

# Environmental Assessment

Marquette Hospital Transportation Improvements Project  
Marquette, Michigan

June 2016

Prepared by

**The City of Marquette**





# ENVIRONMENTAL ASSESSMENT

Marquette Hospital Transportation Improvements Project

Located in

The City of Marquette  
Marquette County, Michigan

Prepared by:

The City of Marquette

In Cooperation with:

U.S. Department of Transportation  
Federal Highway Administration

7-6-2016  
Date Approved

  
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## PREFACE

The National Environmental Policy Act (NEPA) of 1969 requires that Federal government agencies identify and consider the social, economic, and natural environmental (SEE) impacts of proposed Federally-funded actions as part of their decision-making processes. NEPA also requires that Federal agencies provide information to the public and consider their input when reaching decisions.

Proposed Federal actions are classified into three different categories under NEPA. Class I actions are those that would “significantly” affect the environment and require preparation of an Environmental Impact Statement (EIS). Class II actions are those that do not have a significant effect on the environment. Typically called “categorical exclusions,” Class II actions do not require preparation of an Environmental Assessment (EA) or EIS. Class III actions are those for which the significance of impacts is not clear. These actions require preparation of an EA to determine whether an EIS/Record of Decision (ROD) or Finding of No Significant Impact (FONSI) is the appropriate type of documentation. This project falls under the Class III designation.

Although this project is not a Federally-funded undertaking and it is not being built with funds administered by the Federal Highway Administration (FHWA), the project would require a right-of-way permit from the Michigan Department of Transportation (MDOT) to build the proposed improvements. Furthermore, the proposed improvements would require a change in access due to construction of new intersection within a segment of US Route 41/Michigan Route 28 (referred to as “US-41” throughout the remainder of this document) that has limited access right-of-way. If FHWA were to approve this new access point, this would constitute a Federal action. Therefore, an EA has been prepared to identify and consider the SEE impacts of the proposed action (i.e., Preferred Alternative) to satisfy NEPA requirements. For the purposes of this EA, the Preferred Alternative includes the following transportation improvements (see Figure 2 for a graphic illustration of the Preferred Alternative):

- Construction of a two-lane roundabout at US-41 and Grove/7th Street
- Construction of a two-lane roundabout at US-41 and the main hospital drive
- Construction of a compact roundabout at Baraga Avenue and the main hospital drive
- Widening of 7th Street to three lanes (two travel lanes and one two-way, left-turn lane (TWLTL))
- Minor realignment and widening of W. Baraga Avenue
- Widening of McClellan Avenue between Washington Street and US-41 to five-lanes (two travel lanes in each direction and a TWLTL)
- Signal infrastructure upgrades at the McClellan Avenue and Washington Street intersection
- Sidewalk upgrades and addition of sidewalk for portions of the project area roadways where no sidewalk is present

In addition to the transportation improvements which comprise the Preferred Alternative, a new hospital is being constructed at 850 W. Baraga Avenue (Figure 2). Construction of the hospital commenced in April of 2016 and is expected to be complete in 2018. Construction of the hospital is taking place on private property and is privately funded. Construction of the new hospital is not included as part of the Preferred Alternative. The transportation improvements which comprise the Preferred Alternative and the hospital have independent utility (i.e., the hospital could be relocated and constructed without implementation of the Preferred Alternative). Throughout this entire document, construction of the hospital has been evaluated as part of the “No Build Alternative,” since the hospital is moving ahead independently of the Preferred Alternative.



This EA includes several sections that address the following topics:

- The purpose of and need for the project
- The alternatives that were considered as part of the study
- The existing social, economic, and environmental conditions in the project area
- The likely impacts and benefits associated with the Preferred Alternative and the No Build Alternative, which includes construction of the hospital
- Mitigation measures that would minimize any impacts as the result of the Preferred Alternative and the hospital construction
- Consultation and coordination that have been conducted with the public and government agencies.

This EA will be distributed to a variety of Federal, state, and local government agencies for review and comment. It will also be available for public review, and a Public Hearing will be held to provide the public with an opportunity to provide comments and input. If agency and public comments support a determination that the project would not cause significant impacts, the EA will be forwarded to the FHWA with the recommendation that a FONSI be prepared. If it is determined that the Preferred Alternative would have significant impacts, an EIS will need to be prepared.



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## List of Abbreviations & Acronyms

AADT	.....	Average Annual Daily Traffic
AASHTO	.....	American Association of State Highway and Transportation Officials
AST	.....	Aboveground Storage Tank
APE	.....	Area of Potential Effect
BEA	.....	Baseline Environmental Assessment
BMP	.....	Best Management Practices
CAAA	.....	Clean Air Act Amendments
CESQG	.....	Conditionally Exempt Small Quantity Generator
CNE	.....	Common Noise Environment
CUPPAD	.....	Central Upper Peninsula Planning and Development Regional Commission
dB	.....	Decibel
DLP	.....	Duke-LifePoint
EA	.....	Environmental Assessment
EIS	.....	Environmental Impact Statement
EJ	.....	Environmental Justice
EMS	.....	Emergency Medical Service
ESA	.....	Environmental Site Assessment
EPA	.....	Environmental Protection Agency
FAA	.....	Federal Aviation Administrative
FEMA	.....	Federal Emergency Management Agency
FHWA	.....	Federal Highway Administration
FIRM	.....	Flood Insurance Rate Map
FPPA	.....	Farmland Protection Policy Act
FONSI	.....	Finding of No Significant Impact
GPS	.....	Global Positioning System
IRIS	.....	Integrated Risk Information System
LEP	.....	Limited English Proficiency
Leq(h)	.....	Hourly Equivalent Sound Level
LOS	.....	Level of Service
LQ	.....	Location Quotient
LUST	.....	Leaking Underground Storage Tank
MDA	.....	Michigan Department of Agriculture
MDCH	.....	Michigan Department of Community Health
MDEQ	.....	Michigan Department of Environmental Quality
MDNR	.....	Michigan Department of Natural Resources
MDOT	.....	Michigan Department of Transportation
MGH	.....	Marquette General Hospital
MMTSB	.....	Michigan Department of Transportation - Multi-Modal Transportation Services Bureau
MNFI	.....	Michigan Natural Features Inventory
MSC	.....	Municipal Service Center
MSAT	.....	Mobile Source Air Toxics
M-553	.....	Michigan State Route 553
M-28	.....	Michigan State Route 28
NAC	.....	Noise Abatement Criteria
NATA	.....	National Air Toxics Assessment



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NAAQS	.....	National Ambient Air Quality Standards
NEPA	.....	National Environmental Policy Act
NFIP	.....	National Flood Insurance Program
NMU	.....	Northern Michigan University
NPDES	.....	National Pollutant Discharge Elimination System
NRCS	.....	Natural Resources Conservation Service
NREPA	.....	Natural Resources and Environmental Protection Act
NRHP	.....	National Register of Historic Places
NWI	.....	National Wetland Inventory
P.A.	.....	Public Act
PFO	.....	Palustrine Forested
PSS	.....	Palustrine Scrub/Shrub
PEM	.....	Palustrine Emergent
POW	.....	Palustrine Open Water
RCRA	.....	Resource Conservation and Recovery Act
ROD	.....	Record of Decision
ROW	.....	Right-of-way
SEE	.....	Social, Economic, and Environmental
SFHA	.....	Special Flood Hazard Area
SHPO	.....	State Historic Preservation Officer
STIP	.....	State Transportation Improvement Plan
T&E	.....	Threatened and Endangered
TAR	.....	Traffic Analysis Report
TIS	.....	Traffic Impact Study
TSM	.....	Transportation System Management
TWLTL	.....	Two-way Left-turn Lane
USACE	.....	United States Army Corps of Engineers
USDOT	.....	United States Department of Transportation
USEPA	.....	United States Environmental Protection Agency
USFWS	.....	United States Fish and Wildlife Service
UST	.....	Underground Storage Tank
US-41	.....	US Route 41
VMT	.....	Vehicle Miles Traveled



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## CHAPTER 1 – PURPOSE AND NEED

This chapter begins by describing the background of the Marquette Hospital Transportation Improvements Project (project). It then describes the purpose of the project and presents relevant background information that is helpful in understanding the need for the project. These needs include providing direct access to the hospital from US-41, accommodating current and future traffic volumes resulting from the hospital relocation, accommodating all modes of travel, and opportunities to improve safety.

Since the relocation of the hospital is a privately funded project, the Purpose and Need for this EA is only for the proposed transportation improvements (i.e., Preferred Alternative), not for relocation of the hospital. Construction of the hospital is being evaluated in this EA as part of the No Build Alternative, since this facility is already planned, approved by the City of Marquette (referred to in the remainder of this document as “the City”), and currently under construction. Evaluation of the hospital will focus upon potential impacts of the hospital relocation.

### 1.1 Background

The project is located in the southern portion of the City of Marquette. The City is located in the northeastern corner of Marquette County in the north-central portion of the Upper Peninsula of Michigan (Figure 1).

In 2012, the Marquette General Hospital (MGH) was purchased by Duke-LifePoint (DLP), and in September of 2013, DLP announced that the hospital would be relocated to a new site. In the fall of 2014, a purchase agreement was reached between DLP and the City for a new medical campus to be built at 850 W. Baraga Avenue on property owned by the City. The City approved the proposed hospital site plan in 2014, and construction of the new campus began in April of 2016 with site grading and soil remediation (excavation of contaminated soil and clean fill replacement). Construction is anticipated to continue in 2017, with completion anticipated during the summer of 2018.

The development program for the hospital includes 665,000 square feet of hospital use, 218,000 square feet of clinical services, and a 195,000 square-foot medical office building. The site will also include a helipad near the proposed emergency department and approximately 980 parking spaces in both surface and garage parking. The location of the proposed hospital site is shown on Figure 2.

Roadways within the project area include the following:

US-41 is a limited access Principal Arterial trunkline under the jurisdiction of MDOT. It generally has two lanes operating in each direction and is divided by a grass median west of 7th Street. East of 7<sup>th</sup> Street, it is divided by a concrete median barrier. The posted speed limit on US-41 within the study area is 55 mph. US-41 serves the City of Marquette, Marquette County, and the central Upper Peninsula region. US-41 is also an important component of the transportation system in the region, as it provides access to the western, eastern, and southern portions of the Upper Peninsula, Michigan’s lower peninsula (via I-75), and northern Wisconsin.



7<sup>th</sup> Street is a north-south Major Collector roadway that serves as a connection between US-41 and downtown Marquette. Within the study area, the land use along 7<sup>th</sup> Street is generally residential. The roadway is approximately 30 feet wide and operates with one lane in each direction and on-street, parallel parking. The posted speed limit on 7<sup>th</sup> Street is 25 mph.

Grove Street is a Minor Arterial running northeast and southwest in the project area. It connects 7<sup>th</sup> Street and Michigan State Route 553 (M-553). It intersects with US-41, Homestead Street/Anderson Street, and M-553. The roadway is approximately 30 feet wide and operates with one lane in each direction and has on-street parking. The land uses along the street consist of single-house residential, commercial, and office. The posted speed limit on 7<sup>th</sup> Street is 25 mph.

Spring Street is an east-west local, residential street. Currently it is a gravel street west of 7<sup>th</sup> Street that bends south to connect to Baraga Street. This part of the street is on the proposed hospital development site.

W. Baraga Avenue is an east-west local street that runs through the study area from 7<sup>th</sup> Street to McClellan Avenue, just south of the proposed hospital site. It is 33 feet wide and operates with one lane in each direction and has on-street parking west of 7<sup>th</sup> Street. The posted speed limit on W. Baraga Avenue is 25 mph.

Washington Street is an east-west Minor Arterial roadway. It is 37 feet wide, three lanes with a TWLTL and one lane in each direction from 7<sup>th</sup> Street to Lincoln Avenue. The posted speed limit is 25 mph. From 800 feet east of McClellan Avenue going west it becomes two lanes each direction with a TWLTL. The posted speed limit is 35 mph.

McClellan Avenue is a north-south Minor Arterial. The roadway is approximately 40 feet wide and operates with two lanes in each direction without on-street parking. It intersects with Washington Street, Baraga Avenue, and US-41. The land use between Washington Street and US-41 is business. The posted speed limit on McClellan Avenue in the study area is 25 mph.

M-553 is the portion of McClellan Avenue south of US-41 that is under the jurisdiction of MDOT. It is 60 feet wide and operates with two lanes in each direction without on-street parking. It intersects with Odovero Drive and Grove Street. The posted speed limit on M-553 in the study area is 45 mph.

Fisher Street is an east-west collector road that ends 300 feet west of 7<sup>th</sup> Street. The roadway is approximately 30 feet wide and operates with one lane in each direction and has on-street parking. The posted speed limit on Fisher Street in the study area is 25 mph.

Land uses within the project area consist of commercial, industrial, residential, utilities, and undeveloped parcels.

The project is currently not on the 2014-2017 MDOT State Transportation Improvement Plan (STIP). MDOT and the City are currently in the process of having the project added to STIP through the amendment process. It is anticipated that this amendment will be approved on June 24, 2016.



## 1.2 Project Purpose

The purpose of this project is to:

- Provide direct access to the proposed new hospital from US-41 for all users, including emergency vehicles
- Accommodate current and future traffic volumes resulting from the hospital relocation
- Accommodate all modes of travel (bicyclists, pedestrians, automobiles, transit, helicopters)
- Enhance safety within the project area through the proposed transportation improvements

## 1.3 Project Need

This section provides information about hospital access, discusses the existing roadways and intersections, identifies existing and anticipated future transportation deficiencies, and evaluates potential safety enhancements. Information supporting the need for the project is discussed in detail below.

### 1.3.1 Hospital Access

Currently, the hospital is located approximately one mile north of US-41. The hospital is surrounded by Northern Michigan University (NMU) campus to the north and residential neighborhoods to the west, south, and east. No principal arterial roads provide direct access to the hospital. The hospital is currently accessed from W. College Avenue and W. Magnetic Street via 4<sup>th</sup> Street and 7<sup>th</sup> Street. As a result, emergency response vehicles, patients, and hospital visitors are required to take indirect routes to the hospital and travel through residential neighborhoods. Access to the hospital from the north is also limited by the NMU campus. The hospital location results in increased emergency response times and requires emergency response helicopters to travel over several residential neighborhoods to arrive/depart the hospital in response to critical care air transport. Additionally, the hospital location increases traffic through residential neighborhoods and areas with significant pedestrian traffic traveling to and from NMU and the 3<sup>rd</sup> Street Corridor.

As documented in Section 1.3.2.2 below, future travel demands will increase in the project area due to the hospital relocation and upgraded hospital services. Per the *Marquette Hospital Transportation Improvements Project Traffic Impact Study* (referred to as the "TIS" throughout the remainder of this document) (DLZ Michigan, 2016), the proposed hospital development is forecasted to generate 23,406 trip ends per day. During the AM and PM peak hours, 1,098 and 2,444 trips are expected to be generated by the hospital, respectively.

The future site trips associated with the hospital will place considerable demands on the existing transportation infrastructure. As shown in Tables 6 and 7, the existing roadway network in the vicinity of the proposed development is not expected to be able to accommodate forecasted hospital traffic in the design year of 2038.

Direct hospital access to and from US-41 would address several needs. This direct access would reduce emergency vehicle response times; provide efficient ingress and egress to the site; reduce traffic volumes and congestion on local residential streets; and reduce traffic volumes in areas with higher pedestrian use. Construction of the hospital began in April of 2016 and has independent utility (i.e., the



new hospital could be constructed without requiring the Preferred Alternative road improvements to be built).

### 1.3.2 Traffic Operations

#### 1.3.2.1 Existing Traffic Operations (Year 2015)

As part of this project, the *Marquette Hospital Transportation Improvements Project TIS* evaluated the existing traffic operations within the project area. Within the project area the AM peak hour occurs between 7:15 and 8:15 AM, while the PM commuter peak hour occurs between 4:30 and 5:30 PM. The Average Annual Daily Traffic (AADT) volumes within the project area are shown below in Table 1. See Table 2 for existing peak hour intersection traffic volumes.

**Table 1. Existing (Year 2015) AADT Volumes**

Road Segment	Annual Average Daily Traffic (AADT)
US-41 west of 7 <sup>th</sup> Street	16,660
US-41 east of 7 <sup>th</sup> Street	15,300
Grove Street	3,300
7 <sup>th</sup> Street	5,700
McClellan Avenue south of US-41	8,300
McClellan Avenue north of US-41	10,400

**Table 2. Existing (Year 2015) Peak Hour Traffic Volumes**

Intersection	AM Peak Hour Total Entering Volume*	PM Peak Hour Total Entering Volume*
US-41 & Grove/7 <sup>th</sup>	1,618	2,190
7 <sup>th</sup> & Baraga	611	643
7 <sup>th</sup> & Spring	530	575
US-41 & McClellan	1,943	3,441
McClellan & Baraga	847	1,232
McClellan & Washington	1,561	2,522

\*Total number of vehicles entering an intersection from all approach legs during the peak hour

Using recently collected traffic data, a SYNCHRO computer traffic model was developed for the existing roads in the project area. For the existing roundabout at the US-41 and Front Street intersection, RODEL software was used. RODEL is a computer software program designed specifically to analyze geometry and traffic operations at roundabouts. It is generally recognized as a valuable model for this purpose and is widely used and accepted for roundabout design. The purpose of these models was to characterize the existing peak hour traffic operations and to serve as a baseline for analysis of future traffic conditions. SYNCHRO is a computerized traffic model that simulates the interactions between traffic. It predicts traffic impacts caused by changes in road widths, intersection geometry, traffic speeds, and traffic signal timing changes. The existing conditions SYNCHRO model that was developed for the project area included all primary routes and major intersections. Existing traffic signal timings for the signalized intersections (US-41 and Grove/7<sup>th</sup>, US-41 and McClellan, McClellan and Washington, 7<sup>th</sup> and Washington) were used to run the model.

As part of the TIS, the Level of service (LOS) for the project area intersections was determined. LOS is based on factors such as number of lanes, intersection traffic control (signalized versus unsignalized), traffic volumes, lane width, and signal timing. LOS is a measure that describes the quality of operating conditions within the traffic stream and the perception of motorists. The LOS of an intersection is based on the total delay experienced by vehicles waiting to travel through the intersection. LOS is defined



based on total delay, as measured by the average number of seconds of delay per vehicle. Levels of service are expressed in a range from A through F, with A being the highest (best) LOS, and F representing the lowest (worst) LOS. Peak hour LOS D is typically considered the minimum acceptable level.

The analysis found that some movements are operating at LOS E in the AM peak hour at the intersection of US - 41 and 7<sup>th</sup> Street/Grove Street. Additionally, the eastbound approach of W. Baraga Avenue at McClellan Avenue was found to experience a LOS F during the PM peak hour. All other study intersections were found to operate at acceptable levels of service (i.e., LOS D or better) during both the AM and PM peak hours. A summary of the capacity analysis results is shown in Tables 3 and 4.



**Table 3. Existing Conditions (Year 2015) Delays and Level of Service (AM)**

Signalized Intersection	AM LOS / Delay (s/veh)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Overall
US-41 & Grove St / 7 <sup>th</sup>	E 61.2	B 12.8	B 11.3	C 34.5	B 13.9	B 12.1	D 38.2	E 74.4		D 39.6	E 57.2		C 29.6
7 <sup>th</sup> St & Washington St	B 17.2	B 16.3		B 19.8	B 14.1		B 12.4	B 11.9		B 13.2	A 9.6		B 13.5
US-41 WB and McClellan Ave*					B 16.1	B 14.2		A 3.0			B 15.8	B 14.4	B 11.9
US-41 EB and McClellan Ave*		B 16.7	B 13.1					C 23.4	B 16.5		A 0.3		B 16.6
Washington St & McClellan Ave	B 14.2	B 12.2	B 12.2	B 14.3	B 11.7	B 11.8	B 17.1	B 18.3	B 18.4	C 22.2	B 15.5	B 15.6	B 15.2
Unsignalized Intersection	AM LOS / Delay (s/veh)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Overall
Grove St & Anderson St / Homestead St		B 12.4			B 12.5			A 7.4			A 7.8		
US 41 & McClellan East Crossover							B 11.6						
US 41 & McClellan West Crossover										B 10.9			
7 <sup>th</sup> St & Spring St		A 9.5			B 13.2			A 7.6			A 8.3		
7 <sup>th</sup> St & Baraga St		C 15.0			C 16.2			A 7.7			A 8.3		
7 <sup>th</sup> St & Fisher St		C 15.9			B 14.6		A 7.4			A 8.2			
McClellan Ave & Baraga Ave / Baraga St		C 22.0			C 17.6		A 7.7	A 0.2		A 9	A 0.2		
M-553 & Grove St	B 11.5	B 12.9		B 11.4	B 11.0		B 10.2	C 17.4	B 13.0	B 10.6	B 12.0	B 10.9	
Roundabout Intersection	AM LOS / Delay (s/veh)												
	EB	BP	WB	BP	NB	BP	SB	SBT	BP	Overall			
US-41 & Front St	A 2.95	A 1.89					A 9.17			A 3.42	A 0.58		A 6.52

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.



**Table 4. Existing Conditions (Year 2015) Delays and Level of Service (PM)**

Signalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
US-41 & Grove / 7 <sup>th</sup> St	D 47.6	C 21.6	B 15.8	D 51.7	B 19.4	B 15.8	D 38.7	C 25.4		C 29.1	D 53.7		C 29.4
7 <sup>th</sup> St & Washington St	C 21.1	B 17		C 22.3	B 14.6		B 19.6	B 13.5		B 15	B 16.3		B 16.1
US-41 WB and McClellan Ave*					B 18.9	B 13.7		A 2.1			C 21.2	B 18	B 16.0
US-41 EB and McClellan Ave*		B 19.1	B 15.1					C 21.5	B 19		A 0.9		B 15.4
Washington St & McClellan Ave	C 23.7	B 13.3	B 13.3	B 19.7	B 15.4	B 15.4	C 25.1	B 16.7	B 16.9	C 22	B 18.9	B 19.1	B 17.2
Unsignalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Grove St & Anderson St / Homestead St		B 13.3			B 11.8			A 7.9			A 7.6		
US 41 & McClellan East Crossover							B 14.9						
US 41 & McClellan West Crossover										C 17.4			
7 <sup>th</sup> St & Spring St		B 11.9			C 18.3			A 8.0			A 7.7		
7 <sup>th</sup> St & Baraga St		C 18.4			C 19.5			A 8.4			A 7.7		
7 <sup>th</sup> St & Fisher St		B 14.6			C 16.9			A 8.0		A 7.7	-	-	
McClellan Ave & Baraga Ave / Baraga St		F 50.1			D 27.5		A 8.9	A 0.2		A 8.4	A 0.3		
M-553 & Grove St	B 13.6	B 13.3		B 14.1	B 14.8		B 12.0	C 16.2	B 13.7	B 11.3	D 26.5	C 16.6	
Roundabout Intersection	PM LOS / Delay (s/veh)												Overall
	EB	BP	WB	WBT	BP	NB	BP	SB	SBT	BP			
US-41 & Front St	A 3.79	A 3.64				A 7.62				A 5.35	A 1.58		A 5.05

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.



### 1.3.2.2 Future Traffic Operations (Year 2038)

As the population of the City and County continues to grow and development occurs over the next 20 years, traffic is also expected to increase. In addition to traffic increases from population growth, traffic will also increase due to the proposed hospital relocation. Future traffic volumes along US-41 were provided by the MDOT Traffic Analysis Report (TAR). In order to develop future growth rates for the local road network, historic ADT counts, peak hour turning movement counts, local land use and zoning plans, local transportation plans, and information from the existing MDOT travel models for the area were reviewed and evaluated. Upon this review, future growth rates were developed based on very specific local conditions in the corridor, land use plans, committed development projects in the region, anticipated population and employment growth, development patterns, and likely future development. The growth rate used to developed future (20-year) traffic volumes was 0.5% per year. In addition to the future growth rate, traffic from the proposed hospital was also included in the future volumes. Per the *Marquette Hospital Relocation Study TIS*, the proposed hospital development is forecasted to generate 23,406 trip ends per day. During the AM and PM peak hour, 1,098 and 2,444 trips are expected to be generated by the hospital, respectively. Projected future traffic volumes entering the project area intersections are shown in Table 5 for the AM and PM peak hours.

**Table 5. Future (Year 2038) Peak Hour Traffic Volumes for No Build Alternative)**

<b>Intersection</b>	<b>AM Peak Hour Total Entering Volume</b>	<b>PM Peak Hour Total Entering Volume</b>
US-41 & Grove/7 <sup>th</sup>	2,211	3,347
7 <sup>th</sup> & Baraga	1,263	2,081
7 <sup>th</sup> & Spring	739	866
US-41 & McClellan	2,701	4,958
McClellan & Baraga	1,265	1,753
McClellan & Washington	1,839	3,096

The “No Build Alternative” was analyzed to determine traffic impacts from the future (year 2038) traffic volumes on the existing road network without any improvements. Tables 6 and 7 show the predicted peak hour LOS for the project area intersections under the No Build Alternative for year 2038. As shown in Tables 6 and 7, the existing roadway network in the vicinity of the proposed development is not expected to be able to accommodate traffic associated with the development in the design year without significant road improvements. As shown in Tables 6 and 7, under the No Build Alternative, several intersections would have failing movements(i.e., operate at LOS E or worse) during the AM and PM peak hours. During the PM peak hour, one of the main project area intersections (US-41 and Grove/7<sup>th</sup> Street) would operate at LOS F, and nine other intersections would have at least one movement at LOS E or worse.



**Table 6. Future (Year 2038) No Build Alternative Delays and LOS (AM)**

Signalized Intersection	AM LOS / Delay (s/veh)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Overall
US-41 & Grove / 7 <sup>th</sup> Streets	F 268.0	A 9.8	A 8.5	D 45.3	B 14.4	B 16.2	D 41.0	F 153.7		F 178.0	F 194.0		F 80.3
7 <sup>th</sup> St & Washington St	B 18.7	B 16.1		C 20.4	B 14.4		B 19.6	B 14.9		B 16.6	B 13.1		B 15.4
US-41 WB & McClellan Ave*					B 17.1	B 11.8		A 2.7			B 16.4	B 16.2	B 13.8
US-41 EB & McClellan Ave*		C 21.4	B 13.1					C 20.8	A 9.7		A 0.3		B 17.8
Washington St & McClellan Ave	B 15.0	B 12.8	B 12.8	B 15.6	B 12.0	B 12.0	B 18.1	B 19.2	B 19.4	C 24.2	B 15.8	B 16.0	B 15.9
Unsignalized Intersection	AM LOS / Delay (s/veh)												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Overall
Grove St & Anderson St / Homestead St		B 13.5			B 13.6			A 7.5			A 7.9		
US 41 & McClellan East Crossover							C 15.6						
US 41 & McClellan West Crossover										B 12.9			
7 <sup>th</sup> St & Spring St	C 23.8	C 24.4						A 8.5			A 8.7		
7 <sup>th</sup> St & Baraga St	F **				F **			A 9.0			A 8.4		
7 <sup>th</sup> St & Fisher St		D 31.7			F 950.0		A 7.8	A 0.0	-	A 9.1	A 0.0	-	
McClellan Ave & Baraga Ave	E 41.9	E 37.2		F 617.0	C 16.0		A 7.8	A 0.3		B 11.0	A 0.5		
Baraga St & Main Drive	A 8.6	A 0								C 20.0			
Baraga St & East Drive	A 0.0	-			-	-				C 15.6	B 11.3		
Baraga St & West Drive	A 7.6	A 0.0			-	-				B 13.8	A 9.3		
North Drive & Washington St		-	-	A 8.4	-		B 12.4						
Roundabout Intersection	AM LOS / Delay (s/veh)										Overall		
	EB	BP	WB	BP	NB	BP	SB	SBT	BP				
US-41 & Front St	A 3.09	A 2.34			B 11.66		A 4.07	A 0.65			A 8.27		

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.

\*\* Volumes exceed the computational capacity of the methodology



**Table 7. Future (Year 2038) No Build Alternative Delays and LOS (PM)**

Signalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WB L	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
US-41 & Grove / 7 <sup>th</sup> Streets	F 163.0	C 22.2	B 15.4	D 54.5	B 19.9	C 20.2	D 41.5	C 27.1		F 617.2	F 432.0		F 204.4
7 <sup>th</sup> St & Washington St	C 23.7	B 16.2		C 21.8	B 15.5		C 28.6	B 17.7		C 20.3	C 23.3		B 18.6
US-41 WB & McClellan Ave*					C 24.7	B 15.6		A 2.0			C 26.9	F 134	D 47.5
US-41 EB & McClellan Ave*		C 25	B 16.3					C 22.2	B 16.6		A 1.0		B 18.1
Washington St & McClellan Ave	C 29.6	B 14.2	B 14.3	C 26	B 16.7	B 16.7	D 36.8	B 17.8	B 17.9	C 25.4	C 21.3	C 21.5	B 19.7
Unsignalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WB L	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Grove St & Anderson St / Homestead St		C 15.1			B 13.3			A 7.8			A 7.7		
US 41 & McClellan East Crossover							E 40.7						
US 41 & McClellan West Crossover										D 25.4			
7 <sup>th</sup> St & Spring St		F 146.4			F 238.6			A 8.9			A 8.4		
7 <sup>th</sup> St & Baraga Ave		F **			F **		B 11.2			A 7.8			
7 <sup>th</sup> St & Fisher St		E 35.0			F 7836.0		B 11.6	A 0.0		A 8.9			
McClellan Ave & Baraga Ave	F 120.0		D 29.0	F 2833.0		C 16.6	A 9.4	A 0.3		A 9.4	A 0.7		
Baraga Ave & Main Drive	A 8.6	A 0.0								F 1063.0			
Baraga Ave & East Drive	A 0.0	-			-	-				F 60.7	B 11.3		
Baraga Ave & West Drive	A 7.7	A 0.0			-	-				F 190.4	C 15.9		
North Drive & Washington St		-	-	A 9.2	-		C 18.0						
Roundabout Intersection	PM LOS / Delay (s/veh)												Overall
	EB	BP	WB	BP	NB	BP	SB	BP					
US-41 & Front St	A 5.72	B 10.6			A 8.92		A 6.35	A 1.77					A 8.38

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.

\*\* Volumes exceed the computational capacity of the methodology



### **1.3.3 Complete Street Facilities**

Currently, transportation facilities in the project area are primarily accommodating automobile traffic. Within the project area, sidewalks extend along 7<sup>th</sup> Street from Washington Street to Fisher Street. No sidewalks exist along W. Baraga Avenue or provide access across US-41. A City-owned, multi-use pathway (commonly known as the Iron Ore Heritage Trail) traverses through the project area just north of the proposed hospital site from 7<sup>th</sup> Street to McClellan Avenue, then continues along the west side of McClellan Avenue. No other non-motorized facilities exist within the project area.

Marq-Tran (the local transit provider) currently has a transit route within the project area along 7<sup>th</sup> Street, from Washington Street to Fisher Street.

The Michigan State Transportation Commission officially adopted the *State Transportation Commission Policy on Complete Streets, July 26<sup>th</sup>, 2012*, as required by PA 134 and PA 135 of 2010. This law requires complete streets policies be sensitive to the local context, and consider the functional class, cost, and mobility needs of all legal users. The primary purpose of this policy is to encourage development of complete streets, as appropriate to the context and cost of a project.

In May 2011, The Marquette City Commission adopted a resolution supporting Complete Streets and Guiding Principles, which is now City policy, in order to progressively address mobility and access in public street development going forward. The policy notes that safe, connected, and continuous facilities for bicycling and walking are vital to encourage and support travel by foot or by bicycle, and also help to promote transit use. Additionally, MDOT and the City have long desired to construct an upgraded non-motorized crossing of US-41 at Grove/7<sup>th</sup> Street.

The City's *Community Master Plan* (City of Marquette 2015) includes a transportation element which has general guidance and recommendations for pedestrian and bicycle facilities. For pedestrian crosswalks, there is a recommendation that high traffic volume intersections along US-41 would be considered for crosswalks (the proposed project is consistent with this suggestion). The Master Plan also includes a suggestion that on-street bike lanes be evaluated for 7<sup>th</sup> Street from Washington Street to W. Baraga Avenue (the proposed project did evaluate this possibility, and it was concluded that including bicycle lanes on this segment of 7<sup>th</sup> Street is not feasible. The proposed project is consistent with the Master Plan since this evaluation was performed, consistent with the plan's recommendation).

As described above, currently the project area lacks a full complement of non-motorized facilities and no designated crossing of US-41 exists. Therefore, non-motorized improvements are needed at select locations within the project area.

### **1.3.4 Safety**

An analysis of crashes in the project area supports the need to implement road improvements that will reduce crash numbers, severity, and rates. Crash records for 2010 through 2014 indicate that a total of 324 crashes were reported in the project area during this five-year period. See Table 8 for a summary of the crash data.

The US-41 and McClellan Avenue intersection reported the most crashes over the five-year period with 147 crashes (47 injury crashes). The McClellan Avenue and Washington Street intersection had the second most recorded crashes with 80 (20 injury crashes), while the US-41 and Grove Street/7<sup>th</sup> Street intersection had the third most with 56 crashes (17 injury crashes and one fatal crash). Of the 324 crashes in the project area, 93 resulted in injuries. This includes one incapacitating injury and one fatal



crash at the US-41 and Grove Street/7<sup>th</sup> Street intersection, as well as two incapacitating injury crashes at the McClellan Avenue and Washington Street intersection.

Rear end accidents accounted for 44 percent (142 crashes) of the total, while angle crashes accounted for 30 percent (98 crashes) of the crashes in the project area. The majority of rear end type crashes occurred at the US-41 intersections with Grove Street/7<sup>th</sup> Street and McClellan Avenue, and the McClellan Avenue and Washington Street intersection. The rear-end accidents at these three intersections are likely caused by traffic queuing back at each intersection while stopped at traffic signals. Of the angle crashes, 38 occurred at McClellan Avenue and Washington Street (39%), 23 at US-41 and Grove Street/7<sup>th</sup> Street (23%) and 22 at US-41 and McClellan Avenue (22%) intersections.

The fatal crash at the US-41 and Grove Street/7<sup>th</sup> Street intersection involved a vehicle travelling westbound on US-41 striking a pedestrian crossing US-41. The three incapacitating injury crashes (one at US-41 and Grove Street/7<sup>th</sup> Street intersection and two at the McClellan Avenue and Washington Street intersection) involved vehicles failing to yield to opposing traffic.

In conjunction with the anticipated increase in traffic, the number of crashes in the project area is anticipated to increase. This is particularly true for rear-end crashes at intersections as the amount of congestion increases. The number of left turning vehicles is also expected to increase, resulting in more angle (i.e., “T-bone”) and injury type crashes. Transportation improvements are needed to alleviate safety concerns at the US-41 and Grove/7<sup>th</sup> Street and the proposed US-41 and hospital drive intersections.

**Table 8. Crash Summary (Years 2010-2014)**

Intersection	Total Crash Frequency	Crash Type							Severity		
		Head-on	Single Vehicle	Angle	Head-on/Left Turn	Rear-end	Side-swipe	Other	PDO	Injury	Fatal/Type A Injury
Grove/7 <sup>th</sup> /US-41	56	0	8	23	0	20	3	2	38	16	1/1
7 <sup>th</sup> /Baraga	12	0	1	5	0	1	2	3	11	1	0/0
7 <sup>th</sup> /Spring	4	0	0	1	0	1	0	2	4	0	0/0
McClellan/US-41	147	1	7	22	0	87	28	2	100	47	0/0
McClellan/Baraga	25	0	2	9	0	8	5	1	18	7	0/0
McClellan/Washington	80	1	3	38	3	25	9	1	60	18	0/2
<b>Totals</b>	<b>324</b>	<b>2</b>	<b>21</b>	<b>98</b>	<b>3</b>	<b>142</b>	<b>47</b>	<b>11</b>	<b>231</b>	<b>89</b>	<b>1/3</b>

### 1.4 Conclusion

The information presented in this chapter supports the need for the project. Based on the *Marquette Hospital Relocation TIS*, a change in access is needed to accommodate the over 23,000 new trips to be generated by the proposed hospital. Specifically, without roadway improvements, by the year 2038 anticipated traffic increases due to existing and planned growth (as a result of the hospital) will likely lead to congestion, resulting in more crashes and delays on the existing roadways. The proposed hospital would add a significant amount of traffic onto the local road network, and as shown in Tables 6 and 7, the existing road network cannot accommodate the future traffic volumes generated by the hospital relocation. The TIS indicates that many intersections and intersection movements within the project area would operate at LOS E/F under the 2038 No Build Alternative.



The proposed change in access (i.e., construction of a new intersection at US-41 and the hospital drive, within the US-41 limited access ROW) is expected to alleviate long-term travel demand pressures on the local network. As demonstrated by the traffic forecast and LOS analysis completed as part of the TIS, the existing roadway network in the vicinity of the proposed development is not expected to be able to accommodate traffic associated with the development in the design year. As shown in Tables 10 and 11, the Preferred Alternative would accommodate both the anticipated hospital site traffic as well as other background growth. The proposed change in access and capacity improvements along US-41 would provide substantial improvement for traffic operations along US-41. This proposed change in access will provide a direct benefit to the project area road system. The proposed addition of an access point on US-41 for the main hospital driveway was identified as a need to serve expected future hospital-related traffic.

Currently, there are existing safety concerns within the project area. The Preferred Alternative has been designed to address these safety concerns. Additionally, a roundabout was selected for the new intersection at US-41 and the hospital drive, as it would provide the best safety enhancement.

The *US-41/M-28 Comprehensive Corridor & Access Management Plan* (CUPPAD, 2010) identifies roundabouts as one potential treatment to reduce crashes along the corridor and recommends consideration of a roundabout at the US-41 and Grove Street/7<sup>th</sup> Street intersection. As part of the Preferred Alternative, a roundabout is included at this location as well as the US-41 and hospital drive intersection, which results in a change of access along US-41. Studies have shown that roundabouts on high speed roadways can significantly reduce crashes and injuries. The Preferred Alternative along US-41 will provide the best possible safety improvements and is expected to alleviate the number and severity of crashes along US-41.

The Preferred Alternative fulfills the project purpose and need by addressing traffic congestion and safety concerns. The TIS and crash analysis presented above concluded that the proposed change in access would not have an adverse impact on the safety and operations of US-41 or on the connecting local street network based on both the current and the planned future traffic projections. Furthermore, the addition of the US-41 and hospital drive intersection compliments distribution of trips to and from the hospital and would reduce traffic within the residential areas of the project area, relative to the No Build Alternative.



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## CHAPTER 2 - ALTERNATIVES

This chapter describes the transportation improvement alternatives considered as part of the Marquette Hospital Transportation Improvements Project as well as the process used to develop and evaluate these alternatives. Some of the alternatives considered have been eliminated from further consideration, and this chapter provides the justification for dismissing these alternatives. Additionally, this chapter provides a detailed description of the Preferred Alternative and the No Build Alternative as required by NEPA.

### 2.1 Project Development Process

The project development process includes the process of studying, designing, and constructing transportation improvements that will require Federal approval. Typically, this process includes the following main phases:

1. **Preliminary Studies** - includes feasibility studies and other initial investigations to define problems, receive public input, and identify possible solutions.
2. **Environmental Compliance** – includes more detailed studies to specifically define problems, develop and compare alternatives, identify likely benefits and negative impacts, and select a “Preferred Alternative” that can be carried forward into later phases of the process. This phase addresses all relevant environmental regulations (including NEPA) and includes public involvement activities. It also typically includes early conceptual engineering.
3. **Design** – results in preparation of preliminary and final engineering designs for the Preferred Alternative. Required environmental permits are obtained, and additional coordination with the public occurs.
4. **ROW Acquisition** – property required to accommodate improvements is acquired from owners at fair market value. This phase includes negotiations with property owners.
5. **Construction** – A construction contractor is selected through the bidding process, and the project is built.

### 2.2 Alternatives

During the early stages of the study, several preliminary transportation improvement concepts were developed by the project team. The project team was comprised of representatives from MDOT, the City, and the project consultants. The initial concepts took into consideration input received during a Public Information Meeting held on September 17, 2015.

From the preliminary concepts, four transportation improvement alternatives were developed that satisfied the project’s purpose and need to varying degrees. The alternatives provided a range of options in terms of benefits, relative costs, and negative impacts. Early preliminary engineering was performed on the alternatives to further develop the proposed transportation improvements. The alternatives were evaluated based on criteria that were directly related to the Purpose and Need of the project as well as costs and negative impacts. This comparative analysis has been summarized in the text below and in Table 9. These four alternatives were presented at a Public Information Meeting which was held on February 25, 2016. The analysis performed on the alternatives reflected the level of



detail necessary to determine if each warranted further consideration or if enough information existed to eliminate an alternative from further consideration. The descriptions below provide an explanation as to why some alternatives were eliminated from further consideration.

### **2.2.1 Alternative 1**

Alternative 1 consisted of a four-leg, two-lane roundabout at US-41 and the hospital drive and a compact urban roundabout at W. Baraga Avenue and the hospital drive. Under this alternative, the US-41 and Grove Street/7<sup>th</sup> Street intersection was removed, and an overpass bridge spanning US-41 and Anderson Street/Homestead Street was proposed. A pedestrian crossing was included as part of the proposed bridge. 7<sup>th</sup> Street was widened to three lanes and realigned near Fisher Street. This alternative required the realignment of Homestead Street and the widening of Spring Street and W. Baraga Avenue at 7<sup>th</sup> Street to include a left turn lane. As part of this alternative, traffic signal was proposed at the intersection of W. Baraga Avenue and McClellan Street. Retaining walls were also needed along Grove and 7<sup>th</sup> Streets for construction of the bridge. On-street bikes lanes and a five-foot sidewalk on the north side of W. Baraga Avenue were also included. The existing flood control structure and culverts were extended for the construction of the hospital drive. Additionally, a new culvert was proposed under the hospital drive for the Whetstone Brook at US-41. The existing Whetstone Brook culvert under 7<sup>th</sup> Street was also extended.

This alternative was eliminated from consideration because it eliminated direct access from US-41 to 7th/Grove Street and resulted in substantial impacts to businesses located near the intersection and required the acquisition and relocation of eight residences. Additionally, this alternative had the highest construction cost of the four alternatives. Members of the public (including business owners from the Chippewa Square area which is in the southeast quadrant of the US-41 and Grove/7<sup>th</sup> Street intersection) raised concerns regarding the fact that this alternative eliminated direct access between US-41 and 7th/Grove Street.

### **2.2.2 Alternative 2**

Alternative 2 included construction of a new three leg, two-lane roundabout at US-41 and the hospital drive and a signal controlled intersection at W. Baraga Avenue and the hospital drive. The US-41 and Grove Street/7<sup>th</sup> Street intersection was upgraded and reconstructed as a two-lane roundabout. The roundabout at the US-41 and Grove Street/7<sup>th</sup> Street intersection was also designed to include pedestrian crossings. This alternative included the widening and realignment of 7<sup>th</sup> Street to three lanes. Spring Street and W. Baraga Avenue at 7<sup>th</sup> Street was also widened to include a left turn lane. As part of this alternative, a traffic signal was proposed at the intersection of W. Baraga Avenue and McClellan Street. On-street bikes lanes and a five-foot sidewalk on the north side of W. Baraga Avenue were included. The existing flood control structure and culverts were extended for the construction of the hospital drive. Additionally, a new culvert was proposed under the hospital drive for the Whetstone Brook at US-41. The existing Whetstone Brook culvert under 7<sup>th</sup> Street was also extended.

This alternative (with relatively minor modifications) was ultimately selected as the Preferred Alternative. For more details regarding this alternative and why it was selected, see Section 2.4.

### **2.2.3 Alternative 3**

Alternative 3 included construction of a new intersection at US-41 and the hospital drive and upgrades to the US-41 and Grove Street/7<sup>th</sup> Street intersection. The roundabout at the US-41 and Grove Street/7<sup>th</sup> Street intersection was also designed to include pedestrian crossings. The intersection at US-41 and the hospital drive consisted of a right-in/right-out drive and a new median crossover to the west,



to accommodate indirect left turns from the hospital drive going east on US-41. A median break was also provided at the hospital drive entrance to allow drivers to make direct left turns from eastbound US-41 into the main hospital drive. Both of these intersections required traffic signal control. The US-41 and Grove Street/7<sup>th</sup> Street intersection was upgraded to a two-lane roundabout. This alternative realigned and widened 7<sup>th</sup> Street. Spring Street and W. Baraga Avenue at 7<sup>th</sup> Street were widened to include a left turn lane. As part of this alternative, traffic signal was proposed at the intersection of W. Baraga Avenue and McClellan Street. On-street bikes lanes and a five-foot sidewalk on the north side of W. Baraga Avenue were also provided. The existing flood control structure and culverts were extended for the construction of the hospital drive. Additionally, a new culvert was proposed under the hospital drive for the Whetstone Brook at US-41. The existing Whetstone Brook culvert under 7<sup>th</sup> Street was also extended.

This alternative was eliminated from consideration because it did not provide direct left turn access from the hospital drive onto US-41. Additionally, it would not improve traffic operations or reduce injury crashes to the same degree as the Preferred Alternative. Beyond these items, the introduction of two new traffic signals along US-41 was viewed as undesirable.

#### **2.2.4 Alternative 4**

Alternative 4 entailed a significant realignment of Grove Street/7<sup>th</sup> Street from Washington Street to just south/west of Anderson/Homestead Street. The new 7<sup>th</sup> Street road alignment was proposed to be several hundred feet to the west of the current alignment. Alternative 4 included the construction of three new main intersections: (1) US-41 and Grove Street/7<sup>th</sup> Street; (2) US-41 and the hospital drive, and; (3) Baraga Avenue and 7<sup>th</sup> Street.

The intersection at US-41 and the hospital drive consisted of a right-in/right-out drive and a new median crossover to the west, to accommodate indirect left turns from the hospital drive going east on US-41. A median break was also provided at the hospital drive entrance to allow drivers to make direct left turns from eastbound US-41 into the main hospital drive. Both crossovers were signalized. The US-41 and Grove Street/7<sup>th</sup> Street intersection was a two-lane roundabout. This roundabout accommodated indirect left turns from eastbound US-41 to the hospital drive. The roundabout at the US-41 and Grove Street/7<sup>th</sup> Street intersection was also designed to include a pedestrian crossing. The 7<sup>th</sup> Street/Baraga Street intersection was designed to accommodate a roundabout or traffic signal. This alternative required minor realignment of Baraga Avenue and Spring Street and more significant realignment of Anderson Street. As part of this alternative, traffic signal was proposed at the intersection of W. Baraga Avenue and McClellan Street.

The existing flood control structure and culverts were extended for the construction of the hospital drive. Additionally, a new culvert was proposed under the hospital drive for the Whetstone Brook at US-41. The existing Whetstone Brook culvert under 7<sup>th</sup> Street was also extended.

This alternative was eliminated from consideration because it did not provide direct left turn access from the hospital drive onto US-41. Additionally, it would not improve traffic operations or reduce injury crashes to the same degree as the Preferred Alternative. Beyond these items, the introduction of two new traffic signals along US-41 was viewed as undesirable. Relative to the Preferred Alternative, this alternative resulted in significantly higher ROW impacts, more impacts to SEE resources, higher cost, and it did not improve traffic operations or reduce injury crashes to the same degree as the Preferred Alternative.



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## 2.3 Other Alternatives Considered

Other alternatives were also considered as part of preliminary studies. All of these were ultimately eliminated from consideration as noted below.

### **2.3.1 Transportation System Management (TSM) Alternative**

TSM improvements usually consist of relatively low cost projects that can increase the capacity of a road system without major upgrades. Typically, TSM improvements include: Intelligent Transportation Systems (ITS), turn lanes at traffic signals, traffic signal timing improvements, access management, promotion of ride sharing, promotion of flexible work hours, and incident management.

Considering the severity of the problems and the specific needs identified in Chapter 1 of this document (the purpose and need), it is not reasonable to believe that TSM measures alone would adequately address these concerns. Even using optimistic assumptions about the effectiveness of TSM measures, this alternative would not accommodate projected future traffic volumes. Additionally, in order to be successful, this alternative would require people to make major changes to established travel habits and patterns. Beyond these items, the TSM alternative would not provide direct access between the hospital and US-41. As a result of these factors, the TSM alternative was eliminated as a stand-alone alternative. However, TSM measures will be incorporated into the Preferred Alternative where they offer cost-effective benefits.

### **2.3.2 Mass Transit Alternatives**

This alternative would assume a travel mode shift from the automobile to mass transit (i.e., bus or rail). In order to be successful, this alternative would require people to make major changes to established travel habits and patterns. Additionally, mass transit requires significantly higher populations to be effective. Since such changes are not viewed as realistic for the project area and would not meet the project's purpose and need, mass transit was dismissed as a stand-alone alternative.

Marq-Tran current has one transit route within the project area along 7<sup>th</sup> Street, from Washington Street to Fisher Street. Additionally, Marq-Tran currently has a stop at the existing MGH. The Preferred Alternative will be designed so as to accommodate any future Marq Tran route planned along 7<sup>th</sup> Street to access the hospital.



**Table 9. Alternatives Evaluation**

Evaluation Criteria	Comments	Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
<b>Traffic Operations</b>	Overall efficiency of traffic operations. Factors include intersection operations and changes to travel time for local road network.	Moderate	High	Moderate	Moderate
<b>Safety</b>	Degree to which alternatives may reduce total crashes, injury crashes, and conflicts for vehicular and non-motorized users.	High	Moderate to High	Moderate	Moderate
<b>Direct Hospital Access</b>	Degree to which alternatives provide direct access from US-41 to hospital per purchase agreement between DLP and the City. Indicator of emergency response time and user convenience.	Provides full access from US-41 to hospital via roundabout intersection.	Provides full access from US-41 to hospital via roundabout intersection.	Allows all turning movements except direct left turn from hospital drive onto US-41.	Allows all turning movements except direct left turn from hospital drive onto US-41.
<b>Local Access/ Community Impacts</b>	Degree to which alternatives impact access to local roads, residences, and businesses.	Eliminates direct access from US-41 to 7 <sup>th</sup> /Grove Street. Potential substantial impacts to businesses located near the US-41 & 7 <sup>th</sup> /Grove Street intersection.	Provides direct access to all local streets, residences, & businesses.	Provides direct access to all local streets, residences, & businesses.	Provides direct access to all local streets, residences, & businesses.
<b>Environmental Impacts</b>	Degree to which alternatives impact surrounding resources (e.g., wetlands, cultural resources, noise, streams, biotic communities, etc.)	Low to moderate	Low to moderate	Low to moderate	Low to moderate
<b>Right-of-Way Acquisition</b>	Impacts to businesses and residences caused by construction of project.	8 residential relocations ROW acquisition at 4 additional residential properties ROW acquisition at 4 commercial properties	2 residential relocations ROW acquisition at 3 additional residential properties	2 residential relocations ROW acquisition at 3 additional residential properties	12 residential relocations 1 commercial relocation ROW acquisition at 1 additional residential property ROW acquisition at 2 additional commercial properties
<b>Planning Level Construction Cost</b>	Includes construction cost, engineering costs, and ROW cost for improvements to US-41 and all local streets. All estimates in year 2017 dollars.	\$15,530,000	\$9,870,000	\$8,590,000	\$12,550,000
<b>Long Term Operational Cost</b>	Cost of ongoing operations including electricity (lighting), signal adjustment, bulbs/other equipment, mowing, maintenance, pavement markings, etc.	Moderate	Low to Moderate	Moderate	Moderate to High
<b>Breaks in Limited Access Right-of-way</b>	Net increase in number of breaks in limited access right-of-way	0	+1	+1	+1
<b>Flood Control Structure Impacts</b>	Degree to which alternatives impact flood control structure, floodplain, and storage basin.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Significant impacts to storage basin. Significant impacts to floodplain.
<b>Non-motorized Facilities</b>	Degree to which alternatives accommodate bicyclists and pedestrians. Assessment is based upon (1) presence/type of crossing at 7 <sup>th</sup> St/US-41 intersection and (2) presence of sidewalks along local roads being improved.	High	Moderate to High	Moderate to High	Moderate to High

**Notes:**

The low/moderate/high rankings provide a qualitative comparison of relative impacts among the alternatives. These rankings were based on the professional judgment of the interdisciplinary project team. The alternative(s) which best address each individual evaluation criteria are highlighted in green



## 2.4 Preferred Alternative

### **2.4.1 Selection of the Preferred Alternative**

Selection of the Preferred Alternative was primarily based on public input and the criteria and information shown in Table 9. Alternative 2 was selected as the Preferred Alternative as it provides direct access to the hospital from US-41, accommodates existing and future traffic volumes with good mobility, accommodates all modes of traffic, and improves safety. Selection of the Preferred Alternative also considered comments expressed by MDOT representatives, government agencies with jurisdiction in the project area, local business owners, and the general public. On March 17, 2016, the Marquette City commission passed the *Resolution in Support of Advancing Alternative 2 as the "Preferred Alternative" for Transportation Improvements Related to the Marquette Hospital Relocation Study*. A copy of this resolution is included in Appendix A. After selection of the Preferred Alternative, the alternative was modified to include improvements along McClellan Avenue, upgrades to the McClellan Avenue and W. Baraga intersection, construction of a compact urban roundabout at the W. Baraga and hospital drive intersection, and signal infrastructure upgrades to the McClellan Avenue and Washington Street intersection.

Alternative 2 was selected as the Preferred Alternative for the following reasons (comparisons are relative to the other alternatives that were considered):

- Provides direct access to the hospital from US-41
- Provides the best overall traffic operations
- Enhances vehicular and pedestrian safety
- Accommodates pedestrians and bicyclists at least as well as other alternatives
- Relatively low environmental impacts
- Reasonable cost

### **2.4.2 Elements of the Preferred Alternative**

The Preferred Alternative includes the following main elements, which are discussed in more detail below:

- Main hospital drive entrance connection to US-41 via two-lane roundabout intersection. This roundabout will include lighting of US-41 within 400 feet of the intersection;
- The existing intersection of US-41 and Grove Street/7<sup>th</sup> Street converted to a roundabout intersection. This roundabout will include lighting of US-41 within 400 feet of the intersection;
- The proposed intersection of Baraga Avenue with the Main Hospital Entrance is proposed as a compact urban roundabout with two northbound and southbound lanes for traffic entering/leaving the site to/from US-41. Lighting will be included at this intersection;
- The westbound approach of Baraga Avenue at McClellan Avenue is restricted to allow right turns only. All other movements at this intersection will be permitted, and the intersection will continue to operate as stop controlled on Baraga Avenue approaches and free flow on McClellan Avenue;
- McClellan Avenue would be widened to provide northbound and southbound left turn lanes at Baraga Avenue. The northbound left turn lane at Washington Street would be lengthened;
- The existing traffic signal at the intersection of McClellan Avenue and Washington Street would be modified to provide protected left turn phasing;



- 7<sup>th</sup> Street would be widened to provide a center left turn lane from north of Spring Street to Fisher Street and left turn lanes are provided on the Baraga Avenue and Spring Street minor leg approaches to 7<sup>th</sup> Street.
- A five-foot sidewalk would be constructed on the north side of W. Baraga Avenue, while on-street bike lanes would be provided along both sides of W. Baraga Avenue. Sidewalk upgrades and additions would be implemented for portions of the project area roadways where no sidewalk is present. A pedestrian crossing would be added at US-41 and Grove/7<sup>th</sup> Street.

See Figure 2 for a graphic depiction of the Preferred Alternative and Figure 4 for roadway typical cross sections.

#### **2.4.2.1 Roadway Cross Section and Alignment**

Under the Preferred Alternative, (See Figure 2 for plan view and Figure 4 for roadway typical cross sections), the majority of the roadways being improved would maintain the existing roadway centerline to avoid negative impacts and to reduce ROW impacts. US-41 would maintain two 12-foot travel lanes in each direction with a center median ranging from six to 40 feet wide. 7<sup>th</sup> Street would be widened to three lanes with two travel lanes in each direction and a TWLTL. 7<sup>th</sup> Street would also be realigned near Fisher Street to meet American Association of State Highway and Transportation Officials (AASHTO) Standards. In order to accommodate the widening, all on-street parking would be eliminated along 7<sup>th</sup> Street. The Preferred Alternative would eliminate approximately 27 parking spaces along 7<sup>th</sup> Street within the project area. Currently, all of the residences along 7<sup>th</sup> Street have driveways that can accommodate passenger vehicle parking.

W. Baraga Avenue would be slightly realigned to accommodate the proposed hospital site plan and would be widened to 39 feet, with one travel lane in each direction and six-foot wide on-street bike lanes. Beyond the roadway, a variable width green space/buffer zone and five-foot wide sidewalk would be provided on the north side of the road. Spring Street and W. Baraga Avenue would be widened at the respective intersections with 7<sup>th</sup> Street to accommodate left turn lanes. At the west end of the project area, McClellan Avenue would be widened to five lanes (two travel lanes in each direction and a TWLTL) from Washington Street to just north of US-41. Direct left turns at the US-41 and McClellan Avenue intersection would continue to be prohibited. The proposed roadway would be designed to tie into the existing roadway prior to the two noted intersections.

All roadway improvements will be design to meet applicable MDOT and AASHTO standards and the City of *Marquette Engineering Department General Guidelines and Standards for Street and Utility Design*.

The speed limits for the proposed roadway are expected to remain the same as the current limits: 55 mph for US-41, 45 mph for M-533, and 25 MPH for Grove Street/7<sup>th</sup> Street, Spring Street, Baraga Avenue, Washington Avenue McClellan Avenue, and Fisher Street. The roundabouts on US-41 have been designed to have entering, circulating, and exiting speeds of 15 to 25 mph.

#### **2.4.2.2 Non-Motorized and Transit**

On-street bicycle lanes would be provided on both sides of W. Baraga Avenue, and a five-foot wide sidewalk would be provided on the north side of this roadway. At the US-41 and Grove Street/7<sup>th</sup> Street roundabout intersection, pedestrian crosswalks would be provided. The roundabout splitter islands would serve as a pedestrian refuge, allowing pedestrians to navigate one direction of traffic at a time.



As noted in Section 1.3.3, the City's Master Plan suggests that on-street bike lanes should be evaluated for 7<sup>th</sup> Street from Washington Street to W. Baraga Avenue. This suggestion was added to the Master Plan before it was known that a center left turn lane would be needed on 7<sup>th</sup> Street to accommodate hospital traffic. With the center turn lane being added, there is not enough width available in the existing right-of-way for the addition of on street bicycle lanes, as doing so would create significant ROW impacts. Additionally, the City of Marquette has designated Altamont Street (one block east of 7<sup>th</sup> Street) as a key non-motorized corridor with future non-motorized improvements to be constructed using "Safe Routes to School" funding. These improvements to Altamont Street will significantly reduce the need for on-street bike lanes on 7<sup>th</sup> Street. In light of this situation, the Preferred Alternative does not include on-street bicycle lanes on 7<sup>th</sup> Street.

The Preferred Alternative would be designed to accommodate future transit facilities (i.e., bus stops/shelters) should Marq-Tran eventually expand service in the project area. During the design phase of the project, coordination with Marq-Tran will be undertaken to determine specific design elements for transit accommodations.

#### **2.4.2.3 Intersections**

As shown on Figure 2, the Preferred Alternative would include construction of a three leg, two-lane roundabout at US-41 and the hospital drive; a four leg two-lane roundabout at the US-41 and Grove Street/7<sup>th</sup> Street intersection; and a compact urban roundabout at the W. Baraga Avenue and the hospital drive intersection. The McClellan Avenue and W. Baraga Avenue intersection will include northbound and southbound left turn lanes, while the 7<sup>th</sup> Street and W. Baraga and 7<sup>th</sup> Street and Spring Street intersections would include westbound and eastbound left turn lanes. The 7<sup>th</sup> Street and W. Baraga and 7<sup>th</sup> Street and Spring Street intersections would remain under two-way stop control. Additionally, the Washington Street and McClellan Avenue intersection would require timing and signal infrastructure upgrades.

As shown in Tables 10 and 11, all roundabout intersections would operate at LOS A, while the signalized intersections would operate at LOS C or better during the peak traffic hours in the year 2038. Additionally, the two crossovers on US-41 would operate at LOS D or better. Overall, all of the unsignalized intersections would operate at LOS D or better. These delays and levels of service indicate that during peak traffic conditions, the Preferred Alternative would adequately accommodate the projected traffic volumes noted in Table 5.

As shown in Tables 10 and 11, at the 7<sup>th</sup> Street intersections with Spring Street, W. Baraga Avenue, and Fisher Street, some of the eastbound/westbound stop-controlled movements would operate at LOS E/F, while the free-flow northbound/southbound movements on 7<sup>th</sup> Street would operate at LOS A. Overall these intersections would operate at an acceptable LOS. The eastbound/westbound movement volumes are typically lower, compared to the northbound and southbound through movements on 7<sup>th</sup> Street. Eastbound and westbound drivers at these intersections have available several alternate routes to avoid potential delays at these intersections. Traffic on Spring Street and Fisher Street is primarily local traffic, with several alternate routes available within the project area. If these drivers experience what is perceived as unacceptable delays, it is expected that they will choose alternate travel routes for subsequent trips. After the hospital is opened and operational, the City will monitor these intersections and will consider signal warrant studies should delays become consistently unacceptable once traffic volumes and patterns have established a new "equilibrium" of preferred routes and patterns.



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#### **2.4.2.4 Culverts/Drainage/Stormwater System**

The Preferred Alternative would include curb and gutter and an enclosed stormwater system for the majority of the length of the project. The system would be designed to meet all applicable MDOT standards and the City of Marquette *Engineering Department General Guidelines and Standards for Street and Utility Design*.

The Preferred Alternative would require the four culverts associated with the flood control basin to be extended by approximately 145 feet which results in a new total length of 200 feet for the construction of the hospital drive to US-41. Additionally, a new culvert would need to be constructed under the hospital drive for the Whetstone Brook. This new culvert would be approximately 200 feet in length. The existing Whetstone Brook culvert under 7<sup>th</sup> Street would also be extended by approximately 145 feet which will result in a new total length of 230 feet.

Culverts will be designed in accordance with all applicable MDOT standards and the City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design. Required hydraulic and hydrology studies will be conducted during the design phase of the project to determine proper the culvert size. Culvert lengths and types will be investigated in more detail during the design phase of the project. At this point in time, it appears likely that three-sided, open bottom culverts will be used.

The Preferred Alternative would also fill a portion of the stormwater/flood-control basin located between W. Baraga Avenue and US-41. Any fill placed in the basin or the floodplain associated with the Whetstone Creek would require a compensating cut to maintain the capacity of the basin and floodplain. During the design phase of the project, detailed 3D modeling will be conducted to determine the amount of fill needed to construct the hospital drive through the basin and the corresponding compensating cut.

The Preferred Alternative would include the use of water quality Best Management Practices (BMPs) to pre-treat stormwater before it enters receiving water bodies. During the design phase of the project detailed studies will be conducted to determine which BMPs will be used to accommodate stormwater. All BMPs will be designed in accordance with the all applicable MDOT standards and the City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design.



**Table 10. Future (Year 2038) Preferred Alternative Delays and LOS (AM)**

Signalized Intersection	AM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
7 <sup>th</sup> St & Washington St	B 18.5	B 16.2		C 20.7	B 14.2		B 19.6	B 16.5		B 18.2	B 13.5		B 15.9
US-41 WB and McClellan Ave*					C 20.2	B 17.2		A 3.6			B 13.1	B 11.2	B 13.8
US-41 EB and McClellan Ave*		C 25.5	B 14.9					C 23.7	B 16.0		A 0.3		C 21.5
Washington St & McClellan Ave	B 19.6	C 28.2	C 28.2	B 19.7	C 26.8	C 26.9	B 15.5	C 32	C 32.2	B 10	B 19.6	B 19.8	C 26.3
Unsignalized Intersection	AM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Grove St & Anderson St / Homestead St		B 13.8			B 13.8			A 7.5			A 7.9		
US 41 & McClellan East Crossover							B 13.1						
US 41 & McClellan West Crossover										B 12.9			
7 <sup>th</sup> St & Spring St	E 42.9	C 21.6		C 22.5	C 19.9		A 8.5			A 8.5			
7 <sup>th</sup> St & Baraga St	E 40.2	C 21.4		D 28.7	E 37.3		A 7.8	-	-	A 8.4	-	-	
7 <sup>th</sup> St & Fisher St		B 14.3			F 78.6		A 7.5	A 0.0		A 9.1	A 0.0		
McClellan Ave & Baraga Ave	E 37.0		D 25.7			B 11.7	A 7.8			B 10.0			
Baraga Ave & East Drive	A 0.0									B 10.5	A 0.0		
Baraga Ave & West Drive	A 7.5	A 0.0								B 10.8	A 8.8		
North Drive & Washington St				A 8.4			B 12.8						
Roundabout Intersection	AM LOS / Delay (s/veh)												Overall
	EB	BP		WB	BP		NB	BP		SB	BP		
US-41 & Front St	A 3.09	A 2.34					B 11.66			A 4.07	A 0.65		A 8.27
US-41 & Grove / 7th St	A 5.4			A 7.07			A 7.52			A 4.6	A 4.66		A 6.32
US-41 & Main Drive	A 6.69			A 6.39						A 4.08	A 3.84		A 6.3
Baraga Ave & Main Drive	A 4.62			A 4.74			A 4.05			A 3.45			A 4.07

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.



**Table 11. Future (Year 2038) Preferred Alternative Delays and LOS (PM)**

Signalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
7 <sup>th</sup> St & Washington St	C 23.6	B 18.1		C 23.9	B 15.5		C 28.0	C 22.3		C 25.8	C 25.3		C 20.0
US-41 WB and McClellan Ave*					C 27.6	B 12.2		A 3.6			B 19.7	B 14.3	C 20.0
US-41 EB and McClellan Ave*		C 20.5	B 14.2					C 30.0	C 22.9		A 1.2		B 18.1
Washington St & McClellan Ave	C 23.3	C 28.7	C 28.8	C 20.4	D 43.7	D 43.6	C 22.5	C 31.5	C 31.7	B 18.5	C 34.6	D 35.1	C 33.1
Unsignalized Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Grove St & Anderson St / Homestead St		C 16.6			B 14.1			A 8.1			A 7.7		
US 41 & McClellan East Crossover							D 31.1						
US 41 & McClellan West Crossover										D 25.4			
7 <sup>th</sup> St & Spring St	F 565.8	D 30.1		F 64.7	E 37.3		A 8.9			A 7.8			
7 <sup>th</sup> St & Baraga Ave	E 46.0	F 411.2			E 40.7		A 8.5	-		A 7.8	-		
7 <sup>th</sup> St & Fisher St		B 13.6			F 344.5		A 8.4	A 0.0		A 7.7	A 0.0		
McClellan Ave & Baraga Ave	F 87.2	C 22.4				B 11.7	A 9.3			A 8.9			
Baraga Ave & East Drive	A 0.0									C 15.1	A 0.0		
Baraga Ave & West Drive	A 7.5	A 0.0								B 11.6	A 9.0		
North Drive & Washington St				A 9.2			D 26.2						
Roundabout Intersection	PM LOS / Delay (s/veh)												Overall
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
US-41 & Front St	A 5.72		B 10.6				A 8.92			A 6.35		A 1.77	A 8.38
US-41 & Grove / 7th St	B 12.02			A 6.27			B 12.0			A 7.37		A 5.85	A 9.44
US-41 & Main Drive	B 11.87			A 6.77						A 8.23		A 7.68	A 9.08
Baraga Ave & Main Drive	A 8.14			A 4.47			A 4.22			A 8.01			A 6.92

\* Level of Service cannot be calculated using HCM 2010. HCM 2000 was used for these intersections.



#### **2.4.2.5 Access Changes**

As shown in Figure 2, the Preferred Alternative would create a new roundabout intersection at US-41 and the hospital drive, providing direct access to the hospital from US-41. Direct access to the hospital would also be provided from Washington Street and Spring Street. A new roundabout intersection would also be created at W. Baraga Avenue and the hospital drive. The westbound approach of W. Baraga Avenue at McClellan Avenue will be restricted to allow right turns only, all other movements at this intersection will be permitted. No other access changes within the project area are proposed under the Preferred Alternative.

#### **2.4.2.6 Utility Relocations**

As part of the Preferred Alternative, it is not anticipated that any publicly owned utilities will need to be relocated. If any franchise utilities are found within the existing road right-of-way they would be relocated at the owner's expense. Based on initial searches of property records, there do not appear to be any franchise utilities in the ROW within a private easement.

#### **2.4.2.7 Maintenance of Traffic during Construction**

Construction of the Preferred Alternative would take place over the course of two construction seasons (April to October 2017 and April to June 2018). One through lane of traffic would be maintained in each direction on US-41 during construction of US-41. Temporary crossovers would be built and used to shift both directions of traffic to one bound of US-41, while the other bound of US-41 is built. Temporary pavement will be necessary in some locations. Temporary signals will likely be necessary at the US-41 and Grove Street/7<sup>th</sup> Street and US-41 and McClellan Avenue Intersections. During the US-41 construction, the City is considering the possibility that 7<sup>th</sup> Street may be closed and detoured. The local street construction (Baraga, 7<sup>th</sup>, Spring, Rock, McClellan) would likely be built block by block using detours. US-41, Grove Street, 7<sup>th</sup> Street, Homestead Street, Anderson Street, Fisher Street, Baraga Avenue, Spring Street, and Rock Street are anticipated to be constructed in 2017. McClellan Avenue improvements are anticipated to be constructed in 2018.

To assure that emergency vehicles are not unreasonably delayed, local emergency providers will be contacted prior to the construction period to alert them of the potential for delays along the construction route. Additionally, all temporary roadways during all stages of construction will have adequate shoulder width to allow motorists to pull to the right to allow emergency vehicles to pass.

#### **2.4.2.8 Cost Estimate**

The estimated construction cost for the Preferred Alternative is approximately \$8,830,000, in year 2016 dollars. ROW acquisition cost is estimated to be approximately \$416,000, and associated engineering costs are estimated to be \$1,520,000. The total cost for the Preferred Alternative would be approximately \$10,760,000.



## CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing social, economic, and environmental (SEE) conditions within the project area. The chapter is organized by topic and only includes information related to relevant issues or regulatory requirements. Issues and topics involving minimal or no impacts as a result of the Preferred Alternative or the No Build Alternative have been omitted unless discussion is warranted based on regulatory requirements or an issue has been specifically identified by project stakeholders or members of the public.

In addition to the transportation improvements which comprise the Preferred Alternative, a new hospital is being constructed at 850 W. Baraga Avenue (Figure 2). Construction of the hospital commenced in April of 2016 and is expected to be complete in 2018. Construction of the hospital is taking place on private property and is privately funded. Construction of the new hospital is not included as part of the Preferred Alternative. The transportation improvements which comprise the Preferred Alternative and the hospital have independent utility (i.e., the hospital could be relocated and constructed without implementation of the Preferred Alternative). Throughout this chapter, construction of the hospital has been evaluated as part of the “No Build Alternative,” since the hospital is moving ahead independently of the Preferred Alternative.

After the description of the existing conditions and regulatory requirements, this chapter then describes, by topic, the potential SEE impacts that would likely be caused by implementing the Preferred Alternative and construction of the hospital described in Chapter 2. The descriptions include *direct* and *construction impacts*, followed by a listing of *mitigation measures*. *Indirect* and *cumulative impacts* are described at the end of the chapter. These terms are defined as follows:

- **Direct Impacts** – These impacts occur as a direct result of the Preferred Alternative and construction of the hospital. Examples of direct impacts include filling wetlands, ROW acquisition, and noise increases.
- **Indirect Impacts** – Also referred to as “secondary” impacts, these are indirectly caused by the Preferred Alternative and construction of the hospital. These impacts often occur at a later time and are usually located farther away from the project area than the direct impacts. Examples of indirect impacts include induced land use changes and downstream sedimentation of streams caused by stormwater runoff.
- **Construction Impacts** – These are the temporary effects that occur during construction. This could include impacts such as increased noise, dust, and construction detours.
- **Cumulative Impacts** – Cumulative impacts result from combining the direct, indirect, and construction impacts of an alternative with other past, present, and reasonably foreseeable future impacts.
- **Mitigation Measures** - These are actions that will be implemented to avoid, reduce, or compensate for the impacts of the Preferred Alternative. Examples of mitigation measures include wetland creation, noise walls, and assistance to residents being relocated as a result of a project.

This chapter only describes impacts where mitigation may be needed or such discussions are relevant. Typically, discussion is not provided when: (1) impacts would not occur, (2) there are no specific regulatory requirements that pertain to the issue, and (3) the issue has not been identified as a concern by citizens or a government agency during the course of the project. Examples of omitted topics and



issues include: coastal zone management, wild and scenic rivers, and energy. Beyond these items, the level of detail provided is related to the severity of potential impacts for each topic.

The only exception to this general guideline is for the No Build Alternative. Because this alternative serves as the baseline against which the Preferred Alternative impacts are compared, impacts are discussed even when none are expected.

Similar to impacts, mitigation measures are only discussed where: (1) they may be warranted based on impacts or (2) are required by regulations. As a result, they are not discussed for some of the topics in this chapter.

### **3.1 Topography & Soils**

Marquette's topography is the result of glacial activity. The northern portion of the City generally slopes towards Lake Superior, with a few areas of steeper relief near the Dead River at the City's western edge. The more significant topography is located south of US-41, where the terrain is more irregular and slopes are generally steeper. This increase in relief culminates in Mount Marquette, which is located at the City's far south end.

The project area is included in the Michigamme Highlands Subsection of the Michigan Regional Ecosystems. The Sub-Subsection consists of flat plains with exposed bedrock knobs with the Bedrock made up of basalts and granites. Soils formed within this subsection are excessively drained. Vegetation is forests of maple-beech-birch and aspen-birch cover types.

Soil characteristics within the project area region consist of sand, gravelly sandy loam, and fine sandy Udipsammments-Urban land complex, Udorthents- Urban land complex, and Urban land-Rubicon complex. These soils make up 95 percent of the project area. These represent nearly level to gently sloping, well to excessively drained soils. Urban land complex soils have been disturbed by cutting and filling and areas that are covered by buildings and pavement.

The vertical elevation of the northern portion of the APE is 30-40 feet above the southern portion. The project area is relatively flat at the hospital site and most of the roadway segments. A few roadway segments (Front Street west of 7<sup>th</sup>, 7<sup>th</sup> Street from Fisher to US-41, McClellan at US-41, Fisher at 7<sup>th</sup> Street) have steeper grades up to eight percent plus.

### **3.2 Land Use**

#### **3.2.1 Existing Conditions**

Marquette County is located in the north-central part of Michigan's Upper Peninsula. The City of Marquette is the county seat and is the main commercial, industrial, and educational center of the county. Marquette County is the largest county in land area in Michigan, and the most populous county in the Upper Peninsula. The total area of the County is approximately 1,800 square miles, while the City has a total area of 19.45 square miles. Figure 1 shows the project location in relation to the larger regional context.



The City has undergone higher intensity development than the rest of the county and the majority of the Upper Peninsula due to its location relative to US-41, logging areas, and several mines. Additionally, Marquette is home to the largest hospital in the region and NMU. Over the decades, the City and County have changed from industrial-based economies to service-based economies.

Currently land use in the project area contains a mix of industrial (northern and western portions of the project area), residential (southern and eastern portions of the project area), and commercial (northern portion of the project area) land uses. The northern and eastern portions of the proposed hospital site include vacant green space (designated as a Brownfield) that contains sparse vegetation, large unvegetated areas of bare soil, and a few very small ponds. The Whetstone Brook flows from northwest to southeast through the central portion of the project area. There is a narrow riparian corridor located along this stream.

The majority of the project area is built-out and has been developed into residential and commercial uses. The majority of homes located along 7th Street are rental homes. One apartment complex and one senior citizen home are located in the southern portion of the project area. The small isolated portion of the project area along McClellan Avenue is completely built out with commercial development. Per the City's Master Plan, future land uses in the project area are expected to be of similar character to the existing uses.

The majority of the project area is currently zoned Civic, General/Corridor Commercial, or Single Family. The future zoning calls for a portion of the Civic zoning to be changed to Municipal and the Single Family adjacent to the hospital site to General Residential. No other zoning changes are noted in the City's Master Plan.

### **3.2.2 Environmental Consequences**

#### **3.2.2.1 No Build Alternative**

The No Build Alternative (which includes hospital construction) would directly impact the currently undeveloped parcel/open space adjacent to the municipal service center. The No Build Alternative would result in the demolition of the existing MSC and convert the current open space land use to civic land use which is consistent with the future zoning designated in the Master Plan. Overall, with the exception of the proposed hospital site, the No Build Alternative would have minor impacts on land use in the project area as the project area is mainly built out.

#### **3.2.2.2 Preferred Alternative**

The Preferred Alternative would have minor impacts on land use in the project area, would be consistent with local land use plans, and would complement the future land use and zoning (Civic, Corridor/General Commerce, and Single Family) specified in the City's Master Plan. The Preferred Alternative would enhance and reinforce the existing road network configuration, and allow for the continued future development of project area. The accommodation of alternate modes of travel is also in keeping with the City's Master Plan. The planned sidewalk, on-street bike lanes connections, and pedestrian crossings would help create "complete" streets within the project area, meeting the goals set forth in the Master Plan.

The City's *Community Master Plan* (City of Marquette 2015) includes a transportation element which has general guidance and recommendations for pedestrian and bicycle facilities. For pedestrian crosswalks, there is a recommendation that high traffic volume intersections along US-41 would be



considered for crosswalks. The Preferred Alternative is consistent with this suggestion. The Master Plan also includes a suggestion that on-street bike lanes be evaluated for 7<sup>th</sup> Street from Washington Street to W. Baraga Avenue. This possibility was evaluated, and it was concluded that including bicycle lanes on this segment of 7<sup>th</sup> Street is not feasible. The Preferred Alternative is consistent with the Master Plan since this evaluation was performed, consistent with the plan's recommendation.

### **3.3 Farmland**

#### **3.3.1 Existing Conditions**

The Farmland Protection Policy Act (FPPA) requires that all Federal agencies identify and take into account the adverse effects of Federal programs on the preservation of farmland and consider alternatives that would lessen those effects. This act is implemented by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and regulates farmlands that are designated as "prime", "unique", "statewide important", and "local important". The NRCS has identified specific soil types that make up these special categories. The FPPA specifically excludes land already in or committed to urban development or water storage from these protected categories.

Part 361 of Public Act 451, Michigan's Natural Resources and Environmental Protection Act (NREPA) (formally PA 116, the Farmland and Open Space Preservation Act) protects properties enrolled as farmland or "open space". Under this act, the owner of the property may enter into an agreement temporarily restricting the development rights of a parcel. In some instances, this provides tax relief for the property owner. Coordination was conducted with the Michigan Department of Agriculture (MDOA) to determine if there are any properties within the project area that are enrolled in this program (Appendix B). Based on this coordination, it was determined the project area does not contain any properties enrolled in this program.

#### **3.3.2 Environmental Consequences**

##### **3.3.2.1 No Build Alternative**

The No Build Alternative would not affect any prime, unique, local important, or statewide important farmland soils. The No Build Alternative would not impact lands protected under Part 361 of Public Act 451. As discussed in the land use section of this chapter, the project area is built out, and no agricultural lands or zoning exist within the project area.

##### **3.3.2.2 Preferred Alternative**

No prime, unique, local important, or statewide important farmland soils exist within the project area. Therefore, Preferred Alternative would not result in any farmland impacts. Additionally, the Preferred Alternative would not impact any lands protected under Part 361 of Public Act 451, as there are none located within the project area.

### **3.4 Relocations & ROW Impacts**

#### **3.4.1 No Build Alternative**

DLP has already acquired the property where the new hospital is being constructed, per the signed Real Estate Purchase and Sale Agreement between the City and DLP.



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### **3.4.2 Preferred Alternative**

Construction of the Preferred Alternative would likely require ROW acquisition from seven parcels and result in three residential relocations. Property may need to be acquired from five parcels near the 7<sup>th</sup> Street and Fisher Street intersection, and acquisition may be needed from two other parcels near the McClellan Avenue and W. Baraga Avenue intersection. Approximately 0.9 acres (37,253 square feet) of ROW fee acquisition would likely be required as part of the Preferred Alternative. No businesses would be acquired or relocated.

Currently, 7<sup>th</sup> Street does not meet applicable sight distance requirements at its intersection with Fisher Street. Therefore, 7<sup>th</sup> Street would be realigned as part of the Preferred Alternative to meet applicable requirements. As a result, three properties located immediately north of the 7<sup>th</sup> Street and Fisher Street intersection would be acquired. At the remaining properties, a relatively narrow strip of property would be acquired adjacent to the existing ROW. Current property uses would not be substantially affected by the Preferred Alternative.

Some easements and/or temporary grading permits may also be needed. The locations and size of easements/grading permits are not currently known and would be determined during the design phase of the project once more detailed engineering work is completed. All ROW impacts are shown on Figures 2 and 3.

### **3.4.3 Measures to Mitigate ROW Acquisition Impacts**

See Appendix C for the Conceptual Relocation Plan.

## **3.5 Social Impacts**

### **3.5.1 Existing Conditions**

Currently, the project area consists of high density residential neighborhoods, a senior living center, industrial developments along W. Baraga Avenue, and two commercial areas, which are located at the US-41 and Grove Street/7<sup>th</sup> Street intersection and at the McClellan and W. Baraga Avenue intersection.

There are no schools, churches, or other institutional properties in the immediate project area.

### **3.5.2 Environmental Consequences**

#### **3.5.2.1 No Build Alternative**

The No Build Alternative could affect neighborhoods to the east of the proposed hospital site, along 7<sup>th</sup> Street. As traffic volumes within the project area increase as a result of the hospital relocation, traffic congestion would occur on local roads. Additionally, as congestion worsens the number of crashes could also increase. These problems may reduce the perceived quality of life for some residents. This increase in congestion may also eventually limit access to driveways and side streets due to the inability of motorists to turn into/out of the drives and side streets. The increase in traffic volume could result in some motorists seeking alternative routes to avoid delays, thereby altering their travel patterns.

The No Build Alternative would provide the benefit of a state-of the-art regional medical facility, enhancing the health and well-being of the residents of Marquette County and the project area. The



hospital would improve access to health care services for underserved populations, EJ populations and the entire community.

### **3.5.2.2 Preferred Alternative**

On balance, the Preferred Alternative is expected to improve overall travel times and enhance safety relative to the No Build Alternative. The number and severity of crashes within the project area are expected to be reduced through roundabouts, which studies show have much lower crash rates and severity than signalized intersections. Within the project area, residents could perceive an improvement in the quality of life due to new pavement, reduced traffic congestion, convenient pedestrian and bicycle facilities, and improved and safer access to US-41 and the hospital. Motorists, bicyclists, and pedestrians traveling through the project area would also enjoy an improved quality of life as a result of improved facilities, better traffic flows, reduced delays, and a safer roadway. Additionally, the Preferred Alternative would reduce traffic volumes along 7<sup>th</sup> Street.

At the same time, the Preferred Alternative may impact the perceived quality of life of some residents living along 7<sup>th</sup> Street. Specifically, residents living adjacent to 7<sup>th</sup> Street would experience impacts such as construction delays, minor changes to visual conditions, widened roadway, loss of on-street parking, etc. At most locations, these negative impacts would not result in major changes compared to the existing conditions (i.e., residences located close to the roadway would still be located close to the roadway).

The Preferred Alternative would eliminate approximately 27 parking spaces along 7<sup>th</sup> Street within the project area. Currently, all of the residences along 7<sup>th</sup> Street have driveways that can accommodate passenger vehicle parking.

The Preferred Alternative would not result in any impacts to schools, churches, or any other social institutions.

During construction, residents of the project area would experience a temporary decrease in their quality of life due to access restrictions, travel delays, and construction noise. During construction, one through lane of traffic would be maintained in each direction on US-41. During the US-41 construction, 7<sup>th</sup> Street may be closed and detoured. It is anticipated that local street work (Baraga, 7<sup>th</sup>, Spring, Rock, McClellan) will be built block by block using detours. These delays and detours would affect local traffic, emergency vehicles, and school buses. To assure that emergency vehicles are not unreasonably delayed, local emergency providers will be contacted prior to the construction period to alert them of the potential for delays along the construction route.

## **3.6 Population Demographics / Environmental Justice**

### **3.6.1 Population Demographics**

As shown in Table 12, the population of the City peaked in the 1980s and then decreased to below 65,000 in the 2000s. Since 2000, the population of the City has continued to increase and is expected to continue this growth trend in the future. The average household size in the City is (2.13) is consistent with the U.S. average (2.59).



**Table 12. Population Information within Project Area**

Area	1970	1980	1990	2000	2010	2030*
City of Marquette	21,967	23,288	21,977	20,714	21,367	22,695
Marquette County	64,686	74,101	70,887	64,634	67,077	72,244

\*Projections from City of Marquette Community Master Plan

**3.6.2 Environmental Justice**

Executive Order 12898 on Environmental Justice (EJ) directs Federal agencies to identify and address disproportionately high and adverse human health or environmental effects to minority and low-income populations caused by their programs, policies, and activities. In compliance with this Executive Order, environmental documents first identify the presence or absence of EJ populations within their project limits. Secondly, the document notes any disproportionately high and adverse human health or environmental effects to minority and low-income populations. The analysis conducted to determine the presence or absence of EJ populations and the identification of any disproportionately high and adverse human health or environmental effects to minority and low-income populations are found below.

Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies to examine the services they provide, identify any need for services to those with limited English proficiency (LEP), and develop and implement a system to provide those services so LEP persons can have meaningful access to them. It is expected that agency plans will provide for such meaningful access consistent with, and without unduly burdening, the fundamental mission of the agency. The Executive Order also requires that the Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

**3.6.3 Existing Conditions**

The project area is located within census block groups 261030003002 and 261030028002. In accordance with the MDOT *Environmental Justice Guidance for Michigan Transportation Plans, Programs and Activities* (January 2011), EJ populations (low-income and minority) were identified based on the US Census data. According to FHWA guidance, "low-income" is defined as a household that is at or below the U.S. Department of Health and Human Services' poverty guidelines. EJ populations are defined as (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

In order to identify target populations the Location Quotient (LQ) method was used. The LQ is an economic based statistical technique used in calculating and comparing the share contribution of an area's local economy to another referenced economy. In this scenario, the LQ method is used to determine whether or not a particular block group has a greater share of its racial groupings than expected in the state. The minority or low-income population groups having an LQ greater than one are recognized as being higher than the state average. Therefore, such populations are identified as an EJ population per Executive Order 12898.



Based on the US Census data, two total EJ populations (American Indian and low-income) were indentified within census block groups 261030003002 and 261030008001. Census block 261030003002 is bounded by Washington Street to the north and US-41 to the south. The block extends from the US-41 and Washington Street intersection, east to Lake Superior. This block also extends east of Altamont Street down to Hampton Street. Census block 261030008001 is located south of US-41 and west of Altamont Street.

**Table 13. Minority and Low-Income Census Information for the Project Area**

EJ Population	Michigan	Census Blockgroup		LQ	
		261030003002	261030008001	261030003002	261030008001
African American	1,402,047	5	7	0.02	0.04
America Indian	53,421	42	17	5.02	2.76
Asian	177,456	12	20	0.43	0.98
Hispanic	323,877	13	11	0.26	0.29
Low-Income	1,021,605	496	651	3.94	6.00

EJ Population

Source: 2010 U.S. Census

### **3.6.4 Environmental Consequences**

#### **3.6.4.1 No Build Alternative**

The No Build Alternative would not require any new property acquisitions or relocations. The No Build Alternative would result in an increase of employment opportunities and a more efficient hospital. Therefore, it is unlikely the No Build Alternative would result in disproportionate adverse effects to any minority or low-income populations.

#### **3.6.4.2 Preferred Alternative**

As shown in Table 13, EJ populations are located in the project area. The Preferred Alternative would require the acquisition of three residential homes and ROW. Implementation of the Preferred Alternative would result in a variety of negative impacts and positive benefits that would be felt by all residents, business owners, and motorists, including minority or low-income populations.

The most significant benefit of the project would be improved travel time within the project area. As shown in Tables 10 and 11, when compared to the No Build conditions (Tables 6 and 7) the Preferred Alternative would significantly improve traffic operations at the US-41 and 7<sup>th</sup> Street/Grove and US-41 WB and McClellan Avenue intersections, while the remaining intersections would have similar delays for the two scenarios. As a result, the overall traffic congestion and travel time within the project area would be reduced. This overall reduction would also result in less tailpipe emissions and air quality improvements.

The Preferred Alternative will also provide more efficient hospital access for all users, including EJ populations. The hospital drive connecting US-41 will provide direct access to the hospital. As a result, hospital patients, visitors, delivery trucks, and hospital staff would no longer be required to travel through the City to reach the hospital. As described in the TIS, the Preferred Alternative would significantly reduce the traffic volumes along 7<sup>th</sup> Street as hospital users will have direct access to the hospital and will no longer need to use 7<sup>th</sup> Street to access the hospital.



The Preferred Alternative would also provide convenient non-motorized facilities along W. Baraga Avenue with construction of on-street bike lanes and a five-foot sidewalk on the north side of the road.

The number of injury crashes within the project area would likely be significantly reduced with the use of roundabouts at three of the project area intersections. Numerous studies have shown that when compared to signalized intersections roundabout can reduce injury crashes by up to 80 percent. This would be a benefit for all motorists.

As shown in Figure 2, the Preferred Alternative would not result in any new roadways in residential areas, grade separations, road closures, or rerouting. As result, access and connectivity to the residential neighborhoods in the project area would remain unchanged.

The overall noise levels within the project area would remain similar to the No Build conditions. As shown in Table 15, relative to the No Build Alternative, the Preferred Alternative would reduce noise levels at 58 receptors (55% of the total receptors) and 62 receptors (58% of the total receptors) during the AM and PM peak hours, respectively. During the AM and PM peak hours 48 (45%) and 43 (41%) of the noise receptors would experience an increase in noise levels, respectively.

Construction of the Preferred Alternative would take place over the course of two construction seasons (April to October 2017 and April to June 2018). During this time, residents within the project area would experience temporary elevated noise levels, increased traffic delays, road closures, detours, and access changes. Construction activities associated with the Preferred Alternative could also cause short-term, localized impacts to air quality within the project area. A temporary increase in vehicle emissions is expected as a result of heavy equipment activity, hauling materials, and idling vehicles. Additionally, fugitive dust would be generated through construction activities such as excavation, heavy equipment operation, and other traffic activity. These negative effects would be experienced by all users, including EJ populations.

In addition to census data, other information sources were used to identify minority and low income populations. These included visual inspections of the project area, discussions with officials from the City, and public outreach efforts. Several public outreach efforts were undertaken as part of this study. These efforts involved local government officials, regulatory agencies, property owners, citizens, and business owners. On September 17, 2015 and February 25, 2016, Public Information Meetings were held to present the project to the public and collect public input. The public involvement program conducted as part of the project solicited input from potentially affected minority and low-income populations as well as other interested parties. During this process, the public had opportunities to view and comment on all of the alternatives being considered. Thus, low-income and minority residents had opportunities to provide input for consideration by the project's decision-makers. Additional details regarding public involvement are included in Chapter 4 of this document. No low-income or minority populations, or minority businesses owners were identified or came forth during the public involvement process. Additionally, no requests were made for materials in other languages beside English, and there were no requests for the use of an interpreter. During the EA public comment period, a hearing will be held to solicit input from the public regarding the project and its potential impacts.

Therefore, it is unlikely the Preferred Alternative would result in disproportionate adverse effects to any minority or low-income populations.

While there are no specific environmental justice adverse impacts anticipated with the Preferred Alternative, in accordance with Executive Order 12898 and Departmental Order 5610.2(a), Actions to



Address Environmental Justice in Minority Populations and Low-Income Populations, a continuing effort will be made to identify minority or low-income populations and any adverse impacts to these populations during the Public Hearing for the EA, a Public Information Meeting prior to construction, and construction activities. If potential impacts are identified, every effort will be made to involve impacted groups in the project development process and to avoid or mitigate impacts in accordance with Executive Order 12898 and Departmental Order 5610.2(a).

### **3.7 Economic Conditions**

#### **3.7.1 Existing Conditions**

The City's economy is heavily influenced by NMU and the existing MGH. Other important sectors contributing to economic activity are mining and lumber operations and service based businesses. As noted in the Land Use section of this chapter, there are commercial and industrial land uses within the project area, and all of these contribute to local economic activity. Within the project area, there is a cluster of commercial buildings located in the southeast quadrant of the US-41 and Grove Street/7<sup>th</sup> Street intersection and near the McClellan Avenue and W. Baraga Avenue intersection.

Economic activity is influenced by the existing transportation system. Businesses that can be easily accessed have a competitive advantage over similar establishments that are more difficult to access. As a result, access conditions influence business revenue, which in turn affects property values and tax revenue. Currently, access to most businesses within the project area is reasonably good. The Land Use section of this chapter also describes those locations where future development is most likely considering existing access conditions, local land use regulations, and private development plans. Development at these locations would increase economic activity within and close to the project area.

#### **3.7.2 Environmental Consequences**

##### **3.7.2.1 No Build Alternative**

Construction of the hospital would result in a significant relocation of one of the City's major employers. This would result in substantial changes to the economic conditions and fundamental economic characteristics of the project area, providing a significant source of employment within the project area.

Because traffic congestion would increase under the No Build Alternative, access to project area businesses could become more difficult during peak traffic hours. This could result in slightly less economic activity than would otherwise occur in the project area. Because economic activity and business revenue could be below their full potential, tax revenue and property values could also be below potential levels.

It is not possible to predict what impact this alternative would have upon residential and business property values. Property values within the project area will depend upon market conditions, zoning ordinances, and parcel-specific building conditions.

##### **3.7.2.2 Preferred Alternative**

The Preferred Alternative would not directly result in substantial changes to economic conditions because it would not change the fundamental economic characteristics in the project area. By supporting development that is planned the Preferred Alternative would provide enhanced economic



opportunities for the area. Based on this information, the Preferred Alternative would help support and enhance business activity and employment within the project area.

It is not possible to predict what impact this alternative would have upon residential and business property values. While parcels adjacent to project area roads could decrease in value due to the proximity of the improved roadway, it is also possible that these parcels could increase in value because of reduced congestion and the new hospital location. While these factors are important, it is more likely that property values will depend upon market conditions, zoning ordinances, and parcel-specific building conditions.

Most businesses in the project area would be temporarily impacted by construction activities. Economic impacts could include temporary congestion related to lane closures, detoured traffic (including potential customers), and inconvenient access for business owners, employees, and customers. Despite these impacts, access to all businesses would be maintained during construction. Because most of the details regarding construction will not be known until the design phase of this project, it is not possible to determine how long these temporary construction impacts will last.

### **3.8 Pedestrians, Bicyclists, & Transit**

#### **3.8.1 Existing Conditions**

Currently, there are sidewalks along all the local streets within the project area except for W. Baraga Avenue. Sidewalks are provided along McClellan Avenue. No non-motorized facilities or pedestrian crossings exist along US-41. On-street bike lanes are provided along W. Baraga Avenue from McClellan Avenue to the westerly MSC driveway. No other on-street bike lanes exist within the project area. Currently, a multi-use pathway travels through the project area just north of the proposed hospital site from 7<sup>th</sup> Street to McClellan Avenue, and also along McClellan Avenue from Washington Street to W. Baraga Avenue.

Currently, Marq-Tran has a transit route within the project area along 7<sup>th</sup> Street, from Washington Street to Fisher Street.

Land uses within the project area have historically been oriented towards automobile traffic. These land uses include transportation related commercial, residential neighborhoods, and light industrial operations. Currently, walkers and bicyclists use the sidewalk system along the local roadways.

#### **3.8.2 Environmental Consequences**

##### **3.8.2.1 No Build Alternative**

Under the No Build Alternative, the existing sidewalk system would remain in the project area, and no non-motorized facilities or pedestrian crossings would exist along US-41. When considered in conjunction with projected traffic congestion, pedestrian and bicycle opportunities would be limited in the project area. Future traffic congestion associated with the No Build Alternative may reduce the efficiency of future public transit in the project area.

##### **3.8.2.2 Preferred Alternative**

The Preferred Alternative would provide a five-foot wide on-street bike lane on both sides of W. Baraga Avenue and a five-foot sidewalk on the north side of this road. The Preferred Alternative would improve



the environment for non-motorized traffic by including these sidewalks and bicycle lanes along W. Baraga Avenue. With a roundabout included as part of the Preferred Alternative at the US-41 and Grove Street/7<sup>th</sup> Street intersection, the intersection would be designed for and allow the safe movement of both bicycles and pedestrians across US-41, through the use of ADA compliant pedestrian crosswalks. The roundabout splitter islands will improve non-motorized crossings of US-41 by providing a pedestrian refuge.

Currently, Marq-Tran has a transit route within the project area along 7<sup>th</sup> Street, from Washington Street to Fisher Street. No future transit routes are currently planned within the project area. If in the future Marq-Tran considers or develops a new route within the study area or to access the hospital, the Preferred Alternative can accommodate this route and related facilities.

## **3.9 Air Quality**

### **3.9.1 Existing Conditions**

The Clean Air Act Amendments (CAAA) of 1990 require the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The CAAA established two types of standards: Primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children and the elderly; and secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The EPA has set NAAQS for six common air pollutants, which are called “criteria” pollutants. These six pollutants are lead (Pb), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>). Maintenance and monitoring of these pollutants help to ensure that the air quality levels conform to the NAAQS. The entire Upper Peninsula is in attainment for all NAAQS criteria pollutants.

In addition to the criteria air pollutants for which there are NAAQS, EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries). Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the CAAA. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

Controlling air toxic emissions became a national priority with the passage of the CAAA, whereby Congress mandated that the EPA regulate air toxics, also known as hazardous air pollutants. The EPA is the lead Federal Agency for administering the CAA and has certain responsibilities regarding the health effects of MSATs. The EPA has assessed the expansive list of air toxics in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate



matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The above-noted 2007 EPA rule was issued under the authority in Section 202 of the CAA. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline program, its national low emission vehicle standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. The EPA rule also requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Between 1999 and 2050, even with FHWA projects that produce a 102 percent increase in vehicle miles traveled (VMT), these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 83 percent. As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs.

### **3.9.2 Environmental Consequences**

#### **3.9.2.1 No Build Alternative**

The No Build Alternative would not increase the capacity of the roadway but would increase traffic volumes. The No Build Alternative would result in increased delays and traffic congestion throughout the project area. Due to the additional vehicle delays and congestion, the No Build Alternative could result in negative local air quality impacts.

#### **3.9.2.2 Preferred Alternative**

As noted above, the project area is in attainment for CO and PM<sub>2.5</sub>. Therefore, a quantitative hot-spot analysis is not required as part of project-level conformity.

As shown in Chapter 2, the Preferred Alternative would reduce delays and associated emissions when compared to the No Build Alternative. The Preferred Alternative will ensure smoother flow of traffic, in turn causing less idling and quick accelerations of vehicles. The implementation of the Preferred Alternative will improve the LOS and will allow vehicles to travel at a more constant pace. This will reduce vehicular idle time which is when gasoline and diesel engines are least efficient at burning all elements of the fuel. Traffic volumes and vehicle miles traveled are not expected to significantly increase as a result of the Preferred Alternative.

Traffic data indicates that approximately three percent of the vehicles within the project area are medium trucks, heavy trucks, or buses that typically would have diesel engines. This is important information as the FHWA has found that continued concentration and increase in diesel engines is an indicator of study areas that may have particulate matter emissions that exceed air quality standards. Based on the vehicle projections for this project, the percentage of diesel engines moving through the study area in 2034 is expected to remain similar to existing conditions.

The Preferred Alternative will allow vehicles to flow at a relatively constant speed. In addition, less idle time for all vehicles at the intersections will assist in improving air quality in the study area. Therefore, it is anticipated that there will not be substantial increases in CO or PM<sub>2.5</sub> in the study area.

The FHWA has developed a tiered approach with three categories for analyzing MSAT's in NEPA documents, depending on specific project circumstances:



1. No analysis needed for projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

The Marquette Hospital Relocation project falls under Category 2 - Projects with Low Potential MSAT Effect. The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. This category covers the majority of highway projects. Examples of these types of projects are minor widening projects; new interchanges, replacing a signalized intersection on a surface street; or projects where design year traffic is projected to be less than 140,000 to 150,000 AADT. The total AADT within the project area is well below these volumes.

Emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional left turn lanes contemplated as part of the Preferred Alternative will have the effect of moving some traffic closer to nearby homes. Therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be slightly higher under the Preferred Alternative than the No Build Alternative. However, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a roadway is widened, the localized level of MSAT emissions for the Preferred Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

### **3.9.2.3 Construction impacts**

Construction activities associated with the Preferred Alternative could cause short-term, localized impacts to air quality within the project area. A temporary increase in vehicle emissions is expected as a result of heavy equipment activity, hauling materials, and idling vehicles. Additionally, fugitive dust would be generated through construction activities such as excavation, heavy equipment operation, and other traffic activity. Fugitive dust emissions would vary depending on the level of activity, specific construction techniques, soil characteristics, and weather conditions.

All construction contractors that work on this project will be required to comply with relevant Federal, state, and local laws governing the control of air pollution. Contractors will also be responsible for adequate dust control measures to protect public health and welfare. All bituminous plants, Portland cement concrete proportioning plants, and crushers must meet the requirements of Part 55 of NREPA. Portable bituminous or concrete plants will also be required to obtain permits from the MDEQ. These requirements will assure that air quality impacts are minimized during construction.



## 3.10 Noise Analysis

### 3.10.1 Background Information

Traffic noise studies for road projects in Michigan are performed in accordance with 23 Code of Federal Regulations 772 (July 13, 2010), FHWA's *Highway Traffic: Analysis and Abatement Guidance* (January 2011) and MDOT's *Noise Analysis and Abatement Handbook* (dated July 13, 2011). There are six main steps comprising traffic noise studies. These are: (1) identify noise sensitive receivers, (2) determine existing ambient peak noise levels, (3) predict future peak noise levels, (4) identify traffic noise impacts, (5) evaluate mitigation measures for sensitive receivers where traffic noise impacts occur, and (6) public involvement. For more detailed information see the *Traffic Noise Study for the Marquette Hospital Transportation Improvements Project* (DLZ 2016).

According to FHWA and MDOT noise policies, a traffic noise "impact" occurs when either of the following conditions occurs at a receiver:

- The future predicted  $L_{eq}(h)$  noise level approaches (is within 1 dB(A)) or exceeds the Noise Abatement Criteria (NAC) shown in Table 14.
- The future predicted  $L_{eq}(h)$  noise level substantially exceeds (by 10 or more dB(A)) the existing  $L_{eq}(h)$  noise level.

The unit of measurement used in sound measurement is the decibel (dB), and the unit of measurement used for traffic noise is the dB on the A-weighted scale dB(A). The A-weighted scale most closely represents the response of the human ear to sound. The measurement that is most commonly used to express dB(A) levels for traffic noise is the Hourly Equivalent Sound Level [ $L_{eq}(h)$ ]. The  $L_{eq}(h)$  describes the cumulative exposure experienced at a location from all noise-producing events over a 1-hour period.

### 3.10.2 Noise-Sensitive Receivers and Existing Noise Conditions

Noise-sensitive receivers are those locations, within 500 feet of the proposed roadway edge, where activities occur that could be affected by increased traffic noise levels (e.g., residences, motels, churches, schools, parks, libraries, etc.). Noise-sensitive receivers (i.e., residential homes) are located throughout the project area. Figure 3 shows the locations of these noise sensitive receivers.

In order to determine existing sound levels, noise measurements were taken in the study area at four representative monitoring locations or Common Noise Environments (CNEs). The CNEs were selected to best represent the existing sensitive noise receivers. Noise measurements were taken using a handheld Quest 2900 Sound Level Meter during the AM and PM peak traffic hours. See Figure 3 for noise monitoring locations.

The existing condition predicted noise levels were generated by TNM 2.5 and are summarized in Table 15. As shown in Table 15, the existing predicted  $L_{eq}$  noise levels within the study area ranged from 45.2 dB(A) to 64.3 dB(A) during the AM peak hour and from 47.4 dB(A) to 66.2 dB(A) during the PM peak hour. There is one receptor location that has an existing condition predicted noise level that approaches or exceeds the NAC for the Activity Category B/C Classification. This noise impact occurs at receptor 104 in the PM peak hour. See Figure 3 for receptor locations.



**Table 14. FHWA Noise Abatement Criteria.**

Activity Category	L <sub>eq</sub> (h)	Description of Activity Category
A	57 dB(A) (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dB(A) (exterior)	Residential, including multifamily units
C	67 dB(A) (exterior)	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, television studios, trails, and trail crossings.
D	52 dB(A) (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 dB(A) (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, and warehousing).
G	---	Undeveloped lands that are not permitted

Source: U.S. Department of Transportation, FHWA *Highway Noise Control Standards and Procedures*, 23 CFR Part 772.

**3.10.3 Environmental Consequences**

Future L<sub>eq</sub>(h) noise levels were predicted for the design year (2038) using the TNM2.5<sup>®</sup> software. This software takes into account projected traffic volumes, vehicle types, vehicle speeds, roadway locations, terrain surface, and noise sensitive receiver locations to calculate future traffic-generated noise levels. Noise receptors in the model were placed at outdoor activity areas for each receiver. Noise levels were predicted for each sensitive receiver using the worst traffic conditions likely to occur on a regular basis during the design year (during either the AM or PM peak traffic hour). Future traffic-generated noise levels were predicted using conceptual designs for the Preferred Alternative and the No Build Alternative.

**3.10.3.1 No Build Alternative**

Under the No Build Condition (year 2038), the noise levels within the study area ranged from 45.9 dB(A) to 65.6 dB(A) for the AM peak hour and from 48.9 dB(A) to 68.6 dB(A) for the PM peak hour. Under the No Build Condition, noise levels increased by 0.6 to 7.3 dB(A), relative to existing predicted levels. A three dB(A) change is considered the minimum change that can be distinguished by the human ear. There are four receptor locations (30, 32, 33, and, 104) which have a predicted noise level in the PM peak hour that approaches or exceeds the NAC for the Activity Category B/C Classification. These are considered noise impacts. See Table 15 for the No Build noise level calculations and Figure 3 for receiver locations.



Relocation of the hospital could result in emergency response helicopters flying over residential neighborhoods. In 2015, the hospital experienced 175 total flights. Total flights are expected to increase by twenty percent at the proposed hospital site. Helicopters will approach the hospital over Lake Superior then travel over the Washington Street or US-41 corridors as they approach the Helistop. Helicopters will depart to the west over the Washington Street corridor. The proposed Helistop has been inspected and approved by the MDOT – Michigan Aeronautics Commission. The Federal Aviation Administrative (FAA) also inspected and approved the site in August 2015. Additionally, the Helistop was reviewed and approved as part of the City’s site plan review process, which included public input.

Overall, the proposed hospital site would result in fewer helicopter flights over residential areas when compared to the existing hospital site. The existing hospital is located in the central portion of the City, requiring flights over several residential areas. The proposed hospital site provides better flight paths, allowing helicopters to travel over Lake Superior and road corridors with less dense residential development. As a result, only one residential area would be flown over for a typical approach or departure. The approved flight protocols require helicopters to maintain a minimum elevation of 500 feet above ground level when approaching the hospital.

Additional noise level increases, as a result of the No Build Alternative, would occur from emergency medical service (EMS) vehicles being re-routed from the existing hospital to the new proposed site. The No Build Alternative will increase ground ambulance volumes within the project area. Ground ambulance EMS agencies transported an estimated 6,500 patients to the existing hospital in 2015. All emergency vehicles, (EMS, law enforcement, and fire) are required to follow Michigan Motor Vehicle Code Section 257.603 related to EMS transportation and use of sirens/warning devices. EMS agencies are required to follow the State of Michigan “Medical Priority Response & Transport” protocol (January 2013) regarding use of lights and sirens both en route to an emergency and while transporting to the hospital. The use of lights/sirens when inbound to the hospital is limited to Priority 1 patients.

### **3.10.3.2 Preferred Alternative**

Under the Preferred Alternative (year 2038), the noise levels within the study area would range from 48.5 dB(A) to 63.7 dB(A) for the AM peak hour and from 50.7 dB(A) to 66.8 dB(A) for the PM peak hour. Under the Preferred Alternative, noise levels increased by 0.2 dB(A) (receiver 90) to 9.6 dB(A) (receiver 76), relative to existing predicted levels. Additionally, receptors 5, 6, 7, 8, 9, 67, 68, 69, 70, 90, and 104 are predicted to experience a decrease in noise level (relative to existing conditions) during the AM peak hour as a result of some roadways being shifted away from the receptors and/or reduced vehicle speeds.

The Preferred Alternative would result in one noise impact at receiver 104 during the PM peak hour (predicted noise level of 66.8 dB(A)). Receiver 104 is located on the west side of McClellan Avenue and represents the multi-use pathway. The Preferred Alternative would result in a 0.6 dB(A) increase at receiver 104 during the PM peak hour, relative to the existing noise level. A three dB(A) sound level increase is barely detectable by the human ear. Therefore, with an increase of 0.6 dB(A) at this receiver, the noise level would be perceived the same as the existing condition.

See Table 15 for the Preferred Alternative noise calculations and Figure 3 for receiver locations.

Regarding noise from helicopters, the Preferred Alternative would have the same situation as noted above for the No Build Alternative.



With implementation of the Preferred Alternative, emergency vehicle access would become available between US-41 and the hospital via the new hospital drive. This would reduce the number of emergency vehicles traversing the surrounding street network and residential areas. As a result, there would be a decrease (relative to the No Build Alternative) in noise levels along the local street network and the adjacent neighborhoods.

### **3.10.3.3 Mitigation**

Potential mitigation/abatement measures were evaluated for the impacted receiver 104 to determine if mitigation might be feasible and reasonable. In accordance with the MDOT Handbook, a feasible noise barrier is one that has no construction impediments, meets safety requirements for the traveling public, and provides at least a 5 dB(A) noise reduction at 75% of the impacted receptors.

A barrier at this location would need to be located between the road curblineline and the multi-use pathway. It was determined that a noise barrier would not meet the applicable definitions of "feasibility" for the following reasons:

- A barrier cannot be physically constructed without significant property acquisition, possibly requiring acquisition of the entire Walgreen's drug store site
- At a minimum, construction of the barrier would eliminate parking spaces and restrict vehicular travel within the Walgreen's site to such a degree that site circulation could not operate properly.
- To be effective, the wall would be within the intersection clear sight area for W. Baraga Avenue, creating a potential safety problem.
- The barrier would impact utilities.
- The barrier would be located between McClellan Avenue and the multi-use pathway, resulting in the multi-use pathway being on the back side of barrier, separated from the road ROW. This is would make normal multi-use pathway maintenance and access considerably more difficult.
- A barrier would occupy the location where plowed snow is stored in winter. This is a substantial problem due to the heavy snowfall amounts received in Marquette.

Therefore, the results of the barrier analysis indicated that it is not feasible to construct a noise barrier within this area.



**Table 15. Calculated Noise Levels**

Receiver ID <sup>1</sup>	Existing Sound Levels <sup>2</sup>		Predicted Sound Levels <sup>2</sup>							
	Predicted		No Build		Difference <sup>3</sup>		Preferred Alternative		Difference <sup>3</sup>	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	49.0	51.4	52.5	56.3	3.5	4.9	52.3	55.5	3.3	4.1
2	49.7	51.5	52.8	56.4	3.1	4.9	52.5	55.6	2.8	4.1
3	51.6	51.8	54.0	56.8	2.4	5.0	54.3	57.4	2.7	5.6
4	59.6	54.9	60.7	60.9	1.1	6.0	59.9	61.4	0.3	6.5
5	60.9	55.6	61.9	61.9	1.0	6.3	60.7	62.2	-0.2	6.6
6	60.7	55.7	61.9	62.1	1.2	6.4	60.5	62.0	-0.2	6.3
7	60.2	56.4	61.8	62.4	1.6	6.0	60.2	61.8	0.0	5.4
8	60.8	59.4	63.7	64.7	2.9	5.3	60.7	62.9	-0.1	3.5
9	58.3	59.6	62.7	64.7	4.4	5.1	58.3	61.3	0.0	1.7
10	56.9	58.6	61.5	63.8	4.6	5.2	57.0	60.1	0.1	1.5
11	57.1	59.1	62.1	64.4	5.0	5.3	58.9	60.8	1.8	1.7
12	48.6	51.1	50.8	55.7	2.2	4.6	50.8	55.3	2.2	4.2
13	49.0	51.1	51.3	55.6	2.3	4.5	51.1	55.3	2.1	4.2
14	50.5	52.0	52.6	56.7	2.1	4.7	52.3	56.4	1.8	4.4
15	51.6	52.5	53.5	57.2	1.9	4.7	53.3	57.0	1.7	4.5
16	52.7	52.9	54.4	57.5	1.7	4.6	54.5	57.6	1.8	4.7
17	55.2	54.5	56.6	58.9	1.4	4.4	56.8	59.2	1.6	4.7
18	59.2	57.1	60.3	61.2	1.1	4.1	60.2	61.4	1.0	4.3
19	59.8	56.9	60.8	60.9	1.0	4.0	60.5	61.0	0.7	4.1
20	59.8	57.3	61.0	61.3	1.2	4.0	60.4	61.1	0.6	3.8
21	60.5	59.4	62.9	63.3	2.4	3.9	61.3	62.5	0.8	3.1
22	55.4	60.2	62.0	62.9	6.6	2.7	58.5	62.5	3.1	2.3
23	54.5	59.9	61.4	62.5	6.9	2.6	57.8	62.1	3.3	2.2
24	53.7	59.5	60.8	61.9	7.1	2.4	57.1	61.6	3.4	2.1
25	52.1	58.0	59.2	60.4	7.1	2.4	55.6	60.1	3.5	2.1
26	51.6	57.6	58.9	60.0	7.3	2.4	55.2	59.7	3.6	2.1
27	55.4	58.7	61.2	65.3	5.8	6.6	58.5	61.6	3.1	2.9
28	55.3	58.5	60.9	65.0	5.6	6.5	57.3	61.0	2.0	2.5
29	55.6	58.6	61.0	65.0	5.4	6.4	56.9	60.9	1.3	2.3
30	57.2	60.0	62.6	66.3	5.4	6.3	57.9	62.1	0.7	2.1
31	56.5	59.2	61.8	65.5	5.3	6.3	57.3	61.4	0.8	2.2
32	57.8	60.4	63.1	66.6	5.3	6.2	58.4	62.5	0.6	2.1

Impacted Receiver

1 Receptor locations are shown on Figure 2

2 All Sound Levels are L<sub>(eq)</sub>

3 Compared to Existing Conditions



Receiver ID <sup>1</sup>	Existing Sound Levels <sup>2</sup>		Predicted Sound Levels <sup>2</sup>							
	Predicted		No Build		Difference <sup>3</sup>		Preferred Alternative		Difference <sup>3</sup>	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
33	60.8	62.7	65.6	68.6	4.8	5.9	61.4	64.9	0.6	2.2
34	57.8	58.3	60.9	63.1	3.1	4.8	58.4	60.0	0.6	1.7
35	55.6	56.3	58.7	61.0	3.1	4.7	56.7	58.2	1.1	1.9
36	56.8	57.2	59.6	61.9	2.8	4.7	57.6	58.9	0.8	1.7
37	54.8	55.4	57.6	59.9	2.8	4.5	56.2	57.4	1.4	2.0
38	55.6	56.1	58.3	60.7	2.7	4.6	56.9	58.0	1.3	1.9
39	56.0	56.5	58.7	61.1	2.7	4.6	57.4	58.4	1.4	1.9
40	56.8	57.1	59.4	61.6	2.6	4.5	58.0	59.0	1.2	1.9
41	56.8	57.3	59.4	61.6	2.6	4.3	58.4	59.4	1.6	2.1
42	57.2	57.8	59.7	61.9	2.5	4.1	59.2	60.1	2.0	2.3
43	56.6	57.6	58.8	61.4	2.2	3.8	60.3	61.2	3.7	3.6
44	56.9	57.8	59.0	61.5	2.1	3.7	62.8	63.5	5.9	5.7
45	49.9	50.9	51.1	53.0	1.2	2.1	55.1	55.6	5.2	4.7
46	49.8	55.4	56.3	57.8	6.5	2.4	52.9	57.6	3.1	2.2
47	50.9	56.7	57.6	59.1	6.7	2.4	53.9	58.9	3.0	2.2
48	51.8	57.8	58.8	60.2	7.0	2.4	54.9	59.9	3.1	2.1
49	51.9	57.3	58.4	59.9	6.5	2.6	54.7	59.5	2.8	2.2
50	53.4	59.0	60.2	61.5	6.8	2.5	56.2	61.1	2.8	2.1
51	54.2	58.9	60.6	61.7	6.4	2.8	56.7	61.1	2.5	2.2
52	55.6	59.1	61.4	62.3	5.8	3.2	57.6	61.2	2.0	2.1
53	58.9	59.3	62.7	63.5	3.8	4.2	60.1	61.3	1.2	2.0
54	58.1	57.6	61.1	61.8	3.0	4.2	59.5	59.5	1.4	1.9
55	58.1	57.3	60.8	61.5	2.7	4.2	59.4	59.0	1.3	1.7
56	55.2	54.7	57.8	58.7	2.6	4.0	56.7	56.5	1.5	1.8
57	51.3	52.1	53.7	55.5	2.4	3.4	53.6	54.5	2.3	2.4
58	50.5	51.7	52.8	54.8	2.3	3.1	52.8	54.0	2.3	2.3
59	57.9	57.1	60.4	61.1	2.5	4.0	59.3	58.6	1.4	1.5
60	53.0	53.5	55.2	56.6	2.2	3.1	55.3	55.8	2.3	2.3
61	51.6	52.8	53.6	55.6	2.0	2.8	53.9	54.9	2.3	2.1
62	56.7	56.6	58.7	59.3	2.0	2.7	58.1	58.3	1.4	1.7
63	54.1	55.4	55.6	57.4	1.5	2.0	55.9	56.8	1.8	1.4
64	53.7	55.3	55.0	57.1	1.3	1.8	55.6	56.7	1.9	1.4
65	55.4	56.2	56.4	57.9	1.0	1.7	59.9	59.8	4.5	3.6

**Impacted Receiver**

1 Receptor locations are shown on Figure 2

2 All Sound Levels are L<sub>(eq)</sub>

3 Compared to Existing Conditions



Receiver ID <sup>1</sup>	Existing Sound Levels <sup>2</sup>		Predicted Sound Levels <sup>2</sup>							
	Predicted		No Build		Difference <sup>3</sup>		Preferred Alternative		Difference <sup>3</sup>	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
66	57.0	58.6	58.2	60.4	1.2	1.8	62.2	62.6	5.2	4.0
67	57.2	58.6	58.0	59.9	0.8	1.3	57.9	59.9	0.7	1.3
68	60.4	61.7	61.3	63.1	0.9	1.4	60.7	62.8	0.3	1.1
69	58.3	59.5	59.1	60.7	0.8	1.2	58.4	60.2	0.1	0.7
70	55.9	56.8	56.7	58.0	0.8	1.2	56.4	57.8	0.5	1.0
71	51.3	52.2	52.3	53.5	1.0	1.3	53.3	54.4	2.0	2.2
72	50.3	51.1	51.4	52.6	1.1	1.5	52.6	53.5	2.3	2.4
73	53.2	54.1	54.2	55.5	1.0	1.4	54.5	55.4	1.3	1.3
74	50.5	50.7	51.6	52.4	1.1	1.7	57.6	59.3	7.1	8.6
75	52.1	52.2	53.2	53.8	1.1	1.6	59.9	61.7	7.8	9.5
76	53.1	53.2	54.1	54.7	1.0	1.5	61.0	62.8	7.9	9.6
77	53.7	53.9	54.7	55.3	1.0	1.4	61.4	63.1	7.7	9.2
78	53.0	54.4	54.0	55.5	1.0	1.1	57.8	58.7	4.8	4.3
79	50.9	52.6	51.8	53.7	0.9	1.1	56.2	57.0	5.3	4.4
80	50.9	52.8	52.0	54.4	1.1	1.6	54.1	55.5	3.2	2.7
81	49.6	51.5	50.8	53.2	1.2	1.7	52.8	54.3	3.2	2.8
82	48.2	49.9	49.4	51.8	1.2	1.9	51.5	53.2	3.3	3.3
83	57.1	59.5	57.8	60.2	0.7	0.7	60.2	61.3	3.1	1.8
84	53.4	55.4	54.3	56.6	0.9	1.2	56.3	57.3	2.9	1.9
85	52.5	54.4	53.5	55.7	1.0	1.3	55.0	56.3	2.5	1.9
86	51.7	53.7	52.7	55.1	1.0	1.4	54.1	55.6	2.4	1.9
87	51.3	53.3	52.3	55.0	1.0	1.7	53.8	55.7	2.5	2.4
88	49.9	51.8	50.9	53.8	1.0	2.0	53.1	55.1	3.2	3.3
89	49.0	50.8	49.9	52.6	0.9	1.8	52.3	54.2	3.3	3.4
90	54.1	55.9	54.9	56.9	0.8	1.0	54.7	56.1	0.6	0.2
91	54.0	55.7	54.9	56.9	0.9	1.2	55.2	57.1	1.2	1.4
92	53.8	55.9	54.6	57.4	0.8	1.5	56.6	58.6	2.8	2.7
93	53.7	56.0	54.5	57.4	0.8	1.4	56.8	58.8	3.1	2.8
94	53.2	55.5	53.8	56.8	0.6	1.3	56.6	58.7	3.4	3.2
95	52.4	54.8	53.0	56.0	0.6	1.2	55.9	58.1	3.5	3.3
96	51.6	54.0	52.2	55.2	0.6	1.2	55.5	57.7	3.9	3.7
97	52.0	54.5	52.6	55.7	0.6	1.2	56.4	58.6	4.4	4.1

**Impacted Receiver**

1 Receptor locations are shown on Figure 2

2 All Sound Levels are L<sub>(eq)</sub>

3 Compared to Existing Conditions



Receiver ID <sup>1</sup>	Existing Sound Levels <sup>2</sup>		Predicted Sound Levels <sup>2</sup>							
	Predicted		No Build		Difference <sup>3</sup>		Preferred Alternative		Difference <sup>3</sup>	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
98	50.2	52.7	50.9	53.8	0.7	1.1	53.7	55.8	3.5	3.1
99	48.6	51.0	49.3	52.2	0.7	1.2	52.0	54.1	3.4	3.1
100	46.5	48.8	47.2	50.1	0.7	1.3	50.0	52.0	3.5	3.2
101	45.3	47.5	46.0	49.0	0.7	1.5	48.7	50.8	3.4	3.3
102	53.0	54.0	54.0	55.7	1.0	1.7	55.4	56.0	2.4	2.0
103	54.5	55.4	55.5	56.8	1.0	1.4	58.7	60.0	4.2	4.6
104	64.3	66.2	65.2	68.0	0.9	1.8	63.7	66.8	-0.6	0.6
105	52.7	55.6	54.0	58.7	1.3	3.1	55.0	57.4	2.3	1.8
106	52.7	52.3	54.3	55.7	1.6	3.4	54.3	55.9	1.6	3.6

**Impacted Receiver**

1 Receptor locations are shown on Figure 2

2 All Sound Levels are L<sub>(eq)</sub>

3 Compared to Existing Conditions

### 3.11 Water Resources

#### 3.11.1 Existing Conditions

##### 3.11.1.1 Surface Water

The project area is located within the Whetstone Brook watershed which is a sub-watershed of the Lake Superior watershed. The Whetstone Brook watershed is an urban watershed located in the City of Marquette and Marquette Township. The Whetstone Brook watershed is approximately 1,386 acres (2.2 square miles).

Whetstone Brook is a perennial stream, with headwaters to the west of the City limits. From the project area, it flows east approximately one half mile into Lake Superior. Several unnamed tributaries feed the Whetstone Brook to the west and south of the project area. The brook is classified as a first order coldwater trout stream. Previous studies by NMU have collected brown trout and brook trout within this brook. The hydrology is provided primarily by base flow from groundwater and supplemented by direct precipitation and surface water runoff.

As part of the *Whetstone Brook and Orianna Creek Watershed Management Plan* (Beckett and Raeder Inc., 2002), the section of the brook within the project area was designated as “fair” (moderately impaired). The management plan noted that several key problems exist within the Whetstone Brook watershed. These included water quality issues, non-point and point source pollution, increased peak quantity and peak water velocity, channel and bank erosion, culvert restrictions, channelization, high sedimentation levels, increased water temperature, and diminished habitat (lack of bank vegetation/degraded stream beds).. Due to its location within the City of Marquette and Marquette Township, numerous sections of the brook have been routed through culverts and under roadways and parking lots. Currently, the brook is controlled by a flood control constriction structure and flood basin between US-41 and W. Baraga Drive. The brook also runs through a culvert under 7<sup>th</sup> Street.



### **3.11.1.2 Groundwater**

Water that is stored in and slowly filtered through geologic formations is considered to be groundwater. A geologic formation that contains sufficient ground water to supply wells, lakes, springs, streams and/or wetlands is called an aquifer. A land surface which readily permits water to percolate downward into an aquifer is referred to as a groundwater recharge area. The project area does not contain any municipal wells/aquifers, Sole Source Aquifers or Critical Aquifer Protection Areas as defined by the EPA under the authority of the Safe Drinking Water Act. As noted in the *Baseline Assessment City of Marquette West Properties Project* (TriMedia 2002), results from five groundwater samples at the proposed hospital exceeded the applicable *Residential Part 201 Generic Cleanup Criteria* and/or *Residential Drinking Water Criteria* (i.e., groundwater contamination).

### **3.11.1.3 Floodplains**

National Flood Insurance Program (NFIP) Flood Insurance Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA) identify flood hazard zones (Zone A) along Whetstone Brook (See Figure 3). The flood hazard areas identified on the FIRM are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood.

## **3.11.2 Environmental Consequences**

### **3.11.2.1 Surface Water**

#### **3.11.2.1.1 No Build Alternative**

The No Build Alternative would not result in negative impacts to water quality in the project area other than that which is currently occurring via introduction of road salt and sediment. The hospital site plan has been approved by the City and meets all of the City's storm water requirements, including various mitigation measures.

#### **3.11.2.1.2 Preferred Alternative**

The Preferred Alternative would result in direct impacts to Whetstone Brook. The Preferred Alternative would require the three culverts associated with the flood control basin to be extended by approximately 145 feet which results in a new total length of 200 feet for the construction of the hospital drive to US-41. Additionally, a new culvert would need to be constructed under the hospital drive for the Whetstone Creek. This new culvert would be approximately 200 feet in length. The culvert under 7<sup>th</sup> Street would also be extended by approximately 145 feet which will result in a new total length of 230 feet.

The culverts will be designed in accordance with all applicable MDOT standards and the City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design. Required hydraulic and hydrology studies will be conducted during the design phase of the project to determine proper the culvert size. All culverts will be three-sided, open bottom culverts.

The Preferred Alternative would include the use of water quality Best Management Practices (BMPs) to pre-treat stormwater before it enters receiving water bodies. During the design phase of the project detailed hydraulic studies will be conducted to determine which BMPs will be used to accommodate stormwater. All BMPs will be designed in accordance with the all applicable MDOT standards and the



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*City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design.*

Additionally, the Preferred Alternative would increase the amount of impervious surfaces within the project area which could indirectly impact the brook if mitigation measures are not implemented. However, as noted below, such impacts are unlikely since mitigation will be included.

### **3.11.2.1.3 Mitigation**

The Preferred Alternative stormwater system will be designed to meet all applicable MDOT standards and the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design*. All stormwater will be accommodated in the median or via the curb and gutter stormwater systems along the roadways. Location of the stormwater systems will be determined during the design phase of the project. The Preferred Alternative would include the use of water quality BMPs to pre-treat stormwater before it enters receiving bodies, and reduce stormwater flow. During the design phase of the project detailed hydraulic studies will be conducted to determine which BMPs will be used to accommodate stormwater. All BMPs will be designed in accordance with the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design*.

All culverts for would be designed to meet the requirements set forth in applicable regulations, permits, and the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design Systems*. Required hydraulic and hydrology studies will be conducted during the design phase of the project to determine proper culvert sizes.

### **3.11.2.2 Groundwater**

#### **3.11.2.2.1 No Build Alternative**

The No Build Alternative would not result in negative impacts to groundwater in the project area.

#### **3.11.2.2.2 Preferred Alternative**

The Preferred Alternative would not negatively affect groundwater in the project area. The Preferred Alternative would not require major excavations, alter existing drainage patterns, or create new potential pathways whereby contaminants could reach any aquifer.

#### **3.11.2.2.3 Mitigation**

In order to protect groundwater quality, all disturbed sewer lines will be addressed in accordance with City of Marquette and MDOT specifications that will be imposed upon the construction contractor. If abandoned water wells or septic systems are encountered during construction, they will be addressed in accordance with standard construction specifications. Beyond these items, the contractor will need to meet all other Michigan Department of Community Health (MDCH), local health department, and MDEQ requirements designed to protect groundwater quality.

### **3.11.2.3 Floodplains**

Executive Order 11988 and a number of supporting Federal regulations and guidelines address the issue of floodplains. These regulations and guidelines reduce the risk of property damage and injury as a result of flooding. Additionally, they are intended to protect natural floodplain benefits. In general, floodplain “encroachments” (placing fill material, culverts, bridge piers, etc. within a floodplain) must be avoided and minimized where practical. Where these impacts cannot be avoided, specific studies are



required to demonstrate that floodwater elevations would not be altered as a result of encroachments. Beyond these items, floodplain encroachments require a permit from the MDEQ.

### **3.11.2.3.1 No Build Alternative**

The No Build Alternative would not result in negative impacts to floodplains in the project area. All stormwater associated with the hospital will be retained on site and will result in a no net increase of water volume entering the existing flood control basin. Additionally, the hospital storm water system will not change the timing of water coming into the existing flood control basin.

### **3.11.2.3.2 Preferred Alternative**

The Preferred Alternative would result in impacts to approximately 0.34 acres of 100-year floodplains for Whetstone Brook. At the new hospital drive location, (See Figure 3) fill would be placed within the 100-year floodplain.

These floodplain impacts are regulated by MDEQ under Part 31 of NREPA as Whetstone Brook has an upstream drainage area of more than two square miles. During the design phase of the project, exact floodplain impacts will be calculated, and a hydraulic study will be conducted to assure that the project will not cause flooding problems (harmful interference with flood elevations) upstream or downstream from the project area. In addition, the City will comply with Parts 31 and 301 of NREPA and the related administrative rules.

The Preferred Alternative would also fill a portion of the stormwater/flood-control basin located between W. Baraga Avenue and US-41. Any fill placed in the basin would require a compensating cut to maintain the capacity of the basin. During the design phase of the project, detailed 3D modeling will be conducted to determine the amount of fill needed to construct the hospital drive through the basin and the corresponding compensating cut.

## **3.12 Wetlands**

### **3.12.1 Existing Conditions**

Michigan's wetlands are currently regulated under the jurisdiction of Part 303 of Michigan's NREPA (P.A. 451 of 1994, as amended). Unavoidable impacts to wetlands within the project area are subject to the requirements of this Public Act, Section 404 of the Clean Water Act, and Executive Order 11990, Protection of Wetlands. The Executive Order requires the avoidance of direct and indirect impacts to wetlands caused by construction activities that are Federally undertaken, financed, assisted, or approved. Where unavoidable impacts are present, an evaluation and mitigation for the impacts must be performed, regardless of size or regulatory status.

A field reconnaissance and wetland delineation was conducted by a wetland scientist in October 2015 to determine the presence and approximate boundaries of wetlands within the project area. The wetland delineation was based on the methodology described in the *Corps of Engineers Wetlands Delineation Manual* (United States Army Corps of Engineers (USACE) 1987),, and appropriate regional supplements (Northcentral and Northeast Supplement). Prior to the fieldwork, background information was reviewed to establish the probability and approximate location of wetlands in the project area. A general reconnaissance of the project area was completed to determine site conditions. The project area was then walked with the specific intent of delineating wetland boundaries and documenting conditions in each. Data stations were established at locations within the wetland areas to document soil



characteristics, evidence of wetland hydrology, and dominant vegetation. Dominant and sub-dominant vegetation species were identified for the wetlands and adjacent upland areas. Species dominance was noted for all vegetation strata (herbaceous, shrub/sapling, tree, and vine). The boundaries of the wetlands within the potential development areas of the project were delineated, flagged, and surveyed in the field using Global Positioning System (GPS) survey equipment with sub-meter accuracy. Each wetland was assigned a class following the *Classification of Wetlands and Deepwater Habitats of the United States System* (Cowardin et al. 1979). Additional information is available in the *Wetland Delineation Report for the Marquette Hospital Transportation Improvement Project* (DLZ April 2016) for more detailed information.

Additionally, the quality of each wetland was assessed and given a subjective quality rating of poor, fair, or good. The quality of each wetland was assessed based on the best professional judgment of the investigating wetland scientists and based on obvious visual conditions and diversity of functions and values within each wetland. Considerations affecting the quality evaluation included: hydrology, plant diversity, presence and quantity of exotic species, quality of wildlife habitat, stormwater treatment, flood storage, aesthetics, and proximity to other habitats.

Five wetlands were identified within the project area as part of the delineation conducted for the EA (Figure 3).

**Wetland A** is located on the south side of US-41 at the extreme west end of the project area. This wetland is approximately 0.19 acres in total area. The wetland would be classified as a Palustrine Forested (PFO)-Scrub/Shrub (PSS) wetland. A majority of the wetland is covered with woody vegetation, with portions having larger trees and some herbaceous understory. As the elevation changes towards the north, the vegetation transitions to include more shrubs and an area of mixed shrub and herbaceous vegetation. The wetland extends out of the project area to the south, with a defined stream channel from a larger wetland upstream providing a source of hydrology. Prevalent species in the wetland included black willow (*Salix nigra*, OBL), red maple (*Acer rubrum*, FAC), and Eastern arborvitae (*Thuja occidentalis*, FACW). Dominant shrubs/saplings include black willow and red maple. Herbaceous species included reed canary grass (*Phalaris arundinacea*, FACW), sensitive fern (*Onoclea sensibilis*, FACW), spotted touch-me-not (*Impatiens capensis*, FACW), ostrich fern (*Matteuccia struthiopteris*, FAC), and sedge (*Carex sp.*, varies).

**Wetland B** is located on the south side of US-41 approximately 600 feet east of Wetland A. This wetland is approximately 0.29 acres in total area. The wetland would be classified as a PFO/PSS wetland. A majority of the wetland is covered with woody vegetation, with portions having larger trees and some herbaceous understory. As the elevation changes towards the north, the vegetation transitions to include more shrubs and an area of mixed shrub and herbaceous vegetation. The wetland extends to the south, with a poorly defined channel eroded from a culvert discharge at the upper end providing a source of hydrology. Prevalent species in the wetland included red maple, Eastern arborvitae, speckled alder (*Alnus incana*, FACW), reed canary grass, sensitive fern, joe-pye weed (*Eutrochium maculatum*, FACW), fox sedge (*Carex vulpinoidea*, OBL), and ostrich fern.

**Wetland C** is a poorly defined ditch within the right-of-way of US-41 that exhibits wetland characteristics. This area was constructed for stormwater management purposes and deemed unregulated by Part 303 of NREPA and Section 404 of CWA.



**Wetland D** is located on the north side of US-41 east of Grove Street/ 7<sup>th</sup> Street. Wetland D is a riparian wetland adjacent to either side of Whetstone Brook. Whetstone Brook meets watercourse criteria by having a bed, bank, and repeated occurrence of water and therefore would be regulated as such and would be considered a watercourse to which wetlands would be contiguous to for regulatory purposes. This wetland is approximately 0.31 acres in total area, including the area of Whetstone Brook. The wetland would be classified as a PSS/Palustrine Emergent (PEM) wetland. A majority of the wetland is covered with herbaceous vegetation. Prevalent species in the wetland included black willow, Eastern cottonwood (*Populus deltoides*, FAC), red maple, highbush cranberry (*Viburnum opulus*, FACW), reed canary grass, sensitive fern, sedge, and joe-pye weed.

**Wetland E** is located on the south side of US-41 at the Altamont Street overpass, in the easternmost portion of the project area. This wetland is approximately 0.48 acres in total area. The wetland would be classified as a PFO/PEM wetland. The hydrology for this wetland is a combination of groundwater and direct precipitation. The southern portion of the wetland is forested, with the northern portion being herbaceous vegetation. Prevalent species in the wetland included Eastern arborvitae, red maple, black willow, speckled alder, reed canary grass, joe-pye weed, royal fern (*Osmunda spectabilis*, OBL), and cattail (*Typha sp.*, OBL).

In addition to the wetlands identified as part of the wetland delineation conducted by DLZ for the EA, two other regulated wetlands were identified within the project as part of previous studies. A letter from MDEQ to TriMedia Environmental & Engineering Services, LLC, dated June 15, 2015 (MDEQ File Number 14-52-0095-P), summarizes MDEQ's findings (see Appendix B). A number of potential wetlands were reviewed in the field and it was determined that only two (2) would require permits, with the other areas reviewed deemed to not meet criteria to be considered wetlands or be stormwater management facilities constructed for that purpose. The characteristics of the wetlands deemed to require permitting if impacted, referred to as W2 and W3 in the MDEQ letter (described herein as Wetland F and Wetland G, respectively) are included below and based solely on information contained in MDEQ's letter and cursory visual observation by DLZ.

**Wetland F** is located on the south side of W. Baraga Avenue north of US-41. Wetland F is another riparian wetland adjacent to either side of Whetstone Brook and is approximately 3.25 acres in total area. Wetland F is connected via culverts to both Wetland G (upstream) and Wetland D (downstream). Dominant vegetation within Wetland F is very similar to these adjacent wetlands, with areas of heavy forest canopy and other areas with herbaceous and scrub-shrub vegetation.

**Wetland G** is located on the north side of W. Baraga Avenue immediately west of the current MSC. This wetland is approximately 0.50 acres in total area and is a riparian wetland adjacent to either side of Whetstone Brook. While the vegetation present is very similar to that found in Wetland D, the canopy cover is more developed and dominated by larger trees.

The wetlands in the project area are rather limited in size but perform a variety of functions. The functions of each wetland were assigned based on the best professional judgment of the wetland scientists who performed the inventory. These functions include the following: floodwater storage (reducing flood volumes and peak flood flows), sediment/toxicant retention (keeping sediments and contaminants within the wetland), sediment stabilization (making sediments less likely to be washed away and into other water bodies), nutrient removal/transformation (processing or using nutrients that could cause water quality problems elsewhere), wildlife habitat (providing habitat for various species of invertebrates, birds, mammals, reptiles, and amphibians), and groundwater recharge/discharge



(recharging groundwater aquifers). Also, they provide recreational opportunities (e.g., wildlife watching, hiking, etc.), but these are limited because all of the wetlands are privately owned and are difficult to access. Additionally, these wetlands provide an aesthetic value that can be enjoyed by the general public as they travel on project area roads. Most of the wetlands in the project area contain invasive and/or exotic species that are undesirable, though areal coverage of exotic species is fairly low.

**3.12.2 Environmental Consequences**

**3.12.2.1 No Build Alternative**

The No Build Alternative would not result in negative impacts to regulated wetlands nor would it cause secondary impacts to wetlands or contribute to cumulative wetland impacts.

**3.12.2.2 Preferred Alternative**

The Preferred Alternative would result in approximately 0.34 acres of regulated wetlands being filled. Approximately 0.03 acres of impacted wetlands would be palustrine scrub-shrub (PSS)/palustrine emergent (PEM) wetlands, with remaining 0.31 acres of impact to PFO/PSS wetland. These impacts would occur at Wetland F and Wetland D, respectively. PSS wetlands are dominated by woody shrub species, while PEM wetlands are characterized by the presence of erect, rooted, herbaceous plants. PEM/PSS wetlands contain a mix of PEM and PSS plant types. PFO wetlands are dominated by tree species, such as maples, Eastern cottonwood, and black willow. PSS/PFO wetlands contain a mix of woody plant types. A strip of wetland would be filled to accommodate the new entry drive to the proposed development in Wetland F, with the remaining impact to Wetland F and Wetland D being due to a required culvert extension at the Whetstone Brook crossing at Grove/7<sup>th</sup> Street. In all cases a majority of each wetland will remain. The centerline of the Preferred Alternative was established to minimize impacts to wetland while meeting the access needs of the proposed hospital.

While there would be impacts to the functions of the impacted wetlands, none of these impacts would be substantial enough to eliminate any of the functions or values currently performed. A small portion of each wetland would be impacted, leaving the majority of the wetlands and their functions intact. The proposed hospital drive would result in wetland F being fragmented into two separate wetlands. Because detailed engineering has not yet been performed for the Preferred Alternative, a “worst case” approach to wetlands impacts was assumed. Wetland impacts resulting from the Preferred Alternative are shown on Table 16 and Figure 3.

**Table 16. Wetlands within the Project Area**

Wetland	Type of Wetland	Quality	Total Wetland Size (Acres)	Wetland Impacts (Acres)	Wetland Mitigation (Acres)	Functions/ Values
A	PFO/PSS	Fair	0.19	-	-	1,2,4,5,7,8
B	PFO/PSS	Fair	0.29	-	-	1,2,4,5,7,8
D	PSS/PEM	Fair	0.31	0.03	0.04	1,2,3,4,5,7,8
E	PFO/PEM	Fair	0.48	-	-	1,2,3,4,5,7,8
F	PFO/PSS	Fair	3.25	0.31	0.62	1,2,4,5,7,8
G	PFO/PSS/PEM	Fair	0.50	-	-	1,2,4,5,6,7,8
<b>Total</b>			<b>5.02</b>	<b>0.34</b>	<b>0.66</b>	

1-floodwater storage, 2-sediment/toxicant retention, 3-sediment stabilization, 4-nutrient removal/transformation, 5-wildlife habitat, 6-groundwater recharge/discharge, 7-recreational opportunities, 8-aesthetics



### **3.12.3 Mitigation**

In order to compensate for the approximately 0.34 acres of impacts to regulated wetlands caused by the Preferred Alternative, approximately 0.66 acres of mitigation wetlands will be created. This acreage reflects the standard MDEQ mitigation ratio of 1.5:1 for impacts to palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine open water (POW) wetlands and a 2:1 ratio for impacts to palustrine forested (PFO) wetlands. Exact mitigation acreages required for each of these wetland types are shown in Table 16 of this document. The mitigation wetland will replace wetland functions and values lost as a result of impacts due to construction of the Preferred Alternative. The Presque Isle Bog is located in the Lake Superior watershed. The mitigation site will incorporate the following commitments and goals:

- Mitigation wetland acreages will be calculated based on the standard MDEQ ratio of 1.5:1 for PEM, PSS, and POW wetlands and 2:1 for PFO wetlands.
- Mitigation wetlands will be created prior to commencing construction, unless a concurrent schedule is agreed upon between the City and MDEQ during the permitting process.
- The mitigation and monitoring plan will be developed in accordance with MDEQ's *Technical Guidance for Wetland Mitigation* and most current rules.
- The time period for monitoring the success of created mitigation wetlands will be five years.
- Performance criteria for measuring the success of the created wetland will be developed in conjunction with the MDEQ and included in the wetland mitigation plan.
- If monitoring identifies performance criteria that are not being met, the City will perform corrective action in accordance with the wetland permit requirements.
- The City's wetland mitigation plan will include measures to control the establishment of invasive and/or non-native plant species.
- When wetland mitigation construction drawings are developed, the City will consider including a 100-foot wide perimeter buffer zone adjacent to the wetland mitigation areas. This buffer will be included if it is practical and not cost-prohibitive.
- Annual monitoring reports for the mitigation wetland will be prepared and submitted to MDEQ for review.

During the design phase of the project, the City will also investigate the feasibility and reasonableness of steepened fill embankments, and/or minor alignment shifts to avoid wetland impacts to reduce or obviate the need for mitigation.

## **3.13 Threatened, Endangered and Species of Special Concern**

### **3.13.1 Existing Conditions**

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to ensure that "any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species." Part 365 of the Michigan Natural Resources and Environmental Protection Act authorizes the MDNR to establish a list of species that are threatened or endangered in the state in cooperation with the Federal government, pursuant to the Endangered Species Act of 1973. This act protects species that are threatened or endangered in the state and makes it unlawful to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any animal protected under this statute, or attempt to engage in any such conduct.



A field investigation was conducted to identify existing habitat and determine the likelihood of Threatened and Endangered (T&E) species existing within the project area. The “project area” includes all areas that could be impacted directly by the No Build or Preferred Alternatives. Specifically, the project area includes all property within the potential construction limits (construction limits are defined as within a 5-foot offset of the proposed roadway or sidewalk as shown on Figure 2). All field investigations and habitat analysis were conducted by qualified biologists.

Prior to the field investigation, coordination with the Michigan Department of Natural Resources (MDNR) and the United States Fish and Wildlife Service (USFWS), in conjunction with a review of the Michigan Natural Features Inventory (MNFI) Heritage database, was conducted to determine the potential for occurrence of threatened, endangered, or species of special concern within or near the project area.

Table 17 identifies the threatened, endangered, or species of special concern listed in the MNFI Heritage database that have been identified as being previously found within or near the project area. The majority of Federally and state threatened and endangered species and state species of special concern listed in Table 17 have not been observed in the project area since the late 1970s (king rail), with the majority of species being last observed in the late 1800s/early 1900s (Small round-leaved orchid, Moor rush, Lake Huron tansy), while the Northern long-eared and little brown bats were last observed in 1978 and 1980, respectively. The vascular plant species are typically found in either bogs, fens, or dunes, none of which are within the project area. King rails typically frequent herbaceous marshes, which is a very limited habitat type within the project area. Therefore, it is highly unlikely that these species exist within the project area.

**Table 17. Threatened, Endangered, and Species of Special Concern in the MNFI Database.**

Species Common Name ( <i>Scientific Name</i> )	Classification	Status
Little brown bat ( <i>Myotis lucifugus</i> )	Vertebrate Animal	State Species of Special Concern
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	Vertebrate Animal	Federally Threatened State Species of Special Concern
King rail ( <i>Rallus elegans</i> )	Vertebrate Animal	State Endangered
Small round-leaved orchis ( <i>Amerorchis rotundifolia</i> )	Vascular Plant	State Endangered
Moor rush ( <i>Juncus stygius</i> )	Vascular Plant	State Threatened
Lake Huron tansy ( <i>Tanacetum huronense</i> )	Vascular Plant	State Threatened

Based on analysis of the MNFI data and habitat requirements for the listed protected species, only the two bat species are likely to have the potential to exist within the project area. Both species frequent forested areas, and habitat that is suitable for both is available in the vicinity of the project area. The USFWS has identified three (3) Northern long-eared bat hibernacula within Marquette County to the west of the project area. Due to the age of the records (50 years and older) and lack of suitable habitat, the other species noted in Table 17 are assumed to no longer exist within the project area, and no additional field investigations were conducted for these species.

**3.13.2 Environmental Consequences**

**3.13.2.1 No Build Alternative**

The No Build Alternative would not result in direct impacts to any Federal or state threatened, endangered, or species of special concern or their habitat as no habitat exist within the proposed hospital site.



### **3.13.2.2 Preferred Alternative**

The Preferred Alternative would impact several trees identified as potential little brown and/or Northern long-eared bat habitat for construction of the hospital drive between US-41 and W. Baraga Avenue.

### **3.13.3. Mitigation Measures**

Since the project area is not within 0.25 miles of identified Northern long-eared bat hibernacula, tree cutting/ removal restrictions are not planned for the proposed project.

## **3.14 Vegetation & Wildlife**

### **3.14.1 Existing Conditions**

Based on general field observations, the vegetation communities in the project area provide fair wildlife habitat value. The remnant green space areas have been highly impacted by past land use activities. In such areas, the species that are present are tolerant of high levels of human activity and related disturbances. The majority of land within the project area is developed or in turf grasses and not considered wildlife habitat as any wildlife usage would be very transient.

A forested riparian corridor, associated with Whetstone Brook, traverses thorough the project area. The riparian corridor consists of shrub and transitional forest species and associated woody and herbaceous vegetation species. This riparian corridor and adjacent habitats provide habitat for a variety of wildlife species commonly found in the region. Wildlife likely utilizes these areas for resting, feeding, brood rearing/nesting, protection from the elements, stopover during migration, and other important functions. The context of the project area limits the value of the area to wildlife given the intensity and types of land use and presence of a major high speed roadway. It is likely that wildlife species that may utilize natural habitats in the project area could include white-tailed deer (*Odocoileus virginianus*), snowshoe hare (*Lepus americanus*), coyote (*Canis latrans*), red squirrel (*Tamiasciurus hudsonicus*), gray squirrel (*Sciurus carolinensis*), red fox (*Vulpes vulpes*), and a wide variety of small rodents, a wide variety of migratory and resident bird species, reptiles, amphibians, and invertebrates. A number of aquatic species inhabit Whetstone Brook, including fish and invertebrates.

### **3.14.2 Environmental Consequences**

#### **3.14.2.1 No Build Alternative**

The No Build Alternative would result in minimal impacts to vegetation and wildlife as a portion of the proposed site is currently used and the remaining undeveloped portion was historical used as rail yard and roundhouse.

#### **3.14.2.2 Preferred Alternative**

This alternative would directly result in minor impacts to vegetation and wildlife in the project area. Because impacted areas are adjacent to existing roads, the vegetation communities that would be eliminated are of minimal value as wildlife habitat. Wildlife species that would be affected are common in the surrounding area, tolerant of noise and visual disturbances, and easily displaced to similar habitats. The proposed hospital drive would result in the Whetstone Brook riparian corridor being fragmented into two separate areas. The Preferred Alternative would not affect long-term survival of any species in the project area. The installation of the new road crossing culvert and extension of the



existing culvert would have negligible impact on the movement of fish and other aquatic species in Whetstone Brook.

### **3.15 Cultural Resources**

#### **3.15.1 Existing Conditions**

Cultural resources include above ground structures and archaeological sites that are eligible for listing or listed on the National Register of Historic Places (NRHP). Eligibility for the NRHP for road projects funded using federal money is determined by FHWA in consultation with the State Historic Preservation Officer (SHPO). As part of this project, an investigation was performed to identify cultural resources within the Area of Potential Effect (APE). The APE includes all areas that could be directly impacted by the Preferred Alternative as well as adjacent surrounding areas, to provide a reasonable buffer that assures all potentially affected areas were considered as part of the APE. The cultural resources investigation was conducted by a qualified cultural resource specialist and included background research and field investigations. In addition to the cultural resources investigation, an early coordination letter was sent to SHPO, and the SHPO Section 106 application was completed and submitted to SHPO for review. No historic archaeological sites were investigated.

Coordination letters were also sent to Native American Tribes throughout the State of Michigan inviting formal consultation (see Section 4.3 for list of Tribes). No letters were received from any tribal entities requesting additional consultation.

Based on the cultural resources investigation, coordination with SHPO and tribal coordination, one above-ground historic property was located within the APE. The Holy Family Orphanage is located on the corner of Altamont and Fisher Streets (600 Altamont Street) (Figure 3). The orphanage was originally built in 1914. It is the second such Catholic orphanage in Marquette's history. At the present time, the window and door spaces are boarded up. The Holy Family Orphanage was listed on the NRHP on October 5, 2015. It was listed under Criterion A, for being significant as the primary Catholic orphanage in the Upper Peninsula of Michigan. Replacing a previous Catholic orphanage, the orphanage was dedicated in 1915 and officially closed in 1965. During that time, it provided social services to the community. It also played a part in taking in child refugees from Cuba during the early 1960s, when children were sent unaccompanied to the United States after the rise of Fidel Castro. It is also significant under Criterion C, for being architecturally significant. It is a scaled-back version of the Renaissance Revival style, and implemented red Marquette Sandstone from local quarries. It is also the work of Green Bay, Wisconsin, architect William E. Reynolds, and is his only surviving building in the Upper Peninsula (Polzin 2015).

No historic archaeological sites were identified.

Details regarding the cultural resource investigation are contained in *Cultural Resource Investigation and Summary Report for the Proposed Marquette General Hospital Relocation Project* (ASC Group, Inc. 2015).

#### **3.15.2 Environmental Consequences**

##### **3.15.2.1 No Build Alternative**

The No Build Alternative would not affect cultural resources within the APE.



### **3.15.2.2 Preferred Alternative**

In accordance with Section 106 of the National Historic Preservation Act, the effects of the project on cultural resources have been evaluated. Based on the location of transportation improvements which comprise the Preferred Alternative, the Holy Family Orphanage is located approximately 200 feet away from the nearest road improvement. The proposed project will not result in any direct or indirect impacts to the building or the property. Additionally, the Preferred Alternative will not alter the setting of the APE within the view shed of the orphanage. The SHPO has provided their opinion that no historic properties are affected by the Preferred Alternative (see letter in Appendix B).

## **3.16 Section 4(f) Properties**

### **3.16.1 Existing Conditions**

In accordance with 49 USC Section 303(c), Section 4(f), a project may require the use of publicly-owned park land, recreation areas, or wildlife and waterfowl refuges, or land of a historic site only if 1) there is no prudent and feasible alternative that would avoid using those resources, and 2) the project includes all possible planning to minimize harm resulting from such use.

There are two properties within the project area that meet the definition of protected sites under Section 4(f) (Figure 3). The first is the Holy Family Orphanage located on the corner of Altamont and Fisher Streets (600 Altamont Street). A detailed description of this property is provided above in Section 3.15.1.

The second is the City-owned, multi-use pathway that is open for use year round. The multi-use pathway travels through the northern portion of the project area just south of Washington Street and continues south along the west side of McClellan Avenue (Figure 3). The pathway is one segment of the 48-mile long Iron Ore Heritage Trail. The trail runs from the town of Republic at the western terminus to Kawbawgam Road in Chocolay Township at the eastern terminus.

Under the NAC (Table 14), the City-owned multi-use pathway is an Activity Category C Classification (recreational trail), with NAC of 67.0 dB(A). As shown in Table 15, currently the PM noise level at the pathway near McClellan Avenue (receptor 104) is 66.2 dB(A). Per the MDOT Noise Handbook, a traffic noise impact occurs when the predicted traffic noise level approaches or exceeds the NAC for an activity category. MDOT defines "approaching" the NAC as being within one dB of the NAC levels listed in Table 14. Therefore, under the existing conditions the pathway is a noise impact. See Figure 3 for the receptor location.

There are no other NRHP eligible sites, publicly-owned parks, waterfowl refuges, or wildlife refuges within the project area that qualify for protection under Section 4(f).

### **3.16.2 Environmental Consequences**

#### **3.16.2.1 No Build Alternative**

The No Build Alternative would require temporary work within the right-of-way of the pathway to construct a tunnel for the pathway under the proposed hospital drive which will connect to Washington Street. This would result in a temporary construction impacts to build the tunnel. This construction will not require the closure of the existing pathway. The pathway would remain in use, and the activities



associated with it would not be altered. Access to the pathway would not be altered or impeded by the construction of the No Build Alternative.

The No Build Alternative will have no permanent negative impacts on the pathway as; 1) the duration of the occupancy on the existing pathway will be temporary and there will be no permanent change in ownership; 2) the scope of work involving the pathway will be minor; and 3) the area of the existing pathway being used will be fully restored to its existing conditions. As a result, a finding of “no use” for Section 4(f) resources is appropriate for the No Build Alternative.

Under the No Build Alternative, the PM noise level at the pathway (receptor 104) exceeds the NAC for the Activity Category B/C Classification, resulting in a noise impact. The PM noise level under the No Build Alternative at receptor 104 would increase by 1.8 dB(A) over the existing conditions to 68.0 dB(A). A three dB(A) change is considered the minimum change that can be distinguished by the human ear. Therefore, with an increase of 1.8 dB(A) at this receiver, the noise level would be perceived the same as the existing condition.

Under the No Build Alternative, the noise levels at the pathway would not result in a perceptible audible change (i.e., the noise levels would be the same as the existing conditions). Additionally, the change in noise levels would not alter the activities, features, or attributes of the pathway. Therefore, the noise impacts would not result in a constructive use of the pathway.

### **3.16.2.2 Mitigation**

During the design phase of the project, mitigation for temporary work in the pathway ROW will likely be identified. Mitigation measures would likely be a temporary maintenance of traffic scheme to allow users access to the pathway during construction.

### **3.16.2.3 Preferred Alternative**

Based on the location of transportation improvements which comprise the Preferred Alternative, the Holy Family Orphanage is located approximately 200 feet away from the nearest road improvement. The proposed project will not result in any direct or indirect impacts to the building or the property. As a result, the Preferred Alternative would not result in any Section 4(f) use of this property.

Under the Preferred Alternative, the PM noise level at the pathway (receptor 104) would approach the NAC for the Activity Category B/C Classification, resulting in a noise impact. The PM noise level under the Preferred Alternative at receptor 104 would increase by 0.6 dB(A) over the existing conditions to 66.8 dB(A). A three dB(A) change is considered the minimum change that can be distinguished by the human ear. Therefore, with an increase of 0.6 dB(A) at this receiver, the noise level would be perceived the same as the existing condition.

Under the Preferred Alternative, the noise levels at the pathway would not result in a perceptible audible change (i.e., the noise levels would be the same as the existing conditions). The change in noise levels would not alter the activities, features, or attributes of the pathway. Additionally, when compared to the No Build Alternative the Preferred Alternative would reduce noise levels at this receiver by 1.2 dB(A) in the PM peak hour. Therefore, the noise impact would not result in a constructive use of the pathway.

The City has reviewed and concurred that the Preferred Alternative would not result in any significant impacts to or use of the pathway. A letter to this effect is included in Appendix B.



### 3.16.2.4 Mitigation

During the design phase of the project, mitigation for temporary work in the pathway ROW will be identified. Mitigation measures would likely be a temporary maintenance of traffic scheme to allow users access to the pathway during construction.

## 3.17 Hazardous Materials

### 3.17.1 Existing Conditions

A review was completed of readily available regulatory database information to assess the possible risk for environmental liabilities from regulatory action, hazardous material spills, or documented hazardous waste disposal (i.e., Recognized Environmental Conditions) in the project area. This information was obtained from a review of information included in the Hospital Relocation Assessment EDR Radius Map™ Report. Databases reviewed included various Resource Conservation and Recovery Acts lists, National Priority List, the Comprehensive Environmental Response Compensation and Liability Information System, the Emergency Response Notification System, the Facility Index System, the Toxic Release Inventory System, and the State of Michigan Part 201 and 213 facility lists.

Based on the review of these databases, the following hazardous materials site are located within the project area (Figure 3). Known contaminated sites are those where documented releases of hazardous materials have taken place and cleanup may not be completed.

**Table 18: Potentially Contaminated Sites within the Project Area**

Site ID	Name	Location
1	City of Marquette Service Center	850 W. Baraga Avenue
2	Former Soo Line RR & Roundhouse	700 W. Spring Street
3	Vacant Property	651 W. Spring Street
4	Lutey's Heritage Motors	729 W. Washington Street

Over the last decade, several studies have been conducted for Sites 1-3. These have included the following:

- *Subsurface Environmental Investigation of Railroad Roundhouse and Diesel Refueling Station* (Wisconsin Central Ltd. 1990)
- *Phase 1 Environmental Site Assessment for the Wisconsin Central Ltd. West Property Holdings in Marquette, Michigan* (TriMedia 2001)
- *Baseline Environmental Assessment City of Marquette West Properties Project* (TriMedia 2002)
- *Brownfield Redevelopment Assessment Report for Roundhouse Property* (MDEQ-Remediation and Redevelopment Division 2009)
- *Phase II Environmental Site Assessment* (TriMedia 2014)
- *Preliminary Geotechnical Evaluation Report Marquette Hospital Site Relocation* (SME 2014)
- *Section 7A Compliance Analysis Municipal Property 850 West Baraga Avenue* (TriMedia 2015)
- *Act 381 Work Plan to Conduct Eligible MDEQ Environmental Activities DLP Marquette General Replacement Hospital* (Marquette Brownfield Redevelopment Authority 2015)

The above-noted reports provide extensive information characterizing the site contamination and extent.



**Site 1** is the MSC (See Figure 3). This site was identified as a facility that generates, transports, and treats, stores, or disposes of hazardous waste. The Resource Conservation and Recovery Act (RCRA) database identified the site as a Conditionally Exempt Small Quantity Generator (CESQG). CESQGs generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

The site was also identified on the MDEQ Underground Storage Tank (UST) databases as having two USTs on site. The site was also identified in the MDEQ Spill database as having a small (three gallons) diesel fuel spill on the concrete filling station pad.

**Site 2** is the former Soo Line railroad, rail yard, and roundhouse site formally located at 700 W. Spring Street. This site was identified as having a Leaking Underground Storage Tank (LUST), as a facility that generates, transports, and treats, stores, or disposes of hazardous waste (does not presently generate hazardous waste), a release of a hazardous substance(s) and/or where corrective actions have not been completed. The site was also identified as a "Brownfield." As defined by the EPA, a Brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.

The LUST database identified an unknown release in October 1987, a release of diesel in September 1996, and a release of gasoline in November 1996. One UST was removed in September 1996, and five were removed in September 2001. The tanks contained gasoline, kerosene, and diesel fuels. The site status was closed in October 2002. The RCRA identified universal waste including devices containing elemental mercury, mercury thermometers, mercury switches, batteries, lamps, pesticides, and thermostats in June 2001.

**Site 3** is a vacant parcel located at 651 W. Spring Street, adjacent to the proposed hospital site. The property was listed on the MDEQ Inventory of Facilities for a Baseline Environmental Assessment (BEA) that was conducted for the parcel. A BEA is designed for new or prospective property owners/operations buying, leasing, or foreclosing on property that might be contaminated to be protected from liability for cleanup of contamination on the property, provided they did not cause the contamination).

**Site 4** is a former car dealership located at 729 W. Washington Street. The Aboveground Storage Tank (AST) database identified four tanks that were removed from the site in 1988. The site status is considered closed.

### **3.17.2 Environmental Consequences**

#### **3.17.2.1 No Build Alternative**

The proposed hospital would require vegetation clearing, earth disturbance, grading, or filling at all four sites in Table 18. The proposed hospital would be constructed on sites 1-3, and a driveway providing access to the hospital from Washington Street would be constructed on Site 4.

Over the last decade, several studies have conducted for Sites 1-3. These have included geotechnical evaluations, Phase I and II Environmental Site Assessment (ESA), BEA, a Brownfield Redevelopment Assessment Report, a Section 7A Compliance Analysis, and an Act 381 Work Plan to Conduct Eligible MDEQ Environmental Activities report.



In June 2002, a *Baseline Environmental Assessment* (TriMedia 2002) was completed to evaluate potential Recognized Environmental Conditions to determine if contaminants are present that would limit proposed re-use of the subject property. Following the BEA, a *Section 7A Compliance Analysis* (TriMedia 2015) was completed to establish methods and procedures to be used during redevelopment and reuse that ensures the continued protection of human health and the environment. An *Act 381 Work Plan to Conduct Eligible MDEQ Environmental Activities* (Marquette Brownfield Redevelopment Authority 2015) report was completed in August 2015. Per the Due Care Plan in the Act 381 Work Plan, the development of the replacement hospital on the subject property will include the following:

1. Establish the limits of the replacement hospital, medical office building and garage, plus ten (10) feet in all directions;
2. Grade and remove surface/subsurface soils to elevations necessary to construct the replacement hospital, medical hospital and garage structures. Soils removed are to be managed onsite in conformance with the Due Care Plan or stockpiled, characterized and managed offsite at a suitable disposal facility;
3. Excavation of soils in an effort to confirm or refute presence of impacted soils exceeding Part 201 SVIAI criteria, and exhume same if encountered. This effort is presumed to extend to a depth of 12 ft-below ground level or less, the limits of which will be confirmed in the field. In the event gross impacts are encountered, soils removed from this area are to be stockpiled, characterized and managed offsite at a suitable disposal facility. Replace any contaminated soils found in this area with clean structural fill capable of supporting the replacement hospital structure;
4. Perform focused removal of impacts as identified in the *Section 7A Compliance Analysis* and *Act 381 Work Plan to Conduct Eligible MDEQ Environmental Activities*.. Soils removed from this area to be stockpiled, characterized and managed offsite at a suitable disposal facility;
5. Proper management of excavated materials such that Due Care Obligations are met and constituents within these materials are not displaced, migrate or otherwise released to the environment. Erosion and sediment controls, dust suppression measures and similar activities shall be performed during the construction phase to address soils being managed onsite. Excavated materials destined for offsite management shall be protected, and be subject to characterization requirements of the receiving facility and MDEQ;
6. Monitoring of the excavation process to identify any grossly impacted materials and segregate same in order to ensure proper handling and management, and determine whether additional removal efforts are warranted; and,
7. Owner closure by removal of all UST located on the Municipal Service Center parcel (oversight, sampling and reporting costs

As noted in Section 3.17.1, the proposed hospital site has an extensive study history documenting historic contamination, spills, hazardous materials, groundwater and soil status, etc. As a result, the extent of contamination has been well investigated, mapped, and documented. As part of the Brownfield redevelopment process, mitigation at the site is required prior to construction of the hospital. The *Section 7A Compliance Analysis* establish methods and procedures to be used during redevelopment and reuse of the property Michigan that ensures the continued protection of human health and the environment. Therefore, the No Build Alternative would not result in any substantial hazardous material impacts.



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### **3.17.2.2 Preferred Alternative**

The Preferred Alternative would not require acquisition of ROW, vegetation clearing, earth disturbance, grading, or filling at any of the sites known to have previous contamination based on documented releases of hazardous materials.

## **3.18 Visual Conditions**

### **3.18.1 Existing Conditions**

The project area includes residential neighborhoods, a riparian corridor, businesses, and industrial buildings. The western and northern portion of the project area includes business and industrial buildings, while the eastern and southern portions contain residential neighborhoods. Key viewpoints are from the motorists' perspective, from inside buildings along project area roads, and from pedestrians' views along the sidewalks and the multi-use pathway. The project area does contain some elevation changes, but panoramic views are limited due to buildings and trees. Therefore, most views are limited to the immediate foreground (within 0.25 mile), with mid-ground views (0.25 to 2 miles) only occurring when looking down project area roads. The project area does not contain unique or outstanding visual features. Undeveloped lots, landscaping, and wetland areas do provide some visual variety, but in general, various forms of development dominate visual conditions.

### **3.18.2 Environmental Consequences**

#### **3.18.2.1 No Build Alternative**

Construction of the hospital would replace the MSC and adjacent vacant green space with multi-story buildings, a parking structure, and surface lots. Overall, there would be less green space within the project area, but the visual conditions would not significantly change from the existing urban/developed views. As part of the No Build Alternative, the multi-use pathway would be tunneled under the proposed new hospital drive onto Washington Street, similar to the existing tunnel under 7<sup>th</sup> Street to the east. This would result in minor visual impacts for users along this portion of the multi-use pathway.

#### **3.18.2.2 Preferred Alternative**

Despite some changes, the overall visual setting in the project area would remain very similar to its current condition as a result of the Preferred Alternative. Visual changes would consist of the new hospital building and additional pavement/upgraded intersections. Considered within the context of the existing setting, these would not constitute a major change in visual conditions. The roundabouts would also provide some landscaping opportunities.

## **3.19 Secondary and Cumulative Impacts**

### **3.19.1 Land Use**

The No Build Alternative may result in indirect/secondary impacts to land uses. Construction of the hospital may induce land use changes in the project area that would not otherwise occur as a result of housing and service needs related to hospital employees and users. The No Build Alternative may encourage some new development and redevelopment within the General Residential zoned area adjacent to the hospital site and along 7<sup>th</sup> Street.



Abandonment of the current hospital site will impact several blocks in the northern portion of the City. Currently, the City and DLP are exploring options for repurposing or demolishing the hospital. The City and DLP are holding a public meeting in early May, 2016, to hear input from the public regarding potential future uses for this site.

Relocation of the MSC would result in minor land use impacts, as the new MSC site is being constructed on Wright Street just east of Jefferson Avenue on a former parking lot. The proposed site is adjacent to an industrial park.

### **3.19.2 Economic Conditions**

Construction of the hospital would result in a significant relocation of one of the City's major employers. Although it is not possible to predict what impact this alternative would have upon residential, business property values, and economic activity within the project area, No Build Alternative would likely induce secondary economic activity within and close to the project area.

### **3.19.3 Air Quality**

Cumulative impacts to air quality are accounted for by demonstrating regional air quality conformity. This is accomplished by MDOT through the use of a computer model that incorporates all transportation projects in the approved STIP. MDOT and the City are currently in the process of having the project added to STIP through the amendment process. It is anticipated that this amendment will be approved on June 24, 2016. Once the project is on the STIP, regional conformity will be demonstrated by its inclusion in the STIP.

### **3.19.4 Wetlands**

The Preferred Alternative is not anticipated to induce any secondary development that would not otherwise occur with the No Build Alternative. Thus, secondary wetland impacts, if they occur, would not be attributable to the Preferred Alternative.

The Preferred Alternative would add 0.34 acres of wetland impacts to the cumulative impacts in the project area. Although it is not possible to calculate the precise amount of wetlands that have been historically impacted within the City, the Preferred Alternative would increase the acreage of cumulative wetland impacts in the county by an insignificant amount (less than 1/10 of one percent). The project area has historically transformed from vacant open space to high-density residential, commercial, and industrial land uses. These developments have resulted in the reduction of wetlands in the project area. The functions lost as a result of the Preferred Alternative are typical of those provided by wetlands in Marquette County and the central Upper Peninsula region, and the remaining portions of impacted wetlands would continue to provide functions similar to those currently provided. Wetland impacts due to the Preferred Alternative would be mitigated as noted below with lost functions being replaced.

The wetland impacts related to other projects such as residential/commercial developments could occur within the project area in the future, but at this time no developments are currently under construction or proposed (i.e., no proposed site plans are pending with the City) within the project area. The proposed hospital could encourage some new development and redevelopment and accelerate the current rate of land use changes and new development within the project area.



## 3.20 Additional Mitigation Measures

This section provides information for additional mitigation measures that were not discussed in the preceding sections of this chapter.

### **3.20.1 Construction Detours**

Disruption of traffic and detours during construction will be minimized to the extent possible. During construction, reasonable access will be maintained to all residences and businesses. Additionally, emergency service providers will be contacted prior to construction and alternative routes will be clearly marked for use by emergency vehicles.

### **3.20.2 Disposal of Surplus or Unsuitable Materials**

Surplus or unsuitable material generated by excavation or removal of structural components will be disposed of in accordance with the following provisions:

- Any contaminated soils removed from the hospital site are to be stockpiled, characterized, and managed offsite at a suitable disposal facility per the Due Care Plan.
- When such material is to be disposed of outside the ROW, the contractor shall be responsible for obtaining written permission from the owner of the property onto which the material will be placed. In addition, no such material will be disposed of within wetland areas, watercourses, or designated floodplains (regardless of ownership) without prior approval and permits from all relevant resource agencies and the FHWA.
- All MDEQ regulations governing disposal of solid waste will be followed by the contractor.

## 3.21 Permits

As a result of the Preferred Alternative, the following permits will be required:

- MDEQ/USACE Joint Permit: Because the Preferred Alternative will result in wetland, floodplain, and stream impacts, a Joint NREPA Permit is required under Part 31 Floodplain/Water Resources Protection, Part 301 Inland Lakes and Streams, and Part 303 of NREPA (in lieu of a CWA Section 404 Permit as Michigan has assumed jurisdiction over wetlands from the Federal Government). This permit will be submitted to and obtained from the MDEQ. USACE review of the permit application is not anticipated.
- Construction Site National Pollutant Discharge Elimination System (NPDES) Permit: Because the project will disturb more than 5 acres of soil, a Notice of Coverage form will be sent to MDEQ, Water Division prior to construction. As required, a certified stormwater operator will conduct weekly inspections (and/or within 24 hours of a storm event) and maintain documentation to be available upon request.
- MDOT Right-of-Way Construction Permit: Because the Preferred Alternative would include improvements within the MDOT ROW, a MDOT Right-of-Way Construction Permit is required. This permit will be obtained prior to any improvements being constructed within the US-41 ROW.

Other permits may also be required, including permits from MDOT or other public agencies. These requirements will be further investigated during the design phase.



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## Project Mitigation Summary (Green Sheet) For the Preferred Alternative

June 2016  
Environmental Assessment  
City of Marquette, MI

### Proposed Improvements:

- Construction of a two-lane roundabout at US-41 and Grove/7th Street
- Construction of a two-lane roundabout at US-41 and the main hospital drive
- Construction of a compact roundabout at Baraga Avenue and the main hospital drive
- Widening of 7th Street to three lanes (two travel lanes and one two-way, left-turn lane (TWLTL))
- Minor realignment and widening of W. Baraga Avenue
- Widening of McClellan Avenue between Washington Street and US-41 to five-lanes (two travel lanes in each direction and a TWLTL)
- Signal infrastructure upgrades at the McClellan Avenue and Washington Street intersection
- Sidewalk upgrades and addition of sidewalk for portions of the project area roadways where no sidewalk is present

This Project Mitigation Summary “Green Sheet” contains project specific mitigation measures being considered at this time. An updated “Green Sheet” will be prepared and included in the Finding of No Significant Impact (FONSI) for this project. These mitigation items may be modified during the final design, right-of-way acquisition, or construction phases of this project.

### I. Social and Economic Environmental

A. *Relocations & ROW Impacts* - Acquisition of property for this project will allow for an orderly and timely relocation of all eligible displaced residents. The acquiring agency will ensure the availability of a sufficient number of replacement properties in the local area for all eligible displacements.

The acquiring agency will offer assistance to all eligible residents impacted by the project, including persons requiring special services and assistance. The agency’s relocation program will provide such services in accordance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 149, Michigan P.A. 1911, as amended, and the Federal Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970 (Uniform Act) as amended. The acquiring agency’s relocation program is realistic and will provide for the orderly, timely, and efficient relocation of all eligible displaced persons in compliance with state and Federal guidelines.

B. *Section 4(f) Properties* - During the design phase of the project, mitigation for temporary work in the pathway ROW will be identified. Mitigation measures would likely be a temporary maintenance of traffic scheme to allow users access to the pathway during construction.

C. *Air Quality Impacts* – The construction period is of short duration and construction mitigation is not required. However, several voluntary measures may be implemented by the Contractor to reduce engine activity or reduce emissions per unit of operating time. Construction equipment



should be kept clean, tuned-up, and in good operating condition. MDOT's Standard Construction Specification Sections 107.15(A) and 107.19 would apply to control fugitive dust during construction and cleaning of haul roads. All MDOT vehicles and equipment must follow MDOT Guidance #10179 (2/15/2009) Vehicle and Equipment Engine Idling. All construction contractors that work on this project will be required to comply with relevant Federal, state, and local laws governing the control of air pollution. Contractors will also be responsible for adequate dust control measures to protect public health and welfare. All bituminous plants, Portland cement concrete proportioning plants, and crushers must meet the requirements of Part 55 of NREPA. Portable bituminous or concrete plants will also be required to obtain permits from the MDEQ. These requirements will assure that air quality impacts are minimized during construction.

## II. Natural Environmental

A. *Surface Water* - The Preferred Alternative stormwater system will be designed to meet all applicable MDOT standards and the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design*. All stormwater will be accommodated in the median or via the curb and gutter stormwater systems along the roadways. Location of the stormwater systems will be determined during the design phase of the project. The Preferred Alternative would include the use of water quality BMPs to pre-treat stormwater before it enters receiving bodies, and reduce stormwater flow. During the design phase of the project detailed hydraulic studies will be conducted to determine which BMPs will be used to accommodate stormwater. All BMPs will be designed in accordance with the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design*.

All culverts for would be designed to meet the requirements set forth in applicable regulations, permits, and the *City of Marquette Engineering Department General Guidelines and Standards for Street and Utility Design Systems*. Required hydraulic and hydrology studies will be conducted during the design phase of the project to determine proper culvert sizes.

B. *Groundwater* – In order to protect groundwater quality, all disturbed sewer lines will be addressed in accordance with City of Marquette and MDOT specifications that will be imposed upon the construction contractor. If abandoned water wells or septic systems are encountered during construction, they will be addressed in accordance with standard construction specifications. Beyond these items, the contractor will need to meet all other Michigan Department of Community Health (MDCH), local health department, and MDEQ requirements designed to protect groundwater quality.

C. *Floodplains* - The Preferred Alternative would also fill a portion of the stormwater/flood-control basin located between W. Baraga Avenue and US-41. Any fill placed in the basin would require a compensating cut to maintain the capacity of the basin. During the design phase of the project, detailed 3D modeling will be conducted to determine the amount of fill needed to construct the hospital drive through the basin and the corresponding compensating cut.

D. *Wetlands* - In order to compensate for approximately 0.34 acres of impact to regulated wetlands caused by the Preferred Alternative, a wetland mitigation site will be created at the publicly-owned Presque Isle Bog (located three miles north of the project area). Approximately, 0.66 acres of mitigation wetlands will be created.



### III. Construction Impacts

- A. *Maintaining Traffic* – One through lane of traffic would be maintained in each direction on US-41 during construction of US-41. Temporary crossovers would be built and used to shift both directions of traffic to one bound of US-41, while the other bound of US-41 is built. Temporary pavement will be necessary in some locations. Temporary signals will likely be necessary at the US-41 and Grove Street/7<sup>th</sup> Street and US-41 and McClellan Avenue Intersections. During the US-41 construction, the City is considering the possibility that 7<sup>th</sup> Street may be closed and detoured. The local street construction (Baraga, 7<sup>th</sup>, Spring, Rock, McClellan) would likely be built block by block using detours. US-41, Grove Street, 7<sup>th</sup> Street, Homestead Street, Anderson Street, Fisher Street, Baraga Avenue, Spring Street, and Rock Street are anticipated to be constructed in 2017. McClellan Avenue improvements are anticipated to be constructed in 2018.
- B. *Soil Erosion/Sedimentation Control* - Strict soil erosion and sedimentation controls will be set up and maintained during construction.
- C. *Construction Noise and Vibration* - Construction noise will be minimized by measures such as requiring construction equipment to have mufflers, that portable compressors meet federal noise-level standards for that equipment, and that all portable equipment be placed away from or shielded from sensitive noise receptors if at all possible. All local noise ordinances will be adhered to unless otherwise granted exception by the responsible municipality. To document potential vibration damage from construction activities, residential structure foundation surveys will be offered in areas where vibration impacts could occur. Structures within 150 to 200 feet of construction operations such as bridge/pavement removal or piling/steel sheeting installation will be identified during final design. Vibration impacts are not anticipated at this time.
- D. *Disposal of Surplus or Unsuitable Materials* - Surplus or unsuitable material generated by excavation or removal of structural components will be disposed of in accordance with the following provisions:
- Any contaminated soils removed from the hospital site are to be stockpiled, characterized, and managed offsite at a suitable disposal facility per the Due Care Plan.
  - When such material is to be disposed of outside the ROW, the contractor shall be responsible for obtaining written permission from the owner of the property onto which the material will be placed. In addition, no such material will be disposed of within wetland areas, watercourses, or designated floodplains (regardless of ownership) without prior approval and permits from all relevant resource agencies and the FHWA.
  - All MDEQ regulations governing disposal of solid waste will be followed by the contractor
- E. *Construction Permits* - Permits under Act 451, Parts 31 (Water Quality and Floodplains) and 301 (Inland Lakes and Streams) will be required from the MDEQ for this project. Coverage under the National Pollutant Discharge Elimination System (NPDES), which is administered by the MDEQ, is also required.



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## CHAPTER 4 – COORDINATION & CONSULTATION

### 4.1 Introduction

Throughout the course of this project, substantial coordination and consultation were conducted with members of the public and government agencies. This chapter describes the coordination and consultation that was conducted. Additionally, this chapter also describes the decision that will need to be made by FHWA regarding this project.

### 4.2 Public Involvement

Several public involvement activities have been undertaken as part of this study. These efforts involved local government officials, regulatory agencies, property owners, citizens, and business owners. The input received through these public involvement activities influenced decisions that were made regarding alternatives. Throughout the duration of the project, several meetings with the City of Marquette and MDOT staff were undertaken, and information regarding the project was posted on the City's website.

A public information meeting was held in September, 2015 with members of the public to solicit their input regarding the project. At this meeting, an overview of the project was presented, and questions from business owners and the public were answered. Twenty-one people signed the meeting sign-in sheet. Members of the public were introduced to the purpose and need of the proposed project. During the meeting, a new alternative was identified by members of the public. This alternative was further developed and evaluated as part of the alternative evaluation process (this was Alternative 4 which is described above in Chapter 2). During this meeting concerns were raised over access and potential economic impacts at 7<sup>th</sup>/Grove, traffic/changes along 7<sup>th</sup> Street and other local streets, property values, and the ROW acquisition process. In addition several ideas for alternatives were brought forth. Questions were also asked regarding who and how the selection process/schedule for the Preferred Alternative would work. Questions/concerns were also raised about what will happen at the current hospital site. Comments from the public information meeting are included in Appendix D.

In February 2016, a second public information meeting was held. The purpose of the meeting was to present the alternatives that were considered as part of the EA and solicit input from all attendees. As part of the meeting, a presentation was conducted to provide project details, illustrate the alternatives considered, and explain the study process. The public was informed about methods for providing comments. Forty-three people signed the meeting sign-in sheet. Several comments regarding the proposed project were received during the public meeting. See Appendix D for a summary of the meeting.

The Marquette City Commission held a special meeting in February to discuss and review the project. During this meeting, the Commission passed a resolution selecting Alternative 2 as the Preferred Alternative (Appendix A).

During the EA public comment period, a public hearing will be held to solicit input from the public regarding the project and its potential impacts.



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### 4.3 Agency Coordination

Early coordination letters, which included maps and aerial photographs of the project area, were mailed to potentially interested agencies in January of 2016. These letters informed the agencies that the project was underway and requested that they identify issues of concern and that they note any specific requirements for impact assessment or permitting. Letters from those agencies that responded are included in Appendix B. The list of early coordination letter recipients includes:

- Federal Aviation Administration
- U.S. Army Corps of Engineers-Detroit District
- U.S. Department of Agriculture, Office of the Secretary
- U.S. Department of Agriculture, Natural Resource Conservation Service
- U.S. Department of Interior, Fish & Wildlife Service
- U.S. Department of Interior, National Park Service
- U.S. EPA Region 5, Office of Strategic Environmental Analysis
- U.S. Department of Housing and Urban Development
- Federal Emergency Management Agency
- Advisory Council on Historic Preservation
- Michigan Department of Agriculture
- Michigan Department of Environmental Quality
- Michigan Department of Community Health
- Michigan Department of Transportation, Bureau of Aeronautics
- Michigan Department of Transportation
- Michigan Department of Natural Resources
- Michigan State Housing Development Authority, State Historic Preservation Office
- Central Upper Peninsula Planning & Development District
- Michigan United Conservation Clubs, Inc.
- Upper Peninsula Environmental Coalition
- Marquette County Conservation District
- Marquette County Drain Commissioner
- Marquette County Road Commission
- Marquette County
- Marquette County Transit Authority
- Marquette Charter Township
- Charter Township of Chocolay
- Marquette Area Public Schools
- Northern Michigan University
- Superior Watershed Partnership
- Superior Watershed Partnership
- Lake Superior Partnership



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An early coordination letter and notice of availability were sent to the following Native American tribes:

- Bay Mills Indian Community
- Grand Traverse Band of Ottawa and Chippewa Indians
- Hannahville Potawatomi Indian Community
- Keweenaw Bay Indian Community
- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Little River Band of Ottawa Indians
- Little Traverse Bay Band of Odawa Indians
- Match-E-Be-Nash-She-Wish Band of Potawatomi Indians
- Nottawaseppi Band of Huron Potawatomi Indians
- Pokagon Band of Potawatomi Indians
- Saginaw Chippewa Indian Tribe
- Sault Ste. Marie Tribe of Chippewa Indians

No letters we received from any tribal entities requesting additional consultation.

#### **4.4 EA Recipients**

The EA is being made available for public review at four locations near the project area including: the Marquette City Hall, NMU Library, MDOT's Ishpeming TSC, and the Peter White Public Library. The EA is also available in PDF format at <http://www.mqtcty.org>. Additionally, the agencies, organizations, and persons listed above will receive a notice of availability and/or copies of the EA.

#### **4.5 Decision To Be Made**

After considering public and agency input, FHWA will make the final decision regarding this project. Based on the analysis of potential impacts presented in this document, public and agency comments, and relevant statutes and regulations, FHWA will decide the following:

- Whether or not the Preferred Alternative would generate significant impacts to the natural or human environment;
- Whether or not to approve some or all of the components of the Preferred Alternative; and
- What mitigation measures will apply to the project, if approved.

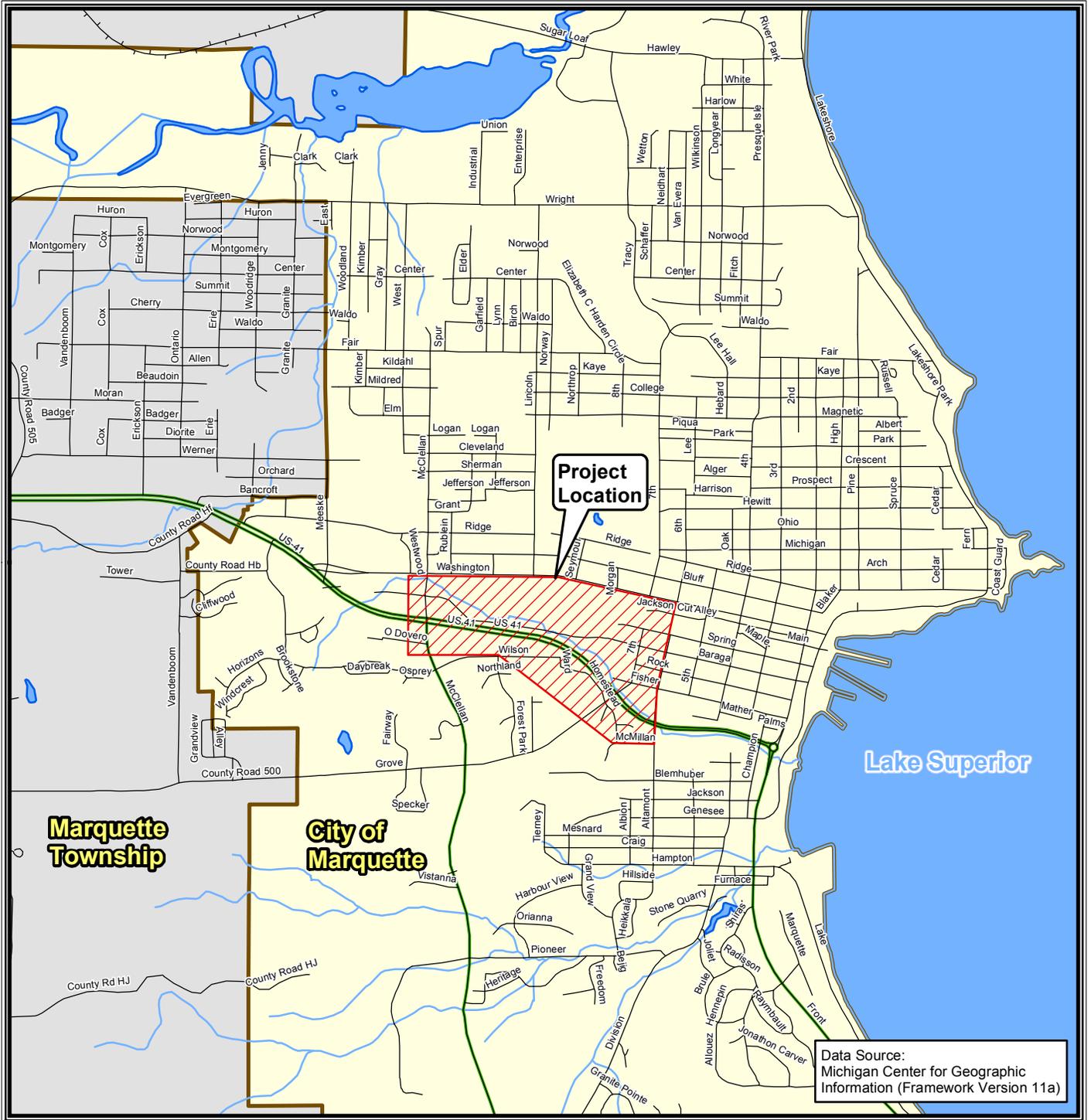
If the FHWA determines that the Preferred Alternative would not cause significant impacts to the human or natural environment and approves some or all of the components of the Preferred Alternative, a FONSI will be issued. The FONSI will document the FHWA's decision and the rationale for that decision. The FONSI will also include, either explicitly or by reference to the EA, a description of the mitigation measures or other actions that would be required as conditions of approval. Upon issuance of a FONSI, the project will be cleared to proceed on to the design phase of the project. If the FHWA determines that the Preferred Alternative may cause significant impacts to the human or natural environment, preparation of an EIS documenting a more detailed analysis will be required.



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## REFERENCES

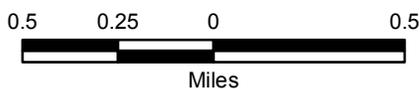
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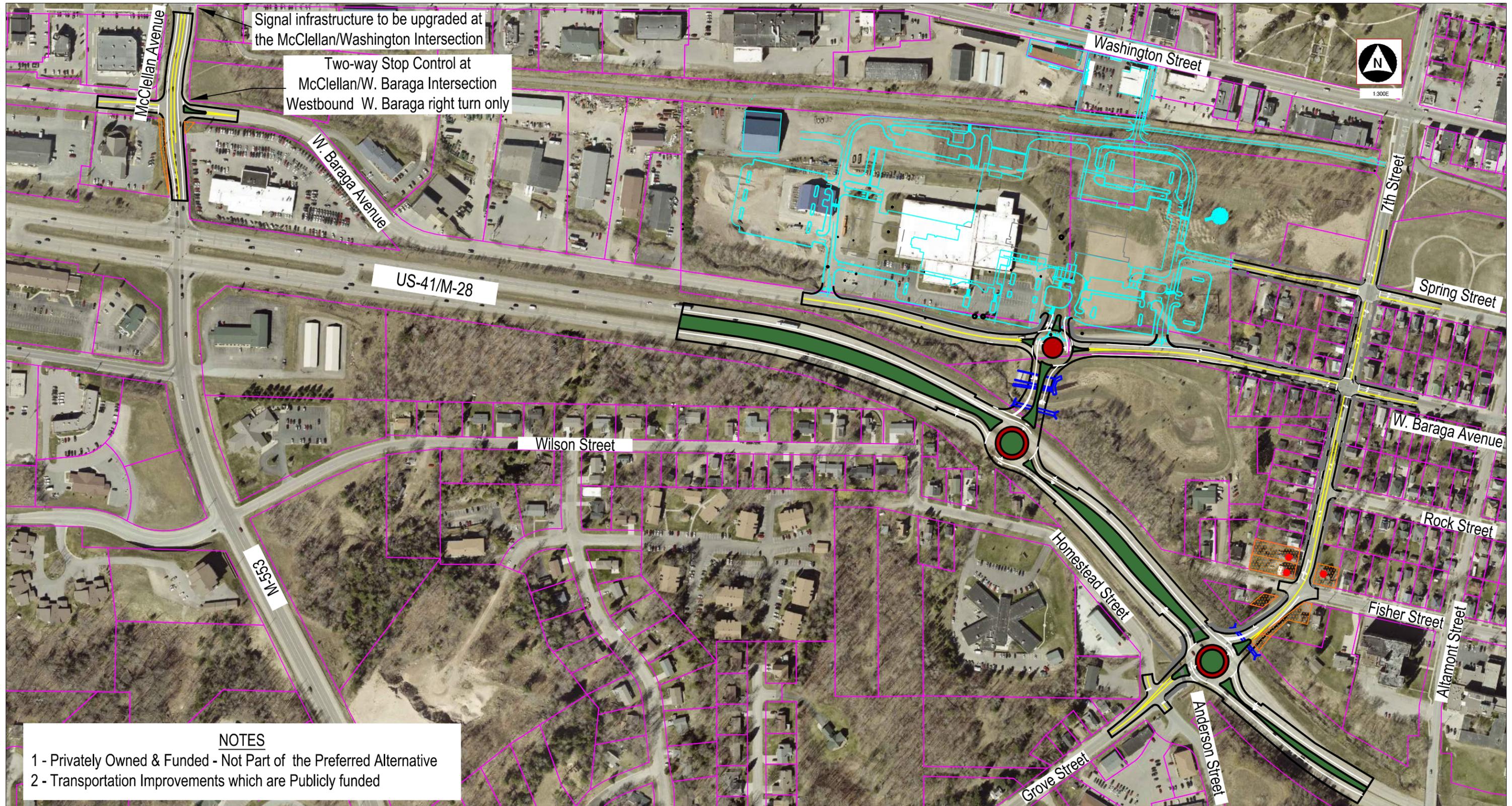


**Figure 1 - Project Location Map**

**Marquette Hospital Transportation  
Improvements Project  
Environmental Assessment  
City of Marquette  
Marquette County, Michigan**

**June 2016**





Signal infrastructure to be upgraded at the McClellan/Washington Intersection

Two-way Stop Control at McClellan/W. Baraga Intersection  
Westbound W. Baraga right turn only



**NOTES**

1 - Privately Owned & Funded - Not Part of the Preferred Alternative

2 - Transportation Improvements which are Publicly funded

**MARQUETTE HOSPITAL  
TRANSPORTATION IMPROVEMENTS  
PROJECT ENVIRONMENTAL  
ASSESSMENT**



**FIGURE 2  
PREFERRED ALTERNATIVE**

June 2016 74

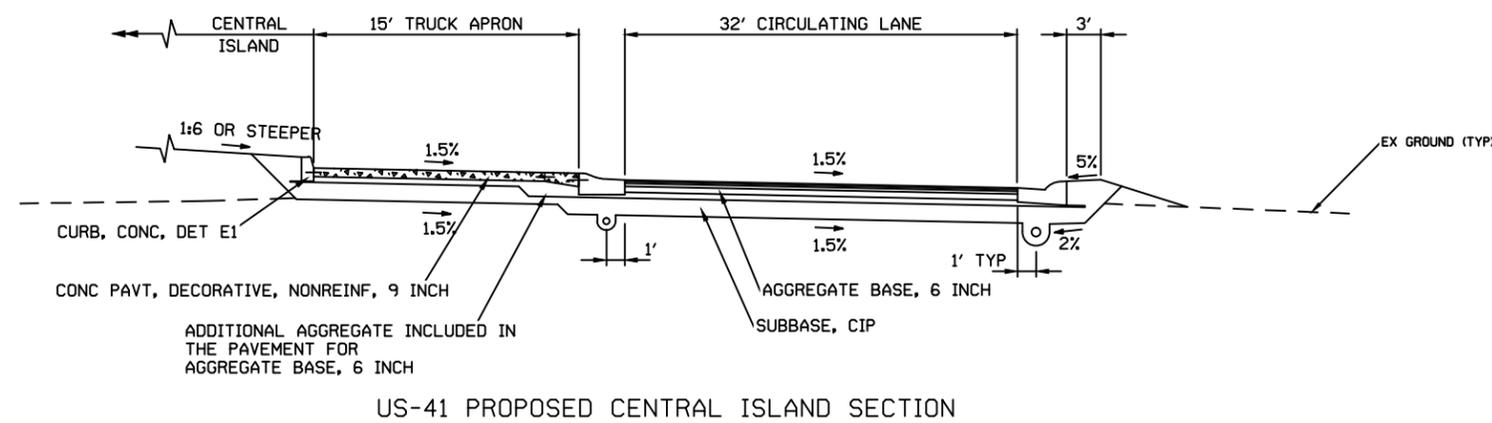
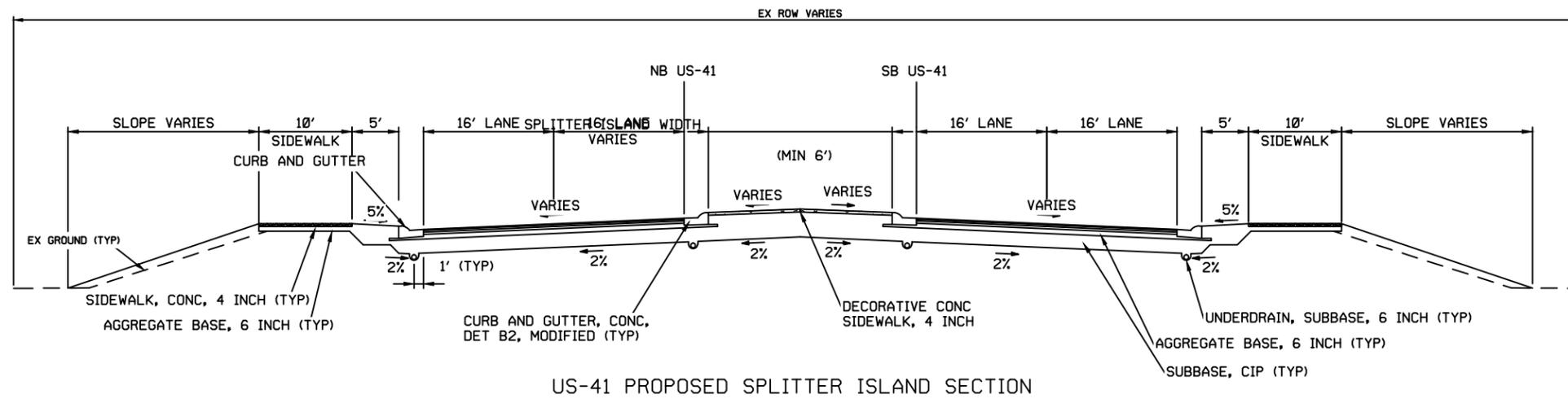
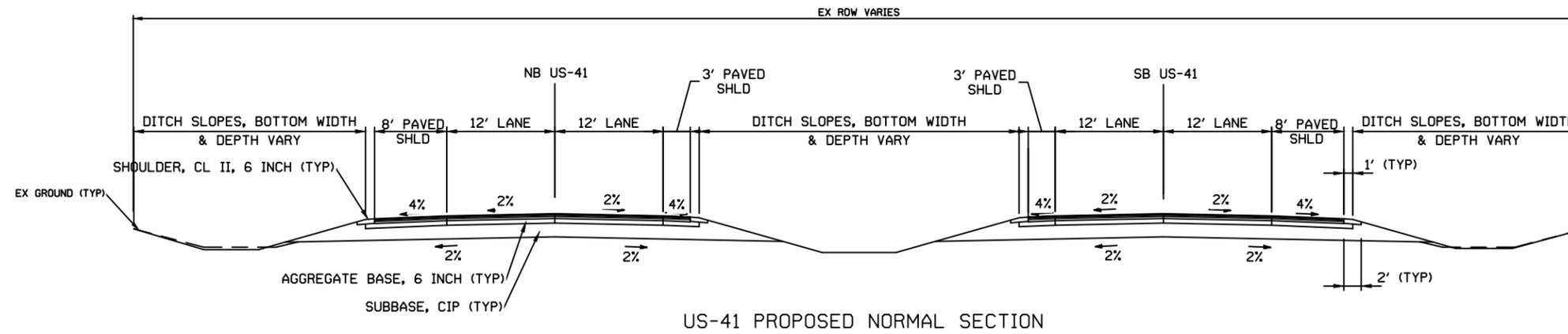
- Existing Parcel Boundaries ———
- Proposed Hospital Site Plan<sup>1</sup> ———
- Proposed Culvert ———
- Proposed Pedestrian Facility ———

- Legend**
- Proposed Median/Roundabout Islands
  - Proposed Pavement Markings

- Proposed Road<sup>2</sup> Improvements
- Potential Property Acquisition
- Potential Relocation ●



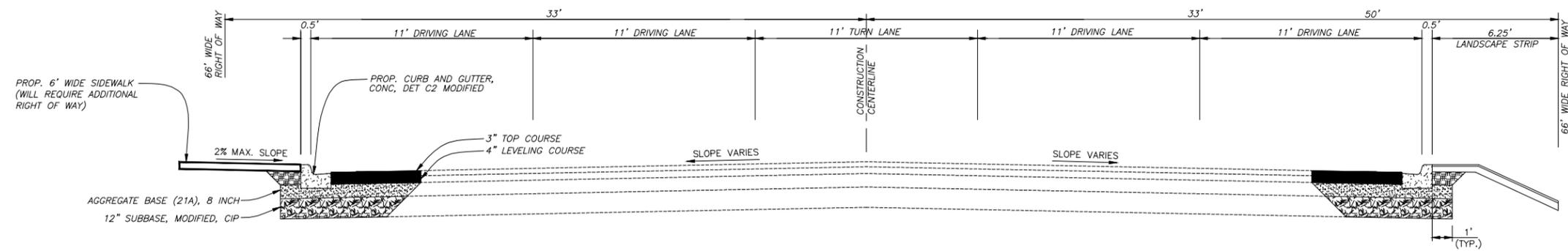
Recognized Environmental Conditions		Wetlands		Potential Property Acquisition	
Noise Monitoring Location		100-Year Floodplain		Potential Relocation	
Section 4(f) Property		Sensitive Noise Receptor	<b>2</b>		



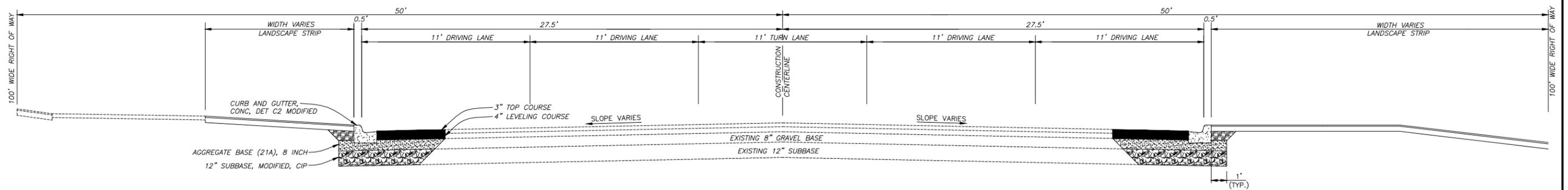
MARQUETTE HOSPITAL  
TRANSPORTATION IMPROVEMENTS  
PROJECT ENVIRONMENTAL  
ASSESSMENT



FIGURE 4A  
PROPOSED TYPICAL CROSS SECTIONS – US-41

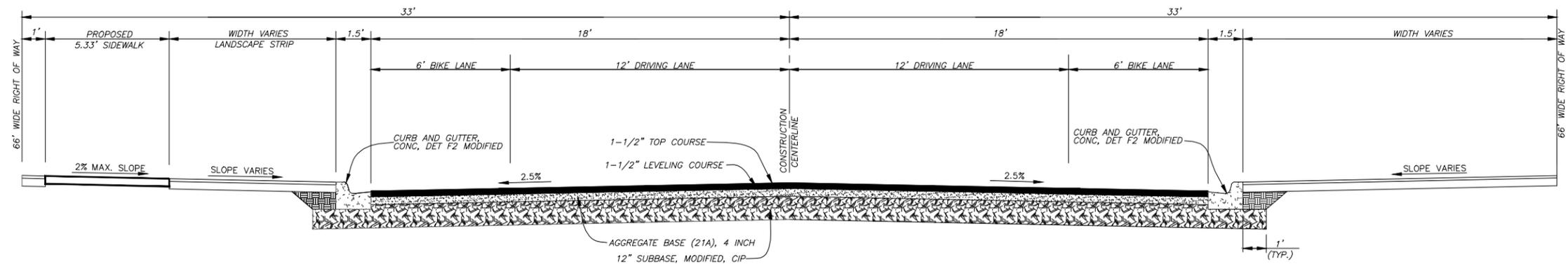


MCCLELLAN AVENUE – US41 TO BARAGA  
PROPOSED SECTION

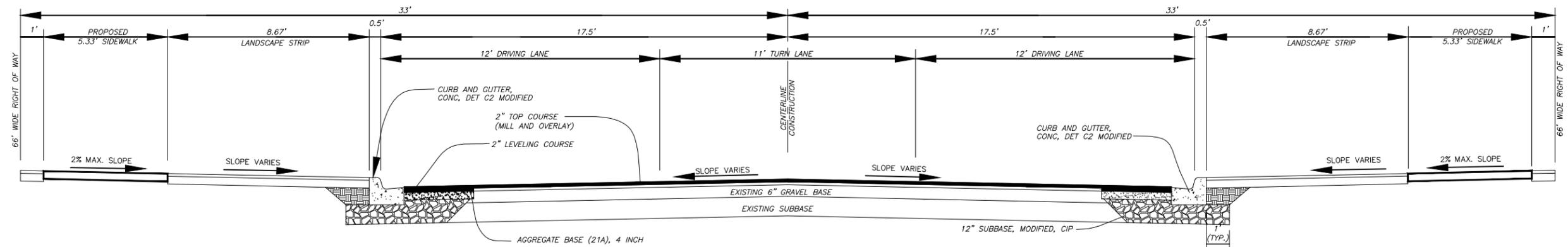


MCCLELLAN AVENUE – BARAGA TO WASHINGTON  
PROPOSED SECTION





W. BARAGA AVE PROPOSED SECTION



S. 7TH ST PROPOSED SECTION



## Appendix A

# City Council Resolution in Support of the Preferred Alternative



*Resolution in Support of Advancing Alternative 2 as the  
"Preferred Alternative" for Transportation Improvements Related  
to the Marquette Hospital Relocation Study*

**WHEREAS**, the City of Marquette has previously entered into a purchase agreement with Duke LifePoint (DLP) dated August 3, 2015 (henceforth referred to as "the purchase agreement"), the terms of which define certain transportation improvements which will be advanced by the City of Marquette; and,

**WHEREAS**, DLP has received Planned Unit Development approval of the proposed new hospital site plan; and,

**WHEREAS**, consistent with the terms of the purchase agreement, the City of Marquette has carefully studied a variety of potential transportation improvement alternatives which meet the project goals and objectives. These improvements are located along US-41 as well as local roads and streets; and,

**WHEREAS**, the City of Marquette is responsible for selection of a preferred alternative which will receive further study, engineering development, public input, regulatory agency review, and documentation in an Environmental Assessment (EA) document; and,

**WHEREAS**, the City of Marquette has undertaken substantial public involvement activities related to the project, including open house meetings, formal presentations, and small group meetings with affected residents; and,

**WHEREAS**, the City of Marquette has undertaken coordination activities with numerous stakeholders and governmental agencies potentially having jurisdiction over the project; and,

**WHEREAS**, the City of Marquette has coordinated closely with the Michigan Department of Transportation (MDOT) and the Federal Highway Administration (FHWA), the two agencies having jurisdiction over US-41; and,

**WHEREAS**, MDOT and FHWA staff have indicated their support for Alternative 2; and,

**WHEREAS**, DLP representatives have indicated their support for Alternative 2; and,

**WHEREAS**, Alternative 2 includes multimodal improvements to the transportation system; and,

**WHEREAS**, Alternative 2 provides significant improvements to traffic circulation and safety for the traveling public; and,

**WHEREAS**, Alternative 2 is consistent with applicable regional and City planning documents and processes; and,

**WHEREAS**, compared to all other options considered, Alternative 2 best meets all project goals and objectives within a reasonable construction budget, while minimizing negative impacts; and,

**WHEREAS**, The City of Marquette Planning Commission unanimously supports Alternative 2;

**THEREFORE, BE IT RESOLVED** by the Marquette City Commission:

1. Alternative 2 (as shown in the attached "Exhibit A") shall be advanced as the "preferred alternative" through the remainder of the study process, with the intent of satisfying all applicable MDOT and FHWA requirements for approval;
2. The City Manager and City staff shall have the authority to make reasonable adjustments and refinements to the concept design shown in Exhibit A. Such adjustments may include, but are not limited to:
  - a. implementation of a roundabout at the new Hospital Drive/Baraga Avenue intersection;
  - b. revised control at the intersection of Baraga Avenue/McClellan Avenue, based on the outcome of further study;
  - c. other changes needed to obtain approvals from MDOT, FHWA, regulatory agencies, or other similar groups;
3. The City Manager and City staff shall identify, for further consideration by this body, real estate parcels which may be subject to permanent acquisition, temporary easements, or other impacts which may be compensable, resulting from advancement of the preferred alternative; and,
4. The City Manager and City staff shall identify necessary revisions to the DLP preliminary site plan resulting from implementation of the preferred alternative, and will subsequently coordinate with DLP staff to update the site plan and receive approval of such.

**DATED** this 17<sup>th</sup> day of March, 2016.

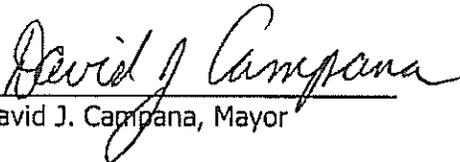
  
\_\_\_\_\_  
David J. Campana, Mayor

Exhibit A



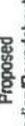
**CITY OF MARQUETTE  
HOSPITAL RELOCATION  
STUDY**




**FIGURE 2  
ALTERNATIVE 2**

February 2016

**Legend**

	Proposed Hospital Site Plan		Proposed Road Improvements
	Proposed Culvert		Potential Property Acquisition
	Proposed Pedestrian Facility		Potential Relocation
			
	Proposed Median/Roundabout Islands		
	Proposed Pavement Markings		

## Appendix B

### Early Coordination Letters



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY  
STATE HISTORIC PRESERVATION OFFICE

KEVIN ELSENHEIMER  
EXECUTIVE DIRECTOR

June 1, 2016

PATRICK MARCHMAN  
FEDERAL HIGHWAY ADMINISTRATION  
315 W ALLEGAN STREET ROOM 201  
LANSING MI 48933

RE: ER16-135 Marquette Hospital Transportation Improvements, Sec. 22 & 23, T48N, R25W, City of Marquette, Marquette County (FHWA)

Dear Mr. Marchman:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties are affected within the area of potential effects of this undertaking.

This letter evidences the FHWA's compliance with 36 CFR § 800.4 "Identification of historic properties," and the fulfillment of the FHWA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected." **If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.**

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking.

If you have any questions, please contact Brian Grennell, Cultural Resource Management Specialist, at 517-335-2721 or by email at GrennellB@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

  
Brian G. Grennell  
Cultural Resource Management Specialist

for Brian D. Conway  
State Historic Preservation Officer

SAT:BGG

Copy: Lloyd Baldwin, MDOT  
Wes Butch, DLZ Michigan, Inc.





May 13, 2016

Mr. Aaron Johnson, Manager  
MDOT Ishpeming Transportation Service Center  
100 S. Westwood Dr.  
Ishpeming, MI 49849

RE: Marquette Hospital Transportation Improvements Project – City of Marquette Multi-Use Pathway (Commonly known as the “Iron Ore Heritage Trail”)

Dear Mr. Johnson,

As the sponsor of the Marquette Hospital Transportation Improvements Project (project), the City of Marquette (City) supports the project.

As you are aware, the City has been conducting ongoing coordination with MDOT staff from the Ishpeming TSC and central office in Lansing regarding the proposed project. Along McClellan Avenue, the proposed project would result in temporary construction impacts to the City’s multi-use pathway, which has been determined to qualify as a Section 4(f) property (this pathway is designated as part of the Iron Ore Heritage Trail). In the project area, this pathway is located completely within right-of-way owned by the City. The City agrees this project would have no significant impact to this resource, and the temporary work within the pathway right-of-way would not impair the use of this Section 4(f) property for its intended purpose.

The City understands and agrees that as a result of this project, that the proposed work will not result in any temporary or permanent adverse change to the current activities, features, or attributes which are important to the purposes or functions that qualify the pathway for protection under Section 4(f). The City has also reviewed and agrees to the assessment of the impacts of the proposed project as well as the proposed mitigation for this project.

As mitigation measures, the pathway will be fully restored to its existing condition after construction is completed; access to and use of the pathway will be maintained during construction using minor route adjustments and/or temporary pavement; and a barrier will be maintained between the pathway and construction activities.

The City appreciates the opportunity to provide this determination.

Sincerely,

Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette

## Jason Whitten

---

**From:** Wes Butch  
**Sent:** Thursday, September 17, 2015 11:29 PM  
**To:** Stephen G. Metzger, AICP, PWS  
**Cc:** Jason Whitten  
**Subject:** FW: Non-regulated wetland - stormwater basin south of Baraga Avenue

Steve – FYI, here is email I referenced that I would fwd to you.

---

**From:** Greg Borzick [<mailto:gborzick@mqctcy.org>]  
**Sent:** Thursday, September 17, 2015 12:01 PM  
**To:** Wes Butch  
**Cc:** STACHEWICZ, DENNIS; WHITTINGTON, KEITH; Johnson, Aaron (MDOT); Tervo, Robert (MDOT); STENSAAS, DAVID  
**Subject:** Non-regulated wetland - stormwater basin south of Baraga Avenue

Hi Wes,

Below is the email from the DEQ that you requested relative to the wetland status of the stormwater basin located south of Baraga Avenue.

Per the email below, the stormwater basin is not a regulated wetland, however work in/near the basin may be regulated under Part 301, Inland Lakes & Streams.

The basin may also be regulated relative to the floodplain issues we discussed today if the volume of the basin is decreased.

Thanks,  
Greg

----- Forwarded message -----

**From:** Gustafson, John (DEQ) <[GUSTAFSONJ2@michigan.gov](mailto:GUSTAFSONJ2@michigan.gov)>  
**Date:** Tue, Feb 18, 2014 at 2:06 PM  
**Subject:** RE: Detention pond  
**To:** Greg Borzick <[gborzick@mqctcy.org](mailto:gborzick@mqctcy.org)>, "WHITTINGTON, KEITH" <[kwhittington@mqctcy.org](mailto:kwhittington@mqctcy.org)>, "COMPTON, JIM" <[jcompton@mqctcy.org](mailto:jcompton@mqctcy.org)>

Hi Greg,

I was able to retrieve the old files from our records center and determined that the DEQ issued a permit 96-03-0194-P for construction of this detention basin with a diversion structure and outfall to Whetstone Creek. From the file I was able to determine that the area of the pond was indeed upland prior to construction of the basin. Therefore any wetland incidentally created in the basin is not regulated under Part 303, Wetlands Protection of NREPA. Any work on the basin still may be regulated under Part 301, Inland Lakes and Stream and the floodplain issue we discussed earlier would still need to be investigated.

Let me know if you have any questions.

Thanks, and have a great day,

John G.



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UPPER PENINSULA DISTRICT OFFICE



DAN WYANT  
DIRECTOR

November 21, 2014

Mr. Sheldon Van Drese  
TriMedia Environmental & Engineering  
SVanDrese@trimediae.com

Dear Mr. Van Drese:

SUBJECT: Floodplain Service Number: 14-52-0017-FP  
Marquette Hospital Site  
Whetstone Brook  
Section 22, T 48N, R 25W  
City of Marquette, Marquette County

This is in response to your request of November 13, 2014, concerning the proposed hospital site located adjacent to Whetstone Brook in Marquette.

A detailed flood study has not been conducted for the stream in this area. Available information indicates that the 100-year flood elevation of Whetstone Brook is estimated to be 9.5 feet above the stream bottom at the upstream face of Grove Street. The 100-year flood elevation or normal depth of the creek (no crossing) is estimated to be 5 feet above the stream bottom at 902 W. Baraga which is upstream of this site. Any crossings between the two locations would impact flood stages. If there are no crossings, extend the 9.5 feet above Grove Street horizontally until it meets the normal depth, 5 feet above stream bottom, slope upstream of the project for an estimate. A detailed study of the creek may be required especially if a new stream crossing is proposed.

Any new construction, occupation, filling, or grading below the 100-year floodplain elevation requires a permit from the Water Resources Division under the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). Compensating cut for more than 300 cubic yards of fill placed in the floodplain must be provided.

In general, construction and fill may be permitted in portions of the floodplain that are not floodway, provided local ordinances and building standards are met. Floodways are the channel of the stream or drain and those portions of the floodplain adjoining the channel that are reasonably required to carry and discharge the 100-year flood. These are generally the areas of moving water during a flood. Work activity in the floodway will normally require an engineering analysis to verify that the proposal does not increase the floodplain elevation on upstream properties.

Any new construction must meet the elevation requirements of the Michigan Building Code that deal with floodplains which may be very restrictive.

The City of Marquette participates in the National Flood Insurance Program (NFIP). Proper enforcement of the building code standards is a prerequisite of the community's participation in the NFIP. Additional local requirements may also apply and be more restrictive. In the NFIP communities, flood insurance must be purchased as a condition of obtaining a federally insured

mortgage in federally identified 100-year floodplain areas. Insurance rates can be very high for new construction if the lowest floor elevation standards are not met.

No review has been performed as part of this service to determine whether wetlands exist at this subject site. Wetlands are regulated under the authority of Part 303, Wetlands Protection, of the NREPA. The existence of wetlands may restrict the development on site. If you are unsure of the presence of wetlands, it is recommended that you contact the Water Resources Division concerning the Wetlands Identification Program (WIP) or engage a private wetland consultant. For more information regarding the WIP, please contact Mr. Keto Gyekis, Inland Lakes and Wetlands Unit, at 517-284-5534. If the project will impact wetlands, please contact Ryan McCone of this office at (906) 228-4802 for a permit application and information. The permit application may also be found at the following internet address: [www.michigan.gov/jointpermit](http://www.michigan.gov/jointpermit).

This letter does not obviate the need for any other State, Federal, or local permits which may be required by law. If you have any further questions regarding the floodplain requirements, please feel free to contact me at 906-228-4803.

Sincerely,



Sheila B. Meier, P.E.  
Environmental Engineer  
Water Resources Division

cc: Jim Compton, City of Marquette Engineering Department  
Ryan McCone, Water Resources Division, Marquette



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UPPER PENINSULA DISTRICT OFFICE



DAN WYANT  
DIRECTOR

June 15, 2015

TriMedia Environmental & Engineering Services, LLC  
Attn: Mylan Koski  
1002 Harbor Hills Drive  
Marquette, Michigan 49855

SUBJECT: Preapplication Meeting – Site Inspection Summary  
Michigan Department of Environmental Quality (MDEQ)  
File Number 14-52-0095-P

Dear Mr. Koski:

This letter is a follow-up to our June 15, 2015 preapplication meeting site inspection at the City of Marquette Municipal Services Property and former Roundhouse Property, areas in the City of Marquette being considered for redevelopment into a new hospital. The purpose of a preapplication meeting is to provide you with information that will clarify the permit process, answer preliminary questions about your specific project in order to avoid delays at a later date, and to determine, if possible, the need for wetland or inland lakes and streams permits.

During this meeting we reviewed the need to obtain a DEQ permit under Part 301, Inland Lakes and Streams, and Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). The review was based on inspection of and discussion about six locations on the property suspected to be wetland and identified as W1-W6 on the attached figures (Note: W6 has been further subdivided into three smaller sub-areas, W6A-W6C).

Based on field observations made at the site and our discussion of the project, the MDEQ's Water Resources Division (WRD) has determined that neither a Part 301 nor a Part 303 permit will be required for redevelopment in areas W1, W4, W5, or W6A-C. Of those areas, W1, W5, W6A, and W6B were determined not to be wetlands. Area W4 is a manmade stormwater detention basin that was created in upland and is therefore exempt from MDEQ wetland permitting under Section 30305(4) of Part 303. Area W6C is also a manmade feature, a ditch constructed in upland along the pedestrian/bike trail. It is exempt from wetland permitting under Section 30305(4) of Part 303. Further, Area W6C is less than 5 acres in size (based on constructed ditches' plainly visible boundaries) and more than 500 feet from the nearest inland lake or stream. As such, it is not regulated by Part 303.

Field observations did confirm the presence of regulated wetland along the Whetstone Brook riparian corridor in Areas W2 and W3. Any work proposed in wetland portions of Areas W2 and/or W3 will require a Part 303 permit from MDEQ. It should be noted that some upland inclusions in this corridor were also observed. Using such uplands may provide one or more prudent and feasible alternatives to impacting wetlands there should any component of the site redevelopment need to occur in these areas. Further, activities in Areas W2 and W3 waterward the Ordinary High Water Mark (OHWM) of Whetstone Brook (e.g., temporary or permanent stream crossings, viewing platforms, etc.) will require a Part 301 permit from MDEQ.

June 15, 2015

- A permit is required for the project if any proposed work occurs in the regulated wetlands of areas W2 and/or W3, or waterward the Whetstone Brook OHWM.
- A permit is not required for the project as proposed.
- It cannot be determined whether a permit is required given the information presented at this time.

This determination is based on the attached project figures prepared and submitted by TriMedia. Provided that the proposed project and location are not altered, this determination is binding on MDEQ for a period of two years from the date of this meeting.

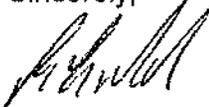
During the meeting, we also discussed a number of issues related to the project, including the following:

- Possible alternative design options to minimize project effects on aquatic resources, *specifically* if work is proposed in Areas W2 or W3, the upland inclusions in those areas may provide a prudent and feasible alternative for avoiding and/or minimizing project impacts to regulated wetland.
- Potential floodplain effects. We recommend that you discuss this issue further with the WRD District Floodplain Engineer, Ms. Sheila Meier.

Please note that this is not a permit. The WRD cannot indicate during a preapplication meeting whether or not a permit will be issued. The WRD cannot make a decision regarding a permit until it has considered all of the information provided in the final permit application, and, in some instances, has also considered comments received in response to a public notice of the project. Therefore, WRD staff cannot legally tell you whether the project will be permitted in advance of a permit application being submitted and reviewed.

Thank you for the opportunity to meet with you, inspect the proposed project site, and discuss the concerns noted above. The MDEQ file number assigned to this pre-application meeting is 14-52-0095-P. Please keep a record of this file number and use it when corresponding with our office regarding this project. If you have any additional questions, please contact me at the number below [mconer@michigan.gov](mailto:mconer@michigan.gov); or MDEQ, WRD, Upper Peninsula District Office, 1504 W. Washington Street, Marquette MI, 49855.

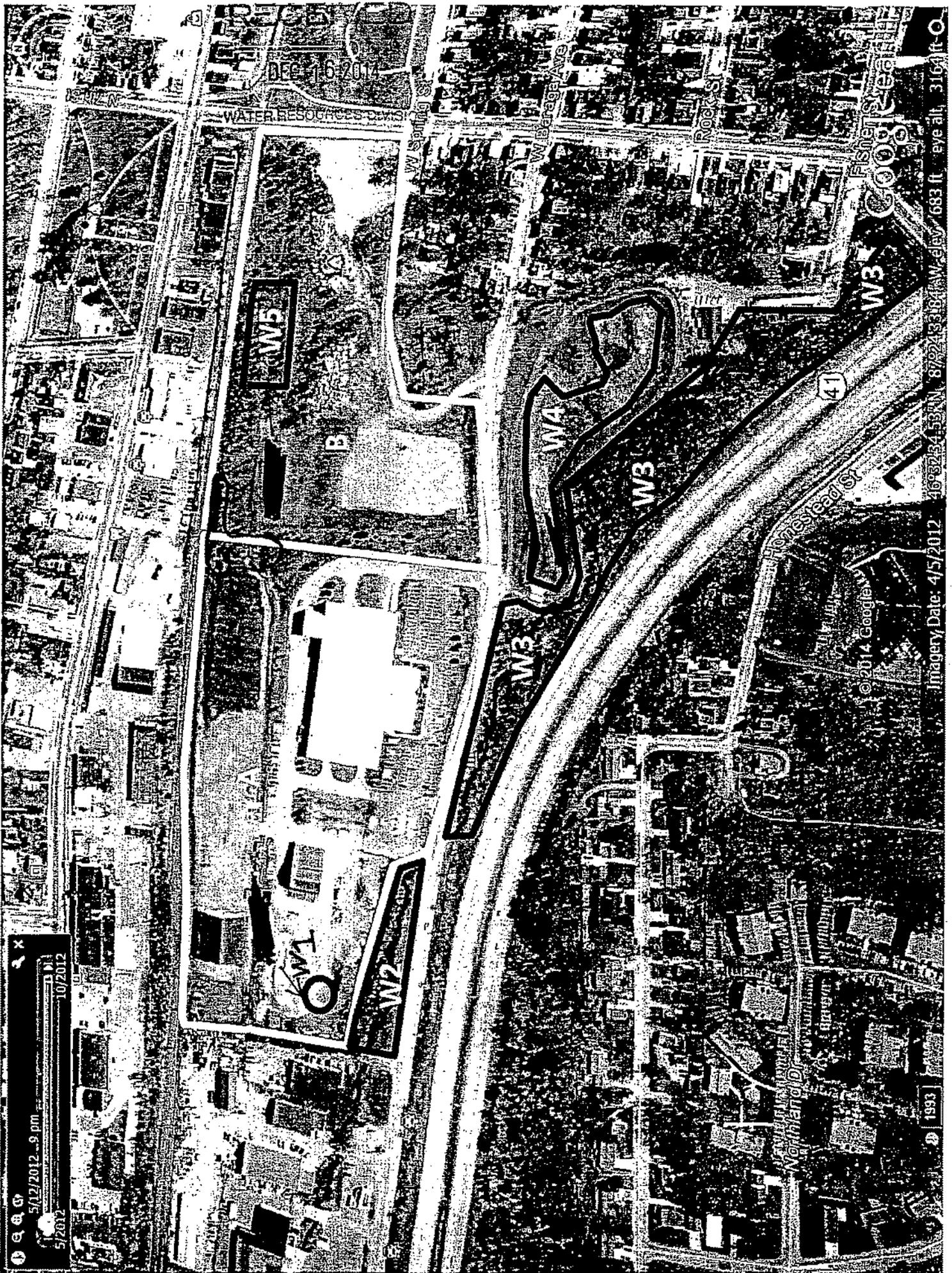
Sincerely,



Ryan McCone  
Water Resources Division  
906-228-4802

Enclosure

cc: Duke LifePoint - Greg Zarnick (Applicant)  
City of Marquette - Dennis Stachewicz (Owner)



5/12/2012 9:00 am  
5/12/2012 10/2012

DEC 16 2011

WATER RESOURCES DIVISION

W5

B

W1

W2

W3

W4

W3



9170/2014 7 am

J41 W

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8000 S 66  
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W6

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STATE OF MICHIGAN  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
LANSING

RICK SNYDER  
GOVERNOR

NICK LYON  
DIRECTOR

September 14, 2015

Mr. Mark Kopson  
Plunkett Cooney  
38505 Woodward Avenue, Suite 2000  
Bloomfield Hills, MI 48304

Re: Certificate of Need for  
Marquette General Hospital  
CON Application No. 15-0114  
Facility No. 52-0050  
Marquette (Marquette County)

Dear Mr. Kopson:

This is to inform you that the proposed project to replace the licensed hospital and its covered services and beds has been reviewed and is approved with the following summary comments.

### BACKGROUND

This Certificate of Need (CON) application for the replacement of an existing health facility was filed as a single, consolidated application in accordance with MCL 333.22209(11). In addition, the Department has determined as required by the CON Review Standards for Hospital Beds, that the replacement hospital will be assigned to the same hospital group as the existing hospital.

### PROPOSED PROJECT DESCRIPTION

Certificate of Need (CON) Application No. 15-0114 is proposed by DLP Marquette General Hospital, LLC, a Michigan domestic limited liability company (CID No. D77002), located at 420 West Magnetic Street, Marquette, MI 49855. The authorized agent for this application is Mark Kopson, Plunkett Cooney, located at 38505 Woodward Avenue, Suite 2000, Bloomfield Hills, MI 48304.

The applicant, DLP Marquette General Hospital, LLC, proposes to begin operation of a health facility at a site that is not currently licensed for that type of health facility; make a change in bed capacity of a health facility; initiate, replace, or expand a covered clinical service; and make a covered capital expenditure.

**PROPOSED PROJECT DESCRIPTION** - continued

Specifically, the applicant proposes to replace the existing hospital, Marquette General Hospital, currently located at 420 West Magnetic, Marquette, MI 49855, to a 37-acre parcel located north of US-41, south of Washington Street, and west of South 7th Street (postal address not yet assigned), Marquette, MI 49855 (Marquette County).

The applicant proposes to replace the existing hospital to a newly constructed building within the replacement zone [approximately one (1) mile from the existing site]. Under Section 3(2) of the CON review Standards for Hospital Beds, the replacement hospital has been assigned to Hospital Group 28, which is the same Hospital Group as the current site.

The new replacement hospital is estimated to be 601,623 square feet. The replacement hospital has not yet been fully designed, but will include space for diagnostic and therapeutic services, patient care services, administrative support services, operational support services, and a grossing factor for circulation, central power plant, mechanical, electrical and telecommunications areas.

The hospital is currently licensed for 264 hospital beds. The applicant will replace 222 hospital beds into the replacement hospital site and delicense 42 hospital beds. The applicant will continue to operate the Emergency Department at the replacement hospital site.

The following services will also be replaced to the new site for the hospital:

- Ten (10) neonatal intensive care unit (NICU) beds,
- 37 adult psychiatric beds,
- Six (6) child/adolescent psychiatric beds,
- Ten (10) operating rooms located on the sterile corridor and two (2) C-section rooms for surgical services,
- Three (3) fixed computed tomography (CT) scanners,
- Two (2) fixed MRI units,
- Four (4) cardiac catheterization laboratories (CCLs),
- Open heart surgery service,
- One (1) nonspecial MRT unit,
- A host site on PET Mobile Network No. 132 and Network No. 122, and
- A host site on Lithotripsy Mobile Network No. 119 and Network No. 74.

Although costs for replacement covered clinical equipment have been included in the total project costs for this application, the applicant is not presently seeking approval for replacement of any covered clinical equipment. In the future, the applicant will file separate CON applications seeking approval for replacement of the specific covered clinical equipment, as appropriate.

**PROPOSED PROJECT DESCRIPTION** - continued

Upon completion of the proposed project, the applicant will operate a licensed hospital with 222 hospital beds, 10 NICU beds, 37 adult psych beds, six (6) child/adolescent psych beds, 10 operating rooms located on the sterile corridor and two (2) C-section rooms for surgical services, three (3) fixed CT scanners, two (2) fixed MRI units, four (4) CCLs, open heart surgery service, one (1) nonspecial MRT unit, a host site on PET Network Nos. 132 and 122, and a host site on Litho Network Nos. 119 and 74. At no time will the applicant operate more than the above referenced number of licensed beds and covered clinical services without first obtaining CON approval. According to the applicant, the project will require 34 additional FTE's.

**PROPOSED PROJECT COSTS**

New Construction – Clinical	\$ 145,781,800
New Construction – Non-Clinical	58,468,200
Architect/Engineering Fees	20,225,000
Contingencies	20,225,000
Feasibility Study/Surveys	4,045,000
Site Preparation	10,000,000
Fixed Medical Equipment	16,105,000
Fixed Non-Medical Equipment	15,000,000
Covered Clinical Equipment	8,895,000
Movable Equipment (Medical & Non-Medical)	31,500,000
Fees (Consulting, Legal, Banking, etc.)	4,045,000
Land Purchase	10,000,000
Interest During Construction	<u>47,308,842</u>
Total Project Costs	<u>\$ 389,598,842</u>

**PROPOSED SOURCES OF FUNDS**

Mortgages/Loans (FHA, HUD, etc.)	<u>\$ 389,598,842</u>
Total Sources of Funds	<u>\$ 389,598,842</u>

**COMMENTS**

The Michigan Department of Health and Human Services has reviewed and determined that the project is in conformance with Public Act 368 of 1978, as amended, and applicable review standards. The basis for this decision is detailed under justification of approval.

**JUSTIFICATION OF APPROVAL**

The facts submitted by the applicant in the CON application are assumed to be true. Based upon these facts, the Department makes the following findings with respect to Part 222:

JUSTIFICATION OF APPROVAL - continued

<u>Part 222</u>	<u>Findings</u>
22225(1)	Section Met
(2)(a)	Section Met
(b) (i)	Section Met
(ii)	Section Met
(iii)	Section Met
(iv)	Section Met
(c)	Section Met
(d)	Not Applicable
(e)	Not Applicable
22227	Not Applicable
22230	Not Applicable

The reasons and authority for these findings are set forth in the program and financial reports.

NOTIFICATION TO APPLICANT

In accordance with Rule 325.9403(1), the CON issued will be valid for a period of one (1) year from the effective date of this letter. If the project is not complete within the year, an enforceable contract or force account must be in place. An extension to execute the enforceable contract or force account may be granted by the Department for just cause in accordance with Rule 325.9403(2).

As applicable, Rule 325.9103(b) requires that an enforceable contract for any covered clinical equipment specify that the installation date will be within 24 months after the effective date of the CON. Rule 325.9417 requires that the period of time allowed to begin any construction (i.e., pouring of footings) be within 24 months from the effective date of approval. The CON is valid only as long as there is compliance with the provisions of Rule 325.9401, and is not transferable.

A CON is valid for the term of the lease as stated in this approval letter, if applicable, for a health facility or covered clinical equipment. An applicant is required to file another CON to renew a lease for a health facility if the total renewal lease cost exceeds the covered capital expenditure threshold or as otherwise stated in the applicable CON review standards. For covered clinical equipment, an applicant is required to file another CON to renew a lease as required in the applicable CON review standards. In the case of an equipment lease in which the applicant purchases the equipment at the end of the lease, the CON is valid until the equipment is replaced.

If the total project costs exceed the approved amount in this CON by 15 percent of the first \$1 million and 10 percent of the excess over \$1 million, the applicant is required to seek an amendment to the approved CON in accordance with Rule 325.9415.

Mr. Mark Kopson  
CON Application No. 15-0114  
Page 5

Additionally, if the scope of the project or method and terms of financing of the project changes, an amendment or new review will be required in accordance with Rule 325.9413.

As part of this CON approval, and in accordance with applicable CON review standards, the applicant is required to obtain and maintain statistical data in order to complete and submit a MDHHS Annual Survey. The annual survey is available online at [www.michigan.gov/con](http://www.michigan.gov/con).

In addition to the rules stated in this letter, the applicant must conform and comply with all CON Administrative Rules. This CON is not to be construed as approval for any other state or federal regulatory review, licensing, or certification. The rules and contact information for other state regulatory agencies are available online at [www.michigan.gov/con](http://www.michigan.gov/con).

A Project Implementation Progress Report (PIPR) form must be completed and returned no later than 12 months from the date of the final decision letter signed by the Director. Failure to submit this report may result in the imposition of sanctions in accordance with MCL 333.22247. The form is available online at [www.michigan.gov/con](http://www.michigan.gov/con).

If this decision is marked proposed decision, it will be followed by the Director's final decision in accordance with Section 22231 of Public Act 368 of 1978, as amended.

If this is a final decision, the decision will be signed and dated by the Director or the Director's designee. The final signed decision date is the official effective date of this CON.

Thank you for your cooperation in the planning process.

Sincerely,



Nick Lyon  
Director

NL: jld

Final Decision Date: 9/14/15

cc: ✓ Abigail Mitchell, CON, MDHHS  
Joette Laseur, CON, MDHHS  
James Scott, BCHS, MDLARA  
Lerry Horvath, Licensing & Certification, BCHS, MDLARA  
Bruce Matkovich, Radiation Safety Section, MIOSHA, MDLARA



STATE OF MICHIGAN  
 MICHIGAN STATE HOUSING DEVELOPMENT AUTHORITY  
 STATE HISTORIC PRESERVATION OFFICE

RICK SNYDER  
 GOVERNOR

KEVIN ELSSENHEIMER  
 EXECUTIVE DIRECTOR

RECEIVED

FEB 16 2016

DLZ

February 3, 2016

DENNIS STACHEWICZ  
 CITY OF MARQUETTE  
 300 W BARAGA AVENUE  
 MARQUETTE MI 49855

RE: ER16-135 Hospital Relocation Study – Environmental Assessment, City of Marquette, Marquette County

Dear Mr. Stachewicz:

The State Historic Preservation Officer (SHPO) received your early coordination notification for the above-cited project at the location noted above. The SHPO consults on projects involving federal agencies under Section 106 of the National Historic Preservation Act of 1966, as amended, which requires federal agencies to take into account the effect of their undertakings on historic properties. It is the responsibility of the federal agency, not the SHPO, to fulfill the requirements of Section 106. Under the Section 106 regulations, the SHPO responds with a determination that they either concur or disagree with an adequately-documented determination of eligibility and an adequately-documented determination of effect made by the agency.

As this is early coordination and not enough information on the proposed undertaking is available at this time, and in fact, no federal agency has been identified as part of this project. Therefore, it is premature for the SHPO to provide meaningful comment.

The Section 106 regulations specify what is required for a Section 106 review [36 CFR § 800.11]. The mandatory application form and instructions for submitting projects for review under Section 106 may be downloaded in MS Word format from our website at <http://www.michigan.gov/shposection106>. As more definitive plans are being developed, a section 106 application must be submitted to the SHPO for review, comment and meaningful consultation.

We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR § 800.2(c)(2)(ii).

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Brian Grennell, Cultural Resource Management Specialist, at 517-phone or by email at [grennellb@michigan.gov](mailto:grennellb@michigan.gov). Please reference our project number in all communication with this office regarding this undertaking. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

  
 Brian G. Grennell  
 Cultural Resource Management Specialist

for Brian D. Conway  
 State Historic Preservation Officer

BGG

Copy: Wes Butch, DLZ Michigan, Inc.

Enclosure(s)



**From:** Wes Butch  
**Sent:** Thursday, February 04, 2016 6:00 PM  
**To:** Dennis Stachewicz; KEITH WHITTINGTON; 'Johnson, Aaron (MDOT)'; Tervo, Robert (MDOT)  
**Cc:** Jason Whitten  
**Subject:** FW: City of Marquette Hospital Relocation

FYI

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**From:** Wes Butch  
**Sent:** Thursday, February 04, 2016 5:59 PM  
**To:** 'Stanifer, William B CIV'  
**Subject:** RE: City of Marquette Hospital Relocation

Mr. Stanifer - thank you for your email. At this point in time, I do not believe we need anything more official. Should that change, we will be in touch with you.

Regards,

Wes

**Wes Butch** | Transportation Division Manager/Planning Division Manager

517-908-4980 (office) | 517-272-7390 (fax) | 517-930-8024 (cell)  
[wbutch@dlz.com](mailto:wbutch@dlz.com) | [www.dlz.com](http://www.dlz.com)



[LinkedIn](#) | [Twitter](#) | [FaceBook](#) | [Issuu](#)

-----Original Message-----

**From:** Stanifer, William B CIV [<mailto:William.B.Stanifer@uscg.mil>]  
**Sent:** Wednesday, February 03, 2016 2:01 PM  
**To:** Wes Butch  
**Subject:** City of Marquette Hospital Relocation

Mr. Butch,

I'm writing in regards to the Early Preliminary Engineering (EPE) study and Environmental Assessment (EA) development for the proposed relocation of the Marquette General Hospital in Marquette, MI.

In regards to the overall scope of the proposed project, the Coast Guard would hold jurisdiction and a possible permitting requirement for any structure crossing a federal and/or navigable waterway of the United States. Our main focus would be on any improvements to, or a replacement of, the Grove St. Bridge crossing over U.S-41/M-28 and Whetstone Brook. However, we as an agency are not currently exercising jurisdiction over Whetstone Brook. And as the waterway is unlikely to be improved to host any significant navigation in the near or distant future we cannot see enforcing a Section 9 permit requirement for it.

Should you need something more official for inclusion to the EA I can provide a No Jurisdiction letter. Just let me know and I can get that to you relatively quickly.



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF AGRICULTURE  
AND RURAL DEVELOPMENT

JAMIE CLOVER ADAMS  
DIRECTOR

February 8, 2016

Mr. Wes Butch  
Consultant Team Project Manager  
DLZ Michigan, Inc.  
1425 Keystone Avenue  
Lansing, MI 48911

RE: City of Marquette – Hospital Relocation Study – Environmental Assessment

Dear Mr. Butch:

I received your request for review and comment as part of the Early Coordination Process for the proposed City of Marquette – Hospital Relocation Study. I have reviewed the plans with Michigan Department of Agriculture and Rural Development (MDARD) staff.

This appears to be a highly urbanized corridor. As such, we find that neither this project site, nor the surrounding contiguous area, contains land enrolled under Part 361 of the Natural Resources and Environmental Protection Act (formerly, Public Act 116, the Farmland and Open Space Preservation Act).

Our agency would have concern with any hospital relocation related improvements that will impact established county drains. If you have not done so already, please coordinate your planning and work with the office of Mike Farrell, Marquette County Drain Commissioner, to ensure that there are no potential adverse impacts to these facilities.

As such, to the best of our knowledge, we do not anticipate any additional concerns regarding the hospital relocation and improvement, as it relates to the functions of MDARD.

We appreciate being included in this Early Coordination Process. Feel free to contact me at (517) 284-5612, if I can be of further assistance on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Abigail S. Eaton".

Abigail S. Eaton  
Environmental Resources Specialist  
Environmental Stewardship Division

Blair Stanifer  
Bridge Management Specialist  
Ninth Coast Guard District  
(216) 902-6086  
Fax: (216) 902-6088

The Coast Guard Email system no longer allows for Hyper-Text Markup Language (HTML) or Rich Text Format (RTF) due to security precautions. Please convert your Email to plain text before sending. Thank you.

## Jason Whitten

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**From:** Wes Butch  
**Sent:** Friday, February 19, 2016 12:11 PM  
**To:** Jason Whitten  
**Subject:** FW: City of Marquette - Hospital Relocation Study

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

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**From:** Dennis Stachewicz [<mailto:dstachewicz@mqctcty.org>]  
**Sent:** Thursday, February 18, 2016 9:02 AM  
**To:** Dandridge, Tameka  
**Cc:** Wes Butch  
**Subject:** Re: City of Marquette - Hospital Relocation Study

Thanks

On Feb 17, 2016 9:02 AM, "Dandridge, Tameka" <[tameka\\_dandridge@fws.gov](mailto:tameka_dandridge@fws.gov)> wrote:

Dear Sirs:

Please use our Information for Planning and Conservation <https://ecos.fws.gov/ipac/> for project scoping and environmental review of your project.

Our section 7 technical assistance website will provide you with additional information about federally protected species that may occur in the county of your project and provides template letters to document any potential effects to federally listed species. <http://www.fws.gov/midwest/angered/section7/s7process/index.html>

--

**Tameka N. Dandridge**

U.S. Fish and Wildlife Service

East Lansing Field Office

2651 Coolidge Road

Suite 101

East Lansing, Michigan 48823

[tameka\\_dandridge@fws.gov](mailto:tameka_dandridge@fws.gov)

\*\*\*My schedule: M: 7-4:30; T: 7-12; W: 7-3:30; Th: 7-11; F (telework): 7-11\*\*\*

**From:** Wes Butch  
**Sent:** Monday, February 08, 2016 9:59 PM  
**To:** Jason Whitten  
**Subject:** FW: Early Coordination Notification - Hospital Relocation Study

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**From:** Scott Erbisch [<mailto:SErbisch@mqtco.org>]  
**Sent:** Monday, February 08, 2016 5:09 PM  
**To:** Wes Butch; [dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)  
**Subject:** Early Coordination Notification - Hospital Relocation Study

Dennis & Wes,

I wanted to follow up with you with respect to your letter regarding the early coordination notification. I have forwarded the letter to the County's Planning Division, Codes Division, Facility Division, and the County Drain Commissioner.

To date, I have heard from the Planning Division and Facilities. They had no notable items to pass along.

Our Codes Division has already been quite involved with the architects and engineers regarding code review and compliance.

I would recommend, that if you have not already reached out to the County Drain Commissioner, that this be included in your early coordination effort. The Drain Commissioner is Mike Farrell and he can be reached at [pmfarrell@chartermi.net](mailto:pmfarrell@chartermi.net).

Marquette County greatly appreciates being given the opportunity to weigh in and would like to stay on the list for future correspondence.

Scott Erbisch  
Marquette County Administrator  
234 W. Baraga Ave  
Marquette, MI 49855

906-225-8151



STATE OF MICHIGAN  
DEPARTMENT OF HEALTH AND HUMAN SERVICES  
LANSING

RICK SNYDER  
GOVERNOR

NICK LYON  
DIRECTOR

February 17, 2016

Mr. Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
850 W. Baraga Avenue  
Marquette, MI 49855

Re: City of Marquette Hospital Relocation Study

Dear Mr. Stachewicz:

This is in response to your letter dated January 22, 2016, to Director Nick Lyon. Please note that we have approved the Certificate of Need (CON) application for Marquette's replacement hospital project. The new replacement site is approximately one (1) mile from the original site, and they have met all of the CON requirements for approval under the statute and applicable review standards. The decision was issued by the Department of Health and Human Services (MDHHS) on September 14, 2015 (see attachment).

Regarding permitting requirements for project implementation, Marquette will need to secure plan review approval and construction permit from the Health Facilities Engineering Section within the Department of Licensing and Regulatory Affairs (MDLARA), fire safety review, possible CMS survey, etc., before receiving a license from LARA.

The applicant hospital will have this type of information because they have done research before selecting the site, and they have a Memorandum of Understanding with the City of Marquette which was submitted as part of the CON application documents.

Therefore, most of the identified topics in your letter are more related to the City or County planning departments, and CON would not have any additional actions or information. Further, it appears that MDHHS would not have any technical information on such issues either.

Please let me know if you have further questions of me, or need clarification on the CON process.

Mr. Dennis M. Stachewicz, Jr.  
Page 2

Sincerely,



Tulika Bhattacharya, Manager  
Certificate of Need Evaluation Section, MDHHS

cc: Nick Lyon, Director, MDHHS  
Elizabeth Hertel, Director, Policy Planning and Legislative, MDHHS



# Charter Township of Chocolay

5010 US 41 SOUTH • MARQUETTE, MICHIGAN 49855  
PHONE (906) 249-1448 • FAX (906) 249-1313

February 22, 2016

Mr. Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
300 W. Baraga Avenue  
Marquette, MI 49855

Re: Hospital Relocation Study – Environmental Assessment.

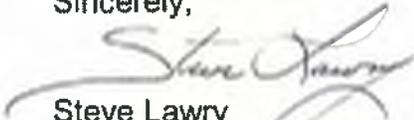
Dear Dennis:

The City's Early Coordination Notification for the Hospital Relocation Environmental Assessment was reviewed by the Chocolay Township Planning Commission. While the Commission took no formal action to develop a response, Planning Commission Chair Andy Sikkema offered the following comments to be forwarded to the City.

"Revisions to US 41 for access to the hospital should not degrade or significantly impact the current flow of traffic along the M28/US 41 corridor. Degradation of the currently unimpeded traffic flow on this limited access roadway would impact motorists travelling through the area with no intention of entering the City of Marquette. M28/US 41 is the only through route across Marquette County. The construction of the replacement hospital should not significantly increase the traffic and therefore should not significantly decrease the traffic flow or increase traffic delays. Consider all access options, not just roundabouts."

Thank you for this opportunity to provide comments to the planning process for this very significant project.

Sincerely,



Steve Lawry  
Township Manager



DEPARTMENT OF THE ARMY  
DETROIT DISTRICT, CORPS OF ENGINEERS  
MARQUETTE FIELD OFFICE  
115 S. LAKESHORE BOULEVARD, SUITE C  
MARQUETTE, MI 49856

February 23, 2016

REPLY TO  
ATTENTION OF:

Engineering & Technical Services  
Regulatory Office  
File No. LRE-2016-00086-252-A16

Dennis Stachewicz, Jr  
City of Marquette  
100 West Baraga Avenue  
Marquette, Michigan 49855

Dear Mr. Stachewicz:

This is in response to your January 22, 2016 letter regarding the Corps of Engineers' (Corps) jurisdiction on property proposed for a new hospital located on West Baraga Avenue in Marquette, Michigan.

In 1984 a portion of the Corps' regulatory responsibilities was assumed by the Michigan Department of Environmental Quality (MDEQ). This project site is within the assumed area. Unless otherwise notified, a separate authorization from the Corps is not required; however, you may need to obtain a permit from the MDEQ. Therefore, we recommend that you contact Mr. Ryan McCone at (906) 228-4802 for a determination of State permit requirements.

Should you have any questions, please contact me at the above address, by E-Mail at [Robert.D.Deroche@usace.army.mil](mailto:Robert.D.Deroche@usace.army.mil), or by telephone at 906-225-8089. In all communications, please refer to File Number LRE-2016-00086-252-A16.

We are interested in your thoughts and opinions concerning your experience with the Detroit District, Corps of Engineers Regulatory Program. If you are interested in letting us know how we are doing, you can complete an electronic Customer Service Survey from our web site at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=136:4:0](http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0). Alternatively, you may contact us and request a paper copy of the survey that you may complete and return to us by mail or fax. Thank you for taking the time to complete the survey, we appreciate your feedback.

Sincerely,

Robert D. Deroche  
Project Manager  
Marquette Field Office

Copy Furnished

MDEQ, McCone



Facilities  
1401 Presque Isle Avenue  
Marquette, MI 49855-5301  
906-227-2292  
FAX: 906-227-2467  
Web site: [www.nmu.edu](http://www.nmu.edu)

February 26, 2016

Mr. Dennis M. Stachewicz  
Director of Planning and Community Development  
City of Marquette  
300 W. Baraga Avenue  
Marquette, MI 49855

RE: Early Coordination Notification  
City of Marquette-Hospital Relocation Study-Environmental Assessment

Dear Mr. Stachewicz:

In response to your request and to help support the planning efforts of the Early Preliminary Engineering (EPE) study associated with the relocation of the hospital, Northern Michigan University (NMU) has several concerns for consideration as you evaluate the various roadway improvements.

Of the items noted in your letter, NMU is most interested in any proposed changes to the Grove/Seventh Street intersection or any impact to the Seventh Street corridor. As you know, the development process for the 2008 NMU Campus Master Plan included the identification of designated access routes and key entry points to NMU's Campus. In cooperation with the City of Marquette, the Seventh Street corridor was identified as the primary access route to campus. The intent was to provide an easily identifiable and accessible route from US 41, through city streets to campus with a very pronounced front door to the university. This was done not only to provide a direct and easy access route for all campus patrons, but also to relieve traffic on Third and Fourth Street and in the surrounding neighborhoods.

Since the adoption of the 2008 Campus Master Plan, NMU has worked with the Michigan Department of Transportation to identify and sign routes along US 41 directing visitors to Seventh Street and with the City of Marquette to direct visitors through streets. NMU has also installed campus entry signs to coincide with the designated access routes and reconstructed the campus entry at Seventh Street to be the primary portal to our campus.

This effort has been very successful and one that has had benefits to both NMU and the City of Marquette. NMU would like these points taken into consideration during the EPE study and offer to meet and work with the City of Marquette on ways to preserve or enhance the Seventh Street access route.

If you have any questions or would like to discuss the EPE study, please don't hesitate to give me a call.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Thams".

Jim Thams  
Director of Facilities and Campus Planning



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



KEITH CREAGH  
DIRECTOR

February 29, 2016

VIA E-MAIL

Mr. Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
300 West Baraga Avenue  
Marquette, Michigan 49855

Dear Mr. Stachewicz:

SUBJECT: City of Marquette, Hospital Relocation Permitting Needs

Thank you for your letter of January 22, 2016, to Dr. William Moritz, Director of the Department of Natural Resources (DNR), regarding an Environmental Assessment for the proposed relocation of Marquette General Hospital. Director Moritz has referred your letter to the Department of Environmental Quality (DEQ) for response.

Below is a summary of the environmental issues the DEQ has identified at and near the area described in your letter:

In 2015 the city of Marquette (City) and the DEQ discussed environmental issues that are unique to the project site. These include the following:

- Wetlands and a designated trout stream. Should you require further information regarding this issue, please contact Mr. Ryan McCone, Environmental Quality Analyst, Water Resources Division, at 906-228-4802 or at [mcconer@michigan.gov](mailto:mcconer@michigan.gov).
- Former locations of environmental contamination classified as brownfield. Should you require further information regarding this issue, please contact Mr. Clif Clark, Upper Peninsula District Supervisor, Remediation and Redevelopment Division, at 906-228-4516 or at [clarkc8@michigan.gov](mailto:clarkc8@michigan.gov).

The DEQ has identified two additional environmental issues of possible significance to this project:

- The City operates a large (12-inch) diameter water transmission main under Baraga Avenue. If the water main needs to be relocated to suit the hospital construction, during the construction/out-of-service period, reliability and fire flows for the far western end of West Washington Street will likely be (marginally) diminished. If the water transmission main under Baraga Avenue needs to be abandoned to suit the hospital construction, the DEQ will likely have concerns for reliability and east-west high volume flow in that part of the City. Should you require further information regarding this issue, please contact Mr. Chuck Thomas, Upper Peninsula District Supervisor, Office of Drinking Water and Municipal Assistance, at 906-228-4514 or at [thomasc3@michigan.gov](mailto:thomasc3@michigan.gov).

Mr. Dennis M. Stachewicz, Jr.

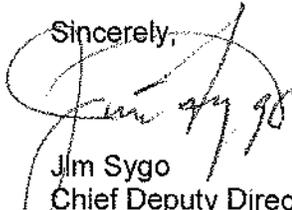
Page 2

February 29, 2016

- A Waste Management Transfer Station (Transfer Station) is located within a quarter mile of the new hospital site at 910 West Baraga Avenue in Marquette. The Waste Data System number for the Transfer Station is 390757. The Transfer Station is in compliance. Should you require further information regarding this issue, please contact Ms. Carolyn St. Cyr, Senior Environmental Engineer, Office of Waste Management and Radiological Protection, at 906-250-1448 or at [stcycr1@michigan.gov](mailto:stcycr1@michigan.gov).

In addition to the unique environmental matters listed above, multiple environmental regulations may apply, which are typical with large construction projects. The DEQ provides permit coordination services to help where multiple environmental regulations apply. If you would like to take advantage of this regulatory program coordination, please contact Ms. Anita Singh, Permit Coordination Specialist, Office of Environmental Assistance, at 517-284-6877 or at [singha3@michigan.gov](mailto:singha3@michigan.gov). We will be glad to meet with you and your consultant to fully scope out the regulatory needs for keeping the project in compliance with Michigan's environmental regulations.

Sincerely,



Jim Sygo  
Chief Deputy Director  
517-284-6709

cc: Dr. William Moritz, Director, DNR  
Ms. Mary Ann Dolehanty, DEQ  
Mr. Bryce Feighner, DEQ  
Mr. Peter Ostlund, DEQ  
Mr. Jack Schinderle, DEQ  
Mr. Robert Wagner, DEQ  
Mr. Clif Clark, DEQ  
Mr. Phil Roycraft, DEQ  
Mr. Chuck Thomas, DEQ  
Mr. Steve Sliver, DEQ  
Mr. David Drullinger, DEQ  
Mr. Ryan McCone, DEQ  
Ms. Anita Singh, DEQ  
Ms. Carolyn St. Cyr, DEQ

## Appendix C

# Conceptual Stage Relocation Plan

**City of Marquette**  
**Conceptual Stage Relocation Plan**  
**Marquette Hospital Transportation Improvements Project**  
**May 13, 2016**

**General Area and Project Information**

The project is located in the southern portion in the City of Marquette. The City is located in the northeastern corner of Marquette County in the north-central portion of the Upper Peninsula of Michigan. A new hospital is being constructed at 850 W. Baraga Avenue. Construction of the hospital commenced in April of 2016 and is expected to be complete in 2018. Construction of the hospital is taking place on private property and is privately funded. Construction of the new hospital is not included as part of the Preferred Alternative and is considered part of the No Build Alternative. The purpose of this project is to provide direct access to the hospital from US-41, accommodate current and future traffic volumes resulting from the hospital relocation, accommodate all modes of travel, and improve safety.

The Preferred Alternative includes the following transportation improvements

- Construction of a two-lane roundabout at US-41 and Grove/7th Street
- Construction of a two-lane roundabout at US-41 and the main hospital drive
- Construction of a compact roundabout at Baraga Avenue and the main hospital drive
- Widening of 7th Street to three lanes (two travel lanes and one two-way, left-turn lane (TWLTL))
- Minor realignment and widening of W. Baraga Avenue
- Widening of McClellan Avenue between Washington Street and US-41 to five-lanes (two travel lanes in each direction and a TWLTL)
- Signal infrastructure upgrades at the McClellan Avenue and Washington Street intersection
- Sidewalk upgrades and addition of sidewalk for portions of the project area roadways where no sidewalk is present

Three other alternatives were also considered as part of the project. These alternatives were not recommended as they did not provide direct access to the hospital, resulted in substantial business and residential relocations, resulted in more impacts to social, economical, and environmental resources, and high construction cost, or did not improve traffic operations or reduce injury crashes to the same degree as the Preferred Alternative. The following two alternatives are described in the EA:

1. No Build Alternative
2. Preferred Alternative (as described above)

**Potential Displacements**

1. The No Build Alternative has no displacements.
2. The Preferred Alternative has three potential residential displacements.

**Displacement Effects and Analysis**

Acquisition of property for this project will allow for an orderly and timely relocation of all eligible displaced residents. The acquiring agency will ensure the availability of a sufficient number of replacement properties in the local area for all eligible displacements.

The project may cause the displacement of approximately three residential units. A study of the housing market in the project area indicates a sufficient number of replacement homes and rentals will be available throughout the relocation process. It is anticipated that the local residential real estate market will have the capacity to absorb the residential displacements impacted by this project.

**Assurances**

The acquiring agency will offer assistance to all eligible residents impacted by the project, including persons requiring special services and assistance. The agency's relocation program will provide such services in accordance with Act 31, Michigan P.A. 1970; Act 227, Michigan P.A. 1972; Act 149, Michigan P.A. 1911, as amended, and the Federal Uniform Relocation Assistance and Real Property Acquisitions Polices Act of 1970 (Uniform Act) as amended. The acquiring agency's relocation program is realistic and will provide for the orderly, timely, and efficient relocation of all eligible displaced persons in compliance with state and Federal guidelines.

Prepared by:

\_\_\_\_\_  
City of Marquette

Date\_\_\_\_\_

Approved by:

\_\_\_\_\_  
Michigan Department of Transportation

Date\_\_\_\_\_

## Appendix D

### Public Involvement Information



August 31, 2015

Re: Transportation Access Planning – Duke Life Point New Hospital

Dear Sir or Madam:

The City of Marquette has hired DLZ, Inc., a transportation planning firm, to conduct preliminary planning and analysis for a requested new transportation access point to US-41/M-28 in the City of Marquette to accommodate the construction of a new hospital.

The first step in the process is an opportunity for area property owners, interested parties, and the community to attend a public information meeting that will include an open house and presentation on the planning process. This public information meeting will provide the community with an overview of the study area, project goals, State and National processes, and general timelines for the project planning, as well as provide an opportunity for community input into the project.

As a property owner or interested party that resides or conducts business within the area of the project, I would like to personally invite you to attend the public information meeting.

The meeting will be held from 6:00 p.m. to 8:00 p.m. (presentation at 7:00 p.m.) on Thursday, September 17<sup>th</sup> at the Citizen's Forum in Lakeview Arena and I look forward to seeing you there.

Please do not hesitate to contact me should you have further questions. I may be reached most business hours at 906-225-8377.

Regards,

Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development



## CITY OF MARQUETTE MEETING SIGN-IN SHEET

<b>Project: U.P. Health Systems Marquette New Hospital Transportation Planning</b>	<b>Meeting Date: 09/17/2015</b>
<b>Facilitator: City of Marquette, DLZ, Inc., MDOT, and U.P. Health Systems Marquette</b>	<b>Place/Room: Citizen's Forum at Lakeview Arena</b>

Name	Address	Phone	E-Mail
Donskey Skam	9021 S. Francisco Evergreen Park, IL	708-370-2572	kskamd@lakoo.com
Lebani, Valenzio	367 Poplar St 814 Homesteads Republic 48879	906-371-0073	valenzio@gmail.com
Leslie Desjardins	MCOT	906-228-9078	Jeannie3237130@gmail.com
Mike Coyne	21 E. Nicolet Blvd	361-1166	JMCOYNE10@CHARTERMI.NET
BOB CAMBENSY	306 N. 6TH ST	226-3909	RCAMBENSY@SBCGLOBAL.NET dphap@hotmail.com rcambensy@chartermi.net
Dick Plura	494 Blomhuden Ave	360-2841	PCI Contractor @ Pramanu Construction.com
Wayne Pramanu	904 W Baraga Ave	458-0628	
Steve Lawry	1813 Woodland Ave	362-2477	stevelawrymgt@aol.com
La-Tresha JEFF SYRIA	806 Homestead	225-0490	JEFFSYRIA@ATT.NET
Tony Ghiringhelli	711 Grove St	906 226-3889	AGhiring@ATT.NET
Susie Wright	906 Wilson St	226-6634	jissusie25@yahoo.com
Pat Gribben	439 Garden St	228-3654	patgribben@gmail.com
Sherry Kalkreuth	506 Fisher	228-6023	sher918@yahoo.com
Tom Baldini	815 Pine	228-9579	tbaldini@chartermi.net



# City of Marquette Hospital Relocation Road Improvement Study

## Public Information Meeting September 17, 2015



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
September 17, 2015



# INTRODUCTION

- Purpose of Today's Meeting
- Topics:
  - Project Team
  - Study Area
  - Proposed Site Plan
  - Project Goals
  - Study Process
  - Opportunities for Public Input
  - Schedule

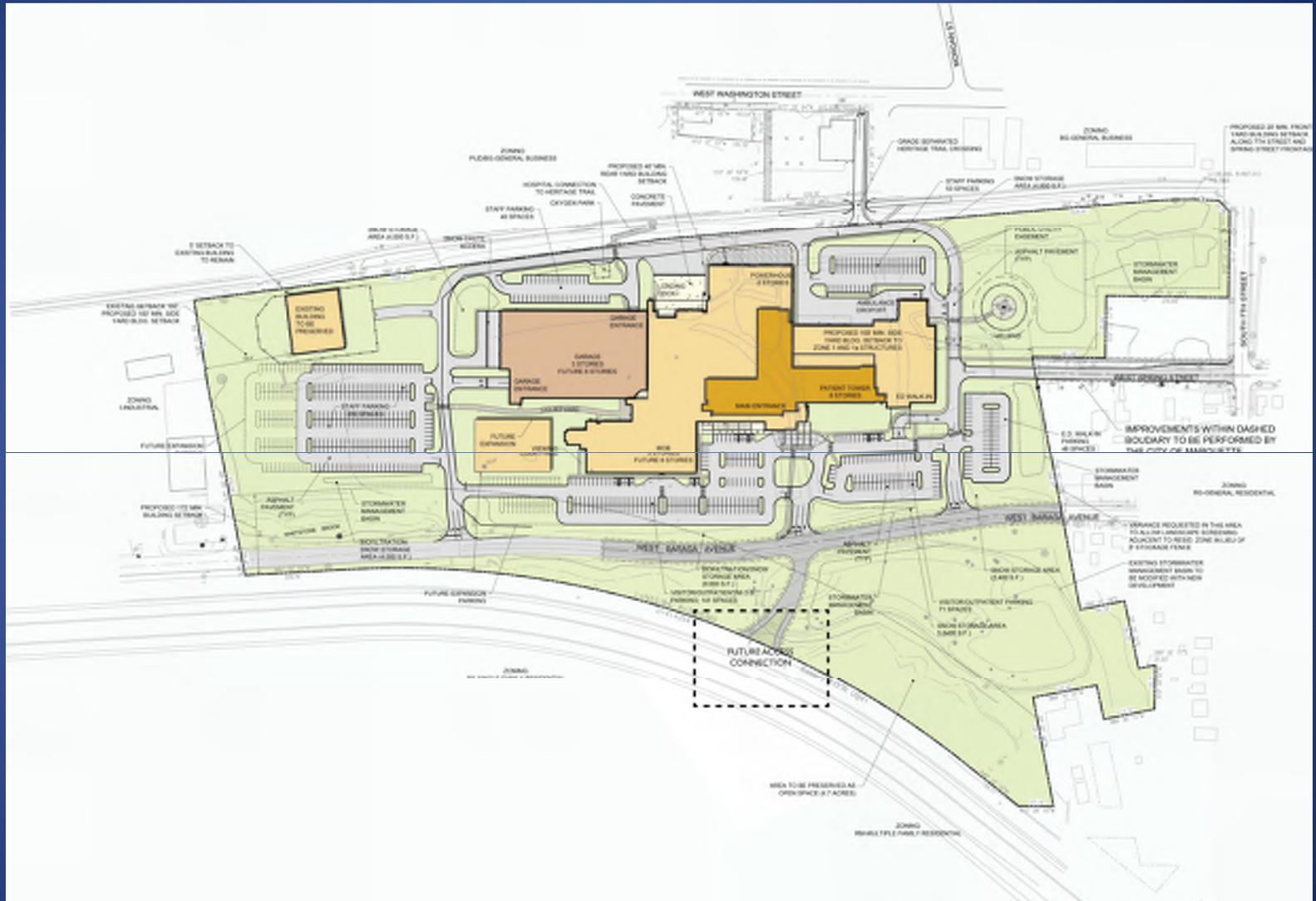


# PROJECT TEAM

- Project Team
  - City of Marquette
  - Duke LifePoint Healthcare
  - DLZ Michigan, Inc.
- The team is also coordinating closely with the Michigan Department of Transportation (MDOT)



# HOSPITAL SITE PLAN



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
September 17, 2015



# STUDY AREA



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
September 17, 2015



# PROJECT GOALS

- Accommodate current and future traffic volumes resulting from hospital relocation
- Provide efficient access to hospital from US-41/M-28 for all users, including emergency vehicles
- Accommodate all modes of travel (bicyclists, pedestrians, automobiles, transit)
- Improve safety
- Minimize impacts to surrounding property owners and natural resources
- Obtain MDOT and FHWA approvals for proposed road improvements



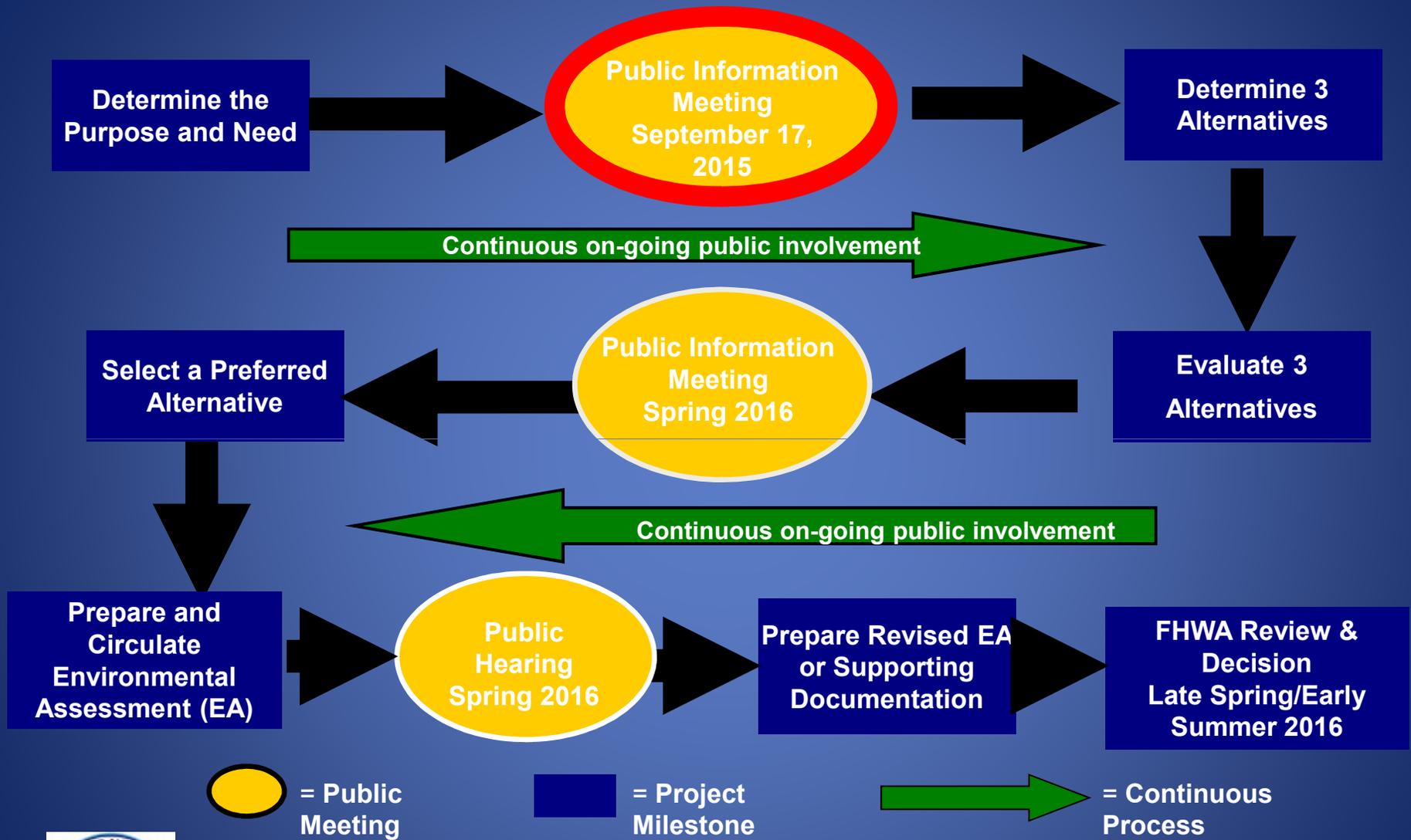
# POTENTIAL ROAD IMPROVEMENTS

- Public input will help determine the 3 options considered in detail
- Road improvements could include:
  - Roundabout intersection on US-41 at hospital entrance and/or Grove-7<sup>th</sup> Street
  - Traffic signal intersection on US-41 at hospital entrance and/or Grove-7<sup>th</sup> Street
  - Traffic signal intersection on US-41 at hospital entrance with indirect left turns using median crossovers (i.e., “Michigan lefts” – similar to US-41/McClellan Avenue intersection)
  - Bridge over US-41 at Grove Street-7<sup>th</sup> Street
  - Local street re-alignments/rerouting
  - Various locations of site access drives
  - Changes to US-41 intersection at McClellan/M-553
  - Others



# THE NEPA PROCESS\*

\*The National Environmental Policy Act (NEPA) of 1969 study process for an Environmental Assessment (EA) typically includes these steps.



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
September 17, 2015



# PROJECT PROCESS/SCHEDULE

Project Start-----	August 2015
Public information Meeting-----	September 17, 2015
Data Collection-----	September 2015
Identification of 3 Alternatives-----	October 2015
Fieldwork for EA Completed-----	October 2015
Evaluation of 3 Alternatives-----	January 2016
Public Information Meeting-----	February 2016
Selection of Preferred Alternative -----	February 2016
MDOT Traffic Impact Study-----	Spring 2016
Environmental Assessment -----	Spring 2016
Public Hearing-----	Spring 2016
FHWA Approval/Decision-----	Summer 2016



# PUBLIC INPUT

- Public can provide input by the following methods:
  - Public Information Meetings – September, February
  - EA Public Comment Period – Spring 2016
  - EA Public Hearing – Spring 2016
  - Comment Forms – All Public Meetings
  - Contact City Representatives Directly:
    - Dennis Stachewicz
    - Director of Planning and Community Development
    - 906-225-8377
    - [dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)



# QUESTIONS?



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
September 17, 2015



# ***PROJECT GOALS***

- ***Accommodate current and future traffic volumes resulting from hospital relocation***
- ***Provide efficient access to hospital from US-41/M-28 for all users, including emergency vehicles***
- ***Accommodate all modes of travel (bicyclists, pedestrians, automobiles, transit)***
- ***Improve safety***
- ***Minimize impacts to surrounding property owners and natural resources***
- ***Obtain MDOT and FHWA approvals for proposed road improvements***

**City of Marquette Hospital Relocation  
Road Improvement Study  
September 17, 2015**



# ***PROJECT PROCESS/SCHEDULE***

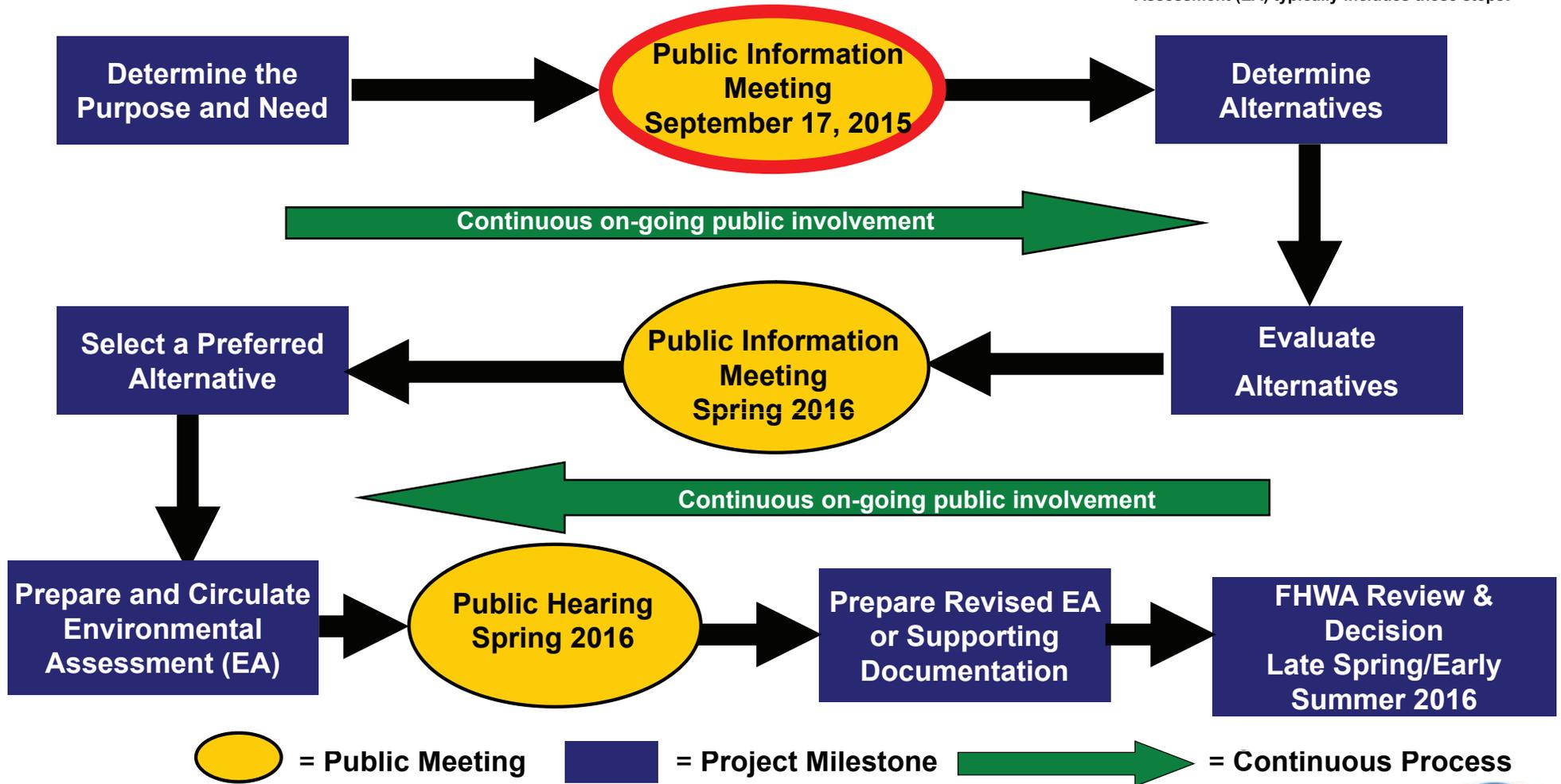
- **Project Start-----August 2015**
- **Public information Meeting-----September 17, 2015**
- **Data Collection-----September 2015**
- **Identification of Alternatives-----October 2015**
- **Fieldwork for EA Completed-----October 2015**
- **Evaluation of Alternatives-----January 2016**
- **Public Information Meeting-----February 2016**
- **Selection of Preferred Alternative -----February 2016**
- **MDOT Traffic Impact Study-----Spring 2016**
- **Environmental Assessment -----Spring 2016**
- **Public Hearing-----Spring 2016**
- **FHWA Approval/Decision-----Summer 2016**

**City of Marquette Hospital Relocation  
Road Improvement Study  
September 17, 2015**



# THE NEPA PROCESS\*

\*The National Environmental Policy Act (NEPA) of 1969 study process for an Environmental Assessment (EA) typically includes these steps.



City of Marquette Hospital Relocation  
Road Improvement Study  
September 17, 2015



September 15, 2015

Dennis M. Stachewicz Jr.  
Director of Planning and Community  
Development  
300 W. Baraga Ave.  
Marquette, MI 49855

RE: Transportation Access Planning – Duke LifePoint New Hospital

Dear Mr. Stachewicz:

We live at 903 Wilson St. in the City of Marquette. We are not able to attend the public information meeting on Thursday, September 17<sup>th</sup>, and would like to voice our concerns.

We **strongly oppose** any proposed round-about or change in access that would interfere with the current traffic pattern on Wilson Street, Ward Street and Homestead Street. We would like our neighborhood to remain as is. There are no sidewalks in this area, and there are many, many people who walk and ride bikes on these streets. We would like to suggest that access to U.S. 41 continue to be at the Grove Street intersection.

We would also like to state concerns we have regarding air-traffic (helicopter) service. We would hope the City would require minimal air traffic over residential neighborhoods.

Thank you,



Donald P. Grisham



Kathleen L. Grisham



INNOVATIVE IDEAS  
EXCEPTIONAL DESIGN  
UNMATCHED CLIENT SERVICE

## OFFICE MEMORANDUM

---

**DATE:** 3/4/16  
**TO:** Dennis Stachewicz, City of Marquette  
**FROM:** Wes Butch, Consultant Project Manager  
**SUBJECT:** Marquette Hospital Relocation Road Improvement Study  
Summary of 2/25/16 Public Information Meeting

---

### Meeting Purpose and Description

A public information meeting was held on February 25, 2016 at the Citizen's Forum located at Lakeview Arena in Marquette, Michigan. The purposes of the meeting were:

- to provide information to members of the public regarding the four transportation improvement alternatives under consideration
- to solicit input from the public regarding these alternatives and the relative advantages/disadvantages of each
- to provide members of the public an opportunity to ask questions regarding the alternatives, study process, and analysis results
- to allow City staff, City elected officials, and MDOT staff to gauge public opinion regarding the four alternatives

The meeting began at 6 PM with an open house format. Members of the public could circulate around the room and view various exhibits regarding the project. Staff members from the City, MDOT, and the City's consultant team were available for one-on-one discussions with members of the public. At 7 PM, there was a formal presentation regarding the project. At the conclusion of the presentation, members of the public were afforded the opportunity to ask questions or make comments, with responses provided by City staff, MDOT staff, and the City's consultant team. From approximately 8 PM until 9 PM, there was again an open house format session for residents to have one-on-one interaction with project representatives. It is estimated that approximately 75 people attended the meeting, though not all of them entered their information on the sign-in sheet.

Appendix A includes a variety of information related to this meeting, including an example of the notification letter which was widely distributed, the meeting sign-in sheet, the presentation which was given at the

meeting, the exhibits which were on display during the open house, and written comments which were received in relation to the meeting.

### **Summary of Comments with Responses**

Substantive comments that were received during or related to the meeting are listed below, along with brief responses where applicable. Comments were provided via letters, emails, comment forms, and verbally during the meeting. Some of the comments received were focused upon matters that are not within the scope of the project study. Such comments have not been included in the list below. Where possible, similar comments have been paraphrased and combined together into one comment with one response. Written communications related to the public information meeting are included in Appendix A.

Comment #1: Concern was expressed regarding the existing intersection of 7th Street and Fisher Avenue. Residents pointed out that the existing intersection has problems with sight lines and steep grades.

*Response: All of the proposed alternatives will address potential concerns regarding sight lines. To the extent practical, the project team will also consider flattening road profile grades as the project advances through the design process.*

Comment #2: Several attendees inquired about how specific alternatives would affect their individual properties. A number of residents also inquired about the process for property acquisition and relocation assistance.

*Response: Potential impacts to individual parcels were discussed with property owners. Regarding any property acquisition required for road right-of-way associated with the Preferred Alternative, the City will follow their established process which includes appraisals and an offer made at fair market value.*

Comment #3: Attendees at the meeting inquired about the likelihood of traffic backing up onto US-41 from the proposed intersection of the new hospital drive with Baraga Avenue. Related to this, some residents spoke in favor of a roundabout at this intersection in order to minimize the likelihood of northbound traffic backing onto US-41. It was also suggested that the new Hospital Drive intersection with US-41 could be shifted east in order to increase the distance between these two intersections, thus providing additional storage length for queued traffic.

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*Response: As part of the Preferred Alternative, the City favors implementation of a roundabout at the new Hospital Drive/Baraga Avenue intersection. Additional detailed traffic analyses will also be performed for the Preferred Alternative, in order to determine the optimal design features which will minimize the likelihood of traffic queuing onto US-41. Shifting the US-41/Hospital Drive roundabout to the east would require the new Hospital Drive roadway to be located within the existing flood storage basin and would increase impacts to the Whetstone Brook (a regulated waterway). Considering the situation, the City does not intend to implement this change unless it is absolutely necessary for queue storage.*

Comment #4: Some citizens expressed concern regarding the relatively steep grades along McClellan Avenue at Baraga Avenue, and how this may relate to installation of a traffic signal at the intersection. Other issues expressed regarding installation of a traffic signal at this intersection included concern that northbound traffic could back onto US-41, and also that installation of the signal would create three closely spaced signals at US-41, Baraga Avenue, and Washington Street. It was also suggested that a roundabout should be considered at the intersection of Baraga/McClellan Avenue.

*Response: Additional detailed traffic analyses will also be performed for the Preferred Alternative, in order to determine the optimal design features which will minimize the likelihood of traffic queuing onto US-41. Interaction of the three signals along McClellan Avenue will also be assessed, as will the possibility of using a roundabout at the McClellan/Baraga intersection and adjustments to the roadway vertical profile.*

Comment #5: Concern was expressed regarding the removal of existing parking along 7<sup>th</sup> Street, which would be required by Alternatives 1, 2, and 3.

*Response: In order to install a center left turn lane along 7<sup>th</sup> Street, removal of on street parking will be required. The City believes that the safety and operational benefits of installing the center left turn lane outweigh the negative impacts of removing on street parking. These concerns will be further considered as the project advances through the design process.*

Comment #6: Inquiries were received regarding what non-motorized facilities are planned to be provided, regardless of the alternative which is advanced.

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*Response: Non-motorized facilities will be provided at all locations where they currently exist or are identified for installation of new facilities per the City's non-motorized plan. A new non-motorized crossing of US-41 at Grove Street/7<sup>th</sup> Street is proposed as part of all of the alternatives.*

Comment #7: Citizens inquired as to whether hospital access would be provided onto Washington Street.

*Response: Hospital driveway access is proposed to connect to Washington Street, per the approved site plan.*

Comment #8: Citizens inquired as to whether/how information presented at the meeting could be accessed.

*Response: All of the information presented at the public meeting is available at the City's website: <http://www.mqtcty.org/hospital-relocation-project.php>*

Comment #9: An inquiry was received regarding operating protocol for ambulance sirens and helicopter flight paths.

*Response: Further research will be conducted regarding this topic, and relevant information will be included in the Environmental Assessment (EA) being prepared for the project.*

Comment #10: Suggestions were received to consider upgrades to the intersection of US-41 and McClellan Avenue. Suggested improvements included additional through and turn lanes.

*Response: Traffic analyses conducted to date do not show the need to improve this intersection for any of the alternatives. However, as the Preferred Alternative is further developed and analyzed, this suggestion will be revisited.*

Comment #11: Numerous residents expressed general support for the use of roundabouts.

*Response: Comment acknowledged.*

Comment #12: One meeting attendee noted that the contingency factor of 30% which was used for the cost opinions could be unrealistically high.

---

*Response: Considering that the alternatives represent conceptual designs, the project team feels that a 30% contingency is appropriate. As the project advances through the design process and engineering work is advanced, the contingency factor will be reduced at each milestone.*

Comment #13: The Grove Street/7th Street intersection with US-41 should remain as full access, since that connection sees significant use. Not having that access point would be a substantial inconvenience to many motorists.

*Response: Comment acknowledged and will be considered as a Preferred Alternative is selected.*

Comment #14: Some citizens expressed concern regarding the fact that Alternative 1 would eliminate the existing access to US-41 at the Grove Street/7<sup>th</sup> Street intersection. This was a concern both for residents in the area as well as businesses at the Chippewa Square shopping area. Other citizens voiced support for Alternative 1 - it was noted that this option offers the most benefits to the most people. Specifically mentioned were improvements to safety travel times relative to the other alternatives. Removing the at-grade intersection with Grove Street/7<sup>th</sup> Street would also limit “unwanted” traffic along 7th Street. One proponent of Alternative 1 shared the opinion that the businesses at Chippewa Square are mostly “appointment driven”, and that access via the proposed roundabout and Homestead Street is viable for accessing these businesses.

*Response: Comments acknowledged and will be considered as a Preferred Alternative is selected and engineering is advanced.*

Comment #15: Support was expressed for Alternative 2 due to benefits related to safety and traffic operations, as well as this alternative being the second lowest cost of the four alternatives.

*Response: Comments acknowledged and will be considered as a Preferred Alternative is selected.*

Comment #16: Several attendees pointed out that Alternatives 3 and 4 would require additional traffic signals along US-41. These residents expressed concern regarding this situation, pointing out that traffic signals could have a negative effect on traffic operations and safety.

*Response: Comments acknowledged and will be considered as a Preferred Alternative is selected.*

---

Comment #17: With regard to Alternative 4, citizens expressed a variety of opinions ranging from favorable to unfavorable. They also suggested some minor adjustments to the improvements included as part of Alternative 4. Positive aspects of this alternative were noted as follows: would remove traffic from residential areas along 7<sup>th</sup> Street; would minimize new road facilities along 7<sup>th</sup> Street; maintains access to the Chippewa Square business area; and could be adapted to allow the Hospital main drive to tie into the same roundabout intersection as the rerouted growth Street and 7<sup>th</sup> Street. Disadvantages highlighted at the meeting included: significant impacts to the existing flood storage basin and Whetsone Brook; relatively high costs; potential for poor soils along the route; would require reconfiguration of hospital site plan; would negatively impact future planned fire station location; addition of two traffic signals along US-41 would increase potential for dangerous crashes causing injury or fatalities; and relatively steep topography along the route of rerouted 7<sup>th</sup> Street.

*Response: Comments acknowledged and will be considered as a Preferred Alternative is selected and engineering is advanced.*

# Public Information Meeting Notification Letter



February 10, 2016

RE: Public Meeting Notification  
City of Marquette - Hospital Relocation Study - Environmental Assessment  
Marquette, Michigan

Dear Sir or Madam:

The City of Marquette (City) is conducting an Early Preliminary Engineering (EPE) study and preparing an Environmental Assessment (EA) for proposed transportation system improvements related to the relocation of the Marquette General Hospital (MGH). MGH is proposed to be relocated from its existing location on West College Avenue to a proposed site on West Baraga Avenue. The enclosed map shows the location of the proposed MGH site and the study area.

As a result of the hospital relocation, roadway, non-motorized facility, and access improvements will be needed to accommodate increased traffic volumes, traffic pattern shifts, and access between the hospital and US-41/M-28. Potential improvement alternatives being considered include construction of new hospital drive accesses onto US-41/M-28, Baraga Avenue, and Washington Street; a bridge carrying Grove/7th Street over US-41/M-28; intersection upgrades (signalization and roundabouts); widening 7<sup>th</sup> Street; non-motorized facilities; re-configuration/removal of parking, and re-alignment of local roads.

During the course of the study, detailed investigations will be undertaken to identify potential Social, Economic, and Environmental (SEE) impacts related to the improvements being considered. These SEE impacts will be documented in an EA as required by the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other relevant environmental regulations (e.g., Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act, etc.) will be accomplished during the EA process.

As part of this process, the City will be holding a public meeting on the enclosed potential improvement alternatives on February 25, 2016, from 6:00 – 9:00 p.m. in the Citizen's Forum at Lakeview Arena (401 E. Fair Avenue). The public meeting will offer an opportunity for interaction with the project team and include a presentation on the project at 7:00 p.m.

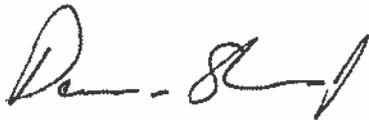
As a community stakeholder in the project, please consider attending this public meeting, where you will be given the opportunity to review and provide comment on the potential improvement

alternatives. If you cannot make the public meeting, or if you should have any questions, concerns, or seek additional information, please contact me:

Mr. Dennis M. Stachewicz, Jr  
Director of Planning and  
Community Development  
City of Marquette  
300 W. Baraga Avenue  
Marquette, MI 49855  
(906)225-8377  
dstachewicz@mqcty.org

I look forward to seeing you at the meeting and your interest in this project is appreciated.

Very truly yours,

A handwritten signature in black ink, appearing to read "Dennis M. Stachewicz, Jr.", written in a cursive style.

Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development

Enclosure

# Public Information Meeting Sign-In Sheet



## CITY OF MARQUETTE MEETING SIGN-IN SHEET

**Project: U.P. Health Systems Marquette New Hospital Transportation Planning**

**Meeting Date: 02/25/2016**

**Facilitator: City of Marquette, DLZ, Inc., MDOT, and U.P. Health Systems Marquette**

**Place/Room: Citizen's Forum at Lakaview Arena**

Name	Address	Phone	E-Mail
Michael Fambun	609 Brunle Rd	226-2889	
Earl Goodman	106 W. College	226-2410	
David Aho	623 W. Baraga	226-6329	salmon@chartermi.net
Diare Aho	623 W. Baraga	458-7744	
Tenaheju Bader	616 Fisher	273-1585	
Tiffany Bader	616 Fisher	273-1585	
Regina Bergh	304 Meeker #16	360-6922	
La-Tresha Syrie	806 Homestead St	235-0490	jeff-syria@att.net
TD KATJAMAH	605 SPRING	360 9818	now
Walt Anderson	436 N Lake Shore Blvd	226-5853	
Ray Jarvis	950 Woodridge	226-2030	jarvis36@sbcglobal.net
SARA CAMBENSY	225 W. MICHIGAN ST.	361-7272	sacambensy@mgfcty.org
Joe Valente	1071 Merlin Ln	362-8136	valentejoe@charter.net
Jen Bleckner	545 Fisher	226-2922	



## CITY OF MARQUETTE MEETING SIGN-IN SHEET

**Project: U.P. Health Systems Marquette New Hospital Transportation Planning**

**Meeting Date: 02/25/2016**

**Facilitator: City of Marquette, DLZ, Inc., MDOT, and U.P. Health Systems Marquette**

**Place/Room: Citizen's Forum at Lakeview Arena**

Name	Address	Phone	E-Mail
David Sprouse	750 W Bluff St MOT	273-2169	
RICK BISSONNETTE	601 FISHER ST	869-4912	rick.bissonnette@gmail.com
Christine Hillman Denise Crony	522 S 7th St	285-2474	
Claudette Puges	1000 Wilson St	715-432-6939	
Jesse & Susie Wright	906 Wilson St	226-6634	
Jesse & Emily Wright	235 Rider St.	250-5066	
DENNIS HOUGH	1730 ALTAMONT	275-5019	
Ken & Suzette Hartz	523 Spring	226-7145	
Mitch Koetje	746 W Bluff		
Charles Lamb	418 S 7th St	228-3627	
Dick Reina	494 Blumhacker	360 2841	
BOB CAMBENSY	306 N 6TH	226-3909	
JAN PECK	3076 Island Beach Rd	225-1485	peckjan@hotmail.com
JOAN PETERSON	912 Wilson St	250-2797	



## CITY OF MARQUETTE MEETING SIGN-IN SHEET

**Project: U.P. Health Systems Marquette New Hospital Transportation Planning**

**Meeting Date: 02/25/2016**

**Facilitator: City of Marquette, DLZ, Inc., MDOT, and U.P. Health Systems Marquette**

**Place/Room: Citizen's Forum at Lakeview Arena**

Name	Address	Phone	E-Mail
Kris Baker	541 W Baraga	906-228-8709	—
Priscilla Howard	541 W. Baraga Ave	906-228-5674	—
Conley Salminen	900 Wilson St.	906-228-7046	—
Fred Stonebrook	875 Orianna Dr	2746014	—
Jeffrey Potter	112 Margin Meadows	250 3575	
Leslie Desbroche	814 Hanjestead Dr	228-9078	
Randy Mitchell Dredel	441 Gardner St	228-2270	
STEVE LAWRY	1813 WOODLANDS	228-6697	
14M Clark	210 S 7th	225-1132	
GREGG SEIPLE	424 CEDAR St	226-3333	
Ron Dobb	914 Wilson St	250-6583	
Jim Johnson	816 Grove	360-4010	
KAY Dawling	11 Grove Hill Ct	226-8885	
Jim Dawling	11 Grove Hill Ct	226-8885	

# Public Information Meeting Presentation

# City of Marquette Hospital Relocation Road Improvement Study

Public Information Meeting  
City of Marquette  
February 25, 2016



## INTRODUCTION

- Purpose of Today's Meeting
- Topics:
  - Background
  - Project Goals
  - Study Process to Date
  - Road Improvement Alternatives
  - Next Steps
  - Questions



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# Background

- Project Team
  - City of Marquette
  - Duke LifePoint Healthcare
  - DLZ Michigan, Inc.
- The team is coordinating closely with MDOT
- Hospital Relocation
- Large State of the Art Regional Facility
- Purchase Agreement - DLP & City



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# HOSPITAL RENDERING



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# HOSPITAL SITE PLAN



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# PROJECT GOALS

- Provide direct access to hospital from US-41/M-28 for all users, including emergency vehicles per purchase agreement
- Accommodate current and future traffic volumes resulting from hospital relocation
- Accommodate all modes of travel (bicyclists, pedestrians, automobiles, transit, helicopters)
- Improve safety
- Minimize impacts to surrounding property owners and natural resources
- Obtain MDOT and FHWA approvals for proposed road improvements



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



## GENERAL PROJECT AREA



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



## STUDY PROCESS TO DATE

- Extensive long-term coordination/negotiation between DLP & City / Purchase Agreement
- Hospital Site Plan Preliminary Approval
- Public Information Meeting (9-17-15)
- Traffic Analysis
- Environmental Field Investigations
- Development of Road Improvement Alternatives
- Evaluation of Road Improvement Alternatives
- Early coordination with local stakeholders & regulatory agencies
- Initial discussions with FHWA



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# ROAD IMPROVEMENT ALTERNATIVES

- Project Team
  - Developed initial preliminary concepts
  - Extensive coordination/input from MDOT
- Public input from Public Information Meeting (9-17-15)
- All alternatives meet project goals to varying degrees



City of Marquette Hospital Relocation  
 Road Improvement Study  
 Public Information Meeting  
 February 25, 2016



## ALTERNATIVE 1



CITY OF MARQUETTE HOSPITAL RELOCATION STUDY

DLZ

932,000 1 ALTERNATIVE 1

February 2016

Legend	
Proposed Hospital Site/Par	Proposed Median/Roundabout Islands
Proposed Road Improvements	Proposed Pavement Markings
Proposed Culvert	Proposed Flood Control Structure
Proposed Retaining Wall	Proposed Pedestrian Facility
Proposed Bridge	Potential Property Acquisition
	Potential Relocation

# ALTERNATIVE 1

## Pros

- Greatest safety improvement
- Direct access from US-41 to hospital
- Good traffic operations
- Low environmental impacts
- Does not require additional access points on US-41 (i.e., intersections)

## Cons

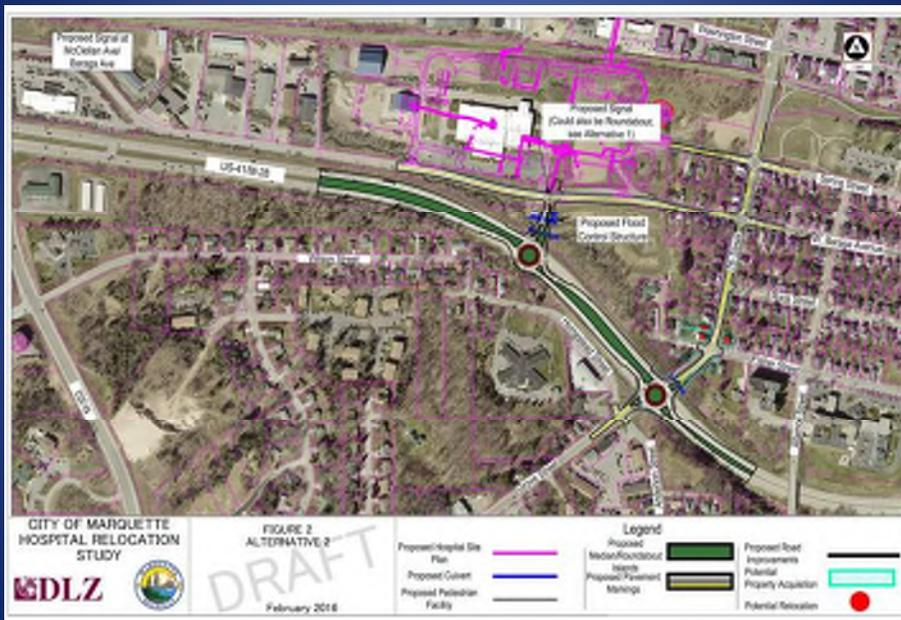
- Eliminates local access near US-41 & Grove/7th intersection
- Potential for significant economic impacts to businesses near US-41 & Grove/ 7<sup>th</sup> intersection
- Highest amount of ROW impacts
- Highest construction cost \$15,530,000
- Highest long-term maintenance cost



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



# ALTERNATIVE 2



# ALTERNATIVE 2

## Pros

- Provides best traffic operations
- Excellent safety improvements
- Direct access from US-41 to hospital
- Provides access to all local streets
- Low environmental impacts
- Lowest amount of ROW impacts
- Lowest long term operational cost
- Second lowest cost - \$9,870,000

## Cons

- Requires additional break in access (i.e., new intersection)
- Moderate impacts to floodplain/storage basin



City of Marquette Hospital Relocation  
 Road Improvement Study  
 Public Information Meeting  
 February 25, 2016



# ALTERNATIVE 3







## NEXT STEPS

- Selection of Preferred Alternative
- MDOT Traffic Impact Study
- Draft Environmental Assessment
- FHWA Limited Access ROW Break Application
- Public Hearing
- FONSI (FHWA Decision Document)
- Property Acquisition (If Needed)
- Preparation of Construction Documents
- Spring 2017 Construction Start



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



## QUESTIONS



City of Marquette Hospital Relocation  
Road Improvement Study  
Public Information Meeting  
February 25, 2016



## Public Information Meeting Exhibits

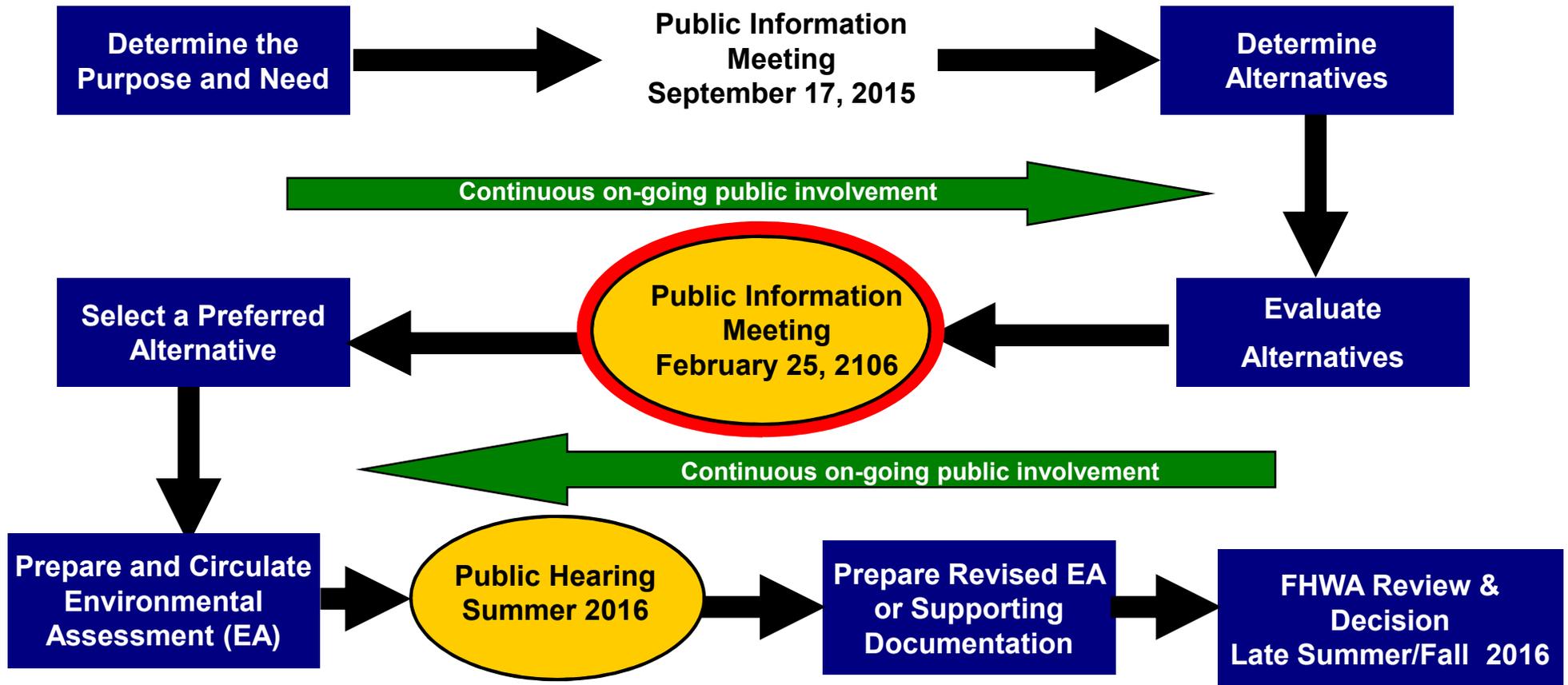
**Welcome to  
The City of Marquette  
Hospital Relocation  
Road Improvement Study**

**Public Information Meeting  
February 25, 2016**



# THE NEPA PROCESS\*

\*The National Environmental Policy Act (NEPA) of 1969 study process for an Environmental Assessment (EA) typically includes these steps.



= Public Meeting
  = Project Milestone
  = Continuous Process



# PROJECT GOALS

- Provide direct access to hospital from US-41/M-28 for all users, including emergency vehicles per purchase agreement
- Accommodate current and future traffic volumes resulting from hospital relocation
- Accommodate all modes of travel (bicyclists, pedestrians, automobiles, transit, helicopters)
- Improve safety
- Minimize impacts to surrounding property owners and natural resources
- Obtain MDOT and FHWA approvals for proposed road improvements



CITY OF MARQUETTE  
HOSPITAL RELOCATION  
STUDY



FIGURE 1  
ALTERNATIVE 1

February 2016

DRAFT

		Legend	
Proposed Hospital Site Plan		Proposed Median/Roundabout Islands	
Proposed Road Improvements		Proposed Pavement Markings	
Proposed Culvert		Proposed Pedestrian Facility	
Proposed Retaining Wall		Potential Property Acquisition	
Proposed Bridge		Potential Relocation	



CITY OF MARQUETTE  
HOSPITAL RELOCATION  
STUDY



FIGURE 2  
ALTERNATIVE 2

DRAFT

February 2016

- Proposed Hospital Site Plan
- Proposed Culvert
- Proposed Pedestrian Facility

- Legend**
- Proposed Median/Roundabout Islands
  - Proposed Pavement Markings

- Proposed Road Improvements
- Potential Property Acquisition
- Potential Relocation



CITY OF MARQUETTE  
HOSPITAL RELOCATION  
STUDY



FIGURE 3  
ALTERNATIVE 3

DRAFT

- Proposed Hospital Site Plan
- Proposed Culvert
- Proposed Pedestrian Facility

Legend

- Proposed Median/Roundabout Islands
- Proposed Pavement Markings
- Proposed Road Improvements
- Potential Property Acquisition
- Potential Relocation



CITY OF MARQUETTE  
HOSPITAL RELOCATION  
STUDY



FIGURE 4  
ALTERNATIVE 4

DRAFT

- Proposed Hospital Site Plan
- Proposed Culvert
- Proposed Pedestrian Facility

- Legend**
- Proposed Median/Roundabout Islands
  - Proposed Pavement Markings

- Proposed Road Improvements
- Potential Property Acquisition
- Potential Relocation

## City of Marquette - Hospital Relocation Study Comparative Evaluation of Transportation Improvement Alternatives

Evaluation Criteria	Comments	Alternatives			
		Alternative 1	Alternative 2	Alternative 3	Alternative 4
<b>Traffic Operations</b>	Overall efficiency of traffic operations. Factors include intersection operations and changes to travel time for local road network.	Moderate	High	Moderate	Moderate
<b>Safety</b>	Degree to which alternatives may reduce total crashes, injury crashes, and conflicts for vehicular and non-motorized users.	High	Moderate to High	Moderate	Moderate
<b>Direct Hospital Access</b>	Degree to which alternatives provide direct access from US-41/M-28 to hospital per purchase agreement between DLP and the City. Indicator of emergency response time and user convenience.	Provides full access from US-41/M-28 to hospital via roundabout intersection.	Provides full access from US-41/M-28 to hospital via roundabout intersection.	Allows all turning movements except direct left turn from hospital drive onto US-41/M-28.	Allows all turning movements except direct left turn from hospital drive onto US-41/M-28.
<b>Local Access/Community Impacts</b>	Degree to which alternatives impact access to local roads, residences, and businesses.	Eliminates direct access from US-41/M-28 to 7 <sup>th</sup> /Grove Street. Potential substantial impacts to businesses located near the US-41/M-28 & 7 <sup>th</sup> /Grove Street intersection.	Provides direct access to all local streets, residences, & businesses.	Provides direct access to all local streets, residences, & businesses.	Provides direct access to all local streets, residences, & businesses.
<b>Environmental Impacts</b>	Degree to which alternatives impact surrounding resources (e.g., wetlands, cultural resources, noise, streams, biotic communities, etc.)	Low to moderate	Low to moderate	Low to moderate	Low to moderate
<b>Right-of-Way Acquisition</b>	Impacts to businesses and residences caused by construction of project.	8 Residential Relocations 4 Partial Residential Acquisitions 4 Partial Commercial Acquisitions	2 Residential Relocations 3 Partial Residential Acquisitions	2 Residential Relocations 3 Partial Residential Acquisitions	12 Residential Relocations 1 Commercial Relocation 1 Partial Residential Acquisition 2 Partial Commercial Acquisitions
<b>Level Construction Cost</b>	Includes construction cost, engineering costs, and ROW cost for improvements to US-41/M-28 and all local streets. All opinions in year 2017 dollars.	\$15,530,000	\$9,870,000	\$8,590,000	\$12,550,000
<b>Long Term Operational Cost</b>	Cost of ongoing operations including electricity (lighting), signal adjustment, bulbs/other equipment, mowing, maintenance, pavement markings, etc.	Moderate	Low to Moderate	Moderate	Moderate to High
<b>Breaks in Limited Access Right-of-way</b>	Net increase in number of breaks in limited access right-of-way	0	+1	+1	+1
<b>Flood Control Structure Impacts</b>	Degree to which alternatives impact flood control structure, floodplain, and storage basin.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Moderate impacts to storage basin. Moderate impacts to floodplain.	Reconstruction of flood control structure. Significant impacts to storage basin. Significant impacts to floodplain.
<b>Non-motorized Facilities</b>	Degree to which alternatives accommodate bicyclists and pedestrians. Assessment is based upon (1) presence/type of crossing at 7 <sup>th</sup> St/US-41 intersection and (2) presence of sidewalks along local roads being improved.	High	Moderate to High	Moderate to High	Moderate to High

**Notes:**

The low/moderate/high rankings provide a qualitative comparison of relative impacts among the alternatives. These rankings were based on the professional judgment of the interdisciplinary project team.

The alternative(s) which best address each individual evaluation criteria are highlighted in green.



# ***PROJECT PROCESS/SCHEDULE***

- Project Start-----August 2015
- Public information Meeting-----September 17, 2015
- Data Collection-----September 2015
- Identification of Alternatives-----October 2015
- Fieldwork for Environmental Assessment Completed-----October 2015
- Evaluation of Alternatives-----January 2016
- Public Information Meeting-----February 25, 2016
- Selection of Preferred Alternative -----March 2016
- MDOT Traffic Impact Study-----Spring 2016
- Environmental Assessment-----Spring 2016
- FHWA ROW Break Application-----Spring 2016
- Public Hearing-----Summer 2016
- FHWA Approval/Decision-----Fall 2016
- Preparation of Construction Documents-----Winter 2016
- Construction Start-----Spring 2017



## Public Information Meeting - Comments Received

**From:** Dennis Stachewicz [dstachewicz@mqtcty.org]  
**Sent:** Friday, February 26, 2016 9:48 AM  
**To:** Wes Butch; Jason Whitten; KEITH WHITTINGTON; Johnson, Aaron (MDOT);  
Tervo, Robert  
**Subject:** Fwd:

Comments received

----- Forwarded message -----

From: "Marv DeMilio" <[marv.demilio.b0p3@statefarm.com](mailto:marv.demilio.b0p3@statefarm.com)>  
Date: Feb 26, 2016 9:42 AM  
Subject:  
To: "Dennis Stachewicz ([dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org))" <[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)>  
Cc: "Dick Peura ([rpeura@chartermi.net](mailto:rpeura@chartermi.net))" <[rpeura@chartermi.net](mailto:rpeura@chartermi.net)>, "Jeff Nemacheck ([jeff.nemacheck@gmail.com](mailto:jeff.nemacheck@gmail.com))" <[jeff.nemacheck@gmail.com](mailto:jeff.nemacheck@gmail.com)>

Dennis, I'm down South for a few months, but I saw the photo example 4<sup>th</sup> proposal for two round-a-bouts East of the hospital campus. I spoke with Aaron from MDOT at the beginning of this discussion. He was in favor of a round-a-bout at the Grove intersection more than any other idea. Having a second round-a-bout and closing 7<sup>th</sup> to hospital traffic is a great idea. It will keep the thru traffic away from the neighborhoods in the scramble to get to South Front end of shifts. Two round-a-bouts would cost less than one bridge and not disrupt businesses at Chippewa Square. We get 3-4 ambulances a day through that intersection. It's a creative proposal of which I'm totally in favor. If you need any help pushing it through, please let me know. Thanks, Marv DeMilio, Trustee Chippewa Square Association

## Jason Whitten

---

**From:** Dennis Stachewicz [dstachewicz@mqctcy.org]  
**Sent:** Tuesday, March 01, 2016 4:39 PM  
**To:** Wes Butch; Jason Whitten; KEITH WHITTINGTON; Johnson, Aaron (MDOT); Tervo, Robert  
**Subject:** Fwd: Transportation plan  
**Attachments:** 2016-03-01 11.26.11\_zpsib5ftuwz.PNG

Comments received

----- Forwarded message -----

From: "james f" <[joemitts@gmail.com](mailto:joemitts@gmail.com)>  
Date: Mar 1, 2016 1:32 PM  
Subject: Transportation plan  
To: "Dennis Stachewicz" <[dstachewicz@mqctcy.org](mailto:dstachewicz@mqctcy.org)>  
Cc:

Good afternoon,

After reviewing the 4 options I still feel the 7st bridge is the cleanest and offers the most benefits to the most people. Everything from safety (traffic lights on highways are not safe) to efficiency in travel times for people using the bypass for its intended purpose. The bridge will also limit unwanted traffic to the residents of 7th st. As far as the businesses at Chippewa square, they are mostly appointment driven. People have purposeful intent to visit them and a round-about with signage and access to homestead is a viable route. I think also if the round-about is shifted east about 100 yards it would make for a longer lead in road to the hospital (better for preventing traffic backups) and a more obvious connection to Chippewa square. Also less property purchases. Chippewa square could also get connected to Grove street by purchasing the building that is currently for sale and building a short drive from the parking lot to Grove st. This would give the north and south neighborhood direct access to those businesses. Picture enclosed.

Thank you for your time

Jim fulsher



**From:** Dennis Stachewicz [dstachewicz@mqtcty.org]  
**Sent:** Wednesday, February 24, 2016 2:21 PM  
**To:** Wes Butch; Jason Whitten; Keith Whittington; Johnson, Aaron (MDOT); Tervo, Robert  
**Subject:** Fwd: Bypass hospital access comment

Comments received.

----- Forwarded message -----

From: **Gary Miller** <[benazach@outlook.com](mailto:benazach@outlook.com)>  
Date: Wed, Feb 24, 2016 at 11:16 AM  
Subject: Bypass hospital access comment  
To: "[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)" <[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)>

Hello.

I will not be able to attend the evening meeting concerning the possible changes to give access to the new hospital site but I have a concern that I want to express.

I truly hope that the 7th street intersection will be kept as is. My family and many others were so glad for that connection to Grove street and 7th street and use is constantly. Not having that access off the bypass to both Grove and 7th would be a BIG inconvenience to many and frankly would be a public relations negative for the site of the new hospital. Consideration must be given equally to the needs and convenience of non-hospital traffic. Please don't make it more difficult to move around Marquette than it currently is by eliminating this necessary and appreciated intersection.

Thank you.

Gary D. Miller

--

Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
906-225-8377

**From:** Dennis Stachewicz [dstachewicz@mqtccty.org]  
**Sent:** Wednesday, February 24, 2016 8:53 AM  
**To:** Wes Butch; Keith Whittington; Jason Whitten; Johnson, Aaron (MDOT); Tervo, Robert  
**Subject:** Fwd: Mining Journal/MGH

Comments received below.

----- Forwarded message -----

From: **Manuel Vigil** <[mvigil@nmu.edu](mailto:mvigil@nmu.edu)>  
Date: Wed, Feb 24, 2016 at 8:16 AM  
Subject: Mining Journal/MGH  
To: [dstachewicz@mqtccty.org](mailto:dstachewicz@mqtccty.org)

RE: Traffic Options for new hospital.

Dennis,

My name is Manny Vigil and I live in Little Lake near KI Sawyer. I used to work at NMU until my retirement in Oct 2014. I drove to NMU via 553 an onto McClellan past Washington street and the same way back after work. I foresee a major problem at the intersection of McClellan and Baraga street once the new hospital is built. McClellan street has only one lane to cross US 41 in either direction, the other lane is a right turn lane only. There will me many cars wanting to make a left turn onto Baraga from McClellan to get to the hospital.

In my 19 years of driving home after work, headed south on McClellan, there would be a car or two making a left turn onto Baraga. The majority of traffic on this street is headed south, thus is on the left/middle lane and therefore must stop to wait for the car to complete the left turn. Meanwhile the other cars on the right/outer lane continue on, for they are making a right turn onto US 41 or, they opt to go around the left turning car to make it past US 41 before the light turns red. I have seen numerous times when cars that go around in order to get onto the through lane, have near misses with cars on the right lane. This is a dangerous situation that could be easily corrected. I would appreciate it if the committee would consider the following suggestions for this intersection.

1. Designate McClellan's 2 lanes through streets past US 41, and perhaps adding a right merge lane from McClellan, thus alleviating this problem. I have seen in many cities such as Milwaukee, right turn merge lanes with a yield sign only which permits cars making right turns to continue on without having to stop at light, thus reducing cars idling at intersections adding to congestion or wasting gas.

Or

2. Prevent vehicles headed north on McClellan to make left turns onto Baraga street.

Manuel (Manny) Vigil, MSgt USAF(RET1994)

1415 N Wilson Lake Dr

Skandia, MI 49885

[9063621837](tel:9063621837)

PS: I receive my mail via Skandia post office but live in Little Lake.

--

Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
906-225-8377

**From:** Dennis Stachewicz [dstachewicz@mqtcty.org]  
**Sent:** Friday, February 26, 2016 7:28 AM  
**To:** Wes Butch; KEITH WHITTINGTON; Jason Whitten; Aaron (MDOT) Johnson;  
Robert Tervo  
**Subject:** Fwd: Hospital us41

Comments received

----- Forwarded message -----  
From: "james f" <[joemitts@gmail.com](mailto:joemitts@gmail.com)>  
Date: Feb 25, 2016 5:24 PM  
Subject: Hospital us41  
To: <[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)>  
Cc:

Good evening,  
Not sure I can make the meeting but I would definitely like to say traffic lights and highways are a bad idea. Please no traffic lights... the bridge gets my vote, but I understand the cost.  
Thanks  
Jim fulsher



## CITY OF MARQUETTE MEETING COMMENT FORM

Project: U.P. Health Systems Marquette New Hospital Transportation Planning	Meeting Data: 02/25/2016
Facilitator: City of Marquette, DLZ, Inc., MDOT, and U.P. Health Systems Marquette	Place/Room: Citizen's Forum at Lakeview Arena

Name	Address	Phone	E-Mail
TERRY D. KATAJAMAKI	605 SPRING	360 9218	NONE

**Comments**

ON ALT #4 CROSS BARRA FOR 75-100' BEFORE TURNING NE. THIS WOULD MISS STRUCTURES ON END OF SPRING + BARRA. BUT STILL BE EAST OF EXISTING RUNAROUND FROM SPRING TO BARRA

ON THE WETLAND; WEST OF IS PERMING AT GREENWOODS BASIN A ROAD CRASSES NEAR THE MIDDLE OF THE BASIN - THEY USE A CONCRETE TO ALLOW WATER TO PASS.

PERHAPS THIS WOULD WORK HERE ??

THE COUNTY USES STEEL PIPE @ GREENWOODS BUT I THINK CONCRETE WOULD BE BETTER 4' OR 6' SHOULD BE ENOUGH I'D THINK.

with request no #4

Suggest cross return 75-100' before turning NE This will miss property and end of strip & return



CITY OF MARQUETTE  
 HOSPITAL RELOCATION STUDY  
 ENVIRONMENTAL ASSESSMENT

January 2016

STUDY AREA

Study Area 

Proposed Hospital Site 



## Jason Whitten

---

**From:** Wes Butch  
**Sent:** Tuesday, March 08, 2016 10:24 AM  
**To:** Jason Whitten  
**Subject:** FW: Map

---

**From:** Dennis Stachewicz [<mailto:dstachewicz@mqtcty.org>]  
**Sent:** Monday, February 29, 2016 8:14 AM  
**To:** Wes Butch; Keith Whittington; Jason Whitten; Johnson, Aaron (MDOT); Tervo, Robert  
**Subject:** Fwd: Map

Comments received

----- Forwarded message -----

**From:** Dennis Stachewicz <[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)>  
**Date:** Sun, Feb 28, 2016 at 6:10 AM  
**Subject:** Re: Map  
**To:** Renee Wicklund <[rwicklundmqt@yahoo.com](mailto:rwicklundmqt@yahoo.com)>

Greetings Renee:

The options discussed may be found on this page:

<http://www.mqtcty.org/hospital-relocation-project.php>

Best,

Dennis S.

On Feb 27, 2016 9:33 AM, "Renee Wicklund" <[rwicklundmqt@yahoo.com](mailto:rwicklundmqt@yahoo.com)> wrote:  
I missed the meeting.....please inform me about what took place.....how 540 W Baraga Ave will be affected.

Thanking you.....Renee Wicklund.....540 W Baraga Ave.

225-1270

Sent from my iPad

> On Feb 25, 2016, at 3:43 PM, Dennis Stachewicz <[dstachewicz@mqtcty.org](mailto:dstachewicz@mqtcty.org)> wrote:  
>  
> Please see attached for the map you requested.  
>  
> My apologies for missing your call...I am running around getting ready for the meeting this evening.  
>  
> Dennis S.  
>  
>  
>

> --  
> Dennis M. Stachewicz, Jr.  
> Director of Planning and Community Development  
> City of Marquette  
> [906-225-8377](tel:906-225-8377)  
> <Study Area\_Pre-MDOT\_FHWA\_Meeting.pdf>

--  
Dennis M. Stachewicz, Jr.  
Director of Planning and Community Development  
City of Marquette  
906-225-8377

## Jason Whitten

---

**From:** Wes Butch  
**Sent:** Tuesday, March 08, 2016 10:24 AM  
**To:** Jason Whitten  
**Subject:** FW: Tonight's meeting

---

**From:** Curt Goodman [<mailto:cgoodman@mgtcty.org>]  
**Sent:** Thursday, February 25, 2016 8:18 PM  
**To:** DENNIS STACHEWICZ  
**Cc:** KEITH WHITTINGTON; Wes Butch; MIKE ANGELI  
**Subject:** Tonight's meeting

Hi

Good job tonight. Very well presented I was there as a resident. One comment are the budget estimates realistic? Contingency seems high.

Curt goodman

## Jason Whitten

---

**From:** Dennis Stachewicz [dstachewicz@mqctcy.org]  
**Sent:** Monday, February 29, 2016 3:17 PM  
**To:** Wes Butch; Jason Whitten; KEITH WHITTINGTON; Johnson, Aaron (MDOT); Tervo, Robert; DAVID STENSAAS  
**Subject:** Fwd: Re: HOSPITAL TRANSPORTATION PLANNING

FYSA

----- Forwarded message -----

From: "Dennis Stachewicz" <[dstachewicz@mqctcy.org](mailto:dstachewicz@mqctcy.org)>  
Date: Feb 29, 2016 3:15 PM  
Subject: Re: HOSPITAL TRANSPORTATION PLANNING  
To: "RON" <[mr.tire2@yahoo.com](mailto:mr.tire2@yahoo.com)>  
Cc:

Hi Ron:

The impact of the hospital on W. Washington Street, although a concern, is not the primary purpose of the US-41 planning effort.

The traffic along Washington will be modeled as part of an overall traffic study, and at this point, the impact is thought to be minimal.

Best,

Dennis S.

On Feb 29, 2016 2:34 PM, "RON" <[mr.tire2@yahoo.com](mailto:mr.tire2@yahoo.com)> wrote:

Dennis,

I was not able to attend the public meeting on February 25<sup>th</sup>. Will this have any effect on us at 800 W. Washington street ?

Thanks Ron

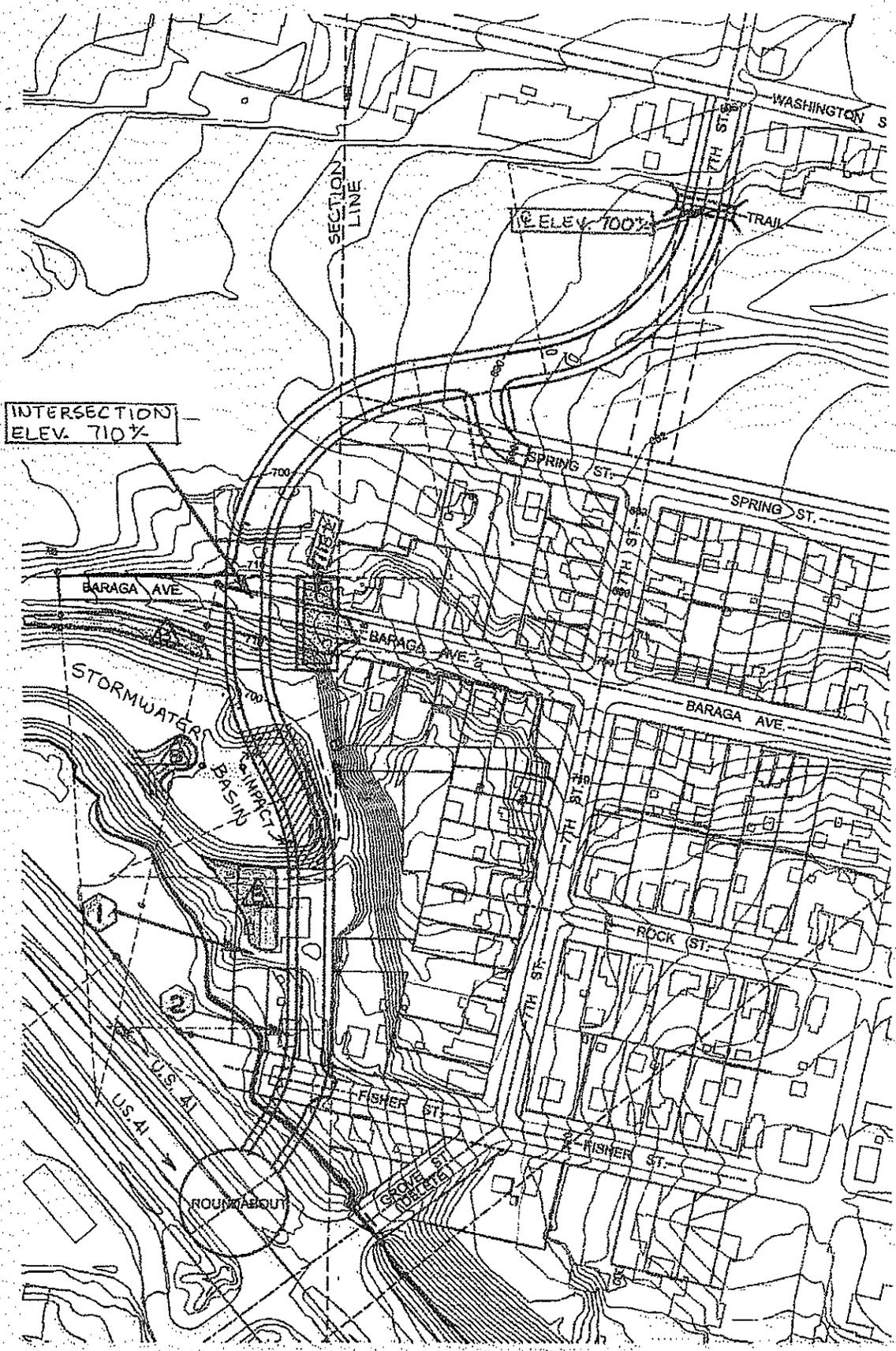
Sent from [Mail](#) for Windows 10

## Comparative

Evaluation Criteria	Comments	Alternative	ALTERNATIVE 4 MODIFIED
Traffic Operations	Overall efficiency of traffic operations. Factors include intersection operations and changes to travel time for local road network.	Moderate	MODERATE TO HIGH
Safety	Degree to which alternatives may reduce total crashes, injury crashes, and conflicts for vehicular and non-motorized users.	Moderate	MODERATE TO HIGH. REMOVES HIGH VOLUME TRAFFIC FROM EXIST. 7TH ST
Direct Hospital Access	Degree to which alternatives provide direct access from US-41/M-28 to hospital per purchase agreement between DLP and the City. Indicator of emergency response time and user convenience.	Allows all turning movements except direct left turn from hospital drive onto US-41/M-28.	ALLOW DIRECT ACCESS TO HOSPITAL SITE FROM U.S. 41
Local Access/ Community Impacts	Degree to which alternatives impact access to local roads, residences, and businesses.		SAME AS ALT. 4, PLUS SIGNIFICANTLY IMPROVES EXISTING 7TH ST, NEIGHBORHOOD WITH REDUCED TRAFFIC. ②
Environmental Impacts	Degree to which alternatives impact surrounding resources (e.g., wetlands, cultural resources, noise, streams, biotic communities, etc.)	Low to moderate	LOW TO MODERATE
Right-of-Way Acquisition	Impacts to businesses and residences caused by construction of project.	12 Residential Relocations 1 Commercial Relocation 1 Partial Residential Acquisition 2 Partial Commercial Acquisitions	1 RESIDENTIAL 1 COMMERCIAL
Planning Level Construction Cost	Includes construction cost, engineering costs, and ROW cost for improvements to US-41/M-28 and all local streets. All opinions in year 2017 dollars.	\$12,550,000	\$10,000,000 -
Long Term Operational Cost	Cost of ongoing operations including electricity (lighting), signal adjustment, bulbs/other equipment, mowing, maintenance, pavement markings, etc.	Moderate to High	LOW TO MODERATE
Breaks in Limited Access Right-of-way	Net increase in number of breaks in limited access right-of-way	+1	0
Flood Control Structure Impacts	Degree to which alternatives impact flood control structure, floodplain, and storage basin.	Reconstruction of flood control structure. Significant impacts to storage basin. Significant impacts to floodplain.	MODIFY SHAFT OF STORAGE BASIN TO KEEP SAME CAPACITY. NEW STREAM CROSSING. ①
Non-motorized Facilities	Degree to which alternatives accommodate bicyclists and pedestrians. Assessment is based upon (1) presence/type of crossing at 7th St/US-41 intersection and (2) presence of sidewalks along local roads being improved.	Moderate to High	MODERATE TO HIGH

② ALTERNATIVES 1, 2 AND 3 ALL HAVE SIGNIFICANT IMPACT ON EXISTING 7TH ST, NEIGHBORHOOD WITH HIGH TRAFFIC VOLUMES PLUS REMOVAL OF PARKING.

① STORAGE BASIN MAINTAINS EXISTING CAPACITY, WITH NO IMPACT TO FLOODPLAIN. COULD REMOVE EXISTING STREAM CULVERT AT ABANDONED SEGMENT OF GROVE ST.



NORTH

SCALE: 1" = 150'

RIGHT-OF-WAY ACQUISITION - Two (2)

- ① - WRIGHT ELECTRIC
- ② - HOUSE

ALTERNATIVE 4 - MODIFIED

STORMWATER BASIN MODIFICATIONS