecasted to fall below the mobility targets by 2040 during the AM peak hour.

The table below shows the severity and types of crashes occurring at the study intersection from 2017 through 2021. There were three total crashes, all were injury crashes. The only pedestrian related crash involved fatigued driver striking metal signpost.

Crashes at 33rd Avenue and Grand Boulevard (2017 to 2021)

Crash Type	Crash Severity					Total
	Fatal	Major Injury	Minor Injury	Possible Injury	Property Damage Only	
Rear End	-	-	-	2	-	2
Ped/Bike	-	-	1	-	-	1
Total	0	0	1	2	0	3

33rd Avenue within the study area is currently classified as a bike friendly route and Grand Boulevard is classified as a moderate traffic with shared facilities in the City Bicycle Master Plan. According to the Spokane Grand Boulevard Transportation and Land Use Study, 33rd Avenue is a popular crossing location for people walking and biking and is designated as a walking route for Jefferson Elementary School and a planned Neighborhood Greenway. The Study recommended several improvements on Grand Boulevard at 33rd Avenue including reducing vehicle lanes to the north, installing a protected pedestrian crossing and greenway crossing pavement markings.

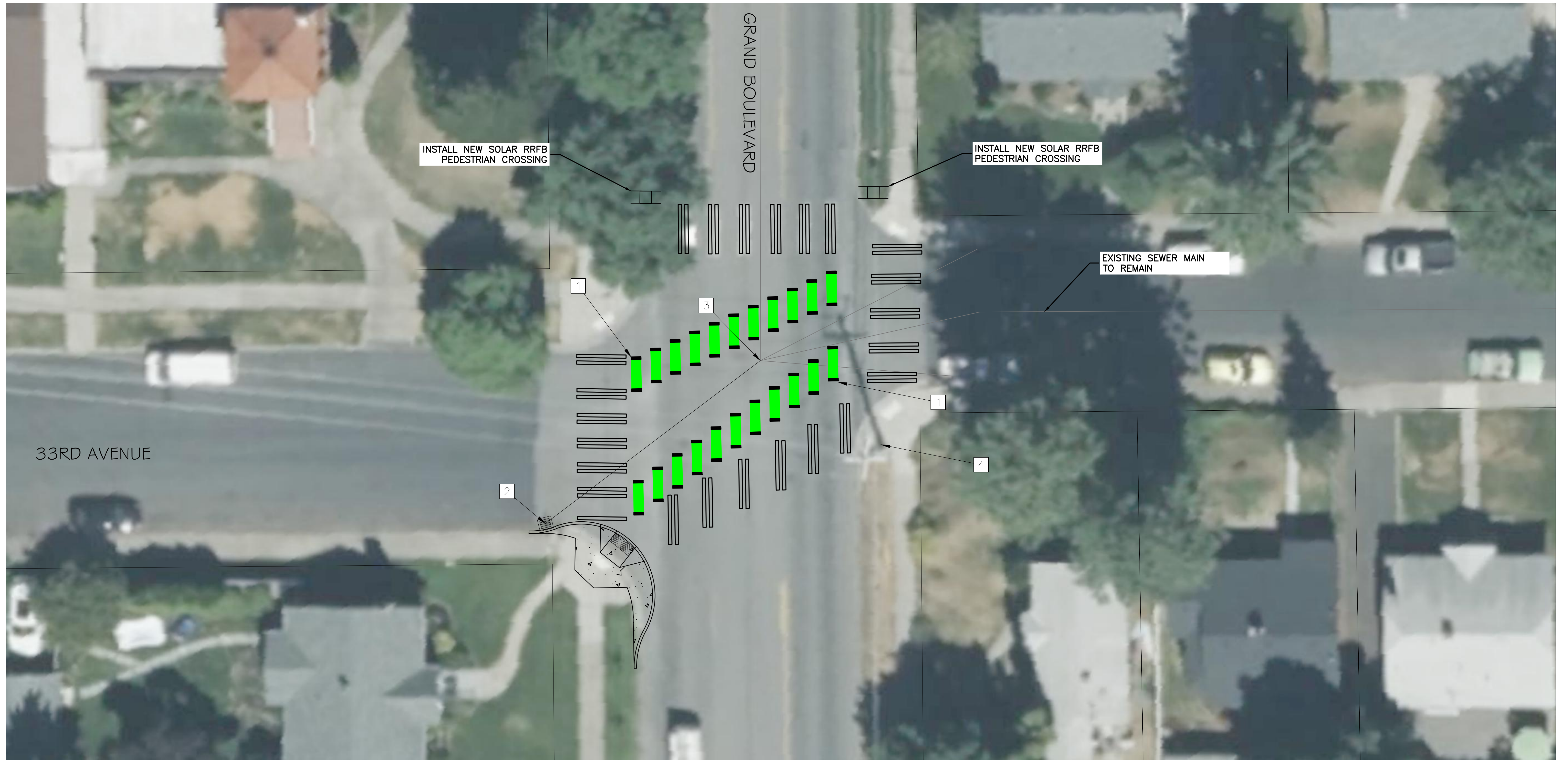
Recommended Solution:

The following improvements are recommended to calm traffic volumes and improve overall safety at the study intersection:

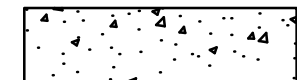
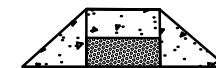
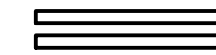

- Consistent with the Grand Boulevard Transportation and Land Use Study:

Spokane Traffic Calming Master Plan

- Install a rectangular rapid flashing beacon on the north leg of the intersection to increase the visibility of the crossing.
 - Install marked pedestrian crossings on all legs of the intersection.
 - Install marked bicycle greenway crossings through the intersection.
- Consider installing a center median on Grand Boulevard at the intersection to restrict vehicle movements from the 33rd Avenue approaches to right/in right only. The median would provide a gap to allow bicycle and pedestrian movements. The treatment would reduce vehicle delays associated with left turns from the side streets and improve pedestrian and bicycle safety by reducing vehicle conflicts at the intersection.



LEGEND

-  INSTALL NEW CONCRETE SIDEWALK PER COS STD PLAN F-102B
-  INSTALL CURB RAMP PER COS STD PLAN F-105
-  INSTALL CROSSWALK PER COS STD PLAN G-61
-  PROPERTY LINE

CONSTRUCTION NOTES

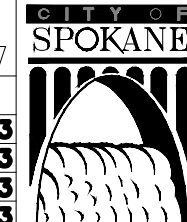
- 1 INSTALL BICYCLE GREENWAY CROSSING. GREEN MARKING SHALL BE USED THROUGH INTERSECTION WITH NORMAL WHITE BIKE LANE ALONG EDGES OF COLORED LANE.
- 2 INSTALL NEW CATCH BASIN TYPE 1 AND 8" DIAM. PIPE AS NECESSARY. CONNECT TO EXISTING MANHOLE OR INLET WHERE SHOWN.
- 3 EXISTING MANHOLE TO REMAIN IN PLACE.
- 4 INSTALL LUMINAIRE ON EXISTING UTILITY POLE.

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REVISIONS										
AS BUILT										

FROM	TO	ORD. NO.	DATE	FILE NO.
GRADE ORDINANCE LIST				

NAVDB8 = (OLD CBM ELEV.) = (13.13) AS OF JANUARY, 2000 USE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVDB8)	BENCH MARK LOCATION	NONE GIVEN	CURRENT C.O.S. DESIGN STANDARDS ADOPTED FEB. 2007
NAVDB8 ELE	NONE GIVEN	BAR IS ONE INCH ON ORIGINAL DRAWING	HORIZONTAL PLAN/PROFILE 1" = 10'
CBM NO.	NONE GIVEN	VERTICAL PROFILE ONLY	N/A
NAVDB8 DATUM		SCALE	



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SEGMENT LIMITS:	33RD AVENUE AND GRAND BOULEVARD	
PROJECT LIMITS:	COMSTOCK NEIGHBORHOOD	
TYPE OF IMPROVEMENT:	TRAFFIC	
CITY PROJECT NUMBER		CITY PLAN NUMBER

Plotted On May 15, 2023 - 5:14pm