Section Five
Center Segment
(From North Territorial Road Interchange to Silver Lake Road)

CENTER SEGMENT LIMITS

The limits of the Center Segment are from north of North Territorial Road to south of Silver Lake Road.
This section consists of six miles of freeway and includes four interchanges and seven structures.
This segment connects Green Oak Township in Livingston County with Northfield Township in Washtenaw County.

PAVEMENT AND BRIDGE CONDITION

Built in the 1960s, the pavement of the center section is concrete with bituminous overlay. Most of the pavement in this section has a remaining service life of 8 to 12 years **(Figure 5-1: Pavement Conditions-Remaining Service Life)**. The Ride Quality Index measures pavement roughness and is shown in **Figure 5-2: (Pavement Conditions-Ride Quality Index)** for the center segment. **Table 5-1** provides vital bridge information for the Center Segment structures.

TABLE 5-1

US-23 BRIDGE STATISTICS - CENTER SEGMENT

Facility Carried	Year Reconstructed (rehabilitated)	Overall structure Rating	Last inspection date*	Under-clearance	Structure number
6 Mile Road over US-23	1962 (1989)	Poor	4/2006	14' 5" L, 15' 1" R	S08
SB US-23 over Barker Road	1958	Fair	10/2007	16' 0" R	S09-2
NBUS-23 over Barker Road	1958 (2006)	Fair	10/2007	15' 1" R	S09-1
SB US-23 over Railroad	1958 (2006)	Fair	10/2007	22' 8" R	X02 (R02-2)
NB US-23 over Railroad	1958 (2006)	Fair	10/2007	22' 1" R	X02 (R02-1)
8 Mile Road over US-23	1962 (2006)	Poor	10/2007	14' 2"L, 13' 10" R	S10
US-23 over M-36 (9 Mile)	1960 (2006)	Fair	10/2007	14' 4" L, 14' 4" R	S02

**As of March 2008*

FIGURE 5-1

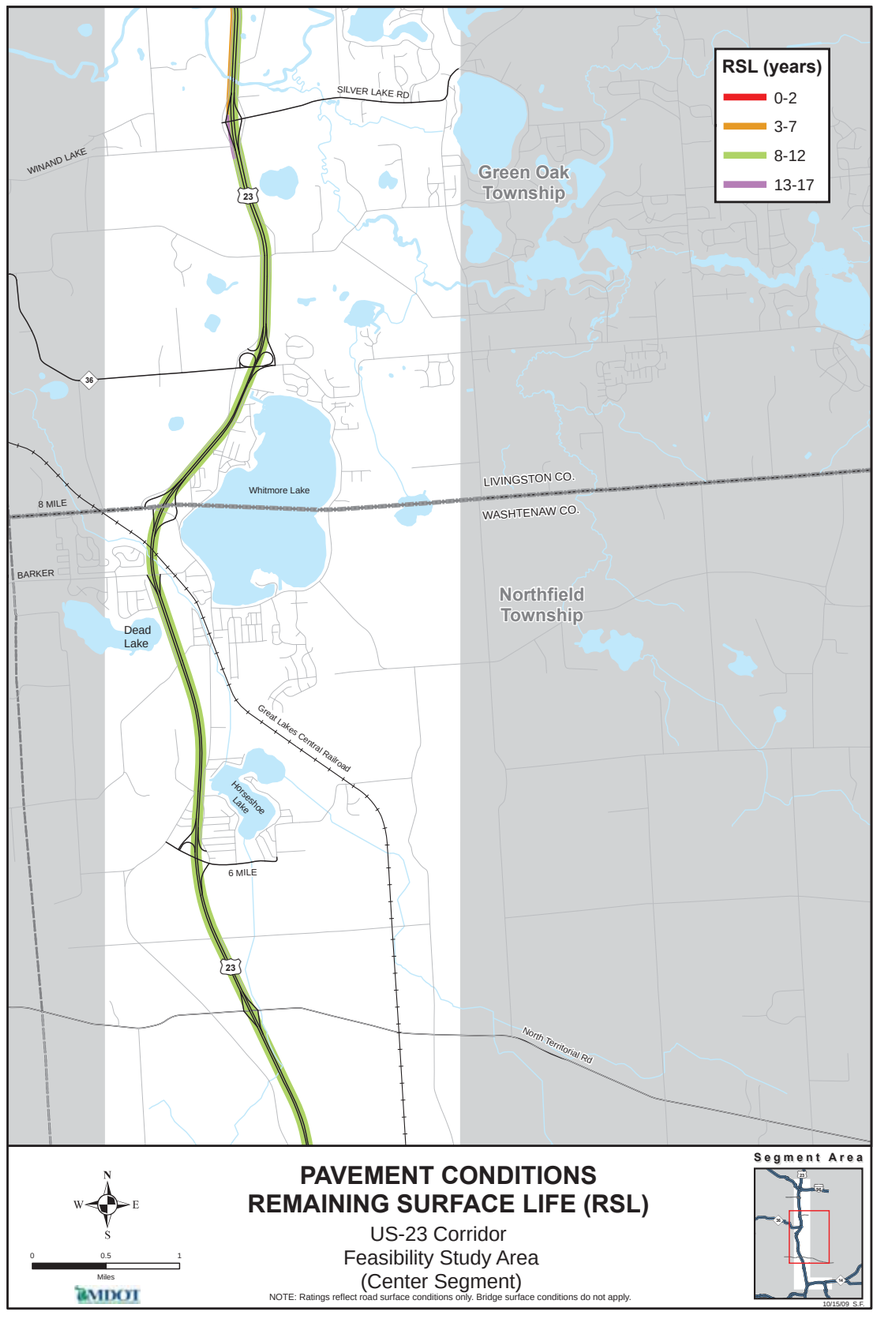
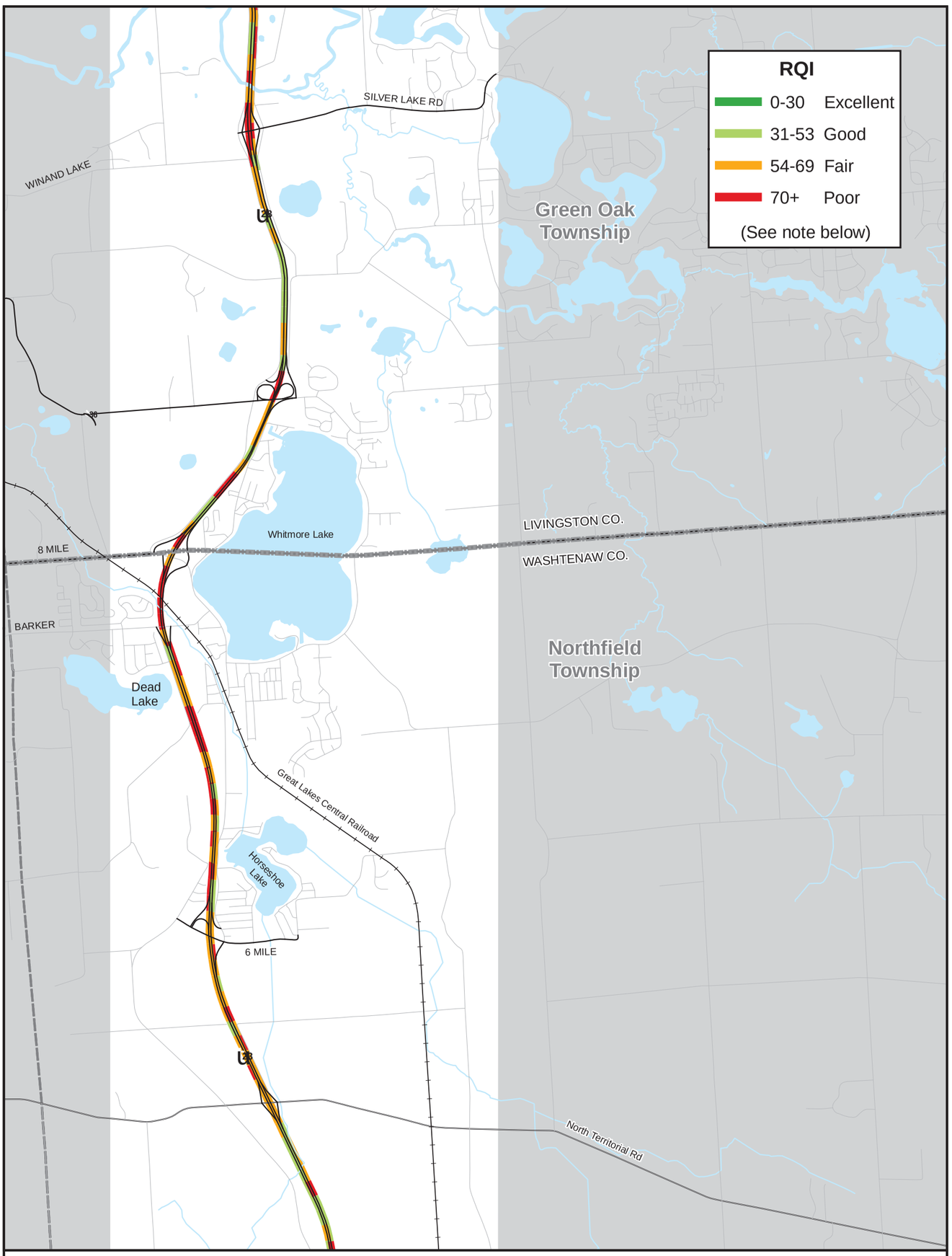


FIGURE 5-2



PAVEMENT CONDITIONS
RIDE QUALITY INDEX (RQI)

US-23 Corridor
Feasibility Study Area
(Center Segment)

NOTE: Missing RQI data reflects no available data at this time.

TYPICAL RIGHT-OF-WAY

The right-of-way width along the roadway is a range of 125 to 150 feet along the center of the roadway. Individual interchange aerial photos located in the Center Segment Structures section illustrate more detailed right-of-way information near the interchanges.

TRAFFIC CONDITIONS

2007 Freeway Segments Analyses (Existing Conditions)

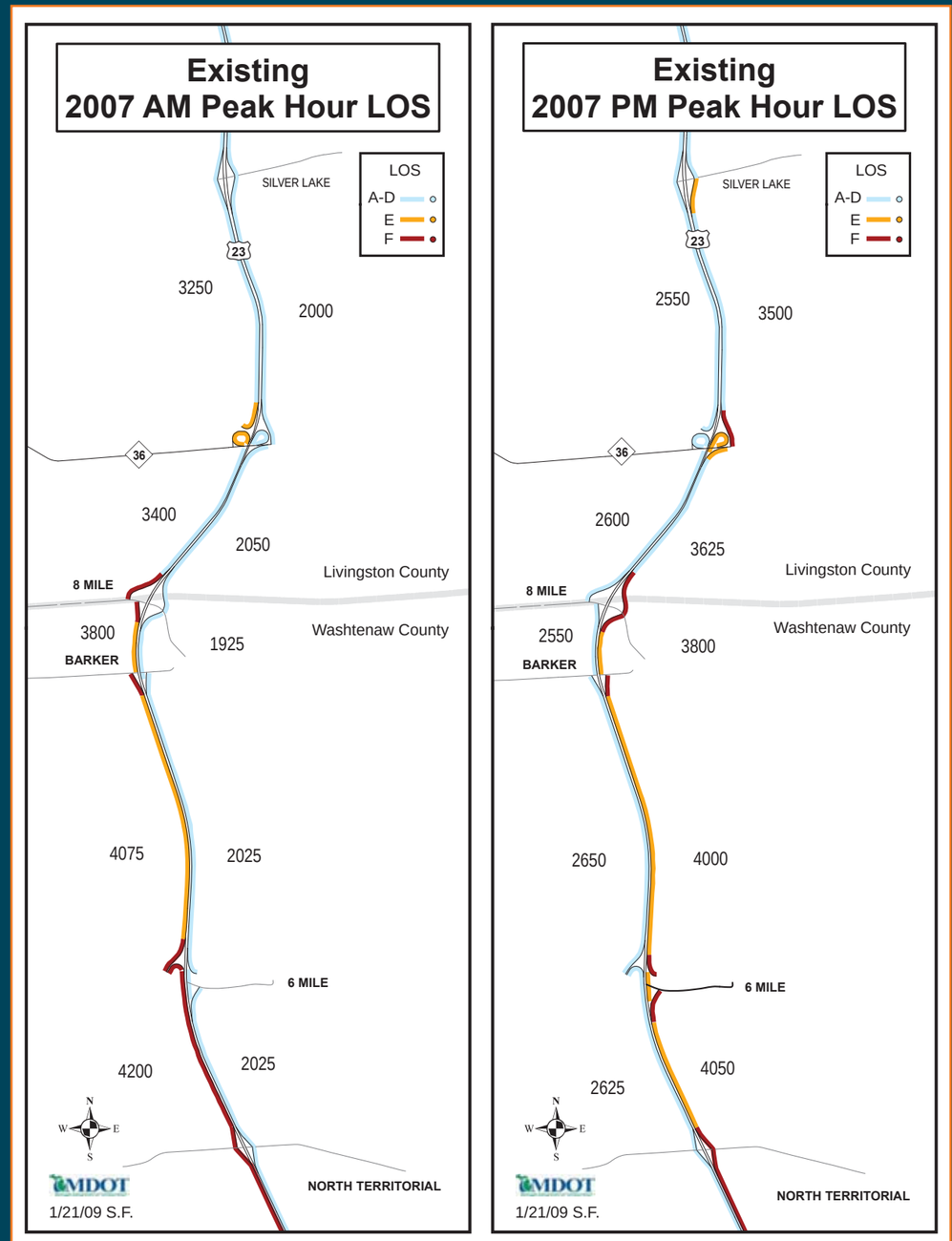
The AM Peak Hour period for the US-23 corridor between I-96 and M-14 occurs on weekday between 7:30-8:30. **Table 5-2** shows the US-23 AM and PM Peak Hour data on basic freeway segments for 2007 Base Year under No-Build conditions. The southbound traffic between Eight Mile and North Territorial operates at an unacceptable Level-of-Service (LOS) during the AM Peak Hour. The PM Peak Hour period for the US-23 corridor between I-96 and M-14 occurs on weekdays between 5:00-6:00. The northbound traffic between North Territorial and Eight Mile operates at an unacceptable LOS during the PM Peak Hour **(Figure 5-3: Existing 2007 AM/PM Peak Hour LOS)**.

TABLE 5-2

EXISTING (2007) AM & PM PEAK HOURS LEVEL OF SERVICE BASIC FREEWAY SEGMENTS

	2007 Southbound US-23 AM Peak				2007 Southbound US-23 PM Peak			
Freeway Segment To/From	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**
Silver Lake to M-36 (9 Mile)	3,250	1,914	28.9	D	2,550	1,502	21.5	C
M-36 (9Mile) to 8 Mile	3,400	2,002	30.9	D	2,600	1,531	22	C
8 Mile to Barker	3,800	2,238	37.9	E	2,550	1,502	21.5	C
Barker to 6 Mile	4,075	2,400	45	E	2,650	1,561	22.4	C
6 Mile to North Territorial	4,200	2,473	>45	F	2,625	1,546	22.2	C
	2007 Northbound US-23 AM Peak				**2007 Northbound US-23 PM Peak**			
Freeway Segment To/From	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**
North Territorial to 6 Mile	2,025	1,193	17	B	4,050	2,385	44.2	E
6 Mile to Barker	2,025	1,193	17	B	4,000	2,356	42.8	E
Barker to 8 Mile	1,925	1,134	16.2	B	3,800	2,238	37.9	E
8 Mile to M-36 (9 Mile)	2,050	1,207	17.2	B	3,625	2,135	34.5	D
M-36 (9 Mile) to Silver Lake	2,000	1,178	16.8	B	3,500	2,061	32.4	D

FIGURE 5-3



Forecasted 2030 Freeway Segments Analyses (No-Build Conditions)

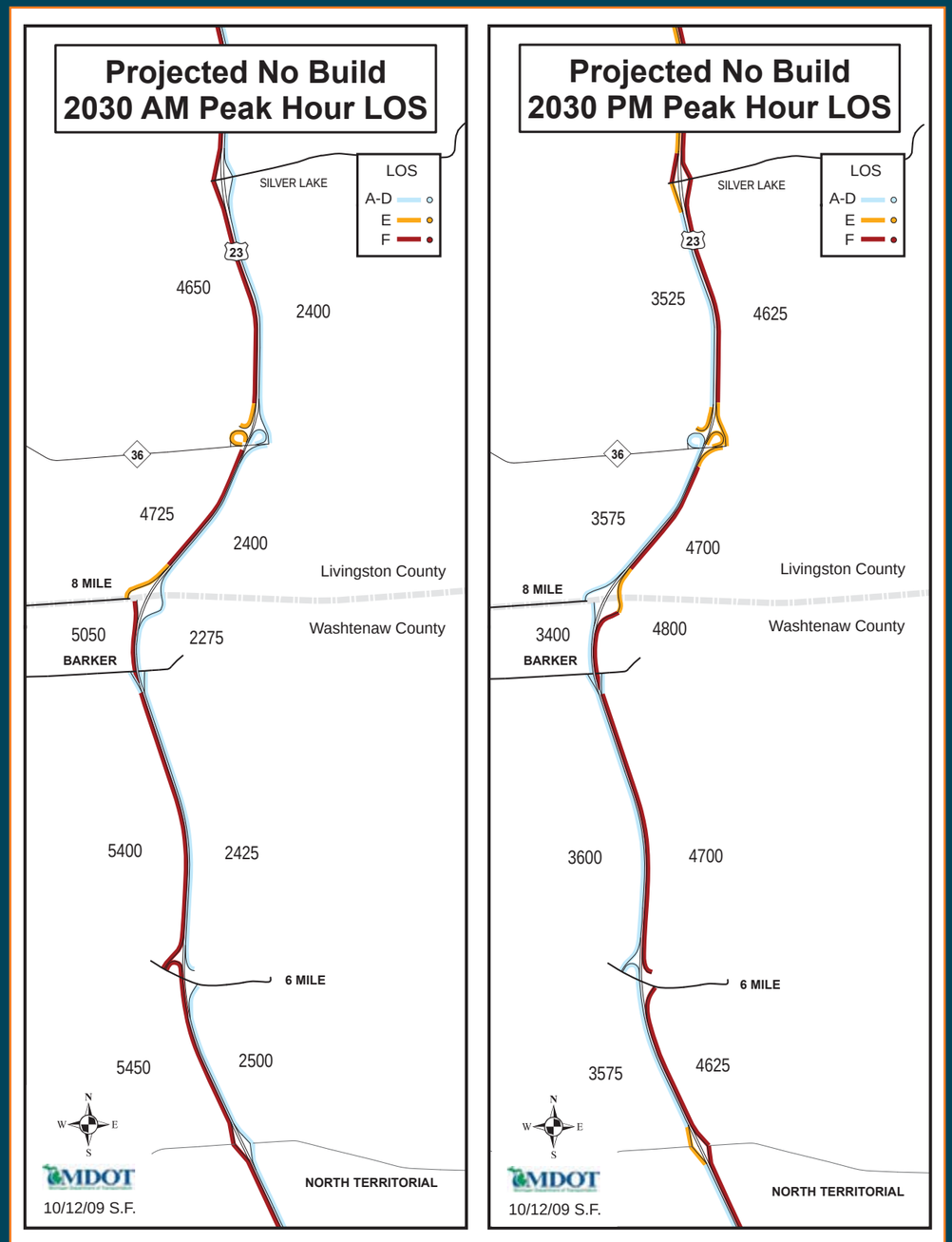
Future year (2030) peak-hour traffic projections for the Center Segment were obtained from the SEMCOG Planning Model coupled with a review of historical growth. **Table 5-3** shows US-23 AM and PM Peak Hour data on basic freeway segments for 2030 Future Year under No-Build conditions. Southbound traffic in the entire Center Segment operates at an unacceptable LOS during the 2030 AM Peak Hour. Northbound traffic in the entire Center Segment operates at an unacceptable LOS during the 2030 PM Peak Hour **(Figure 5-4: Projected No Build 2030 AM/PM Peak Hour LOS)**.

TABLE 5-3

FUTURE (2030) AM & PM PEAK HOURS LEVEL OF SERVICE
BASIC FREEWAY SEGMENTS

	2030 Southbound US-23 AM Peak				2030 Southbound US-23 PM Peak			
Freeway Segment To/From	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**
Silver Lake to M-36 (9 Mile)	4,650	2,738	>45	F	3,525	2,076	32.8	D
M-36 (9Mile) to 8 Mile	4,725	2,783	>45	F	3,575	2,105	33.6	D
8 Mile to Barker	5,050	2,974	>45	F	3,400	2,002	30.9	D
Barker to 6 Mile	5,400	3,180	>45	F	3,600	2,120	34.1	D
6 Mile to North Territorial	5,450	3,209	>45	F	3,575	2,105	33.6	D
	2030 Northbound US-23 AM Peak				**2030 Northbound US-23 PM Peak**			
Freeway Segment To/From	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**	**Volume, V**	**Flow Rate, Pc/hr**	**Density*, Pc/mi/ln**	**LOS**
North Territorial to 6 Mile	2,500	1,472	21.1	C	5,100	3,003	>45	F
6 Mile to Barker	2,425	1,428	20.4	C	5,075	2.989	>45	F
Barker to 8 Mile	2,275	1,340	19.1	C	4,800	2.827	>45	F
8 Mile to M-36 (9 Mile)	2,400	1,413	20.2	C	4,700	2,768	>45	F
M-36 (9 Mile) to Silver Lake	2,400	1,413	20.2	C	4,625	2,724	>45	F

FIGURE 5-4



2007 Ramp/Merge/Weave Analyses (Existing Conditions)

Table 5-4 provides merge/weave traffic analyses along the mainline US-23 Corridor in the AM and PM Peak Hour under existing conditions. The analyses show an undesirable LOS for all merge/weave movements going southbound in the morning peak hours and all ramps going northbound in the evening peak hour. The southbound M-36 off-ramp also shows unacceptable LOS in the PM Peak Hour period.

TABLE 5-4

EXISTING (2007) AM & PM PEAK HOUR LEVEL OF SERVICE RAMP FREEWAY JUNCTIONS

	2007 Southbound US-23 AM Peak				2007 Southbound US-23 PM Peak			
	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS
M-36 (9 Mile) Off Ramp	3,250	225	36.7	E	2,550	250	39.6	E
M-36 (9 Mile) On ramp	3,025	375	35.8	E	2,300	300	25.0	C
8 Mile Off Ramp	3,400	100	36.9	E	2,600	250	28.8	D
8 Mile On Ramp	3,300	500	40.5	F	2,350	200	25.6	C
Barker (7 Mile) On Ramp	3,800	275	41.5	F	2,550	100	29.5	D
6 Mile Off Ramp	4,075	150	44.8	F	2,650	125	29.1	D
6 Mile On Ramp	3,925	275	40.3	F	2,525	100	24.6	C
	2007 Northbound US-23 AM Peak				**2007 Northbound US-23 PM Peak**			
	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS
6 Mile Off Ramp	2,025	100	22.8	C	4,050	250	43.3	F
6 Mile On Ramp	1,925	100	23.5	C	3,800	200	40.7	F
Barker (7 Mile) Off Ramp	2,025	100	23.1	C	4,000	200	43.1	F
8 Mile Off Ramp	1,925	125	20.1	C	3,800	375	39.1	F
8 Mile On Ramp	1,800	250	20.9	C	3,425	200	35.5	E
M-36 (9 Mile) EB Off ramp	2,050	75	23.2	C	3,625	150	39.2	E
M-36 (9 Mile) WB Off ramp	1.975	150	23.7	C	3,475	275	39.6	E
M-36 (9 Mile) On ramp	1,825	175	21.5	C	3,200	300	35.2	E

Forecasted 2030 Ramp/Merge/Weave Analyses (No-Build Conditions)

Table 5-5 provides forecasted 2030 merge/weave traffic analyses along mainline US-23 Corridor in the AM and PM Peak Hour under No-Build conditions. The analyses show undesirable LOS and increased density for all ramps going southbound in the morning peak hours. The southbound M-36 off-ramp also shows unacceptable LOS F for all northbound merge/weave movements in the PM Peak Hour period and deteriorating conditions for the southbound movements.

TABLE 5-5

FUTURE (2030) AM & PM PEAK HOUR LEVEL OF SERVICE RAMP FREEWAY JUNCTIONS

	2030 Southbound US-23 AM Peak				2030 Southbound US-23 PM Peak			
	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS
M-36 (9 Mile) Off Ramp	4,650	475	49.4	F	3,525	500	38	E
M-36 (9 Mile) On ramp	4,175	550	44.4	F	3,025	550	33.8	D
8 Mile Off Ramp	4,725	200	50.1	F	3,575	400	38.7	E
8 Mile On Ramp	4,525	525	48.3	F	3,175	225	33.4	D
Barker (7 Mile) On Ramp	5,050	350	53.6	F	3,400	200	37.2	E
6 Mile Off Ramp	5,400	275	57	F	3,600	250	38.7	E
6 Mile On Ramp	5,125	325	50.5	F	3,350	225	33.4	D
	2030 Northbound US-23 AM Peak				**2030 Northbound US-23 PM Peak**			
	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS	Fwy. Volume (vph)	Ramp Volume (vph)	Density	Merge/ Diverge LOS
6 Mile Off Ramp	2,500	225	27.6	C	5,100	400	53.9	F
6 Mile On Ramp	2,275	150	26.2	C	4,700	375	50.4	F
Barker (7 Mile) Off Ramp	2,425	150	27.1	C	5,075	275	53.9	F
8 Mile Off Ramp	2,275	150	23.7	C	4,800	450	49.3	F
8 Mile On Ramp	2,125	275	24.6	C	4,350	350	45.2	F
M-36 (9 Mile) EB Off ramp	2,400	125	26.8	C	4,700	200	50.1	F
M-36 (9 Mile) WB Off ramp	2,250	250	27.2	C	4,500	425	50.5	F
M-36 (9 Mile) On ramp	2,025	375	25.0	C	4,075	550	45.3	F

Figure 5-5: 2007 Operational Hotspots and Figure 5-6: 2030 Operational Hotspots provides a summary of the primary traffic/operational concerns along the Center Segment for 2007 Base Year and 2030 Future Year conditions. The 2007 Base Year and 2030 Future Year AM and PM Peak Hour traffic and Level of Service schematics for the each interchanges in the Center Segment along with their existing aerials are located at the end of this section. **(Figures 5-10 through 5-17)** These No-Build schematics include detailed turning movements at the interchange termini and analyses of selected adjacent roads' intersections.

Safety

Table 5-6 provides crash data covering the Center Segment between March 2005 and March 2008. Crashes total 712 and are broken down into nine categories as shown in the table. The most common crash type is the Rear-End Straight totaling 257 crashes, 36 percent of the total. Two-thirds of the crashes took place during the hours of darkness, and in icy or wet conditions. There were a total of two fatalities and 168 injuries during this three-year period.

TABLE 5-6

US-23 CRASH TYPES CENTER SEGMENT 3/2005-3/2008

Crash Type	Count
Misc. 1 Vehicle	28
Overturn	40
Fixed Object	206
Other Object	20
Animal	54
Angle Straight	25
Rear-End Straight	257
Side Swipe Same	73
Other	9
Total	**712**

Figure 5-7: Crashes Center Segment distinguishes the incapacitating injuries and fatalities from the remaining crashes by location in the center segment. **Figure 5-8: Crash Patterns and Planned Improvements** provides crash patterns and planned improvements along the center segment.

Mobility

Under existing conditions, there is no fixed-route transit service offered along this segment of the US-23 corridor, or on nearby arterial roadways. The AATA and Northfield Human Services People's Express (PEX), and Livingston Essential Transportation Service (LETS) offer demand-responsive para-transit services in the vicinity, although these services do not play a significant role in supporting travel along the corridor itself.

MDOT operates and maintains a carpool lot at the US-23/M-36 (Nine Mile Road) interchange. The lot is paved, with 71 marked spaces.

POTENTIAL ENVIRONMENTAL IMPACTS AND ASSOCIATED CONSTRAINTS

The potential environmental constraints within the Center Segment of the project study area are due to limited ROW in this segment of the study area. US-23 is in close proximity to dense residential developments. This may also result in increased noise impacts. Water quality may also be of concern due to the proximity of Whitmore Lake. Wetlands are also abundant in this segment; a Part 303 permit from the MDEQ will be required for any work in the wetlands. Depending upon the amount of disturbance, some mitigation may be required. Additionally, there is a Michigan Department of Natural Resources (MDNR) boat launch located in this segment that could be impacted by work associated with the project. **Figure 5-9: Constraints Map** illustrates the Constraints Map for the Center Segment.

FIGURE 5-5

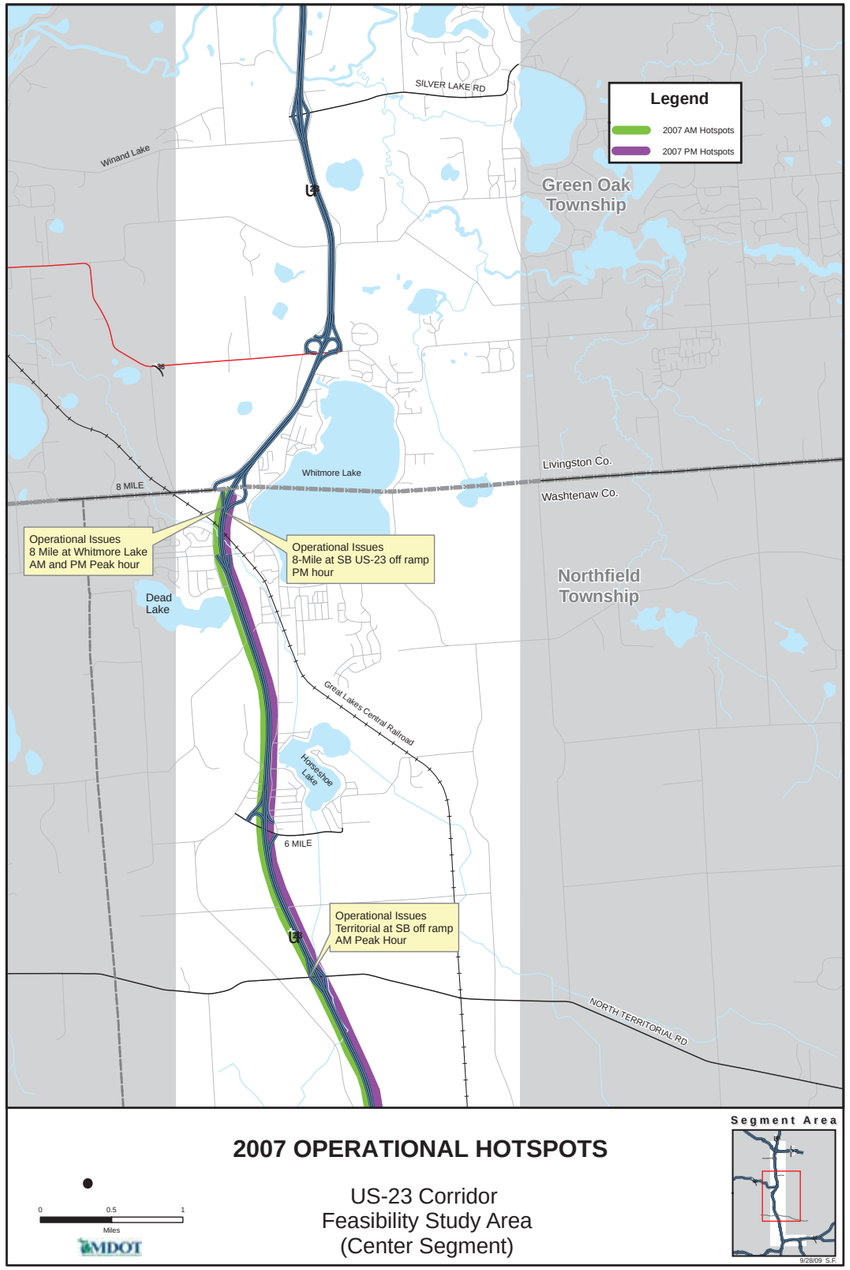


FIGURE 5-6

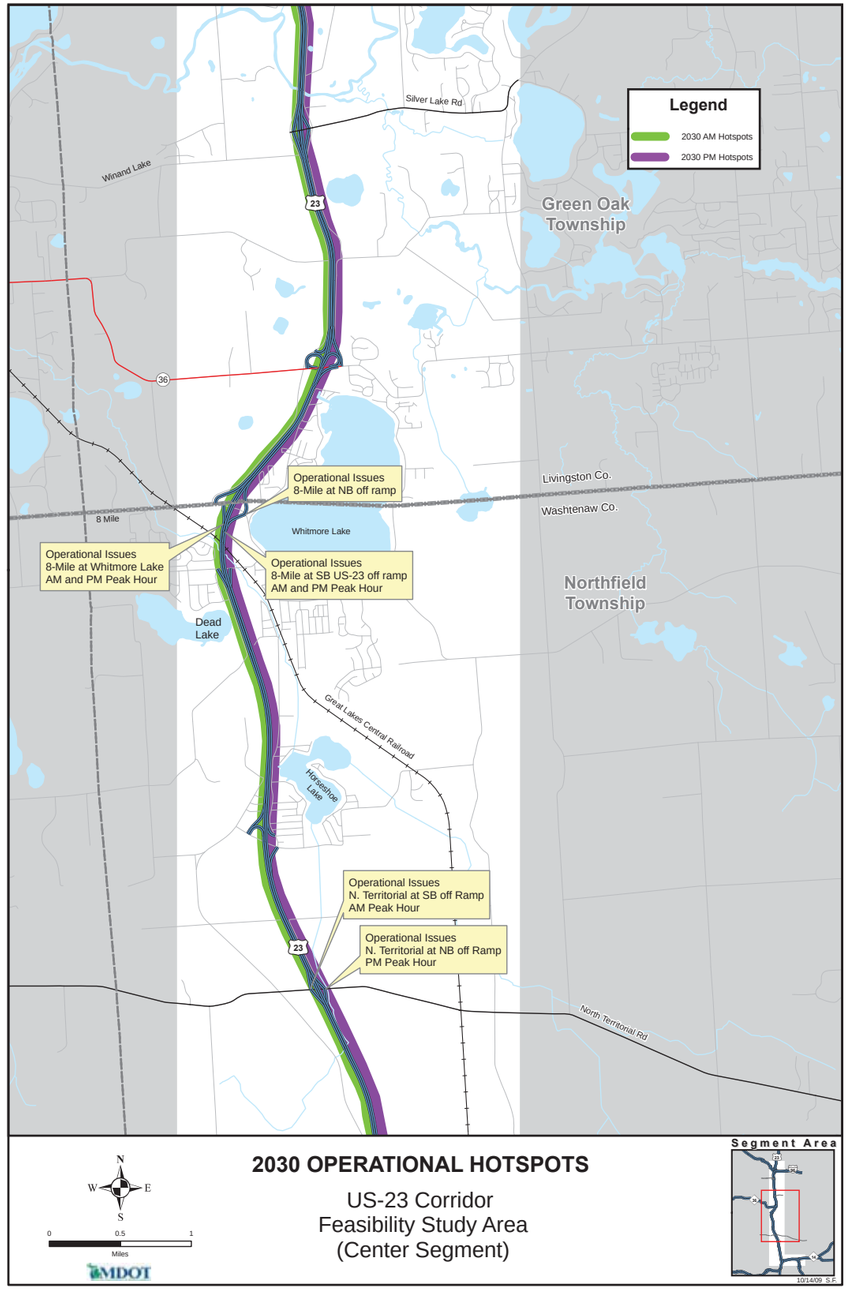


FIGURE 5-7

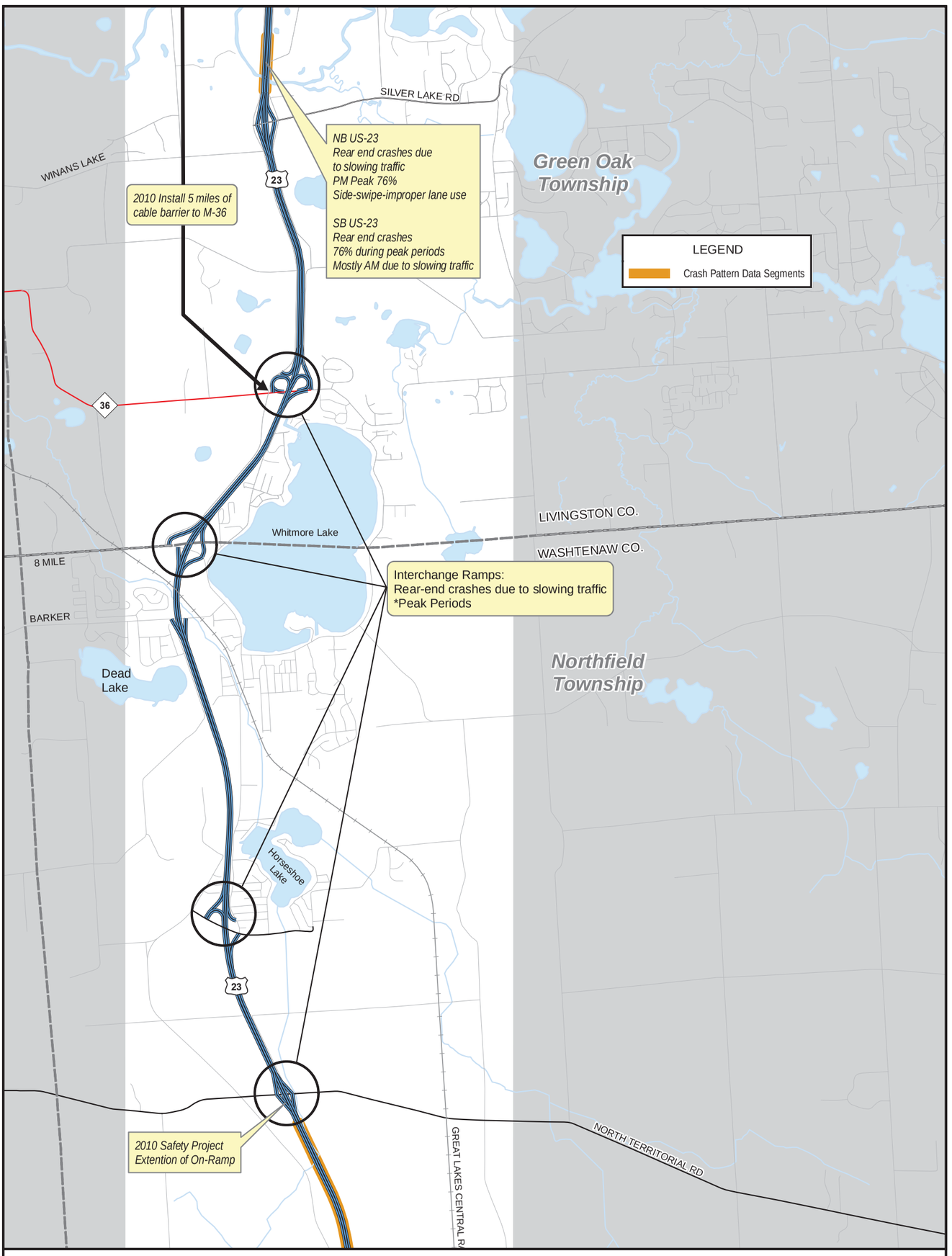
US-23 Crashes - Center Segment

US-23 Crashes
March 31, 2005 - March 31, 2008
County Boundary
Rail
Fatal Crash
Incapacitating Injury
Other
0 .1 .2 .3
Miles
created by Lori J. Rumpf - August 2008

N E S W

9 Mile Rd
Monahan Lake
Lawton Lake
Whitmore Lake
6 Mile Rd
5 Mile Rd
Horseshoe Lake
23
36
Jennings Rd
Wildwood Lake
Kearney Rd
Barker Rd
8 Mile Rd

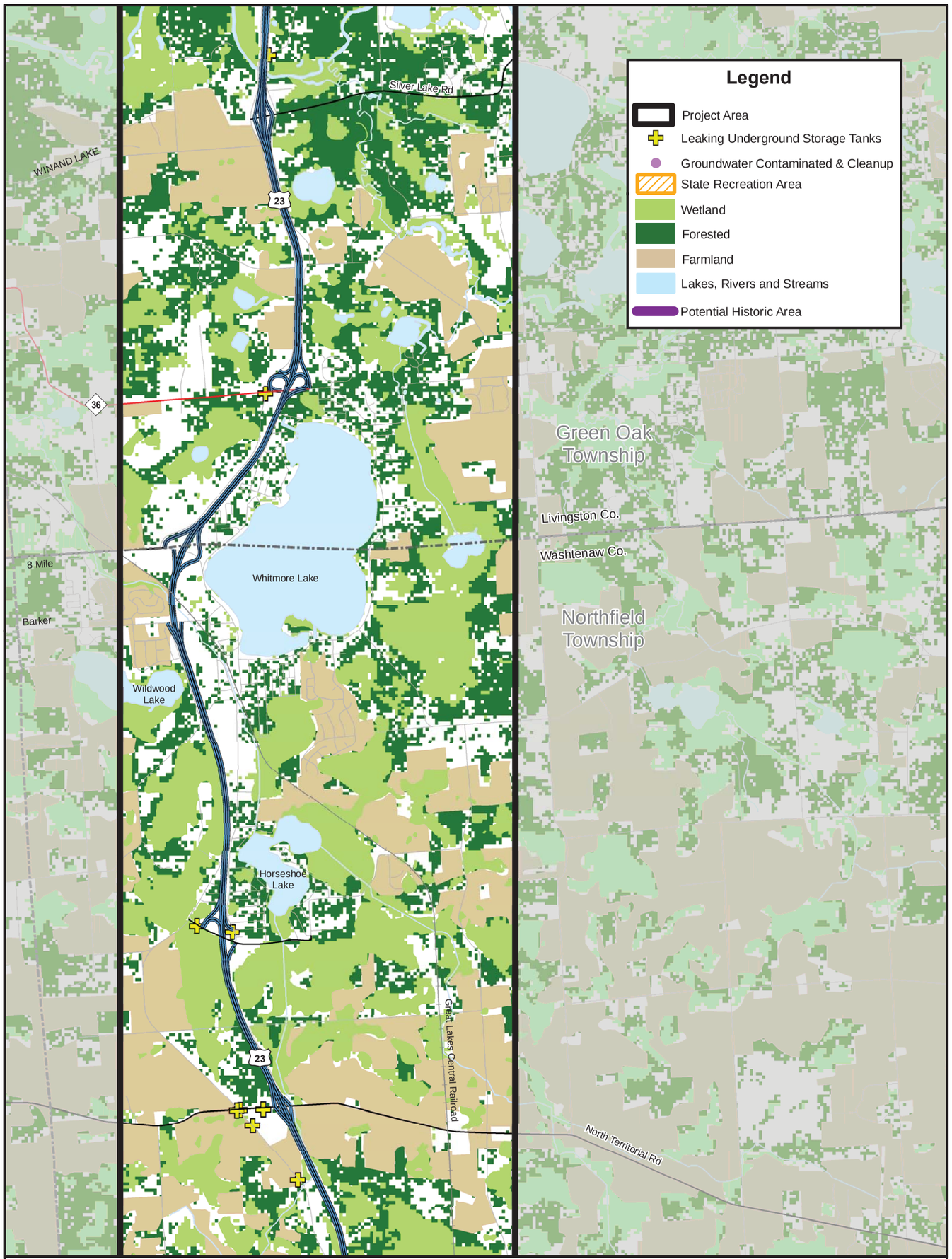
FIGURE 5-8



CRASH PATTERNS AND PLANNED IMPROVEMENTS

US-23 Corridor
Feasibility Study Area
(Center Segment)

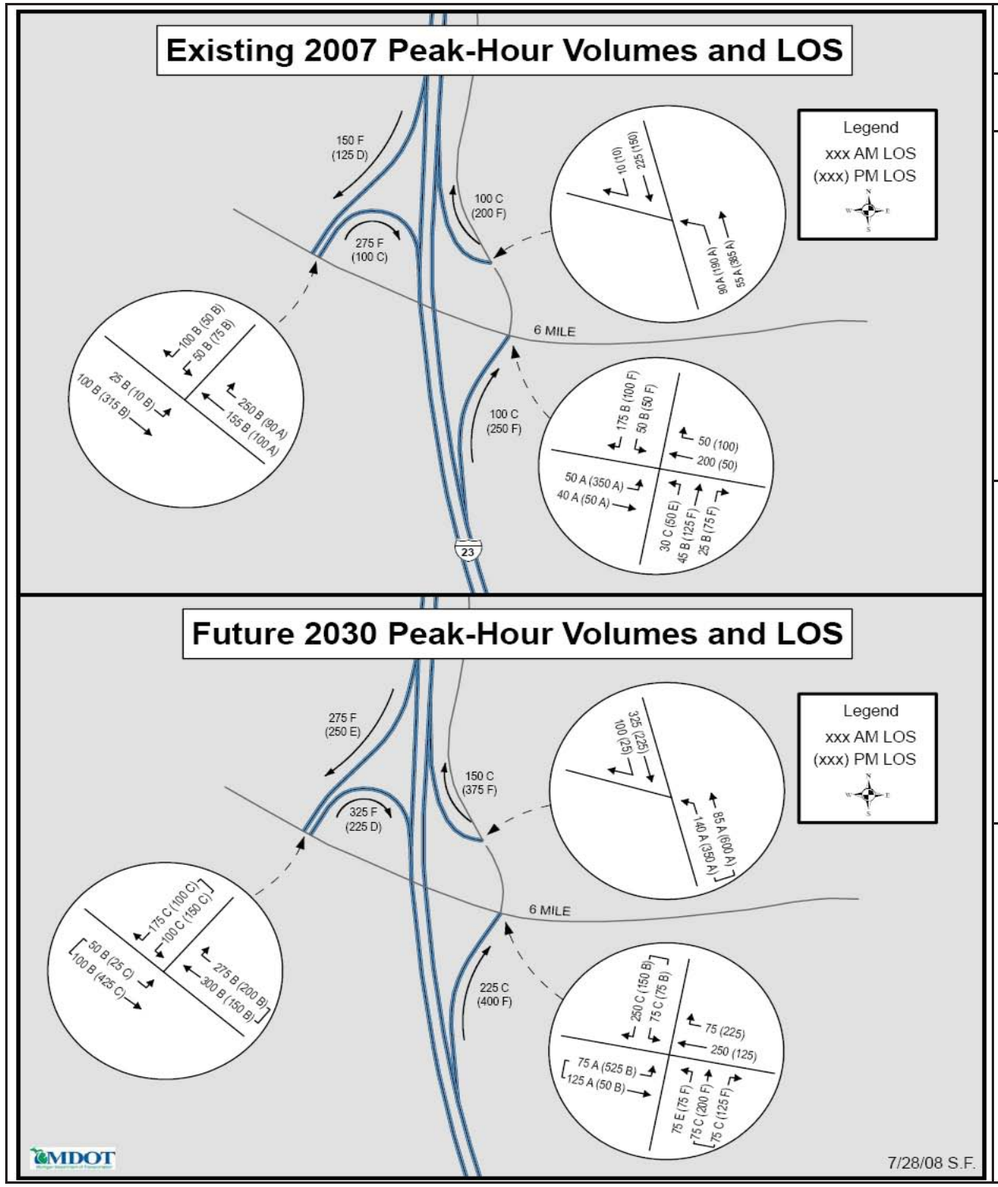
FIGURE 5-9



ENVIRONMENTAL CONSTRAINTS

US-23 Corridor
Feasibility Study Area
(Center Segment)

FIGURE 5-10

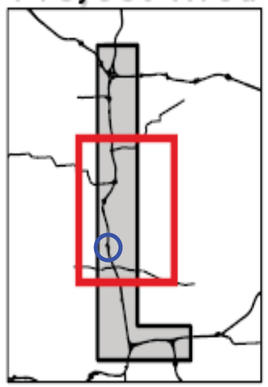


Issues and Constraints

1 Tight entrance ramp radii

2 Short merge/taper lengths on entrance/exit ramps

Project Area



3 Structure in poor condition.

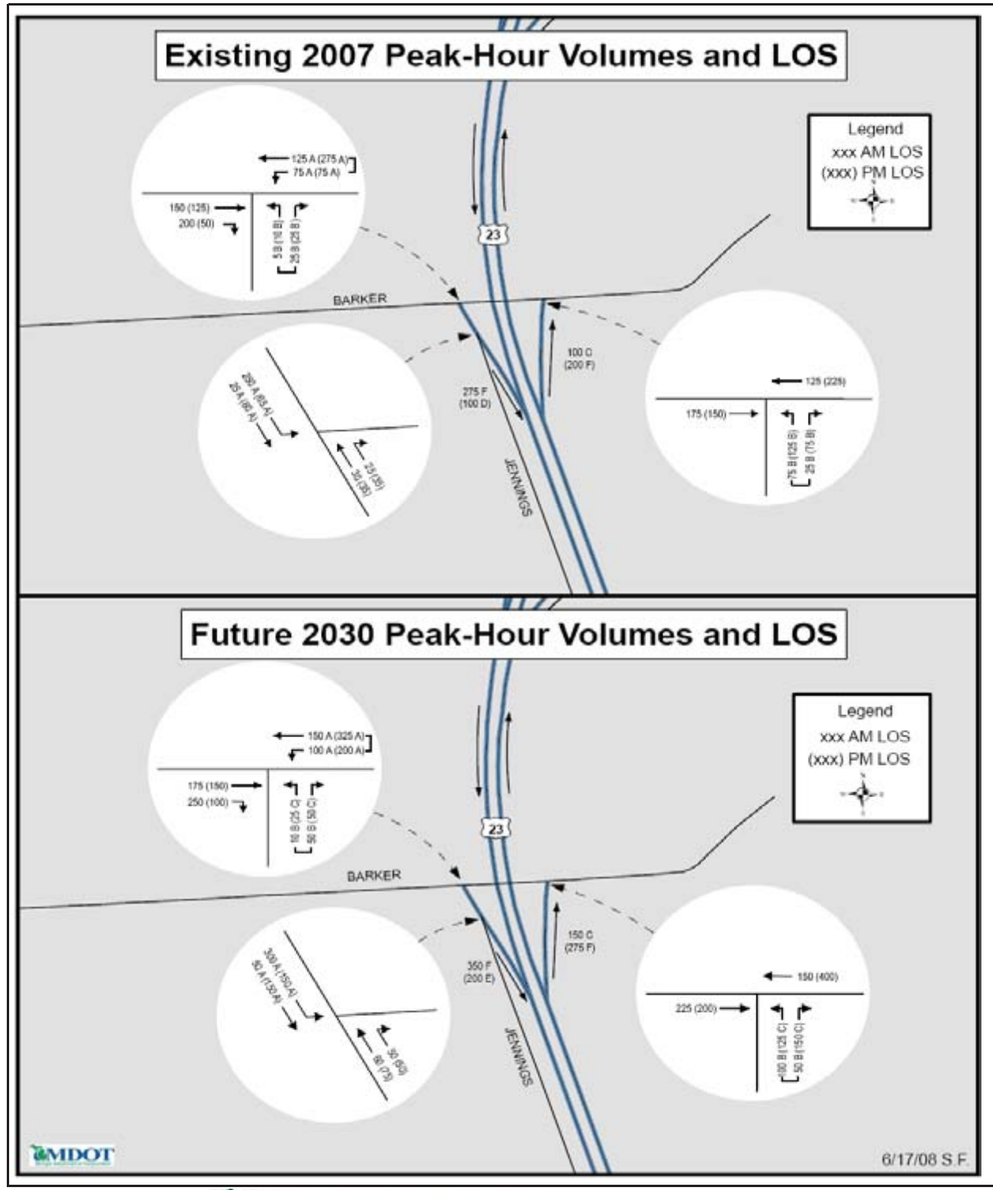
4 Northbound US-23 ramp entrance off of local service road instead of Six Mile Rd.

MDOT Michigan Department of Transportation

FIGURE 5-11

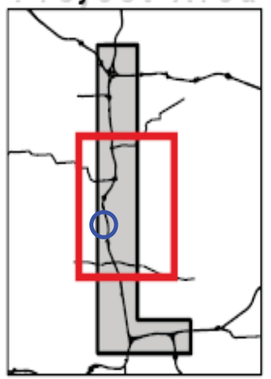

SIX MILE RD.
COYLE RD.
GLENMOOR DR.
MAPLEGROVE DR.
DELAWARE RD
BEACHWAY AVE.
ELM DR.
TIGHT ENTRANCE RAMP RADIUS
SHORT MERGE LENGTH ON ENTRANCE RAMP
SHORT TAPER LENGTH ON EXIT RAMP
STRUCTURE IN POOR CONDITION WITH 14'-5"L & 15'-1"R UNDER-CLEARANCE FOR US-23 TRAFFIC
TIGHT ENTRANCE RAMP RADIUS
RAMP ENTRANCE OFF LOCAL SERVICE ROAD INSTEAD OF SIX MILE ROAD
SHORT TAPER LENGTH ON EXIT RAMP
SHORT MERGE LENGTH ON ENTRANCE RAMP
EX. 125' ROW
EX. 125' ROW
US-23 (SB)
US-23 (NB)
US-23 (SB)
US-23 (NB)
MAIN ST.
IDEAL PLACE
DARTMOOR DR.
FAIRMONT DR.
GLENMOOR DR.
MAPLEGROVE DR.
DELAWARE RD
BEACHWAY AVE.
ELM DR.
SIX MILE RD.
LEGEND
EX. PARCEL LINES
EX. RIGHT OF WAY
EX. LIMITED ACCESS RIGHT OF WAY
EX. BRIDGE STRUCTURE
NORTH
100'
0
200'
SCALE: 1" = 200'
MDOT Michigan Department of Transportation
EXISTING US-23/SIX MILE ROAD INTERCHANGE
DATE 09/17/08
CONT. SEC. 47013
JOB NO. 101993
DESIGN UNIT HULLEY
SHEET NO. R.O.W | CONST.
DATE: 09/17/08
WORKED ON BY: M. Sanchez
DATE:
CHECKED BY:
FILE NAME: Six Mile-Ex.dgn

FIGURE 5-12



Issues and Constraints

Project Area



1 Structures are in poor condition

2 Closely spaced interchanges (Seven Mile and Eight Mile Roads)

Above: Exit 52 is Seven Mile, and the sign in the background announces Whitemore Lake / Eight Mile as 1/4 mile away.

FIGURE 5-13

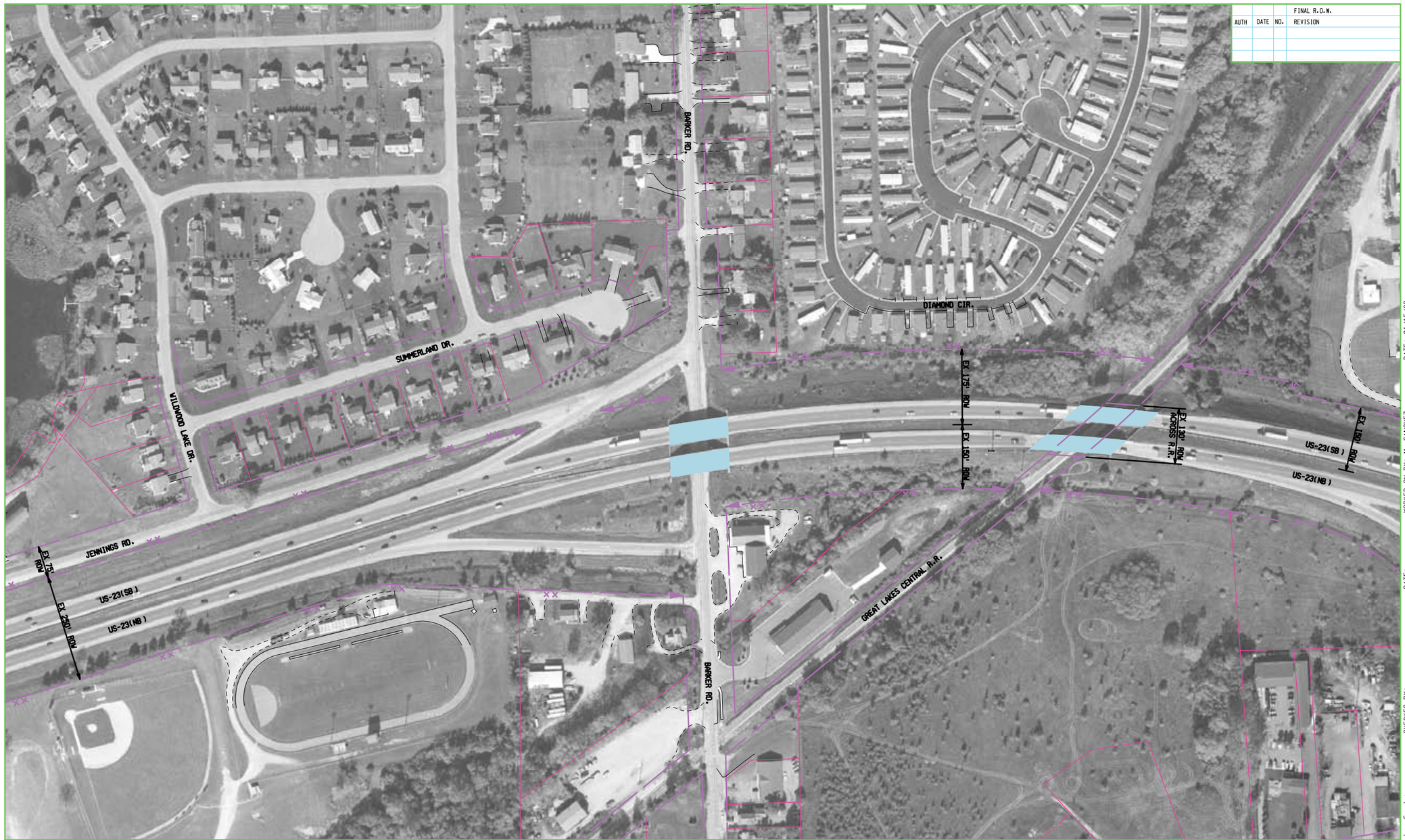
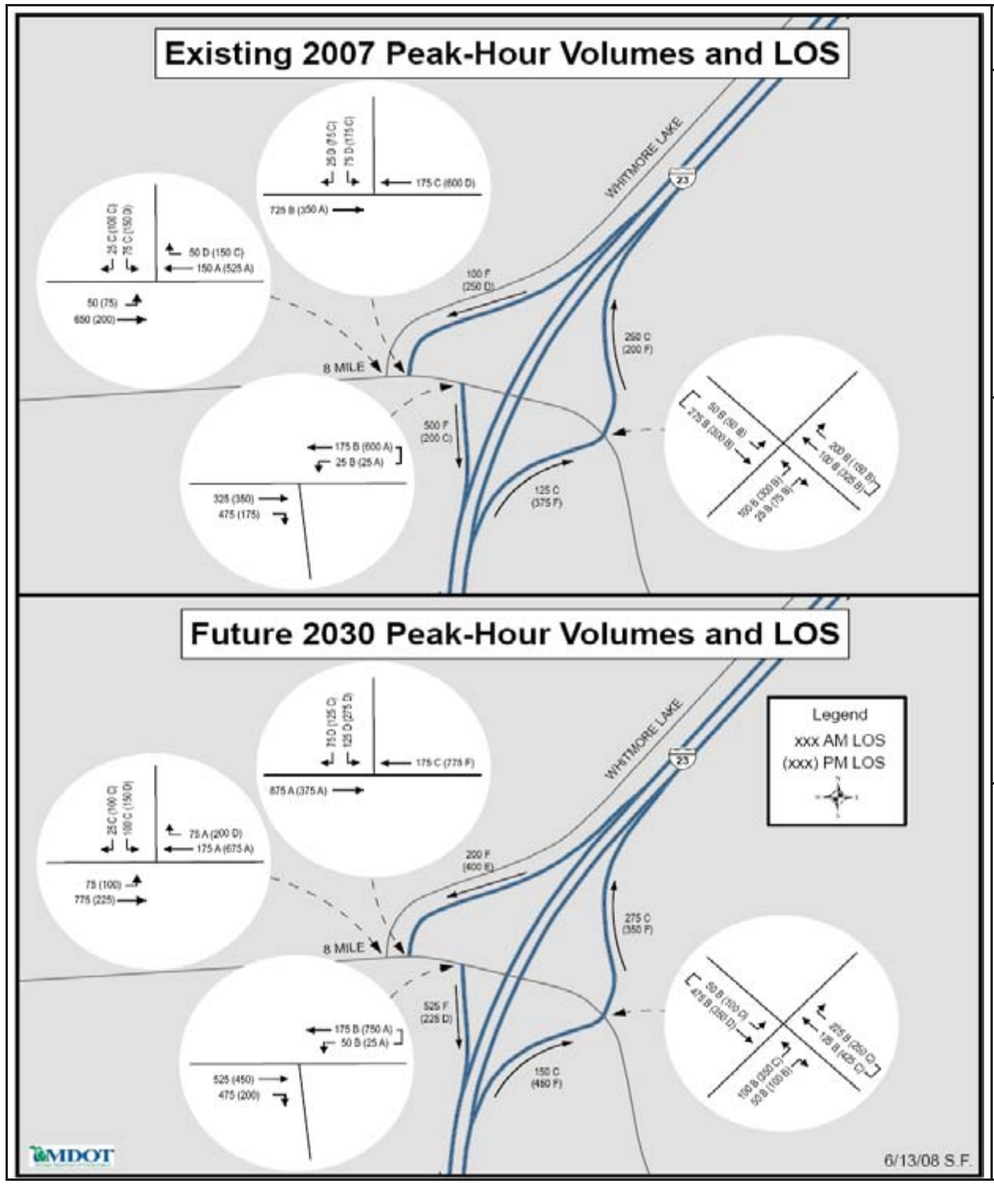

BARKER RD.
SUMMERLAND DR.
WILDWOOD LAKE DR.
JENNINGS RD.
DIAMOND CIR.
EX. 75' ROW
EX. 250' ROW
US-23(SB)
US-23(NB)
EX. 175' ROW
EX. 150' ROW
EX. 130' ROW ACROSS R.R.
EX. 150' ROW
GREAT LAKES CENTRAL R.R.
BARKER RD.
FINAL R.O.W.
AUTH DATE NO. REVISION
DATE: 01/15/09
WORKED ON BY: M. SANCHEZ
DATE:
CHECKED BY:
FILE NAME: Barker-Ex.dgn
LEGEND
EX. PARCEL LINES
EX. RIGHT OF WAY
EX. LIMITED ACCESS RIGHT OF WAY
EX. BRIDGE STRUCTURE
NORTH
100'
0 200'
SCALE: 1" = 200'
MDOT Michigan Department of Transportation
EXISTING US-23/BARKER ROAD INTERCHANGE
DATE 01/15/09
CONT. SEC. 47013
JOB NO. 101993
DESIGN UNIT HULLEY
SHEET NO. R.O.W. CONST.

FIGURE 5-14



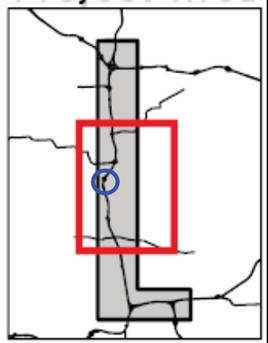
Issues and Constraints

1 Structure is in poor condition with substandard underclearance

2 Exit/entrance ramps begin & end on curved section of Eight Mile

3 Ramp and local service road intersections are too close

Project Area



MDOT Michigan Department of Transportation

FIGURE 5-15

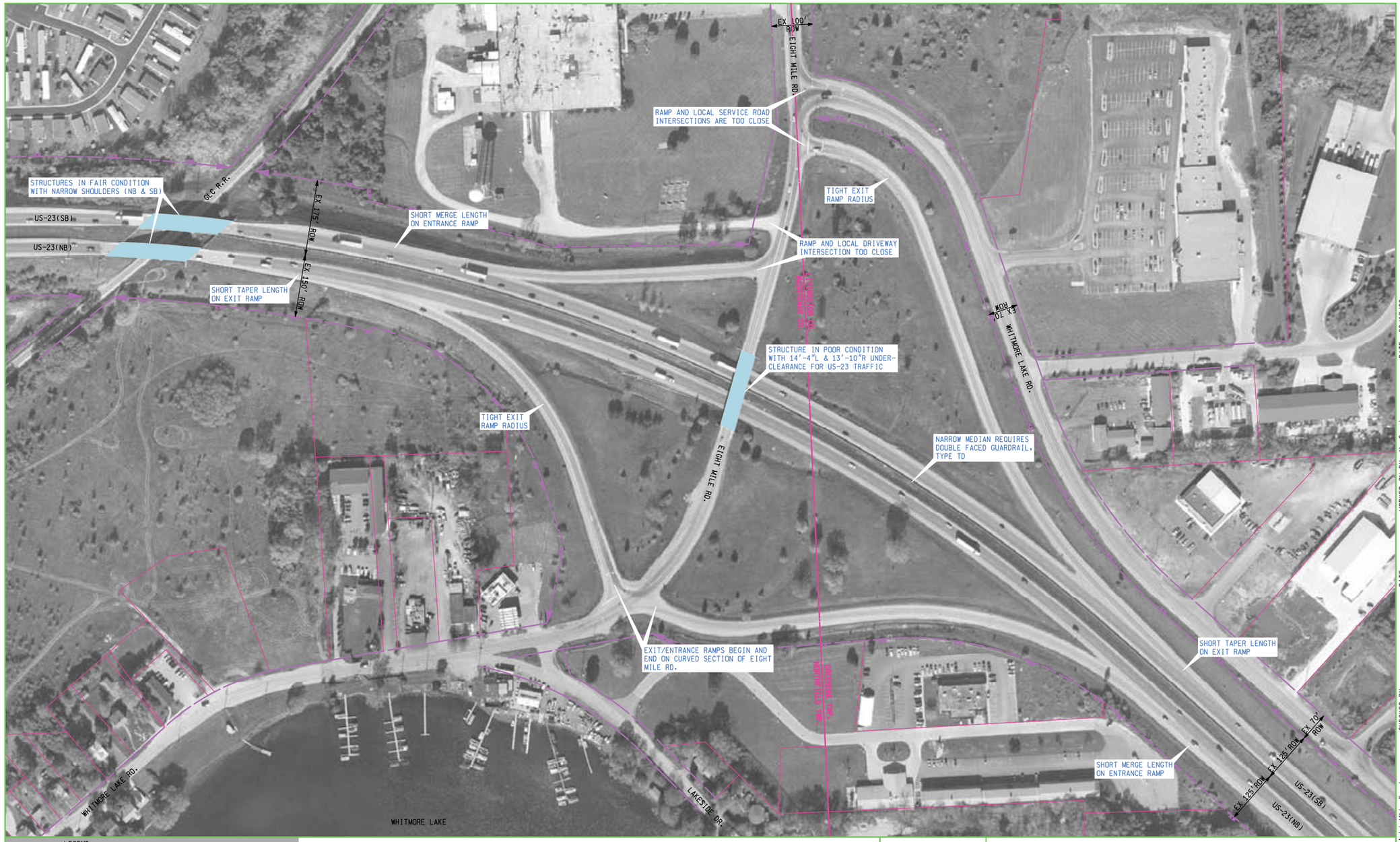
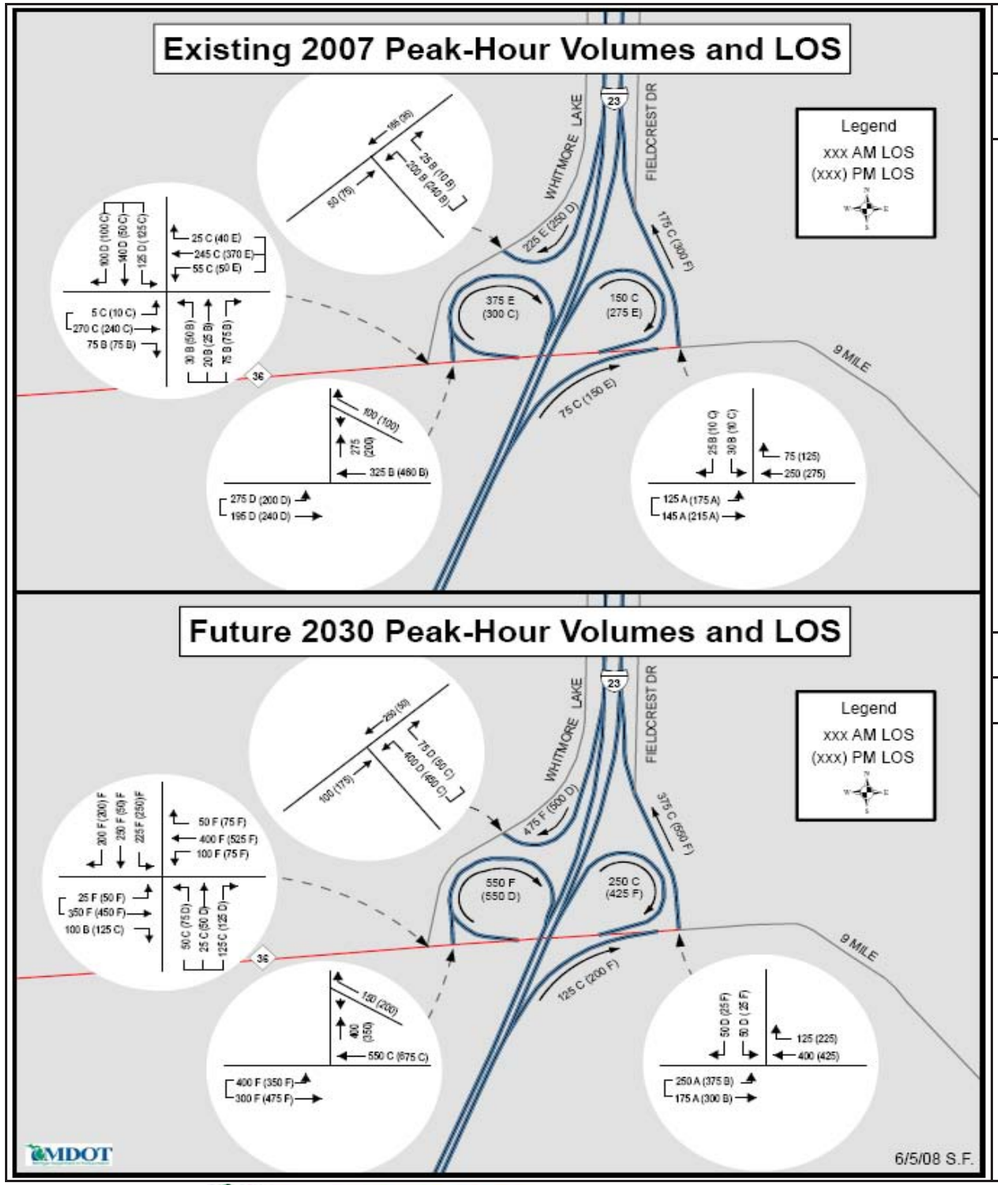

EX. 100' ROW
EIGHT MILE RD.
RAMP AND LOCAL SERVICE ROAD INTERSECTIONS ARE TOO CLOSE
TIGHT EXIT RAMP RADIUS
RAMP AND LOCAL DRIVEWAY INTERSECTION TOO CLOSE
STRUCTURES IN FAIR CONDITION WITH NARROW SHOULDERS (NB & SB)
O.C. R.R.
US-23(SB)
US-23(NB)
SHORT MERGE LENGTH ON ENTRANCE RAMP
EX. 175' ROW
EX. 150' ROW
SHORT TAPER LENGTH ON EXIT RAMP
STRUCTURE IN POOR CONDITION WITH 14'-4"L & 13'-10"R UNDER-CLEARANCE FOR US-23 TRAFFIC
EX. 70' ROW
WHITMORE LAKE RD.
TIGHT EXIT RAMP RADIUS
EIGHT MILE RD.
NARROW MEDIAN REQUIRES DOUBLE FACED GUARDRAIL, TYPE TD
EXIT/ENTRANCE RAMPS BEGIN AND END ON CURVED SECTION OF EIGHT MILE RD.
SHORT TAPER LENGTH ON EXIT RAMP
SHORT MERGE LENGTH ON ENTRANCE RAMP
EX. 125' ROW
EX. 125' ROW
EX. 70' ROW
US-23(SB)
US-23(NB)
WHITMORE LAKE RD.
LAKESIDE DR.
WHITMORE LAKE
LEGEND
EX. PARCEL LINES
EX. RIGHT OF WAY
EX. LIMITED ACCESS RIGHT OF WAY
EX. BRIDGE STRUCTURE
COUNTY BOUNDARY LINE
NORTH
100'
0
200'
SCALE: 1" = 200'
MDOT
Michigan Department of Transportation
EXISTING US-23/EIGHT MILE ROAD INTERCHANGE
DATE 09/17/08
CONT. SEC. 47013
JOB NO. 101993
DESIGN UNIT HULLEY
SHEET NO. R.O.W
SHEET NO. CONST.
DATE:
WORKED ON BY: M. Sanchez
CHECKED BY:
FILE NAME: Eight Mile-Ex.dgn
DATE: 09/17/08
M. Sanchez

FIGURE 5-16



Issues and Constraints

1. Short taper/merge lengths on exit/entrance ramps.
2. Less than desired shoulder and median widths, requiring median barrier or guardrail.

3. Tight exit/entrance ramp radii.
4. Flat vertical alignment and grades.
5. Structure in fair condition.

Project Area

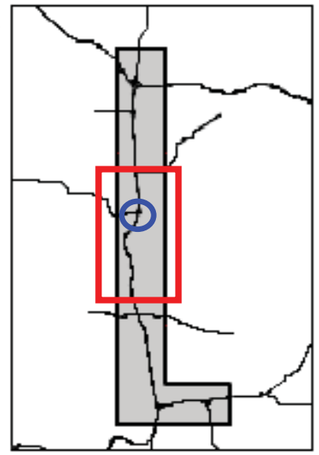
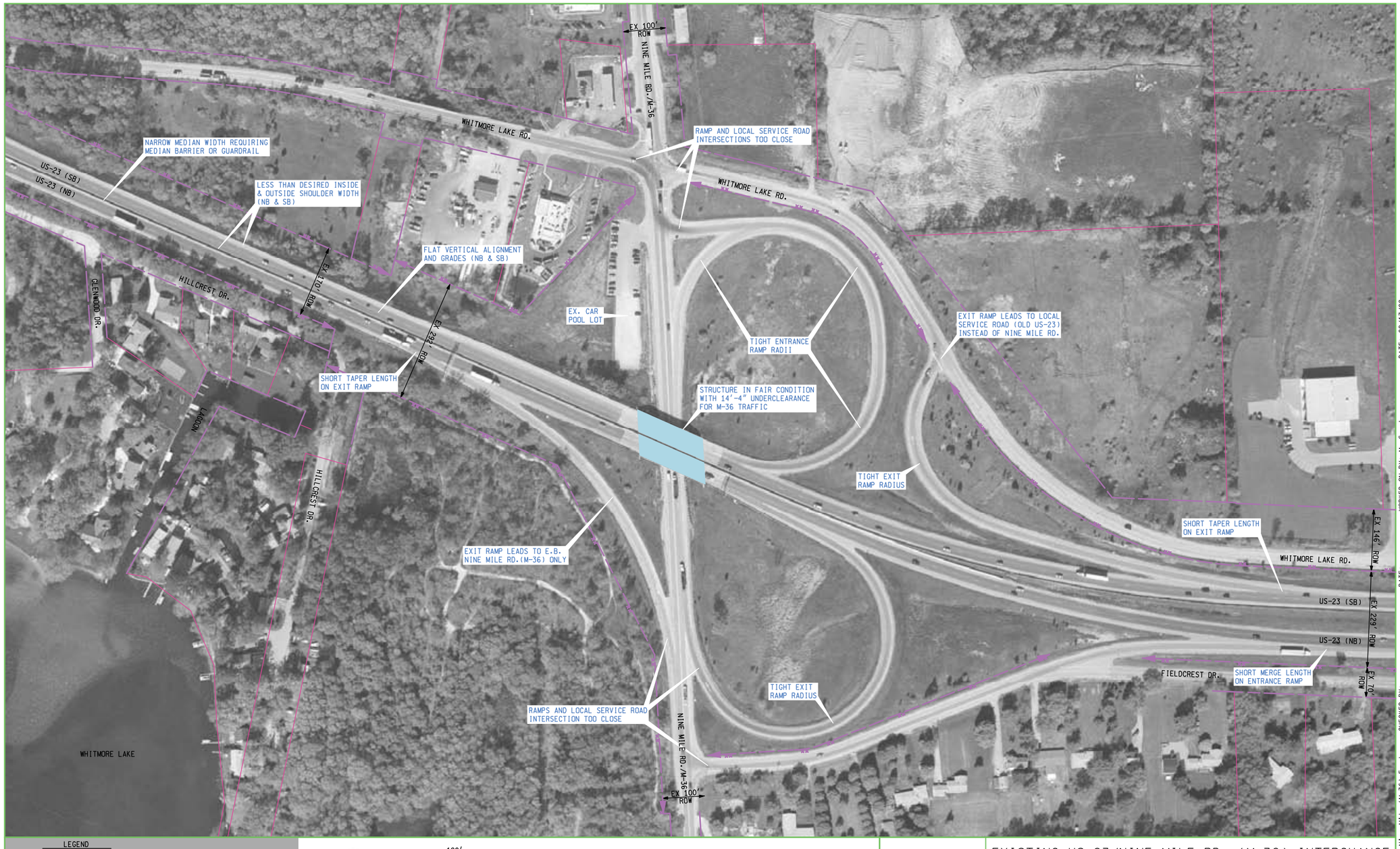


FIGURE 5-17


EX 100' ROW
NINE MILE RD./M-36
WHITMORE LAKE RD.
RAMP AND LOCAL SERVICE ROAD INTERSECTIONS TOO CLOSE
NARROW MEDIAN WIDTH REQUIRING MEDIAN BARRIER OR GUARDRAIL
US-23 (SB)
US-23 (NB)
LESS THAN DESIRED INSIDE & OUTSIDE SHOULDER WIDTH (NB & SB)
WHITMORE LAKE RD.
EX 110' ROW
FLAT VERTICAL ALIGNMENT AND GRADES (NB & SB)
HILLCREST DR.
GLENWOOD DR.
EX. CAR POOL LOT
EX 231' ROW
TIGHT ENTRANCE RAMP RADII
EXIT RAMP LEADS TO LOCAL SERVICE ROAD (OLD US-23) INSTEAD OF NINE MILE RD.
SHORT TAPER LENGTH ON EXIT RAMP
STRUCTURE IN FAIR CONDITION WITH 14'-4" UNDERCLEARANCE FOR M-36 TRAFFIC
LAGOON
HILLCREST DR.
TIGHT EXIT RAMP RADIUS
SHORT TAPER LENGTH ON EXIT RAMP
EXIT RAMP LEADS TO E.B. NINE MILE RD.(M-36) ONLY
WHITMORE LAKE RD.
EX 146' ROW
US-23 (SB)
EX 229' ROW
US-23 (NB)
FIELDCREST DR.
SHORT MERGE LENGTH ON ENTRANCE RAMP
EX 70' ROW
TIGHT EXIT RAMP RADIUS
RAMPS AND LOCAL SERVICE ROAD INTERSECTION TOO CLOSE
NINE MILE RD./M-36
EX 100' ROW
WHITMORE LAKE
LEGEND
EX. PARCEL LINES
EX. RIGHT OF WAY
EX. LIMITED ACCESS RIGHT OF WAY
EX. BRIDGE STRUCTURE
NORTH
100'
0
200'
SCALE: 1" = 200'
MDOT Michigan Department of Transportation
EXISTING US-23/NINE MILE RD. (M-36) INTERCHANGE
DATE 09/17/08
CONT. SEC. 47013
JOB NO. 101993
DESIGN UNIT HULLEY
SHEET NO. R.O.W
SHEET NO. CONST.
DATE: 09/17/08
WORKED ON BY: M. Sanchez
CHECKED BY:
FILE NAME: Nine Mile (M-36)-Ex.dgn