ENVIRONMENTAL EVALUATION OF FACILITIES DEVELOPMENT ACTIONS

Wisconsin Department of Transportation

Basic Sheet 1

Project ID 3030-08-00 1060-30-00	**Project Termini** Blue Ribbon Drive – Thackeray Trail WIS 67 NB & SB Bridge	**Funding Sources - Check all that apply** ☒ Federal ☒ State ☒ Local
Route Designation (if applicable) National Highway System (NHS) Route ☒ Yes ☐ No	**Nearest Community** City of Oconomowoc Village of Summit	**Estimated Project Cost (2015 dollars)** $27.5 million Real Estate Acquisition Portion of Estimated Cost $0.5 million
Project Name Summit Avenue, City of Oconomowoc (Blue Ribbon Drive – Thackeray Trail), WIS 67 East – West Freeway (WIS 67 NB & SB Bridge), IH 94		
County Waukesha	**Section-Township-Range** Township 7, Range 17 East Sections 3, 4, 10, And 15	**Right of Way Acquisition**
Bridge Number(s), If applicable B-67-0078 B-67-0188	**Scheduled start date** September 2nd, 2009 - Operational Planning Meeting	

Right of Way Acquisition	Acres
Fee	2.5
TLE	5.0
PLE	1.3

Functional Classification of Existing Route	Urban	Rural
Freeway/Expressway	☐	☐
Principal Arterial	☒	☐
Minor Arterial	☐	☐
Major Collector		☐
Minor Collector		☐
Collector	☐	
Local	☐	☐
No Functional Class	☐	☐

WisDOT Project Classification	
Resurfacing	☐
Pavement Replacement	☐
Reconditioning	☐
Expansion	☐
Bridge Rehabilitation	☐
Bridge Replacement/Expansion (1060-30-00)	☒
A "Majors" Project	☐
SHRM	☐
Preventive Maintenance	☐
Safety	☐
Reconstruction/Expansion (3030-08-00)	☒

☐ **FHWA Categorical Exclusion, Type 2c**

☒ **FHWA Environmental Assessment. No significant Impacts Indicated by Initial Assessment.**

9/4/13

KL Engineering (Date) Project Manager

(Signature) 9/10/13 (Date) WISDOT SE REGION PROJECT MANAGER (Title)

(Signature) (Date) (Title)

(☐ Region ☐ Aeronautics ☐ Rails & Harbors)

Rebecca McCue 9/24/13

(Signature) (Date)

(Director, DTSD Bureau of Technical Services, Environmental Services Section)

Mark R Chandler 9/27/2013

(Signature) (Date)

(☒ FHWA ☐ FAA ☐ FTA ☐ FRA)

After reviewing public comments and coordinating with other agencies, it is determined that this action:

A) Will not significantly affect the quality of the human environment. This document is a:

☐ Finding of No Significant Impact (FONSI)

B Has potential to significantly affect the quality of the human environment:

☐ Environmental Impact Statement (EIS) Required

(Signature) (Company/Org.) (Date) (Title)

(Signature) (Company/Org.) (Date) (Title)

(Signature) (Date) (Title)

(☐ Region ☐ Aeronautics ☐ Rails & Harbors)

(Signature) (Date) (Title)

(Director, DTSD Bureau of Technical Services, Environmental Services Section)

(Signature) (Date) (Title)

(☐ FHWA ☐ FAA ☐ FTA ☐ FRA)

Basic Sheet 2

1. Purpose and need of proposed action:

Purpose

The purpose of the proposed action is to:

- Provide a safe and efficient highway that serves future traffic demand generated by existing and planned development within the WIS 67 corridor and the surrounding region.
- Improve operational characteristics and traffic flow commensurate with an urban arterial highway.
- Improve safety by reducing conflicts between through and local traffic and providing a highway facility that meets current design standards.
- Provide appropriate bicycle and pedestrian accommodations.

Need

The existing WIS 67 project corridor between Blue Ribbon Drive and Lexington Drive consists of a rural divided highway with two travel lanes in each direction. There are no existing pedestrian facilities along WIS 67 in this section. Bicycles are accommodated along WIS 67 on the existing paved shoulder between intersections, but bicycle accommodations are not provided through intersections. (See Appendix 1 for a Project Location Map)

The existing WIS 67 project corridor between Lexington Drive and Thackeray Trail/Old Tower Road consists of an urban divided highway with two travel lanes in each direction. Pedestrians are accommodated along the west-side of WIS 67 in this section on an existing sidewalk. There are no existing bicycle facilities along WIS 67 in this section.

The need for the proposed improvements is demonstrated through a combination of factors that include system linkage and route importance, growth in traffic volumes due to proposed land development, future traffic conditions, substandard bike and pedestrian accommodations, substandard intersection geometric design, substandard WIS 67/IH 94 interchange geometrics, high crash rates, and poor pavement condition. These factors are discussed below in more detail. The improvements to address these needs will be in compliance with the Moving Ahead for Progress in the 21st Century (MAP-21) Act, which was signed into law on July 6, 2012. The need for improvements sets the stage for developing and evaluating alternatives.

System Linkage and Route Importance

WIS 67 is a major north-south facility in Waukesha County providing access to and from IH 94 for the City of Oconomowoc and the Village of Summit. Through the study area, WIS 67 is functionally classified as a Principal Arterial intended to carry a high volume of through traffic while also serving local traffic and providing access to adjacent development. On October 1, 2012, WIS 67 was added to the National Highway System (NHS) under Section 1104 of MAP-21. Section 1104 of MAP-21 added to the NHS those roads that were at that time functionally classified as principal arterials but not yet part of the System. WIS 67 is also designated as a State Long Truck Route.

The IH 94 freeway is included in Wisconsin's portion of the National Highway System (NHS) adopted under the 2005 *Safe, Accountable, Flexible, Efficient Transportation Equity Act* (SAFETEA). NHS routes are important to interstate travel and national defense, connect with other transportation modes, and are essential for interstate commerce.

IH 94 is designated as a backbone route under WisDOT's *Corridors 2020 Plan* developed to provide a network of high-quality highways linking the state's economic centers. IH 94 is also a Federal and State Long Truck Route. According to the Oversize/Overweight (OSOW) Freight Network, IH 94 is identified as a primary route; WIS 67 is a secondary route.

Traffic Growth due to Proposed Land Development

WisDOT traffic forecasts indicate a need for capacity expansion on WIS 67. Existing (2009) and Design Year (2033) Annual Average Daily Traffic (AADT) volumes on WIS 67 and major side roads are summarized in Table 1. In some locations, traffic on WIS 67 is expected to more than double by Year 2033. WIS 67 corridor traffic in 2009 ranged from 9,900 to 24,700 vehicles and is expected to reach a range of 16,000 to 53,500 vehicles in 2033. WIS 67 corridor side road traffic in 2009 ranged from 900 to 16,400 vehicles and is expected to reach 1,800 to 27,400 vehicles in 2033. Average truck traffic in the WIS 67 corridor is approximately 5.3% of the total AADT.

Table 1: Existing and Future Traffic

WIS 67 Segments	Existing AADT (2009)	Forecast AADT (Year 2033)
Blue Ribbon Drive – IH 94	14,100	28,900
IH 94 – County B/Valley Road	22,900	53,500
County B/Valley Road – Oconomowoc Parkway	24,700	45,300
Oconomowoc Parkway – WIS 67 Bypass	23,400	40,200
WIS 67 Bypass – Thackeray Trail	9,900	16,000
Project Area Side Roads		
County DR/ Delafield Road	4,900	7,600
County B/Valley Road (West)	7,300	11,400
County B/Valley Road (East)	6,600	15,900
Pabst Road	900	1,800
Summit Avenue	16,400	27,400
Thackeray Trail	1,600	2,900
Old Tower Road	4,700	6,200

Much of the expected growth in traffic volumes is directly related to Pabst Farms, a planned development community. Pabst Farms, one of the largest planned developments (1,500 acres) in Wisconsin, has three (3) distinct areas providing for economic development within the City. The *Pabst Farms Market Place* and *Town Centre*, located east of WIS 67, between IH 94 and County B/Valley Road, is planned to provide for commercial and professional services. The *Business Tech Core*, located east of WIS 67, between County B/Valley Road and Pabst Road, is envisioned to have industrial and office related uses. The *Pabst Farms Commerce Center*, located west of WIS 67 south of IH 94, contains the Roundy's distribution center, a hotel, and a business park.

At full build out, the long-term plan for Pabst Farms includes:

- 1,500 Acres of Development
- 1,200 Residences: Single-Family Homes and Condos/Townhomes
- 600,000 – 900,000 square feet of Retail Space
- 5,000,000 square feet of Business, Office and Health Care
- 360 Acres of Open Space, Recreational Trails and Civic Uses

Future Traffic Conditions
In accordance with WisDOT's *Facilities Development Manual, Chapter 11, Design,* highway operations are commonly evaluated using Measures of Effectiveness (MOEs) to determine how well the highway is performing given its functionality, traffic volumes, intersection spacing, and other factors. Based on WIS 67's characteristics, the primary MOE for evaluating performance on this highway is "intersection operations".

As outlined in the *Highway Capacity Manual (HCM)*, intersection operations are typically expressed in terms of Level of Service (LOS), which is a measure of traffic flow and delay conditions. LOS ratings of A, B, and C indicate that an intersection is operating below capacity with minor delays. At LOS D, the intersection is operating near capacity and drivers experience longer delays. LOS E and F indicate the intersection is operating at or above capacity and drivers typically experience lengthy delays and backups.

Existing and Design Year LOS values for the existing WIS 67 roadway at major intersections in the WIS 67 project corridor are presented in Table 2. As shown in the table, if the existing roadway configuration remains the same, 6 of the 8 intersections shown will be functioning at LOS E or F by the year 2033.

Table 2: WIS 67 Intersection Levels of Service

Location	Existing Level of Service (2009)	Design Year Level of Service Existing Roadway (2033)
WIS 67 & Oconomowoc Drive/Pabst Farms Blvd (AM)	B	**E**
WIS 67 & Oconomowoc Drive/Pabst Farms Blvd (PM)	B	**F**
WIS 67 & County B/Valley Road (AM)	B	**E**
WIS 67 & County B/Valley Road (PM)	C	**F**
WIS 67 & Oconomowoc Parkway (AM)	A	C
WIS 67 & Oconomowoc Parkway (PM)	B	**F**
WIS 67 & Pabst Road (AM)	A	B
WIS 67 & Pabst Road (PM)	A	**F**

Per the WisDOT's *Facilities Development Manual, Chapter 11, Design,* the acceptable level of service (LOS) for a National Highway System (NHS) route is a level C rating. The WisDOT traffic forecasts for the WIS 67 project corridor (see Table 1), and the projected design year (2033) levels of service at WIS 67 project corridor intersections (see Table 2), indicate a need for capacity expansion along WIS 67. If the capacity of the WIS 67 project corridor remained unchanged, the expected traffic growth coupled with the close proximity of the corridor's signalized intersections would result in significant queue lengths at the signalized intersections. Additional traffic capacity on WIS 67 is needed to decrease queue lengths and to achieve a minimum overall level of service C rating through the corridor. In some locations, individual intersections within the project corridor may experience a level of service less than a C rating, even though the corridor itself meets the required LOS C rating.

Substandard Bike and Pedestrian Accommodations
The existing WIS 67 project corridor accommodates bicycles on a paved shoulder, but lacks bike lanes to accommodate bicycles through the intersections. The majority of the existing WIS 67 project corridor does not include pedestrian accommodations; the exception being sidewalks located on the west-side of WIS 67, north of Lexington Drive, and on the east-side of WIS 67, north of Thackeray Trail/Old Tower Road. The proposed action must provide a complete street network with appropriate bicycle and pedestrian accommodations to comply with Wisconsin Administrative Code – Chapter Trans 75 (Trans 75).

Substandard Intersection Geometrics

Existing substandard intersection geometrics along WIS 67 intersections consist of the following:

- Travel and Turn Lanes: several intersections along WIS 67 (IH 94 WB Ramps, Oconomowoc Drive/Pabst Farms Boulevard, County B, Oconomowoc Parkway, Pabst Road, Regent Road, Robruck Road, and Thackeray Trail/Old Tower Road) either lack the number of travel/turn lanes or have insufficient turn lane length to allow the intersections to operate at a level of service D or better in the future
- Pedestrian Accommodations: the existing intersections within the project corridor do not achieve Trans 75 Complete Streets compliance
- Bicycle Accommodations: the existing intersections within the project corridor do not achieve Trans 75 Complete Streets compliance
- Angle of Intersection: the existing skew angle of the Lexington Drive (west) intersection is 54 degrees while the WIS 67 bypass intersection has a skew angle of 58 degrees. Based on current standards the minimum skew angle is 65 degrees and the desirable standard is 75 degrees.
- Intersection Sight Distance: the existing horizontal curve along WIS 67 and the trees in the northwest quadrant of the Pabst Road intersection are limiting the sight distance to less than the required 885 ft distance
- Intersection Sight Distance: the existing horizontal curve along WIS 67 and the trees in the southwest quadrant of the Regent Road intersection are limiting the sight distance to less than the required 1,465 ft distance
- Intersection Sight Distance: the existing trees in the northwest quadrant of the Lexington Drive intersection are limiting the sight distance to less than the required 881 ft distance
- Decision Sight Distance: the existing horizontal curve along WIS 67 and the trees in the northwest quadrant of the Pabst Road intersection are limiting the sight distance to less than the required 890 ft distance
- Decision Sight Distance: the existing horizontal curve along WIS 67, the trees, a building, and fences in the southwest quadrant of the Old Tower Road intersection are limiting the sight distance to less than the required 715 ft distance

Substandard WIS 67/IH 94 Interchange Geometrics

The existing WIS 67/IH 94 interchange incorporates several design features that do not meet current desirable design standards.

- Decision Sight Distance: the existing vertical curves over the WIS 67 structure are designed to meet stopping sight distance criteria for 50 mph design speeds. However, updated design standards require that this vertical curve be designed to also meet decision sight distance for the 50 mph design speed. The existing highway profile only provides decision sight distance for a 40 mph design speed.
- Vertical Clearance: the desirable vertical clearance beneath a structure along a state highway that spans an interstate freeway is 16’-9”. The existing vertical clearance ranges from 16’-6” to 16’-7”.
- Ramp Acceleration: the existing southwest loop ramp has substandard acceleration distance prior to entering IH 94. Following AASHTO criteria, the existing ramp is designed for vehicles to accelerate to just below 50 mph prior to reaching the 3’ gore adjacent to IH 94. This is 20 mph less than the IH 94 mainline 70 mph design speed. Variations in speed of greater than 10 mph are substandard on entrance ramps to a freeway.

High Crash Rates

Crash rates along the WIS 67 project corridor are above the statewide crash rate for similar roadways. Table 3 displays crash information for the WIS 67 project corridor from the years 2006 through 2010.

Table 3: WIS 67 Corridor Crash Information

Roadway	Crash Rate [1] (2006-2010)	Statewide Crash Rate [1] (2006-2010)	Number & Severity of Crashes			
			Fatal	Injury	Property Damage	Total No. Crashes
WIS 67	346	326	1	92	198	291

[1] Crash rate based on 100 million vehicles miles traveled (100 MVMT)

Table 4 displays the intersections within the WIS 67 project corridor with the highest number of crash locations. The crash rates at the intersection of Summit Avenue and Thackeray Trail was found to be above the WisDOT threshold of concern for intersections (1.5 crashes per million entering vehicles). The remaining intersections within the project limits were found to be below the threshold of concern.

Table 4: Significant Crash Locations

Location	Year	Number & Severity of Crashes				Crash Rate	Possible Factors Contributing to Crashes
		Fatal	Injury	Property Damage	Total No. Crashes		
Summit Avenue & Thackeray Trail/Old Tower Road Intersection	2006 – 2010	0	19	35	54	1.67[2]	The majority of crashes were angle type collisions. Weather may have been a factor in 24% of the crashes. Nearly half the crashes involved failure to yield the right-of-way.
WIS 67 & County B Intersection	2006 – 2010	0	23	43	66	1.21[2]	The majority of crashes were rear-end type collisions. Weather may have been a factor in 17% of the crashes. Nearly half the crashes involved inattentive driving.
WIS 67 & Oconomowoc Parkway Intersection	2006 – 2010	0	12	27	39	0.88[2]	The majority of crashes were rear-end type collisions. Weather may have been a factor in 23% of the crashes. Nearly half the crashes involved inattentive driving.
WIS 67 & Robruck Drive Intersection	2006 – 2010	0	4	18	22	0.53[2]	The majority of crashes were angle type collisions. Weather may have been a factor in 32% of the crashes. Nearly half the crashes involved failure to yield the right-of-way.

[2] Crashes rate per million entering vehicles (MEV)

Pavement Condition

The existing pavement structure on both the WIS 67 project corridor and at the WIS 67/IH 94 interchange ramps is rapidly deteriorating and cracking, negatively affecting the ride quality. This section of WIS 67 was originally built in 1965/1976 with an overlay completed in 2008. The WIS 67/IH 94 interchange ramps were built in 1965 with an overlay completed in 1991. The existing overlay is deteriorating by showing signs of cracking which is adversely impacting the ride quality. The pavement in both areas was not originally designed for current and future traffic volumes and heavy truck use. Additionally, maintenance costs are rapidly increasing and are becoming more difficult to safely perform without causing substantial traffic delays and backups. The backups are compounded with increasing traffic volumes, which increases roadside and work zone safety concerns. The pavement on both the WIS 67 corridor and at the WIS 67/IH 94 bridges and ramps has reached the end of its useful life and needs to be replaced.

WisDOT uses a Pavement Serviceability Index (PSI) to measure pavement ride quality. A PSI value is determined by measuring the deflections, rutting, and roughness of the pavement by means of a profilograph. The PSI value is measured on a scale from 0 to 5, with a 0 being a poor ride quality and a 5 being an excellent ride quality. In 2004 the pavement ride was surveyed and an average PSI value of 2.78 was measured. By the year 2016, the pavement ride quality is projected to decrease to an average PSI value of 1.71.

2. Summary of alternatives considered and if they are not proposed for adoption, why not:

WIS 67 Roadway Corridor Alternatives

Corridor Alternative 1: No Build Alternative

This alternative would include only normal maintenance of the existing roadway without any capacity improvements. The existing highway would experience future traffic increases with effects on congestion, mobility, operational characteristics and safety. Any future improvements would consist of those that attempt to maintain the current service levels, keep the driving surface in good condition and address safety concerns at spot locations. The No Build Alternative is not a viable alternative for addressing key purpose and need factors (future traffic demand, safety concerns, substandard bike and pedestrian facilities, geometric deficiencies). Further, the No Build Alternative would not be in conformance with the adopted 2020 Regional Transportation System Plan or the Transportation Improvement Program for Southeastern Wisconsin. The No Build Alternative serves as a baseline for comparison to the Build Alternatives.

Corridor Alternative 2: Reconstruction [partial development build-out]

This alternative would include corridor reconstruction as a varying 4 lane to 6 lane divided roadway with bike lanes, adjacent multi-use path, and sidewalks, and assumes that the full build-out of adjacent developments within the project corridor occurs after the design year. The majority of the corridor would contain a grassed median, protected left turn lanes, right turn lanes, storm sewer system, storm water treatment devices, and traffic signals.

WIS 67 roadway improvements:

- 4 lanes between Blue Ribbon Drive/Aurora Drive and IH 94
- 6 lanes between IH 94 and Lexington Drive
- 5 lanes between Lexington Drive and the WIS 67 Bypass
- 4 lanes between the WIS 67 Bypass and Thackeray Trail/Old Tower Road

H 94-WIS 67 interchange improvements:

- Eastbound off-ramp terminal intersection would have longer turn lanes
- Eastbound loop ramp would be a dual lane ramp and reducing down to a single lane prior to merging onto eastbound IH 94
- Eastbound on-ramp would separated by a concrete barrier when adjacent to the eastbound loop ramp prior to merging onto eastbound IH 94
- Westbound off-ramp terminal intersection would have longer turn lanes and signalized dual right turn lanes onto northbound WIS 67 (existing operates as a free-flow single right turn lane)
- Oversize/Overweight (OSOW) vehicle turning movements are allowed through the interchange

The WIS 67 roadway footprint would not allow the option for the WIS 67 corridor to be expandable with additional travel lanes between IH 94 and Oconomowoc Parkway once the adjacent developments reach their full build-out stage. This alternative would not appropriately address expected growth in traffic volumes due to proposed land development, future traffic conditions, and safety issues due to high crash rates. This alternative does not meet the purpose and need of the proposed action and was not selected for further study.

Corridor Alternative 3: Reconstruction with Future Lanes [full development build-out] (Preferred Alternative)

This alternative would include reconstruction as a varying 4 lane to 8 lane divided roadway with bike lanes, adjacent multi-use path, and sidewalks and assumes that the full build-out of adjacent developments within the project corridor occurs before the design year. The majority of the corridor would contain a grassed median, protected left turn lanes, right turn lanes, storm sewer system, storm water treatment devices, and traffic signals.

WIS 67 roadway improvements:

- 4 lanes between Blue Ribbon Drive/Aurora Drive and IH 94
- 6 lanes between IH 94 and Oconomowoc Parkway (expandable to 8 lanes in future)
- 6 lanes between Oconomowoc Parkway and Lexington Drive
- 5 lanes between Lexington Drive and the WIS 67 Bypass
- 4 lanes between the WIS 67 Bypass and Thackeray Trail/Old Tower Road

IH 94-WIS 67 interchange improvements:

- Eastbound off-ramp terminal intersection would have longer turn lanes
- Eastbound loop ramp would be a dual lane ramp and reducing down to a single lane prior to merging onto eastbound IH 94
- Eastbound on-ramp would separated by a concrete barrier when adjacent to the eastbound loop ramp prior to merging onto eastbound IH 94
- Westbound off-ramp terminal intersection would have longer turn lanes and signalized dual right turn lanes onto northbound WIS 67 (existing operates as a free-flow single right turn lane)
- Oversize/Overweight (OSOW) vehicle turning movements are allowed through the interchange

The WIS 67 roadway footprint would allow the option for the WIS 67 corridor to be expandable for additional travel lanes between IH 94 and Oconomowoc Parkway once the adjacent developments reach their full build-out stage and additional travel lanes are needed for additional capacity. This alternative meets the purpose and need of the project and is proposed for further study.

WIS 67/IH 94 Interchange Alternatives Considered

Several alternatives were investigated within the "Alternatives Analysis Technical Memorandum, WIS 67 Structures over IH-94 and Future Collector/Distributor Road" completed for the project. (See Appendix 2 for the Alternatives Analysis Technical Memorandum). Prior planning efforts by WisDOT have identified the possible benefits of providing for a collector/distributor road along IH 94 though the WIS 67 interchange. Several collector/distributor road layout options were developed that accommodate different traffic merging arrangements. Several structure layout options were developed and evaluated that accommodate one or more of the collector/distributor road layouts. In addition, the impacts associated with raising WIS 67 or lowering IH 94 was investigated.

WIS 67 over IH 94 Bridge Structure Options

- Two 133-ft Spans with 54W Pre-stressed Concrete Girders
  - Accommodates either a two-lane westbound collector/distributor road or a second westbound on-ramp access point to IH 94
  - Raises the profile of WIS 67 4.5-ft at the eastbound ramp terminal and 6.5-ft at the westbound ramp terminal
  - Provides a decision sight distance of 750-ft at the ramp terminals
  - Accommodates an eastbound collector/distributor road and the merging of one lane of the dual loop on-ramp in the segment adjacent to IH 94

- Two 133-ft Spans with 45-inch Steel Girders
  - Accommodates either a two-lane westbound collector/distributor road or three westbound on-ramp access points to IH 94
  - Raises the profile of WIS 67 3.75-ft at the eastbound ramp terminal and 5.75-ft at the westbound ramp terminal
  - Provides a decision sight distance of 750-ft at the ramp terminals
  - Accommodates an eastbound collector/distributor road and the merging of one lane of the dual loop on-ramp in the segment adjacent to IH 94
  - Typically, steel girders require more maintenance throughout the life of the structure

- Four 70-ft Spans with 36W Pre-stressed Concrete Girders
  - Only accommodates a two-lane westbound collector/distributor road, the location of the bridge pier between westbound IH 94, and the collector/distributor road would prohibit the collector/distributor road from merging with mainline IH 94 before the WIS 67 on-ramp
  - Raises the profile of WIS 67 3.0-ft at the eastbound ramp terminal and 5.0-ft at the westbound ramp terminal
  - Provides a decision sight distance of 750-ft at the ramp terminals

WIS 67 over IH 94 Vertical Clearance Improvement Options

- Lower IH 94
  - Approximately 2,000-ft of mainline IH 94 would need to be reconstructed
  - Adverse affects to the traveling public with lane closures and traffic cross-overs
  - Drainage concerns by creating a low point and changing flow drainage patterns

- Raise WIS 67
  - Additional right-of-way impacts
  - Increased amount of fill to raise roadway grade
  - Require retaining walls to limit impacts to adjacent properties

IH 94 Interchange Collector/Distributor Road Options

- Two Lane Westbound Collector/Distributor Road
  - This option presents a typical layout where all ramp traffic is removed to the collector/distributor road, and finally is merged with freeway traffic after the final interchange. In this case, a two-lane westbound collector/distributor road continues beneath the proposed WIS 67 structures, merges with the WIS 67 westbound on-ramp, and finally merges with westbound freeway traffic.

- Second Westbound On-Ramp Access Point
  - This option presents a modified layout were westbound traffic on the collector/distributor road is merged with mainline interstate traffic prior to the westbound entrance ramp from WIS 67. In this case, the second westbound on-ramp access just west of the off-ramp to WIS 67. This distributes the volume of westbound traffic entering the freeway more evenly, likely resulting in better operations and a safer design.

- Eastbound Collector/Distributor Road
  - This option presents a layout where the eastbound collector/distributor road exits IH 94 on a single-lane off-ramp and merges with traffic entering from the loop ramp to become a two-lane eastbound collector/distributor road. In this case, a two-lane eastbound collector/distributor road continues beneath the proposed WIS 67 structures, merges with the WIS 67 eastbound on-ramp, and finally merges with eastbound freeway traffic.

The technical memorandum recommended the design of two 54W pre-stressed concrete girder bridges along WIS 67 over IH 94. Each bridge is to consist of two 133-ft long spans with vertical MSE wall type abutments. The required vertical clearance under the proposed structures is to be attained by raising the profile of WIS 67. This is the structure design included as part of the preferred alternative. The advantages of the recommended alternative include:

- Results in lower maintenance costs over steel girder construction
- Accommodates either a two-lane westbound collector/distributor road or two westbound on-ramp access points to IH 94
- The two-span option is preferable because the four-span option requires a pier between the lanes of westbound IH 94 and the westbound collector/distributor road, which will not permit a second on-ramp access point to IH 94. The two additional piers are also a hazard that has to be protected during the interim condition that would not be there with the two-span structure option.
- The option of raising WIS 67 provides a lower construction costs, less impacts to traveling public, and avoids drainage concerns as compared to lowering IH 94

3. Description of Proposed Action (attach project location map and other appropriate graphics):

The Wisconsin Department of Transportation (WisDOT) is proposing roadway improvements to WIS 67, Summit Avenue in the City of Oconomowoc and the Village of Summit, within Waukesha County. The WIS 67 project starts immediately north of the Blue Ribbon Drive/Aurora Drive intersection, includes the interchange with IH 94 and continues north along Summit Avenue through the Thackeray Trail/Old Tower Road intersection. The project also includes a short segment of the WIS 67 Bypass, up to the WIS 67 Bypass/Old Tower Road intersection. (See Appendix 1 for a Project Location Map) (See Appendix 3 for Plan Overview Sheets exhibit showing the NEPA limits for the entire proposed improvement project) (See Appendix 3 for Preliminary Plans and Existing and Proposed Typical Sections). Final plans will be completed in 2014 and construction is scheduled for 2015 and 2016.

The proposed project includes reconstruction of WIS 67 and bridges over IH 94 to a varying 4 lane to 8 lane roadway (see roadway improvements description below) aimed to improve capacity/operations, safety, bike/pedestrian accommodations, and pavement condition. Proposed improvements include: raised medians, sidewalks, multi-use paths, bike lanes, intersection improvements, storm sewer system, storm water treatment devices, and traffic signals. The proposed project will be constructed in stages, with a minimum of one lane of traffic open in each direction at all times. Retaining walls will be constructed to reduce property impacts at select locations.

Visual displays of proposed improvements are included in Appendix 4.

Roadway improvements include:

- Reconstruct existing WIS 67 bridge structures over IH 94
- Reconstruct existing WIS 67 travel lanes and provide additional lanes (capacity) in order to achieve a minimum overall level of service C through the project corridor (maintain a minimum level of service D at the project corridor intersections)
    - Blue Ribbon Drive to IH 94: 4 travel lanes
        - 2 southbound
        - 2 northbound
    - IH 94 to Oconomowoc Drive/Pabst Farms Boulevard: 7 proposed travel lanes
        - 4 southbound
        - 3 northbound
    - Oconomowoc Drive/Pabst Farms Boulevard to Oconomowoc Parkway: 6 proposed travel lanes [expandable to 8]
        - 3 southbound [expandable to 4]
        - 3 northbound [expandable to 4]
    - Oconomowoc Parkway to Lexington Drive: 6 proposed travel lanes
        - 3 southbound
        - 3 northbound
    - Lexington Drive to WIS 67 Bypass: 5 proposed travel lanes
        - 2 southbound
        - 3 northbound
    - WIS 67 Bypass to Thackeray Trail/Old Tower Road: 4 travel lanes
        - 2 southbound
        - 2 northbound

Intersection improvements include:

- Additional travel lanes to increase capacity in order to achieve a minimum level of service D at the project corridor intersections
- Improved storage capacity for turn lanes
- Additional turn lanes (future turn lanes accommodated) as necessary
- Islands for improved pedestrian refuge and vision
- Replace existing traffic signals (add traffic signals to Robruck Drive intersection)
- Improved sight distance by improved intersection skew angles
- Install street lighting at signalized intersections

WIS 67/IH 94 Interchange improvements include:

- Dual lane loop ramp onto eastbound IH 94 to improve capacity/operations
- Increase acceleration length along loop ramp onto eastbound IH 94 to improve operations
- Increase vertical clearance over IH 94 by raising profile along WIS 67
- Increase sight distance along WIS 67 to improve operations and safety
- Provide bicycle and pedestrian accommodations along WIS 67 through interchange

Bike accommodations include:

- Multi-use path along the entire corridor (Blue Ribbon Drive/Aurora Drive to Thackeray Trail/Old Tower Road)
- On-street bike lanes or widen outside lane along the entire corridor

Pedestrian accommodations include:

- Multi-use path or sidewalk along the entire corridor
- Medians/islands providing crossing refuge when feasible
- Improved crosswalk alignment and curb ramps

4. In general terms, briefly discuss the construction and operational energy requirements and conservation potential of the various alternatives under consideration. Indicate whether the savings in operational energy are greater than the energy required to construct the facility:

Construction energy requirements for the proposed project will consist primarily of fuel consumption by construction equipment and energy expended in producing materials needed to construct the new facility. Operational energy requirements are measured by the efficiency of vehicle operation in the corridor.

The amount of construction energy expended would be least for the No Build Corridor Alternative, greater for Corridor Alternative 2 Reconstruction: (partial development build-out), and greatest for the Preferred Corridor Alternative 3: Reconstruction with Future Lanes (full development build-out). The projected construction energy requirements for the WIS 67/IH 94 Interchange Bridges and Ramps Build Alternatives would be relatively similar.

Immediate operational energy requirements of the Build Alternatives would be greater than the No-Build Alternative. However, the No-Build Alternative would perpetuate the use of an inefficient transportation system and deteriorated pavement structure. Unimproved geometrics and clearances would potentially increase crash and safety problems as well. Over the design life of the facility, savings in operational energy would likely be greater than the energy required to construct the facility and, in the long-term, would result in net savings in energy usage.

Maintenance costs would also be greater for the No-Build Alternative. The existing pavement structure will continue to deteriorate and utilize greater amounts of maintenance funds, in addition to the additional energy consumption associated with traffic delays due to the expected influx of future traffic.

5. Describe existing land use (attach land use maps, if available):

a. Land use of properties that adjoin the project:
The proposed action is located in Waukesha County. The majority of the project area is located in the City of Oconomowoc (population 15,712). A small portion of the southern end of the project is located in the adjacent Village of Summit (population 4,674).

The land immediately surrounding the project area is used for a variety of uses, including residential, commercial, recreational, office, warehouse and industrial uses. The WIS 67 corridor is a major business park, industrial, and commercial area, and a major gateway into the City of Oconomowoc.

The northern half of the project corridor is lined by a strip of commercial businesses on the west side of WIS 67, and a residential neighborhood on the eastern side of WIS 67.

The southern half of the project corridor is populated by the Oconomowoc Corporate Center to the west. The Oconomowoc Corporate Center is a planned, controlled, full-service business park located at the northwest quadrant of WIS 67 and IH 94. The business park consists of nearly 130 acres of prime office, industrial, commercial and warehouse land in carefully designated areas.

The eastern side of the southern half of the project corridor is dominated by land dedicated to the development of Pabst Farms. Pabst Farms is a 1,500-acre master planned community. The stated long-term plans for Pabst Farms include:

- 1,200 residences: single-family homes and condos/townhomes;
- 600,000 – 900,000 square feet of retail space;
- 5,000,000 square feet of business, office and health care;
- 360 acres of open space, recreational trails and civic uses.

The Aurora Medical Center, a regional medical center, is located in the southeast quadrant of the WIS 67/IH 94 interchange, in the Village of Summit.

An existing land use map is presented in Appendix 1.

b. Land use surrounding project area:
Land use in the surrounding area is similar to that along the WIS 67 corridor.

6. Briefly identify adopted local or regional plans for the project area and zoning regulations. Discuss whether the proposed action is compatible with the plan or zoning:

Plan Name	Author/Year	Comments
2011-2016 WisDOT Statewide Transportation Improvement Program (STIP)	WisDOT, 2011	Improvements to WIS 67 from Blue Ribbon Dr to Thackeray Trail, and improvements to WIS 67/IH 94 bridges are listed in the 2011-2016 STIP.
2013-2016 Regional Transportation Improvement Program for Southeastern Wisconsin	SEWRPC, 2013	Improvements to WIS 67 from Blue Ribbon Dr to Thackeray Trail, and improvements to WIS 67/IH 94 bridges are listed in the 2013-2016 TIP (#300 and #311).
Oconomowoc Comprehensive Plan	City of Oconomowoc, 2010	This plan gives broad transportation goals for the City of Oconomowoc. The proposed action is consistent with these goals.
Village of Summit Master Plan 2020	Village of Summit, 2011	The plan identifies and recommends Summit Avenue (WIS 67) Corridor development and transportation improvements that are consistent with the proposed action.

7. Describe how the project development process complied with Executive Order 12898 on Environmental Justice. If populations of any group covered by EO 12898 are present in the project area, complete Factor Sheet B-4, Environmental Justice:

How was information obtained about the presence of populations covered by EO 12898?	
☒ Windshield Survey	☐ Official Plan
☒ US Census Data	☐ Survey Questionnaire
☐ Real Estate Company	☐ WisDOT Real Estate
☐ Public Information Meeting	☐ Local Government
☐ Human Resources Agency Identify agency Identify plan, approval authority and date of approval	
☐ Other (Identify)	

a. ☒ No - Populations covered by EO 12898 are not present in project area.
b. ☐ Yes - Populations covered by EO 12898 are present. Factor Sheet B-4 must be completed.

8. Indicate whether individuals covered by Title VI of the 1964 Civil Rights Act, the Americans with Disabilities Act or the Age Discrimination Act were identified: *Title VI prohibits discrimination on the basis of race, color, or country of origin.*
a. ☒ No - Individuals covered by the above laws were not identified.
b. ☐ Yes - Individuals covered by the above laws were identified.

The proposed project is located within the City of Oconomowoc and the Village of Summit in Waukesha County. The U.S. Census Bureau data for 2010 indicates the following population characteristics for the City of Oconomowoc and the Village of Summit.

City of Oconomowoc

Total population—15,759
White—96% of total population
Black or African American—0.5% of total population
American Indian and Alaska Native—0.2% of total population
Asian—1% of total population
Persons of Hispanic or Latino origin—3.5% of total population

According to the U.S. Census Bureau data from 2006-2010, the median household income (average of 3 persons per household) for the City of Oconomowoc is $71,162. Median household income for the City of Oconomowoc is substantially above the national poverty line guideline of $18,530 for households with 3 persons (Department of Health and Human Services, Federal Register, January 2011).

Village of Summit

Total population—4,674
White—97% of total population
Black or African American—0.7% of total population
American Indian and Alaska Native—0.3% of total population
Asian—0.6% of total population
Persons of Hispanic or Latino origin—2.0% of total population
According to the U.S. Census Bureau data from 2006-2010, the median household income (average of 3 persons per household) for the Village of Summit is $95,000. Median household income for the Village of Summit is substantially above the national poverty line guideline of $18,530 for households with 3 persons (Department of Health and Human Services, Federal Register, January 2011).

There is no indication that the proposed improvements would disproportionately affect any individuals, groups, or populations subject to Environmental Justice requirements. There are no Environmental Justice concerns with the proposed action.

9. Briefly summarize public involvement methods:

a. Meetings.

Date	Meeting Sponsor (WisDOT, RPC, MPO, etc.)	Type of Meeting (PIM, Public Hearings, etc.)	Location	Approx. # Attendees
9/2/2009	WisDOT	Operational Planning Meeting	WisDOT SE Region (Waukesha)	15
1/5/2011	WisDOT	Local Officials Meeting	Oconomowoc City Hall	10
1/18/2011	WisDOT	PIM	Oconomowoc Public Library	50
1/30/2013	WisDOT	Local Officials Meeting	Oconomowoc City Hall	12
2/13/2013	WisDOT	PIM	Oconomowoc Public Library	50

b. Other methods, describe:

Key Public involvement activities during preparation of the Environmental Assessment are summarized as follows:

- **December, 2010** – A media release for the January 2011 PIM was released by WisDOT.
- **December, 2010** – Door hangers announcing the first public information meeting distributed to local residents and businesses. PIM invitations were mailed to local units of government, tribes, county, state, & federal elected officials.
- **January, 2011** – First public information meeting was held in the Oconomowoc Public Library with an open house format. Approximately 50 people signed in and attended the session. The purpose was to introduce the project team, review the study purpose and scope, and review project schedule and upcoming activities. This information was also included in a handout that was available at the meeting for all attendees to pick up. The handout included a mail in comment sheet.
- **February 2013** – A second public information meeting was held in the Oconomowoc Public Library with an open house format and brief presentation. Approximately 50 people signed in and attended the session. The purpose was to introduce the project team, review previous concerns/comments, present proposed project needs, present the preliminary design concepts, and current project schedule. This information was included in a handout that was available at the meeting for all attendees to pick up. A comment sheet was available for pick up also.

c. Identify groups that participated in the public involvement process. Include any organizations and special interest groups:

Public involvement and coordination meetings included representatives from WisDOT, the City of Oconomowoc, the Village of Summit, Waukesha County, local businesses, local property owners, local civic groups, and interested citizens.

d. Indicate plans for additional public involvement, if applicable:
An Environmental Assessment Hearing (if requested) would be held in the Summer/Fall of 2013. A third Public Information Meeting is planned for the Fall/Winter of 2013.

10. Briefly summarize the results of public involvement:

a. Describe the issues, if any, identified by individuals or groups during the public involvement process:
The following is a list of the most frequent comments/concerns/issues resulting from the 1st public information meeting:

- Safety concerns for pedestrians and bicycles near the Lexington Drive intersection
- Operation/access and safety concerns near the Lexington Drive and Robruck Drive intersections
- Access to local properties (business and residential) during construction
- Concerns over excessive operating speed by vehicles
- Concerns over lack of adequate pedestrian/bicycle facilities
- Concerns over construction duration and staging and the impact to local business
- Safety concerns for path users along the Lake Country Trail crossing of WIS 67 at the Oconomowoc Parkway intersection
- Concerns over tree removal along the project corridor
- Concerns over proposed expanded roadway width and impacts to adjacent property

b. Briefly describe how the issues identified above were addressed:

- Final design will provide appropriate and safe pedestrian and bicycle accommodations throughout the project
- Operations, safety, and property access have each been significant components considered in the project design
- Access to local properties (business and residential) will remain open during construction
- Future public meetings will discuss and coordinate construction staging operations with local representatives to address concerns
- The City of Oconomowoc is working with residents to address concerns and replace plantings/landscaping in areas of tree removal
- WisDOT will continue to coordinate with property owners on final project design

11. Local/regional government coordination:

a. Identify units of government contacted and provide the date coordination was initiated:

There has been ongoing coordination with Waukesha County, the City of Oconomowoc, and the Village of Summit concerning the proposed action. This coordination includes phone conversations, e-mails, and meetings.

Unit of Government	Coordination	Coordination Initiation Date	Coordination Completion Date	Comments
City of Oconomowoc	Y	September 2009	Ongoing	Coordination has been ongoing since the September 2009 Operational Planning Meeting
Village of Summit	Y	September 2009	Ongoing	Coordination has been ongoing since the September 2009 Operational Planning Meeting
Waukesha County	Y	September 2009	Ongoing	Coordination has been ongoing since the September 2009 Operational Planning Meeting

- An Operational Planning Meeting (OPM) was held on 9/2/2009. Officials from the City of Oconomowoc, the Village of Summit, and Waukesha County were invited to the meeting.
- Individual meetings were conducted with local officials from the City of Oconomowoc (11/8/2011) and the Village of Summit (12/15/2011).

b. Describe the issues, if any, identified by units of government during the public involvement process:

Issues identified by local units of government include:

- Business access concerns along Robruck Drive
- Business access and safety concerns along Lexington Drive
- Maintenance costs of grassed areas and islands/medians near intersections
- Aesthetic treatments on the WIS 67 bridges over IH 94 to be similar to the aesthetic treatments of the recently completed IH 94 bridges over County P

c. Briefly describe how the issues identified above were addressed:

- The current design includes a City requested signal at Robruck Drive to accommodate business access
- The current design includes a median closure at Lexington Drive due to safety concerns
- The City of Oconomowoc has committed to constructing local streets west of WIS 67 between Robruck Court, Robruck Drive, and Lexington Drive prior to construction of the proposed action
- Islands and medians at proposed intersection improvements will be paved to reduce future maintenance costs
- Aesthetic treatments on the WIS 67 structures will be coordinated during final design of the project

d. Indicate any unresolved issues or ongoing discussion:

Issues still under consideration/currently being coordinated with the City of Oconomowoc and Village of Summit include the state municipal agreement with both municipalities.

Basic Sheet 3

Coordination

INTERNAL WisDOT	Coordination Required?	Correspondence Attached? Y = Yes N = No	Comments Explain or give results. If no correspondence is attached to this document, indicate when coordination with the agency was initiated and, if available, when coordination was completed. If coordination is not required, state why.
Bureau of Aeronautics	☒ No	N	Coordination is not required. Project is not located within 2 miles of a public or military use airport, nor would the project change the horizontal or vertical alignment of a transportation facility located within 4 miles of a public use or military airport.
	☐ Yes		
Bureau of Rails & Harbors	☒ No	N	Coordination is not required because no railways or harbors are in or planned in the project area.
	☐ Yes		
Regional Real Estate Section	☒ No	N	Coordination is not required because no inhabited houses or active businesses will be acquired.
	☐ Yes		
STATE AGENCY	**Coordination Required? Y = Yes N = No**	**Correspondence Attached? Y = Yes N = No**	
Agriculture (DATCP)	Y	Y	**December 17, 2012** – Information regarding the project was provided to DATCP. **December 17, 2012** – Letter from DATCP states that land required for proposed action will not require an Agricultural Impact Statement. DATCP correspondence is presented in Appendix 5.
Natural Resources (WDNR)	Y	Y	**December 14, 2011** – Information regarding the project was provided to WDNR. **December 12, 2012** – Preliminary project plans provided to WDNR. **January 22, 2013** – Preliminary comments received from WDNR. Additional WDNR coordination will occur during the final design phase. WDNR correspondence is presented in Appendix 5.
State Historic Preservation Office (SHPO)	Y	Y	In 2012 a Phase I archaeological investigation was completed for the proposed project area. One previously identified archaeology site and five previously reported cemetery/burial sites were identified within the Area of Potential Effects (APE). **May 20, 2013** – WisDOT Cultural Resources Team (CRT) submitted an amended request to the SHPO to allow work within the boundaries of four (4) of the previously identified burial sites. SHPO expressed concerns regarding the proposed project's impacts on two (2) of the burial sites. Upon further coordination with the design engineer, WisDOT determined that the proposed action will have no effect on the sites. **August 13, 2013** – The Wisconsin State Historic Preservation Officer (SHPO) signed an Archaeology/Burial No Effect document regarding the proposed action. The signed Archaeology/Burial No Effect document is presented in Appendix 6.
Others:			

FEDERAL AGENCY	Coordination Required? Y = Yes N = No	Correspondence Attached? Y = Yes N = No	
Advisory Council on Hist.Pres. (ACHP)	N	N	Coordination with the ACHP is not required. No properties that are on the National List of Historic Places will be affected by the proposed action.
Corps of Engineers (COE)	N	N	Coordination with COE was not required for the project.
Environmental Protection Agency (EPA)	N	N	Coordination with EPA was not required for the project.
National Park Service (NPS)	N	N	Coordination with NPS was not required for the project. No National Parks will be impacted by the proposed action.
Nat. Resource Cons. Service (NRCS)	Y	Y	**December 12, 2011** – Information regarding the project was provided to NRCS. **February 4, 2013** – Comments from NRCS indicate that the project is not subject to the requirements of the Farmland Protection Policy Act (FPPA). No further correspondence is needed.
US Coast Guard (USCG)	N	N	Coordination with USCG was not required. There are no commercial navigable waters along the project
Fish & Wildlife Serv. (FWS)	Y	Y	**December 12, 2011** – Information regarding the project was provided to NRCS. **December 21, 2011** – Initial comments received from FWS. FWS reviewed the proposed action and determined that no federally listed species, candidate species, or designated critical habitats are likely to occur within the project area. FWS correspondence is presented in Appendix 5.
AMERICAN INDIAN TRIBES	Y	Y	**December 12, 2011** – In accordance with WisDOT policy, all required American Indian Tribes were notified of the proposed project. No responses were received from any notified Tribes. Correspondence with American Indian Tribes is presented in Appendix 5.

Basic Sheet 4
Environmental Factors Matrix

FACTORS	EFFECTS				
	Adverse	Benefit	None Identified	Factor Sheet Attached	Note: Comments should be of a summary nature and should not extensively duplicate information contained in an attached factor sheet. If an "adverse" effect is permanent, a factor sheet must be attached. If an "adverse" effect is temporary, it must be explained on this sheet under "comments". If "None Identified" is indicated, explain why. **Comments**
A. ECONOMIC FACTORS					
A-1 General Economics	☒	☒	☐	☒	The Proposed Action will: Require capital investment by WisDOT that would not be able to be expended elsewhere. Cause temporary traffic delay of services and access to local commerce during construction. Accommodate current and planned economic growth for the area. Assist in ensuring economic viability of the area by promoting safe and efficient travel through the project area. Benefit commercial, industrial, and manufacturing establishments by ensuring safe access for employees and shipment of goods and services in the project area.
A-2 Business	☒	☒	☐	☒	The Proposed Action will: Impact access to local businesses on a short-term basis during the construction of the improvements. Require strip ROW acquisition from fourteen (14) existing businesses, totaling 0.7 acres. Require relocation of zero (0) existing businesses. Assist in ensuring economic viability of the project area by promoting safe and efficient travel for local and regional traffic. Benefit commercial and industrial establishments by increasing level of service, safety, and access for employees and shipment of goods and services in the project area. Cause temporary traffic delay of services and access to local commerce during construction.
A-3 Agriculture	☐	☐	☒	☒	A large section of land adjacent to the eastern edge of the WIS 67 project corridor is land that is part of Pabst Farms, a large (1,500 acre) planned development community. This land is currently zoned for general commercial and residential uses, but is currently being used for agricultural purposes until planned development commences. The proposed action will require 0.2 acres of strip ROW from this area. Of this total, 0.06 acres are from property that is actively used for agricultural production. The acquisition of land will not affect the use of or access to the land. The Department of Agriculture, Trade and Consumer Protection has determined this land requirement to be an insignificant agricultural taking. Factor Sheet not required.

B. SOCIAL/CULTURAL FACTORS					
B-1 Community or Residential	☒	☒	☐	☒	The Proposed Action will: Require strip ROW acquisition from three (3) residences, totaling 0.2 acres and ROW acquisition from one (1) undeveloped parcel, totaling 1.4 acres. Cause temporary traffic delay to local residents during construction. Cause potential disruption in emergency vehicle access during construction. Benefit the project area by providing a safer and more efficient roadway. Not require any residential acquisitions.
B-2 Indirect Effects	☐	☐	☒	☐	No indirect effects are identified, as much of the project will be on existing alignment. Capacity expansion and access management under the Preferred Alternative will allow development to continue as planned. Land use, development, and traffic volume changes are not expected to change due to construction of the proposed action. See the indirect effects discussion on Basic Sheet 7 (page 26) and in Appendix 7: WisDOT Pre-Screening Indirect Effects Analysis Worksheets, for additional information on this topic.
B-3 Cumulative Effects	☐	☐	☒	☐	No cumulative effects are identified.
B-4 Environmental Justice	☐	☐	☒	☐	This document is in compliance with U.S. DOT and FHWA policies to determine whether a proposed project will have induced socioeconomic impacts or any adverse impacts on minority or low income populations; and it meets the requirements of Executive Order on Environmental Justice 12898—"Federal Actions to Address Environmental Justice in Minority and Low-Income Populations." Neither minority nor low-income populations would receive disproportionately high or adverse impacts as a result of this project.
B-5 Historic Resources	☐	☐	☒	☐	No historic resources were identified in the area of potential effect. Supporting documentation is included in Appendix 6.
B-6 Archaeological Sites	☐	☐	☒	☐	In 2012 a Phase I archaeological investigation was completed for the proposed project area. One previously identified archaeology site and five previously reported cemetery/burial sites were identified within the Area of Potential Effects (APE). The WisDOT determined that the proposed action will have no effect on the identified sites. The Wisconsin State Historic Preservation Officer (SHPO) concurred and signed an Archaeology/Burial No Effect document regarding the proposed action. The signed Archaeology/Burial No Effect document is presented in Appendix 6.
B-7 Tribal Issues	☐	☐	☒	☐	No identified tribal issues.
B-8 Section 4(f) and 6(f) or Other Unique Areas	☐	☐	☒	☐	No section 4(f) or 6(f) impacts.
B-9 Aesthetics	☐	☒	☐	☐	The WIS 67 bridges over IH 94 will be designed with similar aesthetics as the recently constructed IH 94 bridges over County P.

C. NATURAL SYSTEM FACTORS					
C-1 Wetlands	☐	☐	☒	☐	Wetland delineations were surveyed by the South Eastern Wisconsin Regional Planning Commission (SEWRPC) on 8/30/2012. Although the wetland delineation shows wetland locations in the general project area, no delineated wetlands will be impacted by the proposed action. There is an existing drainage pond located in the northwest quadrant of WIS 67 and Regent Road intersection (sta. 308+50 - 310+00 Lt). Wetlands associated with this drainage pond are located within the existing WIS 67 right of way. A retaining wall is planned to be constructed adjacent to this location to ensure that no fill from proposed construction activities will impact the identified wetlands.
C-2 Rivers, Streams and Floodplains	☐	☐	☒	☐	No river, stream, or floodplain impacts.
C-3 Lakes or Other Open Water	☐	☐	☒	☐	No lake or other open water impacts.
C-4 Groundwater, Wells, and Springs	☐	☐	☒	☐	No groundwater, wells, or springs impacts.
C-5 Upland Wildlife and Habitat	☐	☐	☒	☐	No upland wildlife and habitat impacts.
C-6 Coastal Zones	☐	☐	☒	☐	No coastal zone impacts.
C-7 Threatened and Endangered Species	☐	☐	☒	☐	No threatened or endangered species impacts.

D. PHYSICAL FACTORS					
D-1 Air Quality	☐	☐	☒	☒	The WIS 67 project was compared to a similar project, the reconstruction of Verona Road (US 18/151) in Dane County, which is also a capacity expansion project that includes the reconstruction of an interchange. Existing and future traffic numbers are greater on Verona Road than those on WIS 67. WDNR concurred with the air analyses conducted on the Verona Road project, which indicated that the project would not create CO levels that would exceed 75% of the National Ambient Air Quality Standard (NAAQS). Using this comparison mode, the results of the Verona Road analyses are applicable to the WIS 67 project. See Appendix 8 for Mobile Source Air Toxics (MSAT) information.
D-2 Construction Stage Sound Quality	☒	☐	☐	☒	WisDOT Standard Specifications 1.7.8(6) and 108.7.1 will apply.
D-3 Traffic Noise	☐	☐	☒	☒	A traffic noise analysis was performed for the project area. No impacts are anticipated per Wisconsin Administrative Code – Chapter TRANS 405. Noise levels were computed at 36 receptors along the project corridor. Based on the results, noise abatement measures are not proposed for this project.
D-4 Hazardous Substances or Contamination	☐	☒	☐	☒	Based on the findings of the Phase I Hazardous Materials Assessment (HMA) for the project area, eight (8) sites with recognized environmental conditions were identified along the project corridor. At seven (7) of the eight (8) sites, no further investigation or remediation is recommended. One (1) site with the potential to impact the proposed project was identified. Standard Special Provisions should be included in the contract to address the potential for encountering hazardous materials during project construction at the identified site. Contaminated soils encountered during construction will be remediated.
D-5 Stormwater	☐	☒	☐	☒	Stormwater will be controlled through the use of the methods shown in the latest edition of the WisDOT's Standard Specifications for Highway and Structure Construction through consultation with the Wisconsin Department of Natural Resources pursuant to the DOT/DNR Cooperative Agreement. This will be made part of the construction contract to be administered by the WisDOT project engineer.
D-6 Erosion Control	☐	☒	☐	☒	Erosion and sediment transport will be controlled through the use of the methods shown in the latest edition of the WisDOT's Standard Specifications for Highway and Structure Construction through consultation with the Wisconsin Department of Natural Resources pursuant to the DOT/DNR Cooperative Agreement. This will be made part of the construction contract to be administered by the WisDOT project engineer.
E. OTHER FACTORS					
E-1	☐	☐	☐		

Basic Sheet 5
Alternatives Comparison Matrix

(All estimates, including costs, are based on conditions described in this document at the time of preparation. Additional agency or public involvement may change these estimates in the future.)

ENVIRONMENTAL ISSUE	UNIT MEASURE	ALTERNATIVES/SECTIONS		
		Alt. 1 Maintenance Mill/Overlay (No Build)	Alt. 2 Reconstruct	Alt. 3 Preferred Reconstruct (Future Expansion)
Project Length	Miles	2.5 miles	2.5 miles	2.5 miles
Preliminary Cost Estimate				
Construction	Million $	2.3 million	26.7 Million	27 Million
Real Estate	Million $	0	0.5 Million	0.5 Million
Total	Million $	2.3 million	27.2 Million	27.5 Million
Land Conversions				
Wetland Area Converted to ROW	Acres	0	0	0
Upland Habitat Area Converted to ROW	Acres	0	0	0
Other Area Converted to ROW	Acres	0	2.3	2.5
Total Area Converted to ROW	Acres	0	2.3	2.5
Real Estate				
Number of Farms Affected	Number	0	1	1
Total Area Required From Farm Operations	Acres	0	0.1	0.2
AIS Required	Yes/No	No	No	No
Farmland Rating	Score	0	0	0
Total Buildings Required	Number	0	0	0
Housing Units Required	Number	0	0	0
Commercial Units Required	Number	0	0	0
Other Buildings or Structures Required	Number (Type)	0	0	0
Environmental Issues				
Indirect Effects	Yes/No	No	No	No
Cumulative Effects	Yes/No	No	No	No
Environmental Justice Populations	Yes/No	No	No	No
Historic Properties	Number	0	0	0
Archeological Sites	Number	0	0	0
106 MOA Required	Yes/No	No	No	No
4(f) Evaluation Required	Yes/No	No	No	No
Flood Plain	Yes/No	No	No	No
Total Wetlands Filled	Acres	0	0	0
Stream Crossings	Number	0	0	0
Endangered Species	Yes/No	No	No	No
Air Quality Permit Required	Yes/No	No	No	No
Design Year Noise Sensitive Receptors				
No Impact	Number	36	36	36
Impacted	Number	0	0	0
Contaminated Sites	Number	0	1	1

Basic Sheet 6
Traffic Summary Matrix

	ALTERNATIVES/SECTIONS		
	Alt. 1 No Build	Alt. 2	Alt. 3 Preferred Alternative
TRAFFIC VOLUMES			
Existing AADT (Year 2009)	14,100 (Blue Ribbon – IH 94) 24,700 (IH 94 – Ocon Prkwy) 23,400 (Ocon Pkwy – 67 Bypass) 9,900 (67 Bypass – Thackeray)	14,100 (Blue Ribbon – IH 94) 24,700 (IH 94 – Ocon Prkwy) 23,400 (Ocon Pkwy – 67 Bypass) 9,900 (67 Bypass – Thackeray)	14,100(Blue Ribbon – IH 94) 24,700 (IH 94 – Ocon Prkwy) 23,400 (Ocon Pkwy – 67 Bypass) 9,900 (67 Bypass – Thackeray)
Const. Year AADT (Year 2013)	22,000 (Blue Ribbon – IH 94) 38,300 (IH 94 – Ocon Prkwy) 29,400 (Ocon Pkwy – 67 Bypass) 12,000 (67 Bypass – Thackeray)	22,000 (Blue Ribbon – IH 94) 38,300 (IH 94 – Ocon Prkwy) 29,400 (Ocon Pkwy – 67 Bypass) 12,000 (67 Bypass – Thackeray)	22,000 (Blue Ribbon – IH 94) 38,300 (IH 94 – Ocon Prkwy) 29,400 (Ocon Pkwy – 67 Bypass) 12,000 (67 Bypass – Thackeray)
Const. Plus 10 Year AADT (Year 2023)	27,300 (Blue Ribbon – IH 94) 50,800 (IH 94 – Ocon Prkwy) 37,500 (Ocon Pkwy – 67 Bypass) 14,900 (67 Bypass – Thackeray)	27,300 (Blue Ribbon – IH 94) 50,800 (IH 94 – Ocon Prkwy) 37,500 (Ocon Pkwy – 67 Bypass) 14,900 (67 Bypass – Thackeray)	27,300 (Blue Ribbon – IH 94) 50,800 (IH 94 – Ocon Prkwy) 37,500 (Ocon Pkwy – 67 Bypass) 14,900 (67 Bypass – Thackeray)
Design Year AADT (Year 2033)	28,900 (Blue Ribbon – IH 94) 53,500 (IH 94 – Ocon Prkwy) 40,200 (Ocon Pkwy – 67 Bypass) 16,000 (67 Bypass – Thackeray)	28,900 (Blue Ribbon – IH 94) 53,500 (IH 94 – Ocon Prkwy) 40,200 (Ocon Pkwy – 67 Bypass) 16,000 (67 Bypass – Thackeray)	28,900 (Blue Ribbon – IH 94) 53,500 (IH 94 – Ocon Prkwy) 40,200 (Ocon Pkwy – 67 Bypass) 16,000 (67 Bypass – Thackeray)
DHV (Year 2033)	2,890 (Blue Ribbon – IH 94) 5,350 (IH 94 – Ocon Prkwy) 4,020 (Ocon Pkwy – 67 Bypass) 1,600 (67 Bypass – Thackeray)	2,890 (Blue Ribbon – IH 94) 5,350 (IH 94 – Ocon Prkwy) 4,020 (Ocon Pkwy – 67 Bypass) 1,600 (67 Bypass – Thackeray)	2,890 (Blue Ribbon – IH 94) 5,350 (IH 94 – Ocon Prkwy) 4,020 (Ocon Pkwy – 67 Bypass) 1,600 (67 Bypass – Thackeray)
TRAFFIC FACTORS			
K $[_{30}]$ (%)	10.2%	10.2%	10.2%
D (%)	58%	58%	58%
Design Year T (% of ADT)	5.3%	5.3%	5.3%
T (% of DHV)	4.3%	4.3%	4.3%
Level of Service	F	Not Known	C
SPEEDS			
Existing Posted	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)
Future Posted	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)	45 (Blue Ribbon – Robruck) 35 (Robruck – Thackeray)
Design Year Project Design Speed	50 (Blue Ribbon – Robruck) 40 (Robruck – Thackeray)	50 (Blue Ribbon – Robruck) 40 (Robruck – Thackeray)	50 (Blue Ribbon – Robruck) 40 (Robruck – Thackeray)

ADT = Average Daily Traffic
DHV = Design Hourly Volume
K $[_{30/100/200}]$: K_{30} = Interstate, K_{100} = Rural, K_{200} = Urban, % = ADT in DHV
D = % DHV in predominate direction of travel
T = Trucks
P = % ADT in peak hour
K_8 = % ADT occurring in the average of the 8 highest consecutive hours of traffic on an average day. (Only required when a carbon monoxide analysis must be performed per Wisconsin Administrative Code - Chapter NR 411.)

Basic Sheet 7

EIS Significance Criteria

When the significance of impact of a transportation project proposal is uncertain, an environmental assessment (ES) is prepared to assist in making this determination. If it is found that significant impact(s) will result, the preparation of an environmental impact statement (EIS) should commence immediately. Indicate whether the issue listed below is a concern for the proposed action or alternative. If the issue is a concern, explain how it is to be addressed or where it is addressed in this environmental document.

1) Will the proposed action stimulate substantial indirect environmental effects?

☒ No
☐ Yes – Explain or indicate where addressed.

Ongoing and planned development in the WIS 67 corridor is taking place in accordance with local/regional land use and transportation plans that include future capacity expansion on WIS 67. Impact causing activities for the WIS 67 project relative to indirect impacts would be capacity expansion and access management measures. Under the No Build Alternative, congestion due to increasing traffic volumes and deteriorating safety could make the WIS 67 corridor less attractive for planned future development. Capacity expansion and additional access management under the Preferred Alternative will allow development to continue as planned, and may facilitate more desirable planned land use patterns. Land use, development, and traffic volume changes are not expected to change due to construction of the proposed action.

Through analysis using WisDOT's pre-screening for indirect effects procedure and FDM guidance on indirect effects, it is concluded that the factors of the project, its location and other conditions do not warrant further detailed analysis of the potential for indirect effects.

The project does not have the likelihood to result in *significant* indirect effects as defined by National Environmental Policy Act (NEPA). This conclusion was based on the evaluation of ten pre-screening factors including project design concepts and scope; project purpose and need; project type; facility function (current and planned); project location; improved travel times to an area; local land use and planning considerations; population and demographic considerations; rate of urbanization; and public/agency concerns. Therefore, further evaluation of indirect effects in a detailed analysis is not warranted. If changes are made to the project design and alternatives, this screening will be re-examined for sufficiency.

See WisDOT Pre-Screening Indirect Effects Analysis Worksheets in Appendix 7.

2) Will the proposed action contribute to cumulative effects of repeated actions?

☒ No
☐ Yes – Explain or indicate where addressed.

3) Will the creation of a new environmental effect result from this proposed action?

☒ No
☐ Yes – Explain or indicate where addressed.

4) Will the proposed action impact geographically scarce resources?

☒ No
☐ Yes – Explain or indicate where addressed.

5) Will the proposed action have a precedent-setting nature?

☒ No
☐ Yes – Explain or indicate where addressed.

6) Is the degree of controversy associated with the proposed action high?

☒ No

☐ Yes – Explain or indicate where addressed.

7) Will the proposed action be in conflict with official agency plans or local, state, or national policies, including conflicts resulting from potential effects of transportation on land use and land use on transportation demand?

☒ No

☐ Yes – Explain or indicate where addressed.

Basic Sheet 8
Environmental Commitments

Identify and describe any commitments made to protect the environment. Indicate when the commitment should be implemented and who in WisDOT will have jurisdiction to assure fulfillment for each commitment. Note if the commitment will be recorded in the plans, "special provisions", "notes to construction" or some other written format. Note if the commitment is mandated by law, and therefore legally binding.

Commitments on Basic Sheet 8 supplement environmental commitments incorporated in WisDOT's Standard Specifications for Highway and Bridge Construction.

ATTACH A COPY OF THIS PAGE TO THE DESIGN STUDY REPORT AND THE PS&E SUBMITTAL PACKAGE

Factors	Commitments
A-1 General Economics	Access to businesses will be maintained during construction. The Construction Supervisor will assure fulfillment of the commitment.
A-2 Business	The Transportation Management Plan will be followed; access to businesses will be maintained during construction. The Construction Supervisor will assure fulfillment of the commitment.
A-3 Agriculture	No Commitments Needed
B-1 Community or Residential	The Transportation Management Plan will be followed; access to residences will be maintained during construction. Construction of individual driveways may require temporary closures. The Construction Supervisor will assure fulfillment of the commitment.
B-2 Indirect Effects	No Commitments Needed
B-3 Cumulative Effects	No Commitments Needed
B-4 Environmental Justice	No Commitments Needed
B-5 Historic Resources	No Commitments Needed
B-6 Archaeological Sites	Wisconsin State Historic Preservation Office (SHPO) expressed concerns regarding potential impacts on two (2) burial sites located adjacent to IH 94, east of the IH 94/WIS 67 interchange. Upon further coordination with the design engineer, WisDOT determined that the proposed action will have no effect on the sites. WisDOT shall ensure an archaeologist is present to monitor all project-related ground-disturbing activities within the boundaries of the burial site(s). Note: An archaeologist qualified to excavate human burial sites (per Wis. Stats. 157. 70(1) (i) and Wis. Admin . Code§ HS 2.04 (6) (a) will oversee monitoring activities. If human bone is discovered during construction, WisDOT will cease work activities immediately and will contact the Wisconsin Historical Society at 1-800-342-7834 or 608-264-6507 for compliance with Wis. Stat.157.70 regarding protection of burial sites.
B-7 Tribal Issues	No Commitments Needed
B-8 Section 4(f) and 6(f) or Other Unique Areas	No Commitments Needed
B-9 Aesthetics	The WIS 67 bridges over IH 94 will be designed with similar aesthetics as the recently constructed IH 94 bridges over County P.
C-1 Wetlands	No Commitments Needed
C-2 Rivers, Streams & Floodplains	No Commitments Needed
C-3 Lakes or other Open Water	No Commitments Needed
C-4 Groundwater, Wells and springs	No Commitments Needed
C-5 Upland Wildlife and Habitat	No Commitments Needed

C-6 Coastal Zones	No Commitments Needed
C-7 Threatened and Endangered Species	No Commitments Needed
D-1 Air Quality	No Commitments Needed
D-2 Construction Stage Sound Quality	Check all that apply: ☒ WisDOT Standard Specification 107.8(6) and 108.7.1 will apply. The Construction Supervisor will assure fulfillment of the commitment.
D-3 Traffic Noise	No Commitments Needed
D-4 Hazardous Substances or Contamination	Standard Special Provisions should be included in the contract to address the potential for encountering hazardous materials during project construction. Contaminated soils encountered during construction will be remediated.
D-5 Stormwater	Storm water management will be implemented in accordance with standard storm water management practices and the WisDOT / DNR Cooperative Agreement. Inlet protections will be required during construction. The Construction Supervisor will fulfill this commitment.
D-6 Erosion Control	Erosion control will be implemented in accordance with standard erosion control practices and the WisDOT / DNR Cooperative Agreement. The Contractor prior to the Pre-Construction Meeting shall submit an Erosion Control Implementation Plan. The Construction Supervisor will fulfill this commitment.
E Other	

Factor Sheet A-1

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Briefly describe the existing economic characteristics of the area around the project:

The proposed project is located in the City of Oconomowoc and the Village of Summit, within Waukesha County, Wisconsin. As of the Census of 2010, there were 15,759 people, 6,256 households, and 4,270 families residing in the City of Oconomowoc. There were 4,674 people, 1,727 households, and 1,364 families residing in the Village of Summit. The median income for a household in the City of Oconomowoc was $71,162, and the median income for a family was $89,233. The median income for a household in the Village of Summit was $95,000, and the median income for a family was $108,781.

Oconomowoc and Summit's location provides ready access to large markets such as Milwaukee, Chicago, and Madison, via multiple forms of transportation. Oconomowoc boasts three business parks – two at capacity and one close to total occupancy. The new Pabst Farms development, located adjacent to IH 94 and WIS 67, is under construction and will provide an additional 300 acres for manufacturing/business purposes, and 120 acres for retail/office development.

As outlined in the City of Oconomowoc's Comprehensive Plan, the project area has two separate business clusters; businesses located on WIS 67/Summit Avenue, and businesses associated with Pabst Farms.

Summit Avenue:
In general, this district is considered lands located along Summit Avenue not located within Pabst Farms. Businesses included within this cluster are the Oconomowoc Memorial Hospital (located 0.25 miles north of the project limits), various strip malls shopping centers, The Olympia Resort and Conference Center, the Target distribution center, and the Oconomowoc Corporate Center. This district, along with Pabst Farms, provides the bulk of office, industrial and retail employment within the City. Due to the close proximity to IH 94 and WIS 67, developments within this area are readily accessible by vehicles, including truck traffic.

Pabst Farms:
Pabst Farms, the largest planned development (1,500 acres) in Wisconsin, has three (3) distinct areas providing for economic development within the City. The *Pabst Farms Market Place* and *Town Centre*, located south of Valley Road, east of WIS 67, and north of IH 94, is planned to provide for commercial and professional services. The *Business Tech Core*, located north of Valley Road, east of WIS 67, and south of Pabst Road, is envisioned to have industrial and office related uses. The *Pabst Farms Commerce Center*, located west of WIS 67 and south of IH 94, contains the Roundy's distribution center, a hotel, and industrial businesses.

In the Village of Summit, the Aurora Medical Center is located in the southeast quadrant of the WIS 67/IH 94 Interchange.

2. Discuss the economic advantages and disadvantages of the proposed action and whether advantages would outweigh disadvantages. Indicate how the project would affect the characteristics described in item 1 above:

The proposed improvements will improve traffic flow and safety on WIS 67 and will provide long-term access management strategies for existing and planned development. The proposed action would not change the economic characteristics of the WIS 67 corridor or surrounding area. Planned development will continue to occur with or without the proposed WIS 67 improvements.

Advantages: WIS 67/Summit Avenue is a main north south gateway into the City of Oconomowoc and the Village of Summit. The proposed improvements to the WIS 67/Summit Avenue corridor will assist in ensuring economic viability of the area by promoting safe and efficient travel through the project area. The proposed improvements will improve pavement condition, extend the life of the road, and ensure that WIS 67/Summit Avenue will continue to efficiently and safely transport people and products of local and regional importance. The proposed improvements will also provide a

means for safer traffic flow. Proposed bicycle and pedestrian accommodations will improve connections in the area for pedestrians and bicycles and enhance bicycle safety. Proposed improvements will alleviate potential traffic delay expected due to increased traffic volumes in the area. The improvements will provide safer access to existing businesses and proposed commercial, industrial, office, and residential development, providing safer local and regional transportation connections.

Disadvantages: Businesses, residents, and highway traffic will be temporarily disadvantaged during construction due to delays, slower travel times, rerouting of roadway traffic, and temporary reduced access to the roadway and local businesses during construction.

The safety advantages of the proposed action will outweigh the temporary disadvantages caused during construction.

3. What effect will the proposed action have on the potential for economic development in the project area?

☐ **The proposed project will have no effect on economic development.**

☒ **The proposed project will have an effect on economic development.**

☒ Increase, describe:

The proposed improvements will not significantly increase or decrease the potential for economic development in the project area.

The proposed improvements may lead to increased potential for economic development of the corridor by increasing roadway capacity. However, the remaining few undeveloped sites in the project area are already being platted for future development. No secondary development beyond the planned improvements is anticipated as a result of this project.

Proposed improvements are based on anticipated traffic volumes generated by future development. The proposed project would provide efficient and safer traffic operation. Failure to implement the proposed improvements would result in deteriorated traffic conditions such as long delays and unsafe movements at intersections. The improvements being implemented as part of the proposed action will provide safer ingress and egress to anticipated commercial and residential development along the project corridor.

☐ Decrease, describe:

Factor Sheet A-2

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Is a Conceptual Stage Relocation Plan attached to this document?

☐ Yes

☒ No - (Explain) Zero (0) existing businesses or residences will be relocated due to the proposed action.

2. Describe the economic development or existing business areas affected by the proposed action:

As outlined in the City of Oconomowoc's Comprehensive Plan, the project area has two separate business clusters; businesses located on WIS 67/Summit Avenue, and businesses associated with Pabst Farms.

Summit Avenue:

In general, this district is considered lands located along Summit Avenue not located within Pabst Farms. Businesses included within this cluster are the Oconomowoc Memorial Hospital (located 0.25 miles north of the project limits), various strip malls shopping centers, The Olympia Resort and Conference Center, the Target distribution center, and the Oconomowoc Corporate Center. This district, along with Pabst Farms, provides the bulk of office, industrial and retail employment within the City. Due to the close proximity to IH 94 and WIS 67, developments within this area are readily accessible by vehicles, including truck traffic.

Pabst Farms:

Pabst Farms, the largest planned development (1,500 acres) in Wisconsin, has three (3) distinct areas providing for economic development within the City. The *Pabst Farms Market Place* and *Town Centre*, located south of Valley Road, east of WIS 67, and north of IH 94, is planned to provide for commercial and professional services. The *Business Tech Core*, located north of Valley Road, east of WIS 67, and south of Pabst Road, is envisioned to have industrial and office related uses. The *Pabst Farms Commerce Center*, located west of WIS 67 and south of IH 94, contains the Roundy's distribution center, a hotel, and industrial businesses.

In the Village of Summit, the Aurora Medical Center is located in the southeast quadrant of the WIS 67/IH 94 Interchange.

3. Identify and discuss existing modes of transportation and their traffic within the economic development or existing business area:

Neighborhood:

The area's transportation system consists of local streets, county highways, state highways, US highways, Interstate 94, and bicycle/pedestrian walkways.

Streets Network

Primary vehicular transportation facilities in the City of Oconomowoc and the Village of Summit include Interstate 94, State Highway 16, State Highway 67, County P, and County DR/Delafield Road. These roadways are heavily utilized by vehicular traffic especially during morning and evening commutes. Interstate 94 is the roadway that has the greatest impact on the City due to the sheer volume of traffic. This highway connects area residents to the entire Country, while also being the major truck transportation route between Chicago and Minneapolis. The street network in the project area follows a suburban winding pattern rather than a typical urban grid system.

Park and Ride Lots

A park and ride is located in the Village of Summit in the southeast quadrant of the WIS 67 and County DR/Delafield Road intersection, near the project's southern terminus. This lighted parking lot has parking for 60 vehicles. Wisconsin Coach Lines provides bus service from this lot to Waukesha, Brookfield and Milwaukee.

Bikes and Pedestrians

Bike and pedestrian transportation in the project area consists of intermittent and unconnected sidewalks, bike lanes, bike paths, and unimproved footpaths. The placement of these pathways is somewhat dispersed and discontinuous. There are substandard bike and pedestrian accommodations along the WIS 67 project corridor. The Lake County Trail crosses WIS 67 at Oconomowoc Parkway. The Lake Country Recreation Trail is located on the former

Milwaukee - Watertown Interurban Railway. The 13-mile recreation trail now utilizes the Wisconsin Electric Power Company right-of-way. It stretches between Roosevelt Field Park in downtown Oconomowoc and Cushing Park in the City of Delafield.

4. Identify and discuss effects on the economic development potential and existing businesses that are dependent upon the transportation facility for continued economic viability:

☒ The proposed project will have no effect on a transportation-dependent business or industry.

☐ The proposed action may change the conditions for a business that is dependent upon the transportation facility. Identify effects, including effects which may occur during construction.

5. Describe both beneficial and adverse effects on:

A. The existing business area affected by the proposed action. Include any factors identified by business people that they feel are important or controversial.

Beneficial effects: WIS 67/Summit Avenue is a main north south gateway into the City of Oconomowoc and the Village of Summit. The proposed improvements to the WIS 67/Summit Avenue corridor will assist in ensuring economic viability of the area by promoting safe and efficient travel through the project area. The proposed improvements will improve pavement condition, extend the life of the road, and ensure that WIS 67/Summit Avenue will continue to efficiently and safely transport people and products of local and regional importance. The proposed improvements will also provide a means for safer traffic flow. Proposed bicycle and pedestrian accommodations will improve connections in the area for pedestrians and bicycles and enhance bicycle safety.

Proposed improvements are based on anticipated traffic volumes generated by future development. The proposed project would provide efficient and safer traffic operation. Failure to implement the proposed improvements would result in deteriorated traffic conditions such as long delays and unsafe movements at intersections. The improvements being implemented as part of the proposed action will provide safer ingress and egress to both existing and anticipated commercial development along the project corridor.

Adverse effects: Businesses, residents, and highway traffic will be temporarily disadvantaged during construction due to delays, slower travel times, rerouting of roadway traffic, and temporary reduced access to the roadway and local businesses during construction.

B. The existing employees in businesses affected by the proposal. Include, as appropriate, a discussion of effects on minority populations or low-income populations.
See Beneficial and Adverse effects discussion above.

6. Estimated number of businesses and jobs that would be created or displaced because of the project:

Business/Job Type	Businesses			Jobs	
	Created	Displaced	Value	Created	Displaced
Retail	0	0		0	0
Service	0	0		0	0
Wholesale	0	0		0	0
Manufacturing	0	0		0	0
Other (List)	0	0		0	0

7. Are any owners or employees of created or displaced businesses elderly, disabled, low-income or members of a minority group?

No businesses will be created or displaced.

☐ No

☐ Yes – If yes, complete Factor Sheet B-4, Environmental Justice Evaluation.

8. Is Special Relocation Assistance Needed?

☒ No

☐ Yes – Describe special relocation needs.

9. Identify all sources of information used to obtain data in item 8:

No businesses will be displaced.

☐ WisDOT Real Estate Conceptual Stage Relocation Plan ☐ Multiple Listing Service (MLS)

☐ Newspaper listing(s) ☐ Other - Identify:

10. Describe the business relocation potential in the community:

No businesses will be displaced.

A. Total number of available business buildings in the community. _____

B. Number of available and comparable business buildings by type and price (Include business buildings in price ranges comparable to those being dislocated, if any).

Number of available and comparable type business buildings in the price range of _____

Number of available and comparable type business buildings in the price range of _____

Number of available and comparable type business buildings in the price range of _____

11. Describe how relocation assistance will be provided in compliance with the WisDOT Relocation Manual or FHWA regulation 49 CFR Part 24. Check all that apply:

No businesses will be displaced.

☐ Business acquisitions and relocations will be completed in accordance with the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended." In addition to providing for payment of "Just Compensation" for property acquired, additional benefits are available to eligible displaced persons forced to relocate from their business. Some available benefits include relocation advisory services, reimbursement of moving expenses, replacement of business payments. In compliance with State law, no person would be displaced unless a comparable replacement business would be provided.

Compensation is available to all displaced persons without discrimination. Before initiating property acquisition activities, property owners will be contacted and given an explanation of the details of the acquisition process and Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes. Any property to be acquired will be inspected by one or more professional appraisers. The property owner will be invited to accompany the appraiser during the inspection to ensure the appraiser is informed of every aspect of the property. Property owners will be given the opportunity to obtain an appraisal by a qualified appraiser that will be considered by WisDOT in establishing just compensation. Reasonable cost of an owner's appraisal will be reimbursed to the owner if received within 60 days of initiation of negotiations. Based on the appraisal(s) made, the value of the property will be determined, and that amount offered to the owner.

☐ Describe other relocation assistance requirements, not identified above.

12. Identify any difficulties relocating a business displaced by the proposed action and describe any special services needed to remedy identified unusual conditions:

No businesses will be displaced.

13. Describe any additional measures that will be used to minimize adverse effects or provide benefits to those relocated. Also discuss accommodations made to minimize adverse effects to businesses that may be affected by the project, but not relocated:

No businesses will be displaced.

AGRICULTURE EVALUATION

Factor Sheet A-3

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Total acquisition interest, by type of agricultural land use:

Type of Land Acquired From Farm Operations	Type of Acquisition (acres)		Total Area Acquired (acres)
	Fee Simple	Easement	
Crop land and pasture	0.06	0.99	1.05
Woodland	0	0	0
Land of undetermined or other use (e.g., wetlands, yards, roads, etc.)	0.14	2.11	2.25
Totals	0.20	3.10	3.30

2. Indicate number of farm operations from which land will be acquired:

Acreage to be Acquired	Number of Farm Operations
Less than 1 acre	1
1 acre to 5 acres	0
More than 5 acres	0

3. Is land to be converted to highway use covered by the Farmland Protection Policy Act?

☒ No
- ☐ The land was purchased prior to August 6, 1984 for the purpose of conversion.
- ☐ The acquisition does not directly or indirectly convert farmland.
- ☐ The land is clearly not farmland
- ☒ The land is already in, or committed to urban use or water storage.

☐ Yes (This determination is made by the Natural Resources Conservation Service (NRCS) via the completion of the Farmland Impact Conversion Rating Form, NRCS Form AD-1006)
- ☐ The land is prime farmland which is not already committed to urban development or water storage.
- ☐ The land is unique farmland.
- ☐ The land is farmland which is of statewide or local importance as determined by the appropriate state or local government agency.

4. Has the Farmland Impact Conversion Rating Form (AD-1006) been submitted to NRCS?

☐ No - Explain.

☒ Yes
- ☒ The Site Assessment Criteria Score (Part VI of the form) is less than 60 points for this project alternative.
  Date Form AD-1006 completed. **2-14-2013**
- ☐ The Site Assessment Criteria Score is 60 points or greater.
  Date Form AD-1006 completed. _____

5. Is an Agricultural Impact Statement (AIS) Required?

☒ No

- ☐ Eminent Domain will not be used for this acquisition
- ☐ The project is a "Town Highway" project
- ☒ The acquisition is less than 1 acre
- ☐ The acquisition is 1-5 acres and DATCP chooses not to do an AIS.
- ☐ Other. Describe _____

☐ Yes

- ☐ Eminent Domain may be used for this acquisition.
- ☐ The project is not a "Town Highway" project
- ☐ The acquisition is 1-5 acres and DATCP chooses to do an AIS.
- ☐ The acquisition is greater than 5 acres

6. Is an Agricultural Impact Notice (AIN) Required?

☐ No, the project is not a State Trunk Highway Project - AIN not required but complete questions 7-16.

☒ Yes, the project is a State Trunk Highway Project - AIN may be required.

Is the land acquired "non-significant"?

☒ Yes - (All must be checked) An AIN is not required but complete questions 7-16.

- ☒ Less than 1 acre in size
- ☒ Results in no severances
- ☒ Does not significantly alter or restrict access
- ☒ Does not involve moving or demolishing any improvements necessary to the operation of the farm
- ☒ Does not involve a high value crop

☐ No

- ☐ Acquisition 1 to 5 acres - **AIN required**. Complete Pages 1 and 2, Form DT1999, (Pages 1 and 2, Figure 1, Procedure 21-25-30.)
- ☐ Acquisition over 5 acres - **AIN required**. Complete Pages 1, 3 and 4, Form DT1999. (Pages 1, 3 and 4, Figure 1, Procedure 21-25-30)

If an AIN is completed, do not complete the following questions 7-16.

7. Identify and describe effects to farm operations because of land lost due to the project:

☒ Does Not Apply.
☐ Applies – Discuss.

8. Describe changes in access to farm operations caused by the proposed action:

☒ Does Not Apply.
☐ Applies – Discuss.

9. Indicate whether a farm operation will be severed because of the project and describe the severance (include area of original farm and size of any remnant parcels):

☒ Does Not Apply.
☐ Applies – Discuss.

10. Identify and describe effects generated by the acquisition or relocation of farm operation buildings, structures or improvements (e.g., barns, silos, stock watering ponds, irrigation wells, etc.). Address the location, type, condition and importance to the farm operation as appropriate:

☒ Does Not Apply.
☐ Applies – Discuss.

11. Describe effects caused by the elimination or relocation of a cattle/equipment pass or crossing. Attach plans, sketches, or other graphics as needed to clearly illustrate existing and proposed location of any cattle/equipment pass or crossing:

- ☒ Does Not Apply.
- ☐ Replacement of an existing cattle/equipment pass or crossing is not planned. Explain.
- ☐ Cattle/equipment pass or crossing will be replaced.
- ☐ Replacement will occur at same location.
- ☐ Cattle/equipment pass or crossing will be relocated. Describe.

12. Describe the effects generated by the obliteration of the old roadway:

- ☒ Does Not Apply.
- ☐ Applies – Discuss.

13. Identify and describe any proposed changes in land use or indirect development that will affect farm operations and are related to the development of this project:

- ☒ Does Not Apply.
- ☐ Applies – Discuss.

14. Describe any other project-related effects identified by a farm operator or owner that may be adverse, beneficial or controversial:

- ☒ No effects indicated by farm operator or owner.
- ☐ Applies – Discuss.

15. Indicate whether minority or low-income population farm owners, operators, or workers will be affected by the proposal: (Include migrant workers, if appropriate.)

- ☒ No
- ☐ Applies – Discuss.

16. Describe measures to minimize adverse effects or enhance benefits to agricultural operations:

A large section of land adjacent to the eastern edge of the WIS 67 project corridor is land that is part of Pabst Farms, a large (1,500 acre) planned development community. This land is currently zoned for general commercial and residential uses, but is currently being used for agricultural purposes until planned development commences. The proposed action will require 0.2 acres of strip ROW from this area. Of this total, 0.06 acres are from property that is actively used for agricultural production. The acquisition of land will not affect the use of or access to the land. The Department of Agriculture, Trade and Consumer Protection has determined this land requirement to be an insignificant agricultural taking.

Grading slopes (embankment and cut) have been steepened in areas adjacent to existing agricultural operations to minimize adverse effects.

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. **Give a brief description of the community or neighborhood affected by the proposed action:**

Name of Community/Neighborhood **City of Oconomowoc** Incorporated ☒ Yes ☐ No
Total Population 15,759 (2010 Census)
Name of Community/Neighborhood **Village of Summit** Incorporated ☒ Yes ☐ No
Total Population 4,674 (2010 Census)

2. Identify and discuss existing modes of transportation and their importance within the community or Neighborhood:

The area's transportation system consists of local streets, county highways, state highways, US highways, Interstate 94, and bicycle/pedestrian walkways.

Streets Network

Primary vehicular transportation facilities in the City of Oconomowoc and the Village of Summit include Interstate 94, State Highway 16, State Highway 67, County P, and County DR/Delafield Road. These roadways are heavily utilized by vehicular traffic especially during morning and evening commutes. Interstate 94 is the roadway that has the greatest impact on the City due to the sheer volume of traffic. This highway connects area residents to the entire Country, while also being the major truck transportation route between Chicago and Minneapolis. The street network in the project area follows a suburban winding pattern rather than a typical urban grid system.

Park and Ride Lots

A park and ride is located in the Village of Summit in the southeast quadrant of the WIS 67 and County DR/Delafield Road intersection, near the project's southern terminus. This lighted parking lot has parking for 60 vehicles. Wisconsin Coach Lines provides bus service from this lot to Waukesha, Brookfield and Milwaukee.

Bikes and Pedestrians

Bike and pedestrian transportation in the project area consists of intermittent and unconnected sidewalks, bike lanes, bike paths, and unimproved footpaths. The placement of these pathways is somewhat dispersed and discontinuous. There are substandard bike and pedestrian accommodations along the WIS 67 project corridor. The Lake County Trail crosses WIS 67 at Oconomowoc Parkway. The Lake Country Recreation Trail is located on the former Milwaukee - Watertown Interurban Railway. The 13-mile recreation trail now utilizes the Wisconsin Electric Power Company right-of-way. It stretches between Roosevelt Field Park in downtown Oconomowoc and Cushing Park in the City of Delafield.

3. Identify and discuss the probable changes resulting from the proposed action to the existing modes of transportation and their function within the community or neighborhood:

No changes to the existing modes of transportation should occur due to this project.

However, new and improved bike accommodations including an adjacent multi use path, will improve connections in the area for bicyclists and pedestrians, and enhance bicyclist and pedestrian safety.

A multi-use path will be built adjacent to the WIS 67 project corridor for the entire length of the proposed action. The path will be placed on the east side of WIS 67 from Aurora Drive to Pabst Farms Boulevard. The path will be placed on the west side of WIS 67 from Oconomowoc Drive to Thackeray Trail.

The existing Lake County Trail crossing along Oconomowoc Parkway will remain. The proposed action will also include on-street bike lanes or widened travel lanes throughout WIS 67 and adjoining side roads.

4. **Briefly discuss the proposed action's direct and indirect effect(s) on existing and planned land use in the community or neighborhood:**

   The proposed project will be generally constructed on existing alignment and is not likely to affect planned land use in the area.

   The proposed improvements may lead to increased potential for development of the corridor by increasing roadway capacity. However, the remaining few undeveloped sites in the project area are already being platted for future development. No secondary development or land use changes beyond the planned improvements are anticipated as a result of this project.

   Proposed improvements are based on anticipated traffic volumes generated by future development. The improvements being implemented as part of the proposed action will provide safer ingress and egress to anticipated commercial, industrial, and residential development along the project corridor.

5. **Address any changes to emergency or other public services during and after construction of the proposed project:**

   WIS 67/Summit Avenue is the main thoroughfare from IH 94 to the Level III Trauma Center at the Oconomowoc Memorial Hospital, located 0.25 miles north of the project's northern terminus.

   Emergency vehicles will have access through the project, and to properties within the project area during construction.

   During construction, at least one lane of traffic will remain open in each direction, which will lead to delays on WIS 67/Summit Avenue during periods of high traffic volume. Therefore, emergency vehicle response times may also be delayed during these periods.

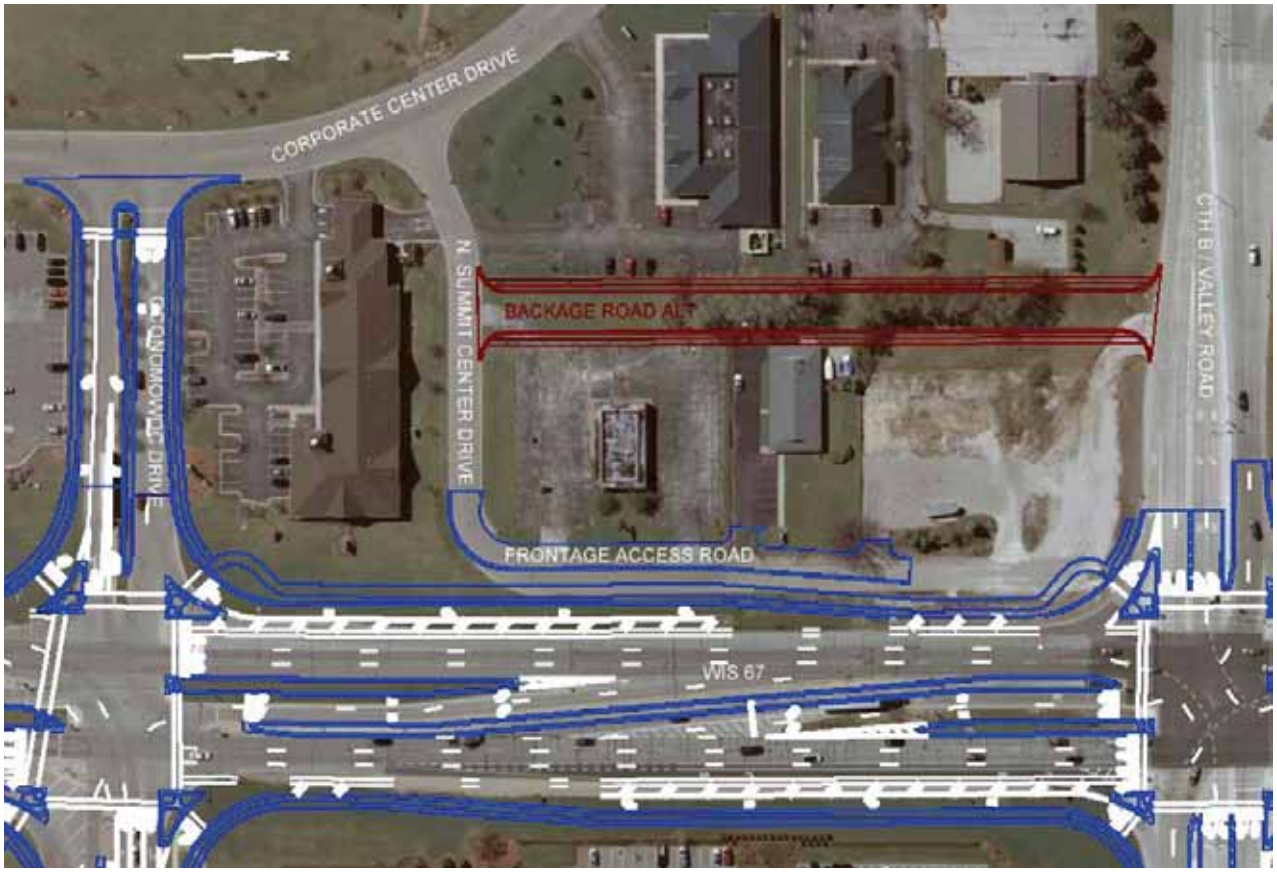
   The WisDOT will coordinate with emergency responders and the Oconomowoc Memorial Hospital to:

   - Discuss the project and traffic control staging and discuss alternate routes to the hospital trauma center.
   - Discuss an incident management process that may include press releases to local media and the Public Safety Communications Center of Waukesha County (County 911 Center), emergency pull-outs within the project limits, or message boards in advance of the project limits.

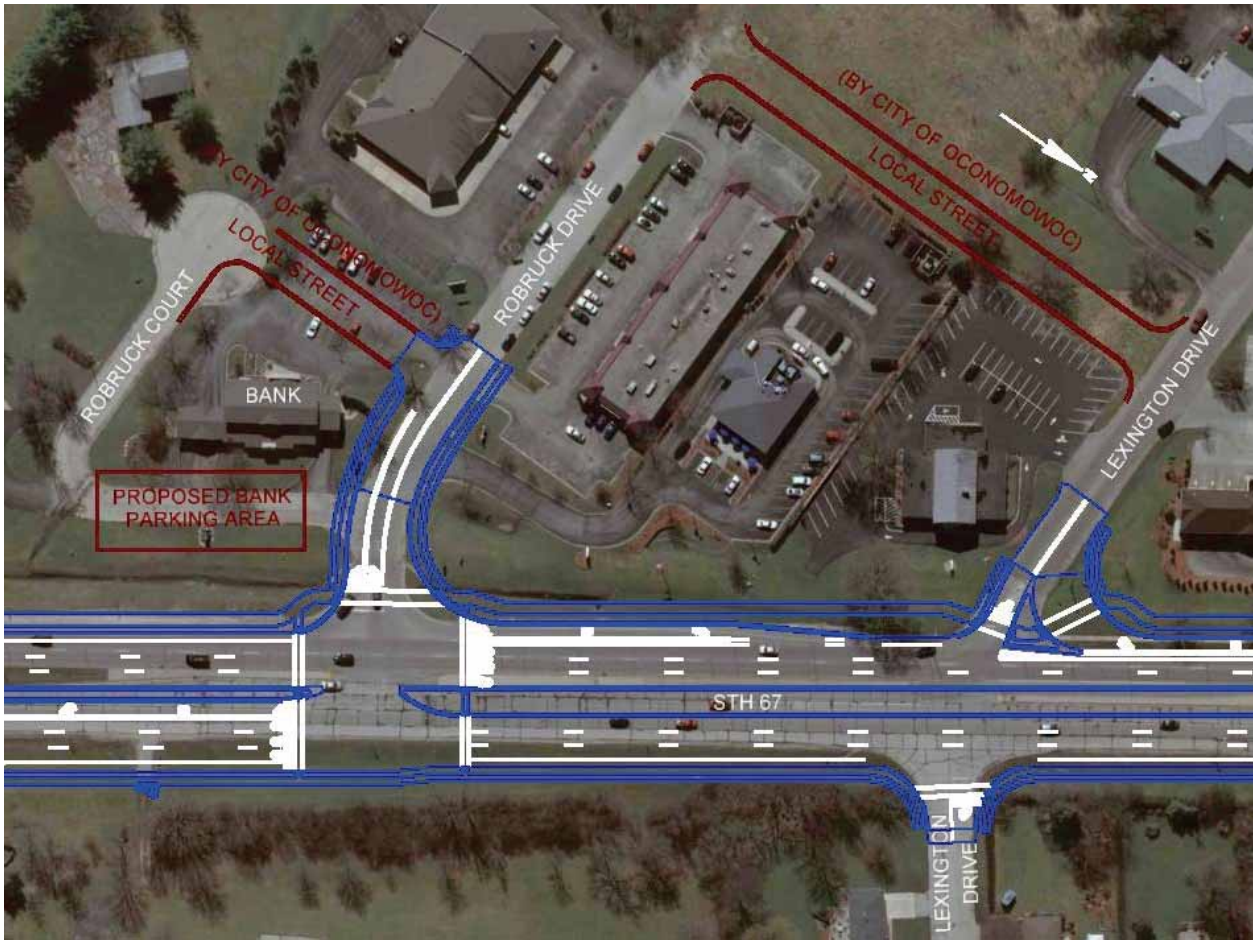
6. **Describe any physical or access changes that will result. This could include effects on lot frontages, side slopes or driveways (steeper or flatter), sidewalks, reduced terraces, tree removals, vision corners, etc.:** The preferred alternative involves improving accesses that contribute to capacity/operational concerns, crash problems, and pedestrian/bicycle accommodation issues. The terrain along the WIS 67 corridor is flat; therefore, changes in driveway and side road profiles will be minimal. No businesses or private residences will have their access removed as a result of the proposed project.

Access will be improved at intersections by adding lanes (both through lanes and left/right turn lanes) and utilizing traffic signals to improve capacity/operational concerns with future development.

The existing frontage road (North Summit Center Drive) west of WIS 67 between Oconomowoc Drive and County B/Valley Road will be removed and replaced with a multi-use path. The existing properties along the existing North Summit Center Drive will be provided access by either the remaining segment of North Summit Center Drive, a proposed frontage access road off of North Summit Center Drive, or by driveway off of County B/Valley Road. A backage road concept was also an alternative considered to provide access to these properties. Specific improvements for this area are shown in the exhibit below. (See Appendix 1 for a Project Location Map) (See Appendix 3 for Plan Overview Sheets exhibit showing the NEPA limits for the entire proposed improvement project)



The current full access non-signalized intersection at Robruck Drive will be changed to a full access signalized intersection. The current full access non-signalized intersection at Lexington Drive will be changed to a right-in right-out access only (median closure along WIS 67). Prior to construction, the City of Oconomowoc will construct a local street connecting Robruck Drive and Lexington Drive, west of WIS 67. In addition, the City of Oconomowoc will coordinate with a business, located in the southwest quadrant of the Robruck Drive intersection, to initiate a land swap (commercial property for city right-of-way). The business, a bank, will relocate their parking lot between their existing building and WIS 67 in exchange for the City of Oconomowoc to construct a local street between Robruck Drive and Robruck Court (an existing residential cul-de-sac) to maintain access. Specific improvements for this area are shown in the exhibit below. (See Appendix 1 for a Project Location Map) (See Appendix 3 for Plan Overview Sheets exhibit showing the NEPA limits for the entire proposed improvement project)



Pedestrian and bicycle access will be improved by adding sidewalks and a multi-use path along the entire corridor. Crosswalks along with median/island refuge will be provided when feasible. In addition, on-street bike access will be provided via bike lanes or widened outside lanes along the entire corridor.

7. **Indicate whether a community/neighborhood facility will be affected by the proposed action and indicate what effect(s) this will have on the community/neighborhood**:
No community / neighborhood facilities will be affected by the proposed action.

8. Identify and discuss factors that residents have indicated to be important or controversial:
The following is a list of the most frequent comments/concerns/issues received through public outreach:

- Safety concerns for pedestrians and bicycles near the Lexington Drive intersection
- Operation/access and safety concerns near the Lexington Drive and Robruck Drive intersections
- Access to local properties (business and residential) during construction
- Concerns over excessive operating speed by vehicles
- Concerns over lack of adequate pedestrian/bicycle facilities

9. List any Community Sensitive Design considerations, such as design considerations and potential mitigation measures.
The project will include new street lighting at all signalized intersections. The WIS 67 bridges over IH 94 will be designed with similar aesthetics as the recently constructed IH 94 bridges over County P.

10. Indicate the number and type of any residential buildings that will be acquired because of the proposed action.

a. ☒ None identified.
b. ☐ No occupied residential building will be acquired as a result of this project. Provide number and description of non-occupied buildings to be acquired.
c. ☐ Occupied residential building(s) will be acquired. Provide number and description of buildings, e.g., single family homes, apartment buildings, condominiums, duplexes, etc.

AIR QUALITY EVALUATION

Wisconsin Department of Transportation

Factor Sheet D-1

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Ozone:

A. Is the project located in a county which is designated non-attainment or maintenance for ozone?

☐ No

☒ Yes – If Yes, one of the following boxes must be checked:

☒ This project is included in the approved Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) endorsed by the region's Metropolitan Planning Organization (MPO). The TIP was found to conform by the Federal Highway Administration and the Federal Transit Administration. Provide RTP Name, TIP name, MPO name, TIP number and conformity finding date(s):

RTP Name
A Regional Transportation System Plan for Southeastern Wisconsin: 2035

TIP Name
A Transportation Improvement Program for Southeastern Wisconsin: 2013-2016

MPO Name
Southeastern Wisconsin Regional Planning Commission (SEWRPC)

TIP Number
311

Conformity Finding Date(s):
October 18, 2012

☐ This project is located outside of a Metropolitan Planning Organization's boundaries and has received a positive conformity determination per the rural conformity section of the WisDOT/WDNR Memorandum of Agreement regarding determination of conformity. Provide conformity finding date.

☐ This project is located outside of a Metropolitan Planning Organization's boundaries and is exempt from conformity requirements per 40 CFR 93.126

☐ This project has been determined to be Not Regionally Significant

☐ Other, describe:

2. Carbon Monoxide:

A. Is this project exempt from air quality analysis under Wisconsin Administrative Code – NR 411?

☒ No – NR 411 exemptions do not apply.

☐ Yes – NR 411 exemption(s) apply – Identify exemption(s) and explain why project is exempt.

B. Was an air quality analysis required?

☒ No

The WIS 67 project was compared to a similar project, the reconstruction of Verona Road (US 18/151) in Dane County, which is also a capacity expansion project that includes the reconstruction of an interchange. Existing and future traffic numbers are greater on Verona Road than those on WIS 67. WDNR concurred with the air analyses conducted on the Verona Road project, which indicated that the project would not create CO levels that would exceed 75% of the National Ambient Air Quality Standard (NAAQS). Using this comparison mode, the results of the Verona Road analyses are applicable to the WIS 67 project.

☐ Yes – Identify the air quality modeling technique or program used to perform the analysis. Complete the Maximum Projected Carbon Monoxide (CO) Concentrations Table to illustrate the results:

C. If an air quality analysis was performed, will a construction permit be required to address air quality before the project may proceed?

☐ No

☐ Letter of concurrence from WDNR Bureau of Air Management requested. (See attached request letter – Exhibit)

☐ Letter of concurrence received from WDNR Bureau of Air Management. (See attached Exhibit)

☐ Yes – Indicate:
Date Permit Requested OR Date of Permit

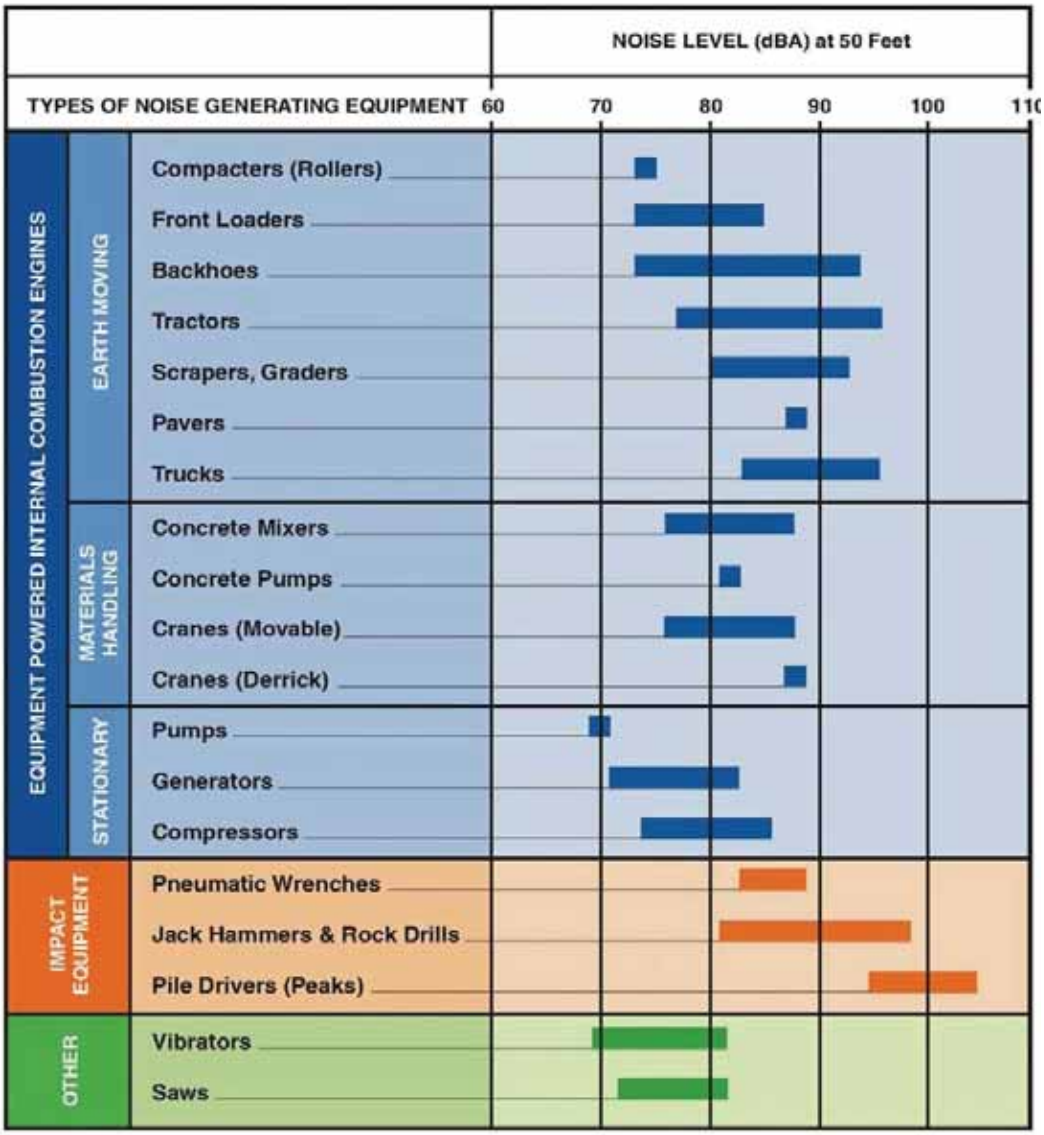
See Appendix 8 for Mobile Source Air Toxics (MSAT) information.

Factor Sheet D-2

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. **Identify and describe residences, schools, libraries, or other noise sensitive areas near the proposed action and which will be in use during construction of the proposed action. Include the number of persons potentially affected:**
   The receptors along the project corridor that will be affected by construction noise consist of private residences and local businesses. These receptors will be directly affected by the project, while others who regularly use the roadway will be indirectly affected.

2. **Describe the types of construction equipment to be used on the project. Discuss the expected severity of noise levels including the frequency and duration of any anticipated high noise levels:**
   The noise generated by construction equipment will vary greatly, depending on equipment type/model/make, duration of operation and specific type of work effort. However, typical noise levels may occur in the 67 to 107 dBA range at a distance of 50 feet. Adverse effects related to construction noise are anticipated to be of a localized, temporary, and transient nature. A list of typical noise levels for a variety of construction equipment is shown in the figure below.



3. Describe the construction stage noise abatement measures to minimize identified adverse noise effects. Check all that apply:

- ☒ WisDOT Standard Specifications 107.8(6) and 108.7.1 will apply.
- ☐ WisDOT Standard Specifications 107.8(6) and 108.7.1 will apply with the exception that the hours of operation requiring the engineer's written approval for operations will be changed to _____ P.M. until _____A.M.
- ☐ WisDOT Standard Specifications 107.8(6) and 108.7.1 will apply with the exception that the hours of operation requiring the engineer's written approval for operations will be changed to _____ P.M. until _____A.M.
- ☐ Special construction stage noise abatement measures will be required. Describe:

TRAFFIC NOISE EVALUATION

Wisconsin Department of Transportation

Factor Sheet D-3

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Need for Noise Analysis:

A. Is the proposed action considered a Type I project? (A Type I project is defined as a project that involves construction of a roadway on new location or the physical alteration of an existing highway which substantially changes either the horizontal or vertical alignment or increases the number of through-traffic lanes).

☐ No – Complete only Factor Sheet D-2, Construction Stage Sound Quality Impact Evaluation.

☒ Yes – Complete Factor Sheet D-2, Construction Stage Sound Quality Impact Evaluation, and the rest of this sheet.

2. Traffic Data:

A. Indicate whether traffic volumes for sound prediction are different from the Design Hourly Volume (DHV) on Basic Sheet 6, Traffic Summary Matrix*:*

☒ No

☐ Yes – Indicate volumes and explain why they were used:

Automobiles	Veh/hr
Trucks	Veh/hr
Or Percentage (T)	%

B. Identify and describe the noise analysis technique or program used to identify existing and future sound levels: (See attached receptor location map in Appendix 1). A receptor location map must be included with this document.

Aerial photos of the study area along with lists of public buildings were reviewed to select noise receptors. Noise receptor locations are identified on a receptor location map in Appendix 1; noise sensitive receptors are identified in red. The Federal Highway Administration (FHWA) traffic Noise Model, V 2.5 (TNM®) was used to model existing (2009) peak hour noise levels at these locations. Existing traffic was the primary source of noise. The receptors along the WIS 67 corridor were modeled for the preferred alternative.

The Federal Highway Administration (FHWA) traffic Noise Model, V 2.5 (TNM®) was also used to model future design year (2036) peak hour Leq noise levels at all noise receptors.

The results of the TNM analysis are included with this factor sheet.

B. Identify sensitive receptors, e.g., schools, libraries, hospitals, residences, etc. potentially affected by traffic sound: Sensitive receptors identified and modeled for existing and future sound levels include the Aurora Medical Center Campus (receptors 2 and 3) and Heritage Heights Park (receptor 25).
(See attached receptor location map in Appendix 1).

D. If this proposal is implemented will future sound levels produce a noise impact?

☒ No

☐ Yes - The impact will occur because:

- ☐ The Noise Abatement Criteria (NAC) is approached (1 dBA less than the NAC) or exceeded.
- ☐ Existing sound levels will increase by 15 dBA or more.

E. Will traffic noise abatement measures be implemented?

☒ Not applicable – Traffic noise impacts will not occur.

☐ No – Traffic noise abatement is not reasonable or feasible (explain why). In areas currently undeveloped, local units of government shall be notified of predicted sound levels for land use planning purposes. **A COPY OF THIS WRITTEN NOTIFICATION SHALL BE INCLUDED WITH THE FINAL ENVIRONMENTAL DOCUMENT.**

☐ Yes – Traffic noise abatement has been determined to be feasible and reasonable. Describe any traffic noise abatement measures which are proposed to be implemented. Explain how it will be determined whether or not those measures will be implemented:

			Sound Level L_{eq}[1] (dBA)			Impact Evaluation		
Receptor Location or Site Identification (See attached map)	Distance from C/L of Near Lane to Receptor in feet (ft.)	Number of Families or People Typical of this Receptor Site	Noise Abatement Criteria [2] (NAC)	Future Sound Level	Existing Sound Level	Difference in Future and Existing Sound Levels (Col. e minus Col. f)	Difference in Future Sound Levels and Noise Abatement Criteria (Col. e minus Col. d)	Impact[3] or No Impact
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1	250	Commercial	72	60	56	4	-12	N
2	1185	Medical Facility	67	50	46	4	-17	N
3	1420	Medical Facility	67	50	45	5	-17	N
4	355	Commercial	72	61	57	4	-11	N
5	255	Commercial	72	64	60	4	-8	N
6	255	Commercial	72	65	59	6	-7	N
7	290	Commercial	72	64	58	6	-8	N
8	175	Commercial	72	61	55	6	-11	N
9	225	Commercial	72	67	61	6	-5	N
10	1440	Commercial	72	65	59	6	-7	N
11	615	Commercial	72	58	54	5	-14	N
12	545	Commercial	72	69	63	6	-3	N
13	785	Commercial	72	49	45	5	-23	N
14	185	Commercial	72	65	60	5	-7	N
15	550	Commercial	72	63	58	6	-9	N
16	215	Residential (1 family)	67	57	53	5	-10	N
17	150	Resort/Recreation	72	56	52	5	-16	N
18	545	Commercial	72	54	49	5	-18	N
19	165	Commercial	72	57	52	5	-15	N
20	205	Residential (1 family)	67	57	53	4	-10	N
21	440	Commercial	72	66	60	6	-6	N
22	175	Residential (8 families)	67	61	58	3	-6	N
23	310	Commercial	72	65	61	4	-7	N
24	300	Commercial	72	59	55	4	-13	N
25	200	Park	67	63	59	5	-4	N
26	50	Commercial	72	62	59	4	-10	N
27	610	Residential (8 families)	67	54	50	4	-13	N
28	465	Residential (1 family)	67	63	58	5	-4	N
29	590	Residential (1 family)	67	58	54	3	-9	N
30	500	Residential (1 family)	67	61	57	4	-6	N

[1] Use whole numbers only.
[2] Insert the actual Noise Abatement Criteria from Wisconsin Administrative Code, Chapter Trans. 405.04, Table 1.
[3] An impact occurs when future sound levels exceed existing sound levels by 15 dB or more, **or**, future sound levels approach or exceed the Noise Abatement Criteria ("approach" is defined as 1 dB less than the Noise Abatement Criteria, therefore an impact occurs when Column (h) is –1 db or greater). I = Impact, N = No Impact.

31	560	Residential (8 families)	67	53	50	3	-14	N
32	385	Residential (1 family)	67	51	48	3	-16	N
33	195	Commercial	72	65	62	3	-7	N
34	220	Commercial	72	56	52	3	-17	N
35	440	Commercial	72	53	50	3	-19	N
36	150	Commercial	72	56	53	3	-16	N

HAZARDOUS SUBSTANCES OR CONTAMINATION EVALUATION Wisconsin Department of Transportation

Factor Sheet D-4

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Briefly describe the results of the Phase 1 Hazardous Materials Assessment for this alternative. Do not use property identifiers (owner name, address or business name):
Based on the findings of the Phase I HMA for the project area, the following conclusions are made:

- Eight (8) sites with recognized environmental conditions were identified along the project corridor.
- At seven (7) of the eight (8) sites, no further investigation or remediation is recommended.
- One (1) site with recognized environmental conditions and the potential to impact the proposed project was identified.
- Standard Special Provisions should be included in the contract to address the potential for encountering hazardous materials during project construction at the identified site.

Site Reference #	Land Use of Concern (Past or Present)	Contaminants of Concern	Phase 1 Recommendations	Phase 2 Recommended? Y/N
1	Car Dealer/Auto Repair	petroleum products	Standard Special Provisions	N
2	Car Wash	petroleum products	No Further Action	N
3	Dry Cleaner	dry cleaning solvents	No Further Action	N
4	Auto Repair	petroleum products	No Further Action	N
5	Vacant/Soil Contamination	residual soil impacts	No Further Action	N
6	Gas Station	petroleum products	No Further Action	N
7	Historic Fill Site	fill material	No Further Action	N
8	Historic land spreading	fill material	No Further Action	N

2. Were any parcels not included in the Phase 1 assessment?

☒ No
☐ Yes - How many:
Why were they not reviewed?

3. Have Phase 2 or 2.5 Assessments been completed? Discuss the results:

No Phase 2/2.5 investigations were recommended in the Phase 1 assessment

Site Reference #	*Phase 2/2.5 Recommendations*	**Remediation Recommended?**		**Is WisDOT a Responsible Party?**	
		Yes	No	Yes	No

4. Describe the results of any additional investigations performed by WisDOT or others: (Include the number of sites investigated, the level of investigation and results for each site)

Based on the findings of the Phase I HMA for the project area, no additional investigations were recommended.

5. Describe proposed action to avoid hazardous materials contamination:

The project is being reconstructed generally along existing alignment.

6. Describe the remediation and waste management practices to be included in the design for areas where contamination cannot be avoided (e.g., waste handling plan, remediation of contamination, design changes to minimize disturbances):

The Region will work with all concerned parties to insure that the disposition of any petroleum contamination is resolved to the satisfaction of the Wisconsin DNR, WisDOT ESS, and FHWA before acquisition from any questionable site, and before advertising the project for letting. Non-petroleum sites will be handled on a case-by-case basis with detailed documentation and coordination with Wisconsin DNR, WisDOT ESS, and FHWA as needed.

7. List any parcels with known contamination, proposed for acquisition:

No parcels with known contamination are proposed for acquisition.

8. Bridge Projects Only: Has the structure been inspected for the presence of asbestos containing materials (ACMs)?

☐ No - Explain

☒ Yes:

Were regulated ACMs identified?

☐ No

☒ Yes:

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. Indicate whether the affected area may cause a discharge or will discharge to the waters of the state (Trans 401.03).

Special consideration should be given to areas that are sensitive to water quality degradation. Provide specific recommendations on the level of protection needed.

☐ No water special natural resources are affected by the alternative.
☒ Yes - Water special natural resources exist in the project area.
- ☐ River/stream
- ☒ Wetland

  Wetland delineations were surveyed by the South Eastern Wisconsin Regional Planning Commission (SEWRPC) on 8/30/2012. Although the wetland delineation shows wetland locations in the general project area, no delineated wetlands will be impacted by the proposed action.

  There is an existing drainage pond located in the northwest quadrant of WIS 67 and Regent Road intersection (sta. 308+50 - 310+00 Lt). Wetlands associated with this drainage pond are located within the existing WIS 67 right of way. A retaining wall is planned to be constructed adjacent to this location to ensure that no fill from proposed construction activities will impact the identified wetlands.
- ☐ Lake
- ☐ Endangered species habitat
- ☐ Other – Describe

2. Indicate whether circumstances exist in the project vicinity that require additional or special consideration, such as an increase in peak flow, total suspended solids (TSS) or water volume.

☒ No additional or special circumstances are present.
☐ Yes - Additional or special circumstances exist. Indicate all that are present.

☐ Areas of groundwater discharge	☐ Areas of groundwater recharge
☐ Stream relocations	☐ Overland flow/runoff
☐ Long or steep cut or fill slopes	☐ High velocity flows
☐ Cold water stream	☐ Impaired waterway
☐ Large quantity flows	☐ Exceptional/outstanding resource waters
☐ Increased backwater	

☐ Other - Describe any unique, innovative, or atypical stormwater management measures to be used to manage additional or special circumstances.

3. Describe the overall storm water management strategy to minimize adverse effects and enhance beneficial effects.

Guidelines and regulations for WisDOT project storm water management include the *WisDOT Facilities Development Manual*, Chapter 10, Erosion Control and Storm Water Quality; Wisconsin Administrative Code Chapter TRANS 401, Construction site Erosion Control and Storm Water Management Procedures for Department Actions; and the WisDOT/DNR Cooperative Agreement Amendment-*Memorandum of Understanding on Erosion Control and Storm water Management*. The overall storm water management strategy for the proposed improvements would include the following:

Basic Principles and Best Management Practices

- Limit disturbance of natural drainage features and vegetation.
  - Steepen grading slopes (embankment and cut)
  - Construct retaining wall near Regent Road to avoid disturbance to existing drainage pond/wetlands
- Prepare and implement an approved erosion control plan before land disturbance begins.

- Protect areas that provide important water quality benefits or that are susceptible to erosion.
- Reduce direct discharge into streams and wetlands by having it flow through a filter strip or vegetated swale.
- Reduce runoff velocities by running storm water in shallow, flat-bottom swales.

Geometric Design Features/Storm Water Facilities

- Storm sewer system to control roadway drainage
- Vegetated ditches or grass swales to control quality of storm water discharge
- Storm water treatment ponds to control quality and quantity of storm water discharge

4. Indicate how the stormwater management plan will be compatible with fulfilling Trans 401 requirements.
The types of storm water management strategies listed in item 3, previous page, and in item 5 below are identified in and/or consistent with TRANS 401 *Construction Site Erosion Control and Storm Water Management Procedures for Department Actions*; and the WisDOT/DNR Cooperative Agreement Amendment—*Memorandum of Understanding on Erosion Control and Storm Water Management*.

5. Identify the stormwater management measures to be utilized.

- ☒ Swale treatment (parallel to flow) Trans 401.106(10)
- ☐ Vegetated filter strips (perpendicular to flow)
- ☐ Constructed storm water wetlands
- ☐ Buffer areas – Trans 401.106(6)
  Describe - _____
- ☐ In-line storm sewer treatment, such as catch basins, non-mechanical treatment systems.
- ☒ Detention/retention basins – Trans 401.106(6)(3)
- ☐ Distancing outfalls from waterway edge
- ☒ Infiltration – Trans 401.106(5) (Infiltration may be used in detention pond design. Coordination ongoing with WDNR.)
- ☐ Other
  _____

6. Indicate whether any Drainage District may be affected by the project.

- ☒ No - There will be no effects to a recognized drainage district.
- ☐ Yes

  Has initial coordination with a drainage board been completed?
  - ☐ No - Explain _____
  - ☐ Yes - Discuss results _____

7. Indicate whether the project is within WisDOT's Phase I or Phase II stormwater management areas.
Note: See Procedure 20-30-1, Figure 1, Attachment A4, the Cooperative Agreement between WisDOT and WisDNR. Contact Regional Stormwater/erosion Control Engineer if assistance in needed to complete the following:

- ☒ No - the project is outside of WisDOT's stormwater management area.
- ☐ Yes - The project affects one of the following and is regulated by a WPDES stormwater discharge permit, issued by the WisDNR:
  - ☐ A WisDOT storm sewer system, located within a municipality with a population greater than 100,000.
  - ☐ A WisDOT storm sewer system located within the area of a notified owner of a municipal separate storm sewer system.
  - ☐ An urbanized area, as defined by the U.S. Census Bureau, NR216.02(3).
  - ☐ A municipal separate storm sewer system serving a population less than 10,000.

8. Has the effect on downstream properties been considered?

- ☒ No
- ☐ Yes - Coordination in progress

9. Are there any property acquisitions required for storm water management purposes?

☐ No

☒ **Yes - Complete the following:**

☒ **Safety measures, such as fencing are <u>not</u> needed for potential conflicts with existing and expected surrounding land use.**

Wetland delineations were surveyed by the South Eastern Wisconsin Regional Planning Commission (SEWRPC) on 8/30/2012. Although the wetland delineation shows wetland locations in the general project area, no delineated wetlands will be impacted by the proposed action.
There is an existing drainage pond located in the northwest quadrant of WIS 67 and Regent Road intersection (sta. 308+50 - 310+00 Lt). Wetlands associated with this drainage pond are located within the existing WIS 67 right of way. A retaining wall is planned to be constructed adjacent to this location to ensure that no fill from proposed construction activities will impact the identified wetlands.

☐ Safety measures <u>are</u> needed for potential conflicts with existing and expected surrounding land use.
Describe:

EROSION CONTROL EVALUATION

Wisconsin Department of Transportation

Factor Sheet D-6

Alternative **Reconstruct with Future Travel Lanes**	Total Length of Center Line of Existing Roadway **2.5 miles** Length of This Alternative **2.5 miles**
Preferred ☒ Yes ☐ No ☐ None Identified	

1. **Give a brief description of existing and proposed slopes in the project area, both perpendicular and longitudinal to the project. Include both existing and proposed slope length, percent slope and soil types.**
   Existing side slopes in the project corridor range from flat to 2:1 while proposed range from 0.3% to 2.5:1. Existing longitudinal slopes in the project corridor range from flat to 3.5% while proposed range from 0.5% to 3.0%. The existing predominate soil types (Fox and Warway) consist of clay over deep sand and gravel.

2. **Indicate all natural resources to be affected by the proposal that are sensitive to erosion, sedimentation, or waters of the state quality degradation and provide specific recommendations on the level of protection needed.**
   - ☐ No - there are no sensitive resources affected by the proposal.
   - ☒ Yes - Sensitive resources exist in or adjacent to the area affected by the project.
     - ☐ River/stream
     - ☐ Lake
     - ☒ Wetland
     - ☐ Endangered species habitat
     - ☐ Other - Describe _____

3. **Are there circumstances requiring additional or special consideration?**
   - ☒ No - Additional or special circumstances are not present.
   - ☐ Yes - Additional or special circumstances exist. Indicate all that are present.
     - ☐ Areas of groundwater discharge
     - ☐ Overland flow/runoff
     - ☐ Long or steep cut or fill slopes
     - ☐ Areas of groundwater recharge (fractured bedrock, wetlands, streams)
     - ☐ Other - Describe any unique or atypical erosion control measures to be used to manage additional or special circumstances

4. **Describe overall erosion control strategy to minimize adverse effects and/or enhance beneficial effects.**
   Guidelines and regulations for minimizing the potential for erosion and sedimentation for highway projects include the WisDOT Facilities Development Manual, Chapter 10, *Erosion Control and Storm Water Quality*; Wisconsin Administrative Code Chapter TRANS 401, *Construction Site Erosion Control and Storm Water Management Procedures for Department Actions*; and the WisDOT/DNR Cooperative Agreement Amendment, *Memorandum of Understanding on Erosion Control and Storm Water Management.* Key concepts are summarized as follows:

   Basic Principles and Best Management Practices
   - The proposed improvements will be planned to fit topography, soils, drainage patterns, and natural vegetation to the extent practicable.
   - The size of exposed areas at any one time and the duration of exposure will be minimized.
   - Control measures will be used to prevent erosion and sedimentation in sensitive areas (proper design of drainage channels with respect to width, depth, gradient, side slopes, and energy dissipation); protective groundcover (vegetation, mulch, erosion mat, or riprap); diversion dikes and intercepting embankments to divert sheet flow away from disturbed areas; and sediment control devices (retention/detention basins, ditch checks, erosion bales, and silt fence).
   - Disturbed areas will be protected from off-site runoff and sediment will be prevented from leaving the construction site.
   - Spoil piles will be stored away from sensitive areas.
   - Runoff velocities will be kept low by maintaining short slope lengths, low gradients, and vegetative cover.
   - Disturbed areas will be stabilized as soon as practicable (temporary vegetation, mulch, stabilizing emulsions).
   - Do not park or store equipment in sensitive areas.

Geometric Design Features and Erosion Control Facilities

- Smooth grade lines with gradual changes will be used.
- Natural and existing drainage patterns will be preserved to the extent possible.
- Stabilized slopes and soil will be left undisturbed where possible.
- Trees and shrubs will be preserved, and over-clearing will be prevented or minimized.
- Irregular ditch profiles and steep gradients will be avoided where possible.
- Vegetated ditches and drainage channels with wide, rounded cross sections will be used where applicable.
- An undisturbed buffer will be left between disturbed soil and sensitive areas where possible.
- The soil surface will be protected by using permanent and temporary erosion control measures such as seeding and sodding, mulch, erosion mat, and riprap.
- Sediment will be removed and velocities reduced by using erosion bales, silt fence, stone or rock ditch checks, sediment traps, and basins.

Erosion Control Implementation Plan

The construction contractor is required to prepare an Erosion Control Implementation Plan that includes all erosion control commitments made during a future engineering phase. The ECIP is due 14 days prior to the project's preconstruction meeting. This plan must be approved by WisDOT with concurrence by WDNR. The construction plans and contract special provisions must include the specific erosion control measures agreed on by WisDOT in consultation with DNR who reviews the Erosion Control Implementation Plan.

5. Erosion control measures reached consensus with the appropriate authorities as indicated below:

Coordination with the following agencies is ongoing.

- ☒ WisDNR
- ☐ County Land Conservation Department
- ☐ American Indian Tribe
- ☐ US Army Corps of Engineers

Note: All erosion control measures (i.e., the Erosion Control Plan) shall be coordinated through the WisDOT-WisDNR liaison process and TRANS 401. WisDNR's concurrence is not forthcoming without an Erosion Control Plan. In addition, TRANS 401 requires the contractor to prepare an Erosion Control Implementation Plan (ECIP), which identifies timing and staging of the project's erosion control measures. The ECIP should be submitted to the WisDNR and to WisDOT 14 days prior to the preconstruction conference (Trans401.08(1)) and must be approved by WisDOT before implementation.

6. Identify the temporary and permanent erosion control measures to be utilized on the project. Consult the FDM, Chapter 10, and the Products Acceptability List (PAL).

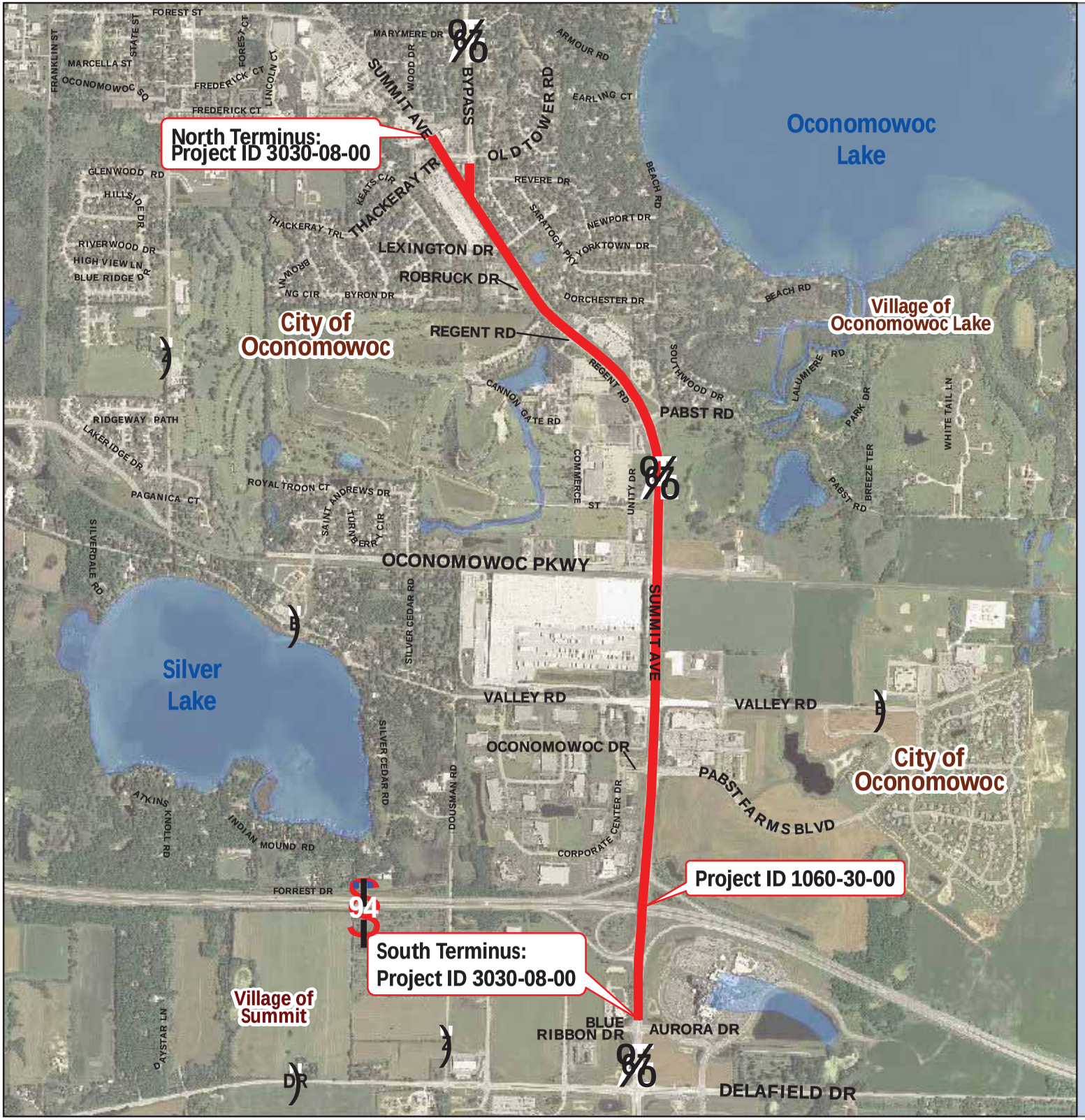
- ☒ Minimize the amount of land exposed at one time
- ☒ Temporary seeding
- ☒ Silt fence
- ☒ Ditch checks
- ☒ Erosion or turf reinforcement mat
- ☒ Ditch or slope sodding
- ☐ Soil stabilizer
- ☒ Inlet protection
- ☐ Turbidity barriers
- ☐ Temporary settling basin
- ☒ Mulching
- ☐ Separating construction from live water - Turbidity Barrier
- ☒ Detention basin
- ☒ Vegetative swales
- ☐ Pave haul roads
- ☒ Dust abatement
- ☒ Rip rap
- ☒ Buffer strips
- ☐ Dewatering – Channel diversion and/or pumping
- ☐ Silt screen
- ☐ Temporary diversion channel
- ☒ Permanent seeding

APPENDICIES

APPENDIX 1	Project Maps
APPENDIX 2	Alternatives Analysis Technical Memorandum
APPENDIX 3	Plan Overview Sheets Preliminary Plans Existing and Proposed Typical Sections
APPENDIX 4	Visual Displays of Proposed Improvements
APPENDIX 5	Agency Coordination
APPENDIX 6	SHPO Coordination
APPENDIX 7	WisDOT Pre-Screening Indirect Effects Analysis Worksheets
APPENDIX 8	Mobile Source Air Toxics

APPENDIX 1
Project Maps

Project Location Map


North Terminus:
Project ID 3030-08-00
Project ID 1060-30-00
South Terminus:
Project ID 3030-08-00
Oconomowoc Lake
Silver Lake
City of Oconomowoc
Village of Oconomowoc Lake
Village of Summit
SUMMIT AVE
BYPASS
OLD TOWER RD
THACKERAY TR
LEXINGTON DR
ROBRUCK DR
REGENT RD
PABST RD
OCONOMOWOC PKWY
VALLEY RD
OCONOMOWOC DR
PABST FARMS BLVD
AURORA DR
DELAFIELD DR
BLUE RIBBON DR
FORREST DR
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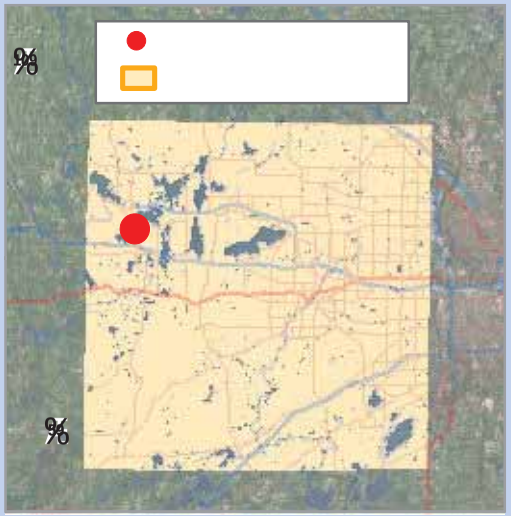
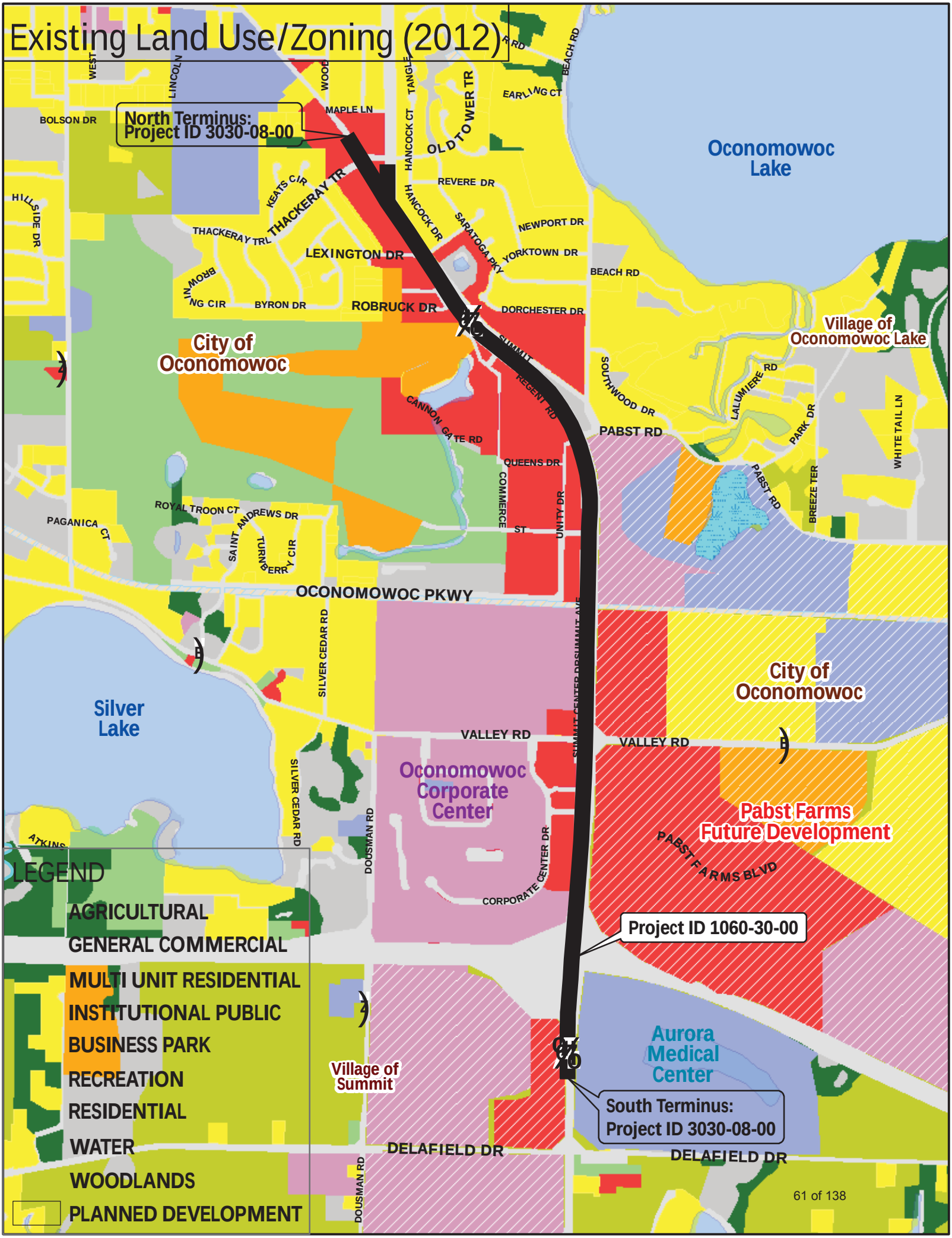


Existing Land Use Map


Existing Land Use/Zoning (2012)
North Terminus:
Project ID 3030-08-00
Oconomowoc Lake
City of Oconomowoc
Village of Oconomowoc Lake
Silver Lake
Oconomowoc Corporate Center
Pabst Farms Future Development
Project ID 1060-30-00
Aurora Medical Center
Village of Summit
South Terminus:
Project ID 3030-08-00
OCONOMOWOC PKWY
LEXINGTON DR
ROBRUCK DR
PABST RD
VALLEY RD
DELAFIELD DR
BOLSON DR
MAPLE LN
REVERE DR
NEWPORT DR
YORKTOWN DR
BEACH RD
DORCHESTER DR
SOUTHWOOD DR
QUEENS DR
COMMERCE ST
UNITY DR
SILVER CEDAR RD
DOUSMAN RD
CORPORATE CENTER DR
PABST FARMS BLVD
LEGEND
AGRICULTURAL
GENERAL COMMERCIAL
MULTI UNIT RESIDENTIAL
INSTITUTIONAL PUBLIC
BUSINESS PARK
RECREATION
RESIDENTIAL
WATER
WOODLANDS
PLANNED DEVELOPMENT

Traffic Noise Receptor Location Map


STH 67 Noise Receptor Location Map
North Terminus:
Project ID 3030-08-00
Project ID 1060-30-00
South Terminus:
Project ID 3030-08-00
City of Oconomowoc
Village of Oconomowoc Lake
Village of Summit
City of Oconomowoc
SUMMIT AVE
PABST RD
OCONOMOWOC PKWY
VALLEY RD
VALLEY RD
DELAFIELD DR
DELAFIELD DR
BLUE RIBBON DR
FORREST DR
INDIAN MOUND RD
DOUSMAN RD
SILVER CEDAR RD
ATKINS KNOLL RD
DAYSTAR LN
OAKWOODS CT
SILVERDALE RD
RIDGEWAY PATH
LAKERIDGE DR
RIVERWOOD DR
HIGH VIEW LN
BLUE RIDGE DR
GLENWOOD RD
HILLSIDE DR
BOLSON DR
FREDERICK CT
OCONOMOWOC SQ
JEAN ST
MARCELLA ST
FOREST ST
MARYMERE DR
CREST RD
LINCOLN CT
WOOD DR
BEACH RD
DEER PARK RD
TIMBERLINE CT
REVERE DR
NEWPORT DR
YORKTOWN DR
BEACH RD
THACKERAY TRL
KIPLING CT
BYRON DR
CANNON GATE RD
REGENT RD
SOUTHWOOD DR
RAVINA DR
SYLVAN LN
PARK DR
WHITE TAIL LN
QUEENS DR
COMMERCE ST
UNITY DR
BREEZE TER
ROYAL TROON CT
SAINT ANDREWS DR
TURNBERRY CIR
MACKENZIE LN
PAGANICA CT
EXECUTIVE DR
SILVER MAPLE LN
TIMBER TRAIL LN
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63 of 138

APPENDIX 2
Alternatives Analysis Technical Memorandum

Alternatives Analysis Technical Memorandum

STH 67 Structures over IH-94 and Future Collector/Distributor Road

Waukesha County, Wisconsin

Prepared for:

WisDOT

December 5, 2012

GRAEF

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ALTERNATIVES ANALYSIS TECHNICAL MEMORANDUM

STH 67 Structures over IH-94 and Future Collector/Distributor Road

Introduction

This report investigates the planned replacement of the twin overpass bridges at STH 67 over Interstate 94 in Waukesha County, Wisconsin. Prior traffic planning efforts by WisDOT have identified the possible benefits of constructing a collector/distributor road (CD road) along Interstate 94. The potential for a future collector/distributor road to be located at STH 67 was analyzed when determining alternate layouts for the structure over IH-94 which will be reconstructed in 2016 as part of the STH 67 roadway improvement project. Several collector/distributor road layout alternates were developed that accommodate different traffic merging arrangements. Each of these layout alternates were evaluated for structure replacement options that accommodated one or more of the collector/distributor road layouts. These collector/distributor road layouts are developed in depth within this study. In addition the impacts associated with raising STH 67 or lowering IH-94 are investigated in the study.

Background

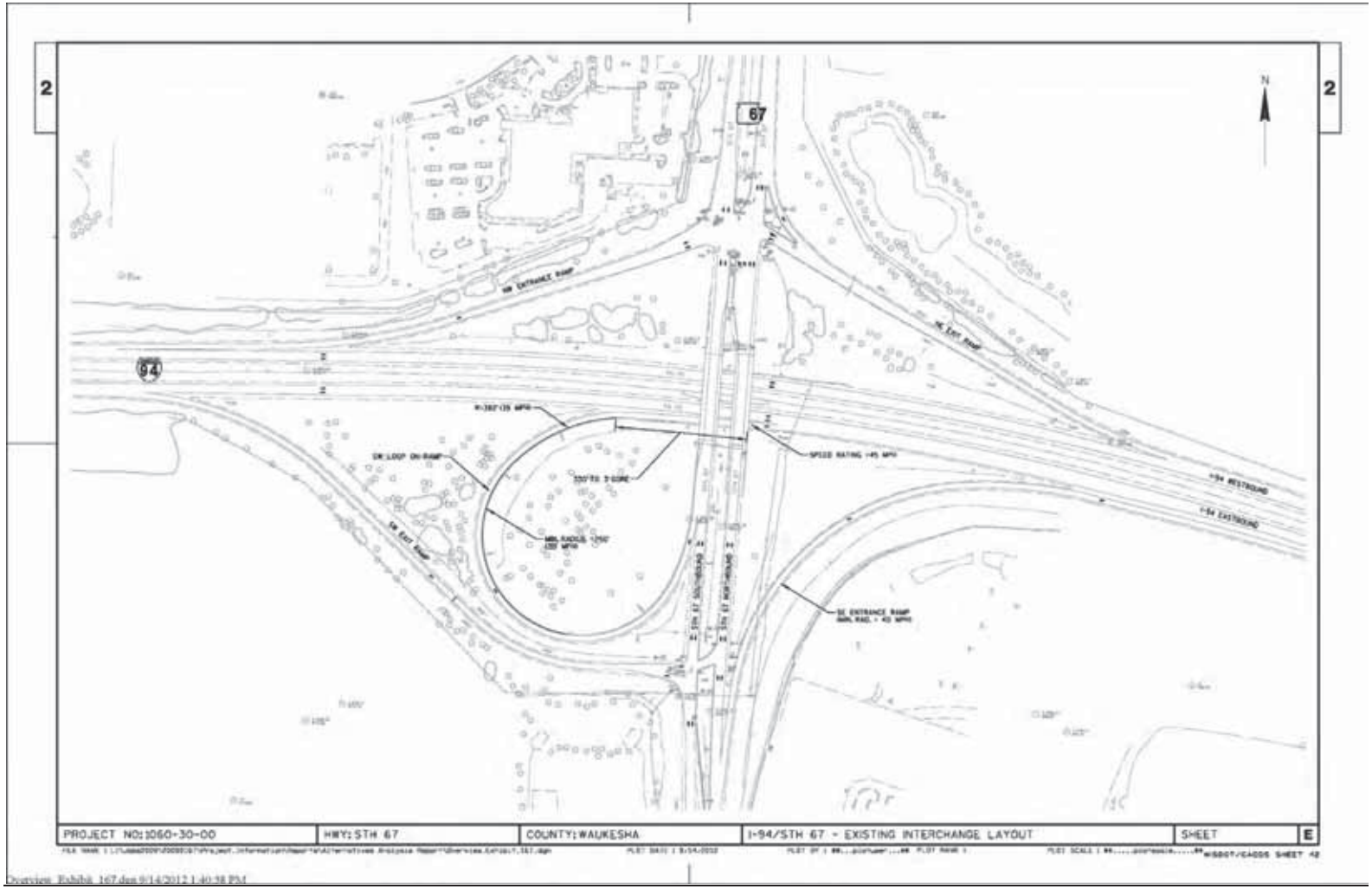
WisDOT is proceeding forward with the design of new twin overpass bridges at the STH 67 interchange with Interstate 94. The existing four-span structures will be replaced as a part of the current STH 67 corridor project, with a final plan submittal scheduled for 2014. The option exists to either maintain the existing IH-94 pavement in the interchange while raising STH 67 or lowering IH-94 at the interchange in order to reduce the profile changes required on STH 67. Interstate 94 will not be reconstructed until a future date, to be determined.

STH 67 is a four-lane divided rural arterial with a posted speed limit of 45 mph at the point where it crosses IH-94 in Waukesha County. The existing interchange has a diamond configuration on the north side of IH-94 and a partial cloverleaf configuration on the south side of IH-94 that incorporates a northbound to eastbound free flow system ramp (design speed = 40 mph), and a low-speed southbound to eastbound loop ramp (design speed = 30 mph). The remaining single-lane ramps are each controlled by traffic signals at the ramp terminals along STH 67. The existing interchange is shown in Figure A.

Existing Sub-Standard Features

The existing interchange incorporates several design features that do not meet current desirable design standards. The structure and roadway layouts presented in this study address these sub-standard features.

Figure A *Existing Interchange Layout*



Decision sight distance

The existing 1,320' vertical curve over the northbound STH 67 structure and 1,346' vertical curve over the southbound STH 67 structure are designed to meet stopping sight distance criteria for 50 mph design speeds. However, updated design standards require that this vertical curve be designed to meet decision sight distance, requiring a desirable K-value of 261 for the 50 mph design speed. The existing highway profile only provides decision sight distance for a 40 mph design speed.

Vertical clearance

The desirable vertical clearance beneath a structure along a state highway that spans an interstate freeway is 16'-9". The vertical clearance beneath the existing structures ranges from 16'-6" to 16'-7".

Ramp Acceleration

The existing southwest loop ramp has substandard acceleration distance prior to entering IH-94. Following AASHTO criteria the existing ramp is designed for vehicles to accelerate to just below 50 mph prior to reaching the 3' gore adjacent to IH-94. This is 20 mph less than the mainline IH-94 70 mph design speed. Variations in speed of greater than 10 mph are substandard on entrance ramps to freeway.

Collector/Distributor Road Options

The Wisconsin Department of Transportation has requested that the replacement structures accommodate a potential collector/distributor road along IH-94 from the STH 67 interchange thru CTH P located 1.56 miles to the east in Waukesha County. The purpose of a future collector/distributor road is to separate ramp traffic that would typically enter or exit from the main lanes of the freeway. Safety along the corridor is generally enhanced because weaving movements are removed from the main lanes of the freeway to the collector/distributor road. The collector/distributor road would also accommodate a potential second interchange between STH 67 and CTH P. Plans were developed with enough detail to investigate how different bridge layouts would accommodate the collector/distributor road alternate ultimately chosen. The recommendation provided by this study will address the potential for different structure layouts to accommodate future collector/distributor road layouts. The following design parameters were used to develop the collector/distributor road layout alternates and subsequent structure layouts:

- Interstate 94 will consist of three through lanes and two collector/distributor lanes in each direction
- The typical through lanes for IH-94 will consist of three 12' lanes and two 12' shoulders for both EB and WB IH-94.
- The collector/distributor roads will consist of two 12' lanes and two 12' shoulders, separated from IH-94 by double-faced barrier walls.

- The total length of the proposed structure at STH 67 will be designed to accommodate six lanes along IH-94 and four additional lanes that could function as collector/distributor roads.
- The structure at STH 67 will accommodate the clearances needed for future metering on the loop ramp and the taper to a single lane on loop ramp in the section adjacent to IH-94.
- An eight lane facility along IH-94 is not recommended by SEWRPC and was therefore not studied

Future Collector/Distributor Road Option 1 - 2 Lane Westbound Collector/Distributor Road

A planning concept for a "typical" collector/distributor road is presented in Figure B-1. This option presents a typical layout where all ramp traffic is removed to the collector/distributor road, and finally merged with freeway traffic after the final interchange. In this case, a two-lane westbound collector/distributor road continues beneath the new STH 67 bridges, merges with the STH 67 westbound on-ramp, and finally merges with westbound freeway traffic.

Future Collector/Distributor Road Option 2 – Second westbound on-ramp access point

A second alternate layout for the collector/distributor road is presented in Figure B-2. This option presents a modified layout where westbound traffic on the collector/distributor road is merged with mainline interstate traffic prior to the westbound entrance ramp from STH 67. This alternate accounts for the likeliness that a future traffic analysis will identify an operational concern at the point where the collector/distributor merges with the interstate, if the collector/distributor traffic is combined with traffic on the westbound STH 67 entrance ramp prior to the final merge. Essentially, westbound traffic volumes would be combined from CTH P, the potential future interchange, and STH 67 at a single merge point west of the STH 67 interchange. Depending on the outcome of the traffic analysis, this merge could fail. The solution presented here incorporates a second westbound on-ramp access (slip ramp) just west of the exit ramp split to STH 67. This distributes the volume of westbound traffic entering the freeway more evenly, likely resulting in better operations and a safer design.

Future Eastbound Collector/Distributor Road

A two-lane eastbound collector/distributor road is accommodated by each interchange layout option presented in this report. The eastbound collector/distributor road exits the freeway with a single-lane exit ramp, and merges with traffic entering from the loop ramp to become a two-lane eastbound collector/distributor road. Two eastbound access points to the mainline freeway are provided; one east of the potential future interchange, and the second at CTH P.

Figure B-1 *Two-lane westbound collector/distributor road*

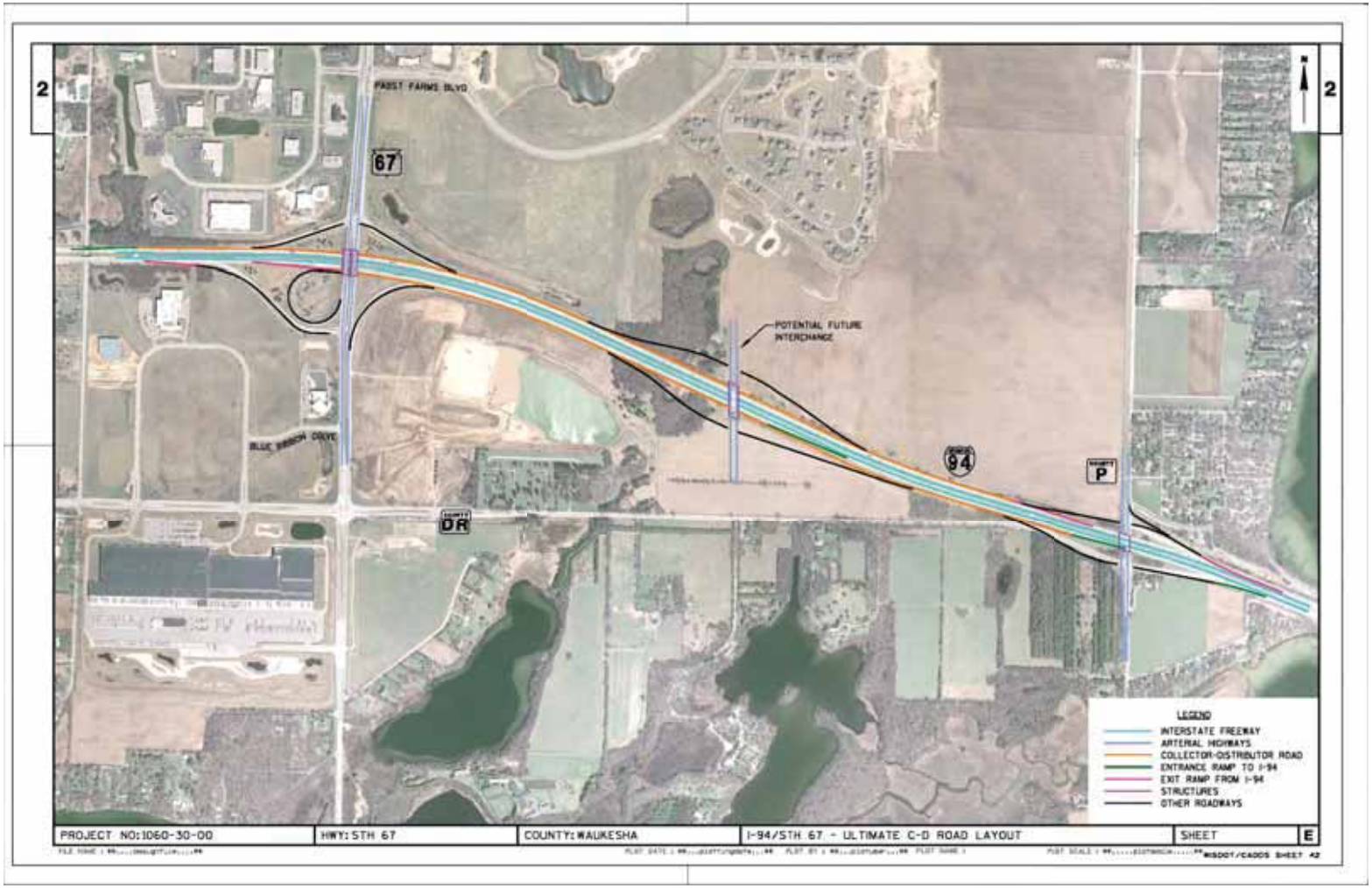
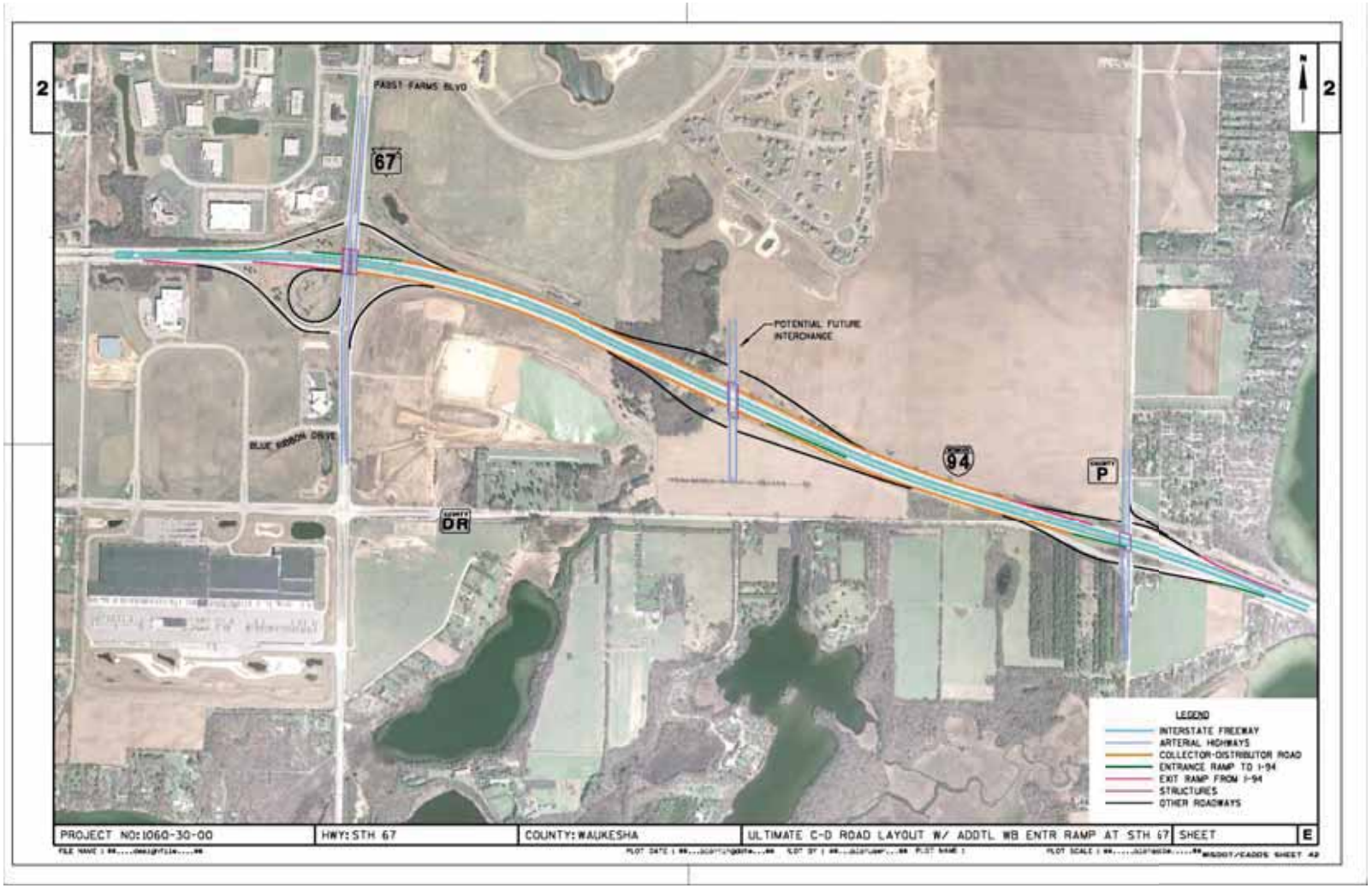


Figure B-2 *Second westbound on-ramp access point*



Structure Design Alternates

For the purposes of this study, all bridge layout alternates incorporate the use of MSE wall / full retaining abutments, as opposed to sloped-paving type abutments. The selection of the MSE wall / full retaining abutments allowed for shorter spans, and thus shallower girders. The resulting impact on the profile of STH 67 was lessened, and the reconstruction limits along STH 67 were shortened.

Proposed profiles for each alternate accommodate the impact to vertical clearance resulting from the widening of the bridges. The following structure alternates were analyzed:

Structure Alternate 1A – Two 133' Spans with 54W prestressed concrete girders

This bridge design alternate uses 54W girders spaced at approximately 7'-0" on center. This alternate allows for the flexibility of either designing two future westbound collector/distributor lanes beneath the bridge (Option 1), or merging the collector/distributor road with IH-94 west of the STH 67 exit ramp (Option 2). The layout of the structure alternate 1A is shown in Figure C-1 and C-2.

Key Features

- Accommodates either 2 lane westbound collector/distributor road (Figure C-2) or a second westbound on-ramp access point to IH-94 (Figure C-1)
- Raises the profile of STH 67 at the EB and WB ramp terminals 4.5' and 6.5', respectively
- Provides a decision sight distance of 750-ft at the ramp terminals (D.S. = 50 mph)
- Accommodates an eastbound collector/distributor road and the merging of one lane of the dual loop on-ramp in the segment adjacent to IH-94.

Structure Alternate 1B – Two 133' Spans with approximately 45-inch deep steel girders

This bridge design alternate uses 45-inch deep steel plate girders. The deflection criteria will likely govern design. The span/depth ratio criteria were checked against the AASHTO criteria, which gives a steel girder depth of less than 45-inches. The layout of the Structure Alternate 1B accommodates the same roadway configurations shown for structure alternate 1A in Figure C-1 and C-2.

Key Features

- Accommodates either 2 lane westbound collector/distributor road or three westbound on-ramp access points to IH-94
- Raises the profile of STH 67 at the EB and WB ramp terminals 3.75' and 5.75', respectively
- Provides a decision sight distance of 750-ft at the ramp terminals (D.S. = 50 mph)
- Accommodates an eastbound collector/distributor road and the merging of one lane of the dual loop on-ramp in the segment adjacent to IH-94.
- Typically, steel girders require more maintenance throughout the life of the structure

Structure Alternate 2 – Four span structure with 36W prestressed concrete girders

This bridge design alternate uses 36W girders spaced at approximately 8'-0" on center. The four spans will be approximately 70 feet long. The four span structure allows for a reduction in the girder size, lessening the impacts to the STH 67 profile. The future layout of structure alternate 2 is shown in Figure C-3

Key Features

- Only accommodates a 2-lane westbound collector/distributor road (Option 2). The location of the bridge pier between westbound IH-94 and the collector/distributor road would prohibit the collector/distributor road from merging with mainline IH-94 before the STH 67 on-ramp. This would dictate Option 1 with regards to the collector/distributor road layout, which could result in operational concerns as discussed in Future CD Road Option 2.
- Raises the profile of STH 67 at the EB and WB ramp terminals 3' and 5', respectively

Provides a decision sight distance of 750-ft at the ramp terminals (D.S. = 50 mph)

Figure C-1 *Two 133' spans with a second westbound on-ramp access point to IH-94*

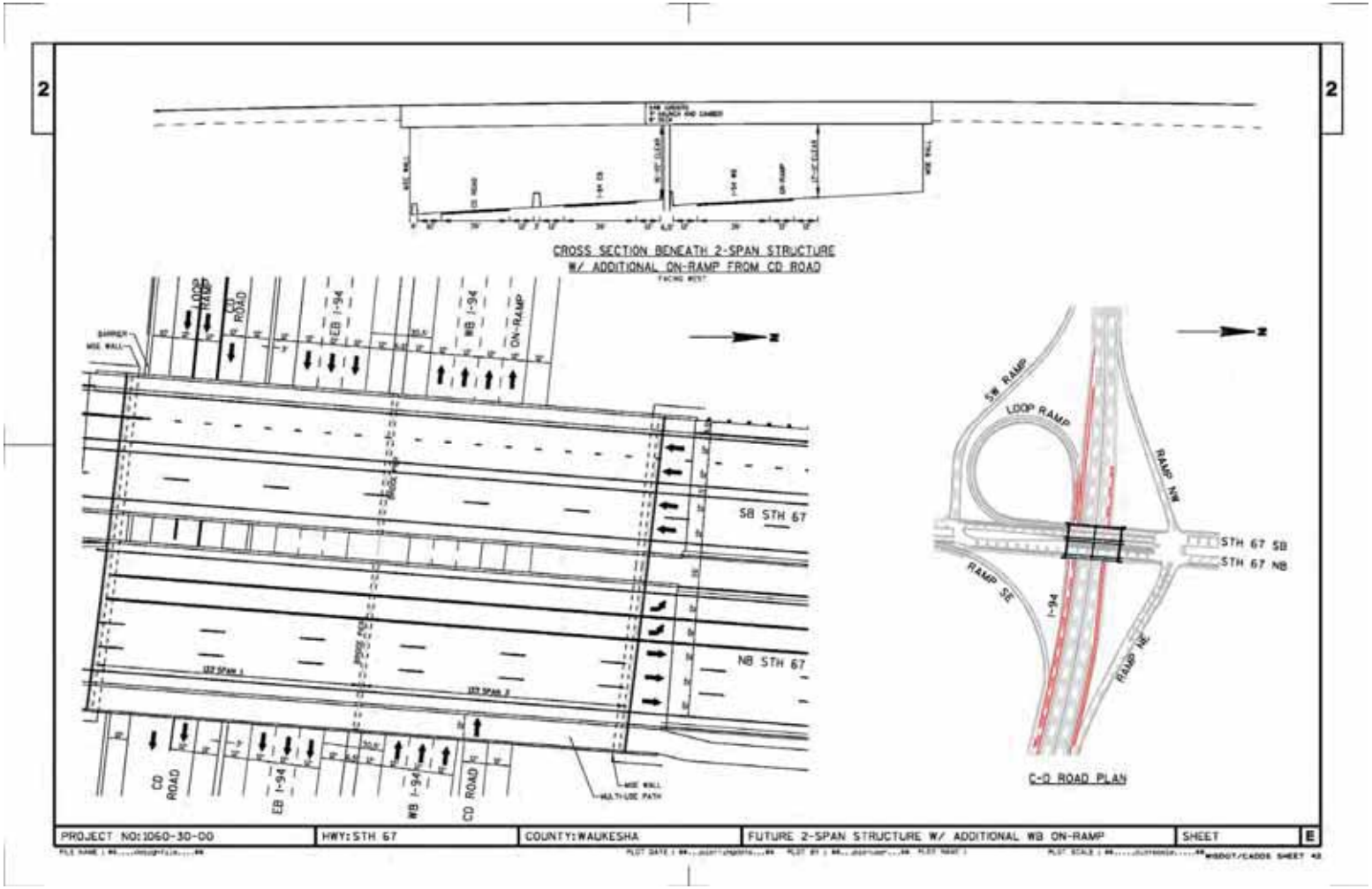


Figure C-2 *Two 133' spans with a two-lane westbound collector/distributor road*

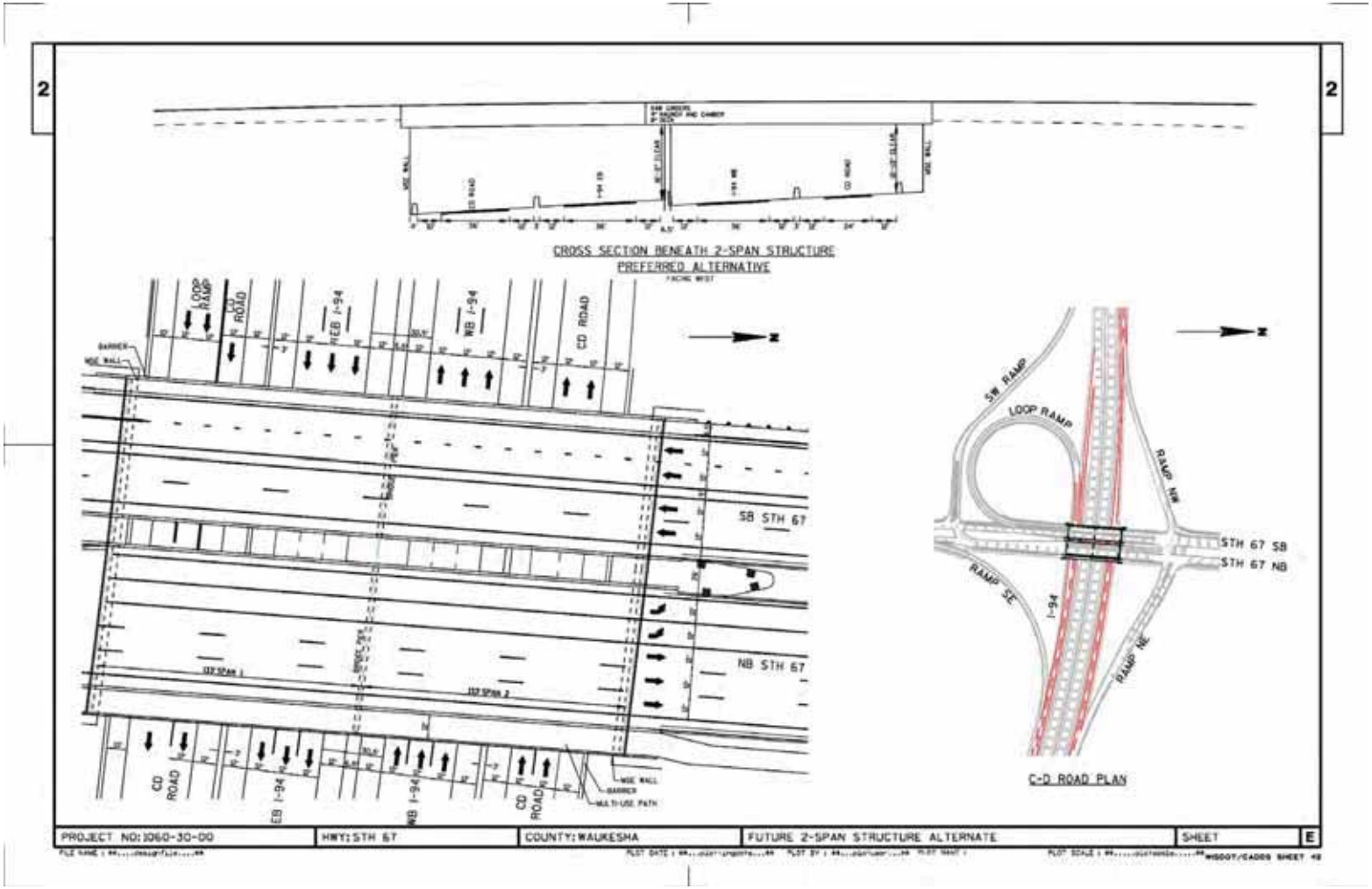
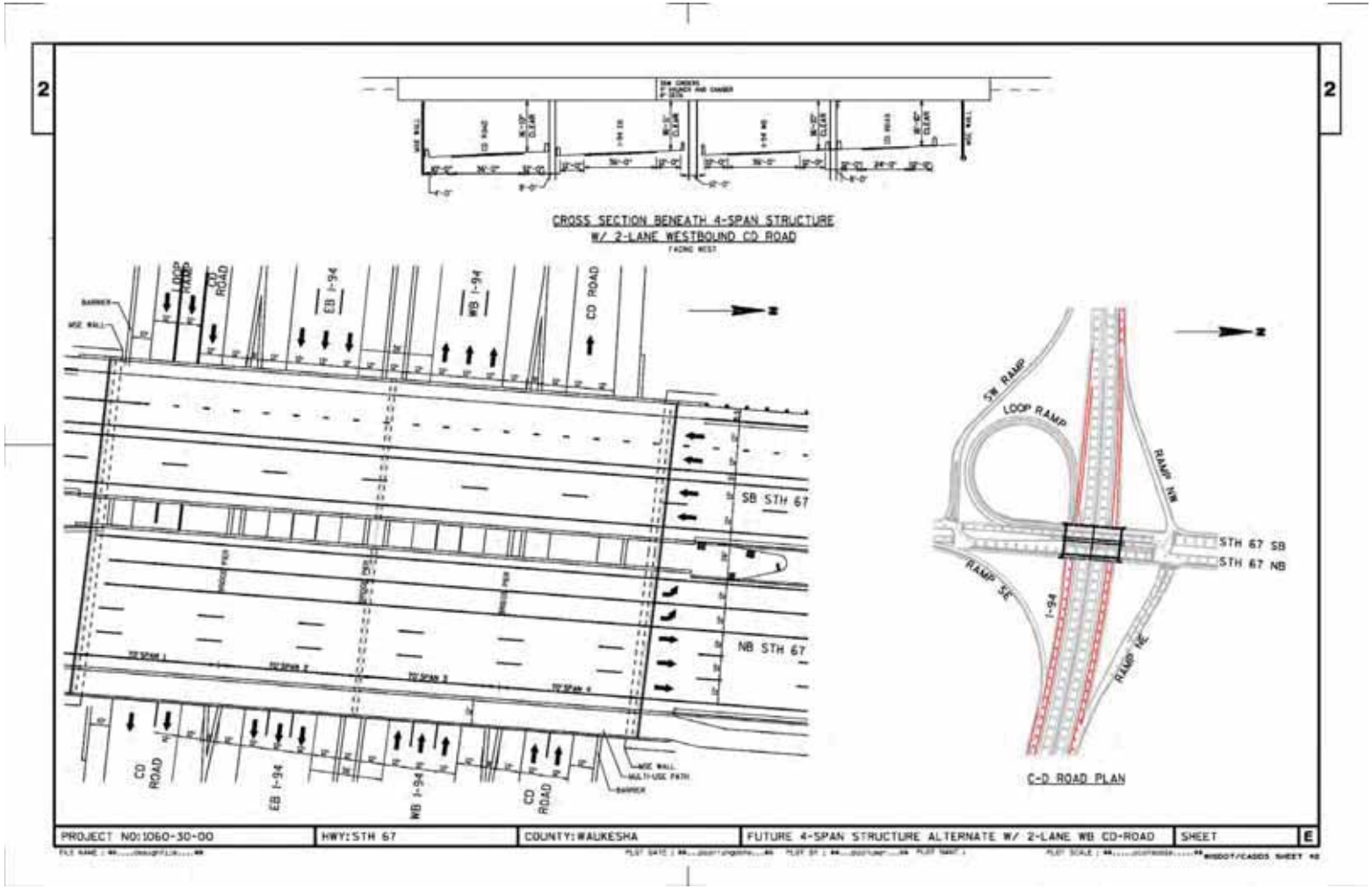


Figure C-3 *Four spans with a two-lane westbound collector/distributor road*



Raising STH 67 and Lowering IH-94 Discussion

Lowering IH-94 was also investigated as an alternative to raising the profile of STH 67 across the proposed overpass. In order to meet the 16'-9" vertical clearance required on the outside lane of the westbound CD road it was determined the profile on IH-94 would have to be lowered by approximately 3'-6" (Increased beam depth, deck width, bridge length, CD road cross slope and increase in vertical clearance to recommended standards). An exhibit showing the IH-94 impacts associate with this elevation change are included in Appendix C.

Approximately 2000 feet of IH-94 will have to be fully reconstructed within the STH 67 interchange to lower the mainline profile. This additional reconstruction would increase the cost of the project. The reconstruction of the IH-94 mainline would also increase impacts to the traveling public as longer lane closures would be required on IH-94.

Impacts to the IH-94 drainage also increase with the lowering of the mainline profile. Water from median and north side of IH-94 discharges to ditch at 400+25 (WB on-ramp) and runs west to the wetlands along Dousman Road. Based on as-built data, the entire north ditch to Dousman Road will have to be reconstructed to accommodate the 3' drop at the outfall that is required with the new profile. Water in the median east of STH 67 and from the south side of IH-94 flows into the center of the loop ramp and discharges from the site at Sta. 100+00 (EB off-ramp). This outfall from the site discharges to the field north of Pabst Ribbon Drive. Here the existing field is approximately 3 feet higher than the outfall elevation required for the new IH-94 profile. Storm sewer would be required to maintain flow patterns at this existing outfall. The lower IH-94 profile would limit the potential for using the ramp infields as detention basins.

With both alternatives, STH 67 will have to be fully reconstructed for the proposed roadway cross section. In addition, the existing STH 67 crest vertical curve over IH-94 only meets desirable standards for a 40 mph design speed. Since this project is a full reconstruction the vertical curve would have to be improved regardless of the IH-94 profile.

The recommended alternative raises the profile on STH 67 rather than lowering the profile on IH-94. This alternative does result in additional right-of-way impacts, fill and requires additional retaining walls as compared to the lowering IH-94. In the NW quadrant of the interchange, retaining walls will be required to limit impacts to the existing parking lots and drives to the developments along Corporate Center Drive. In the NE quadrant of the interchange additional right-of-way or smaller retaining wall may be required to fit in the new STH 67 roadway section. South of interchange on STH 67 the right-of-way impacts will be less significant and primarily entail temporary easements. It is estimate that the additional costs associated with right-of-way and retaining walls from raising STH 67 will be less than the costs required for the reconstruction of the IH-94 mainline.

The combination of the lower cost, less impacts to the traveling public, and drainage concerns indicate raising STH 67 would be preferred over lowering the IH-94 mainline profile.

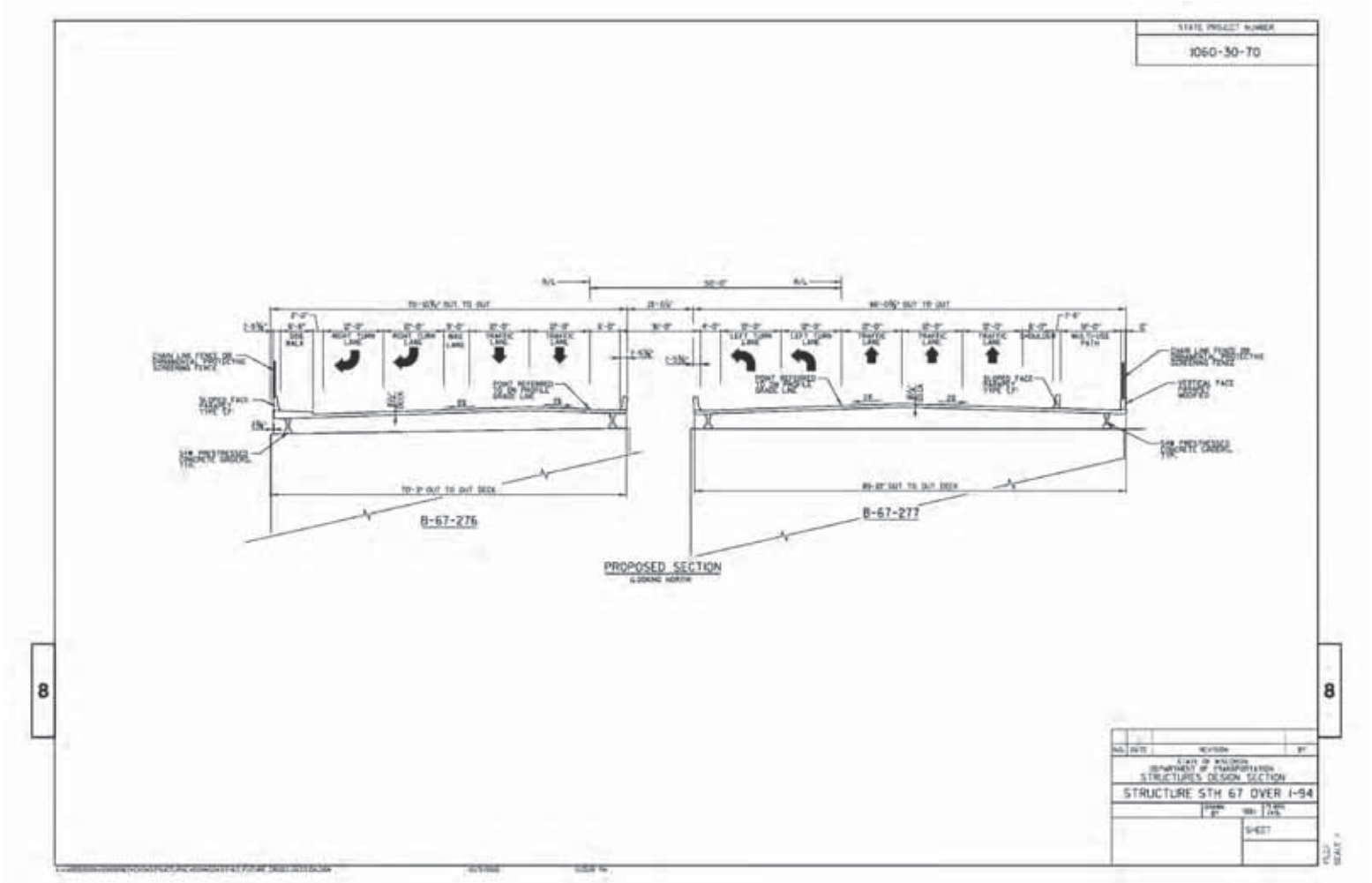
Conclusions and Recommendations

GRAEF recommends that WisDOT proceed with design of two 54W prestressed concrete girder bridges at STH 67. Each bridge will consist of two 133-ft long spans with vertical MSE-type abutments. Sufficient vertical clearance under the proposed structure will be obtained by raising the profile on STH 67. The advantages of constructing a 2-span 54W prestressed concrete girder bridge include that it:

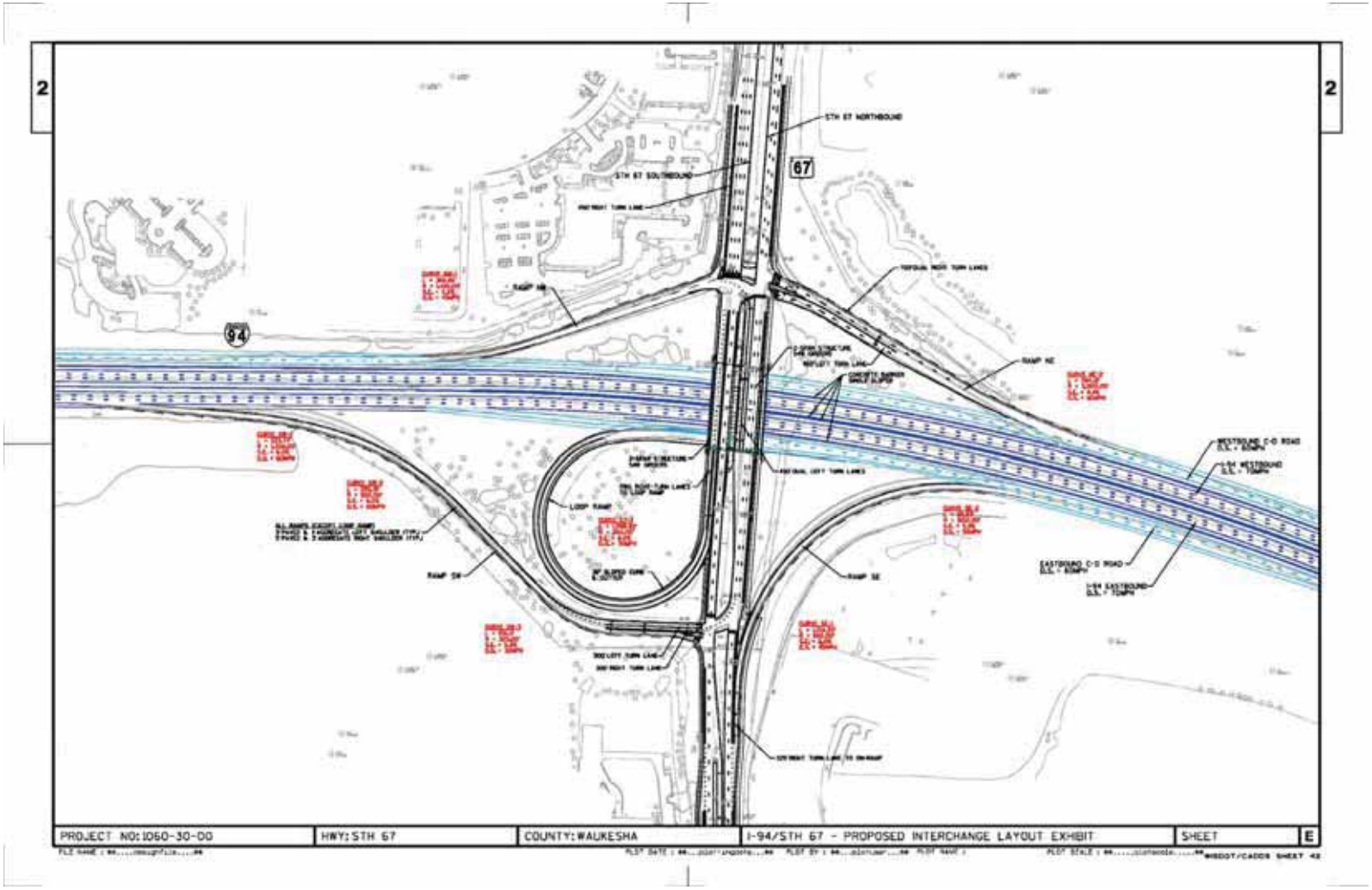
- Results in lower maintenance costs over steel girder construction.
- Accommodates either a 2 lane westbound collector/distributor road, or two westbound on-ramp access points to IH-94.
- The two-span option is preferable because the four-span option requires a pier between the lanes of westbound IH-94 and the westbound collector/distributor road, which will not permit a second on-ramp access point to IH-94. The two additional piers are also a hazard that has to be protected during the interim condition that would not be there with the four span structure.

The final recommended collector/distributor geometric layout is included as Appendix B. A traffic analysis should be conducted for the future interstate reconstruction project to determine the operation of the westbound collector/distributor road at the merge with IH-94 westbound. The recommended bridge layout will accommodate splitting the traffic using an additional westbound on-ramp access point.

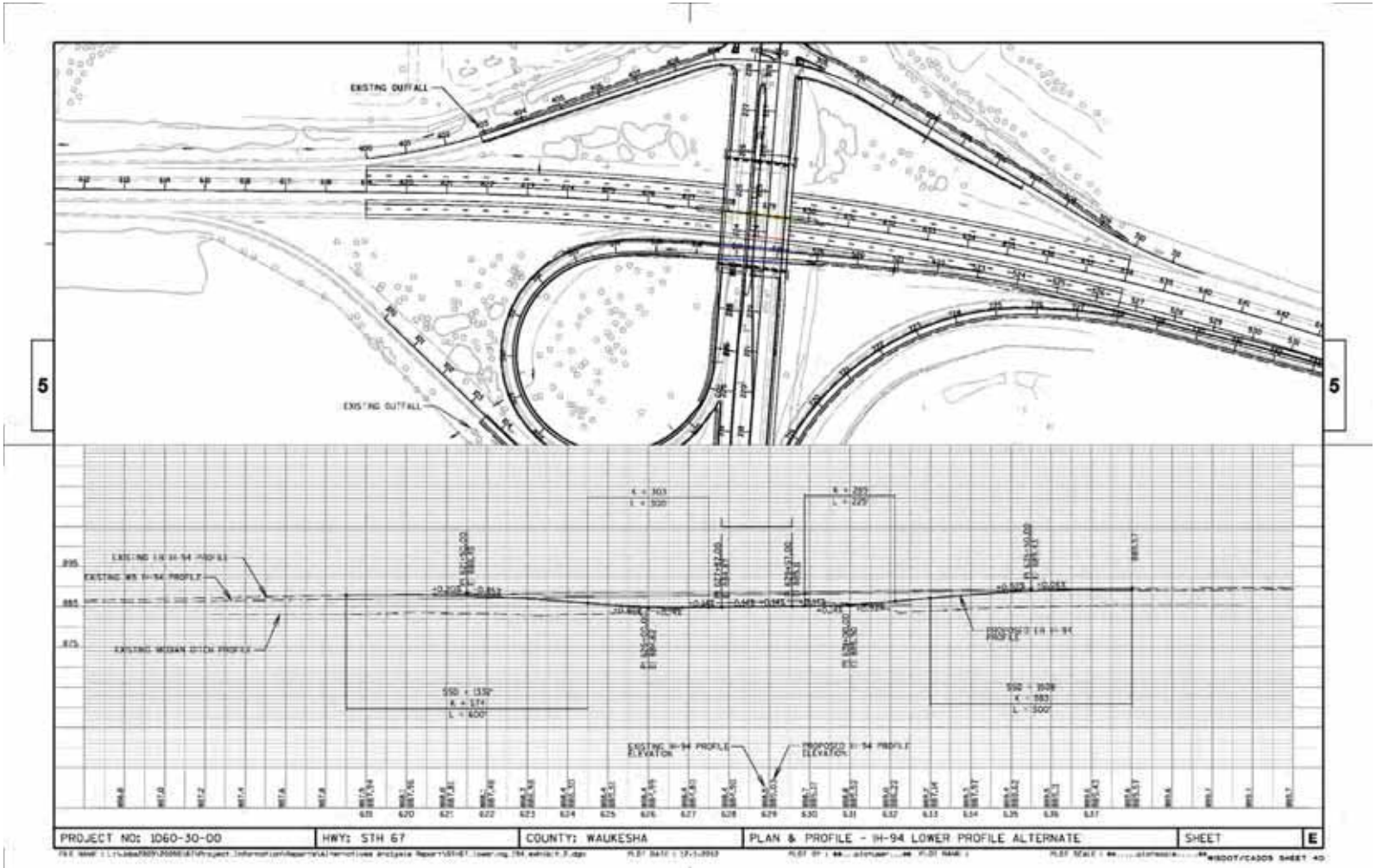
Appendix A *Proposed Bridge Cross Sections*



Appendix B *Proposed future collector/distributor road geometric layout*

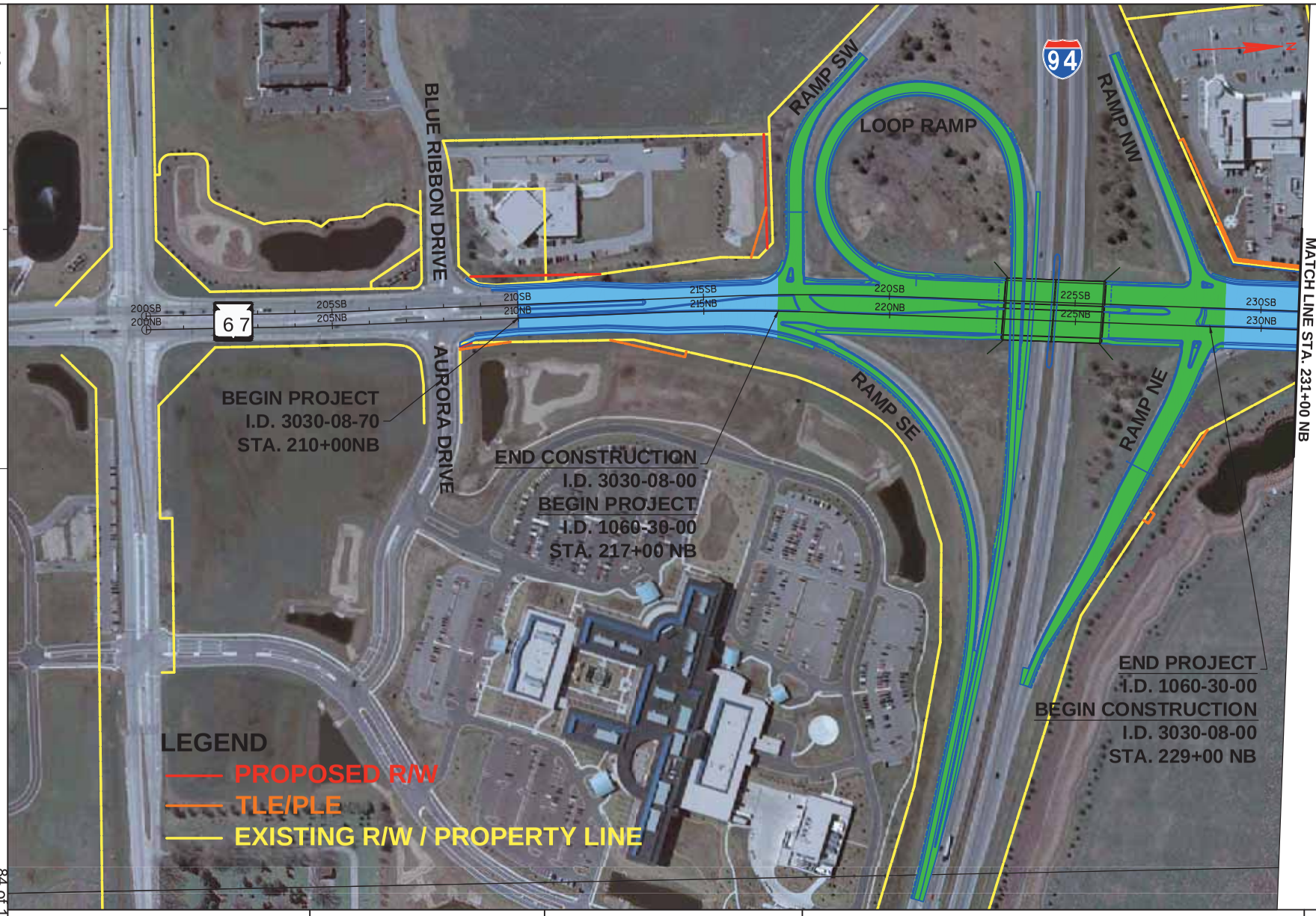


Appendix C *Lowering IH-94 Exhibit*



APPENDIX 3
Plan Overview Sheets
Preliminary Plans
Existing and Proposed Typical Sections

Plan Overview Sheets



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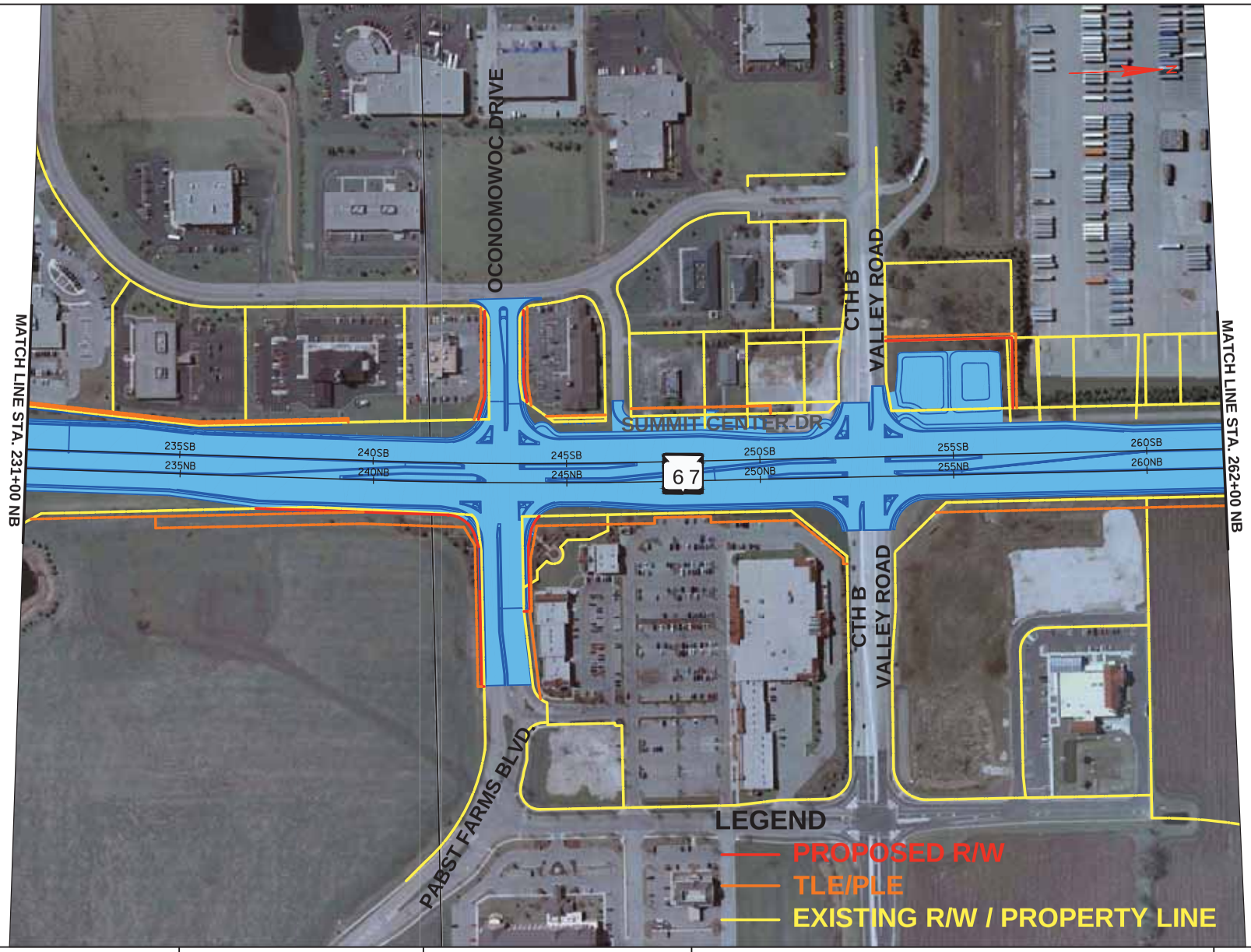
PROJECT NO: 3030-08-00/1060-30-00	HWY: STH 67	COUNTY: WAUKESHA	PLAN OVERVIEW	SHEET	E

FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSOTHER\ROADWAY LAYOUT SHEETS.DWG PLOT DATE : 9/27/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 250'_XREF

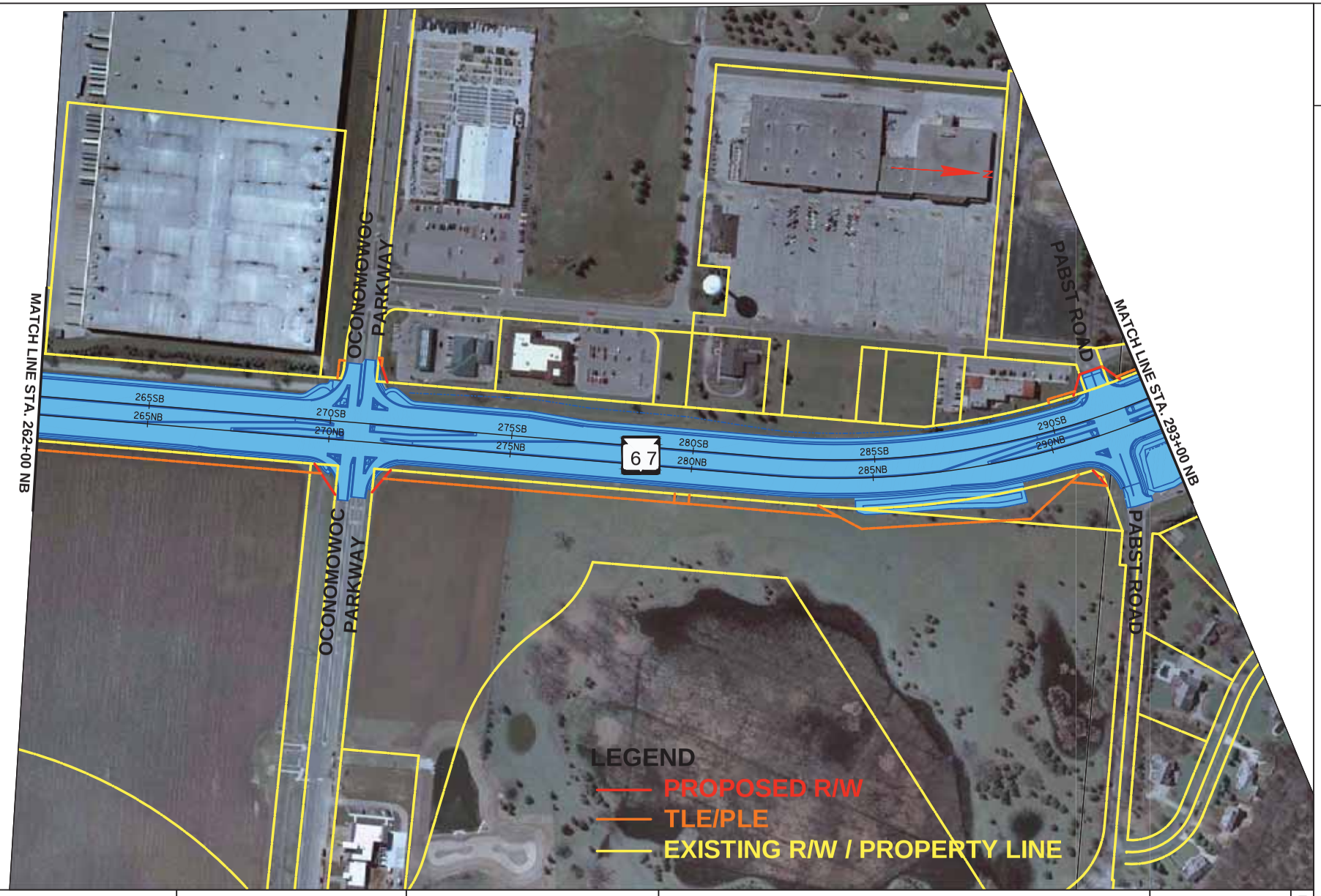
WISDOT/CADDS SHEET 42



PROJECT NO: 3030-08-00	HWY: STH 67	COUNTY: WAUKESHA	PLAN OVERVIEW	SHEET	E

FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSOTHER\ROADWAY LAYOUT SHEETS.DWG PLOT DATE : 9/27/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 250'_XREF

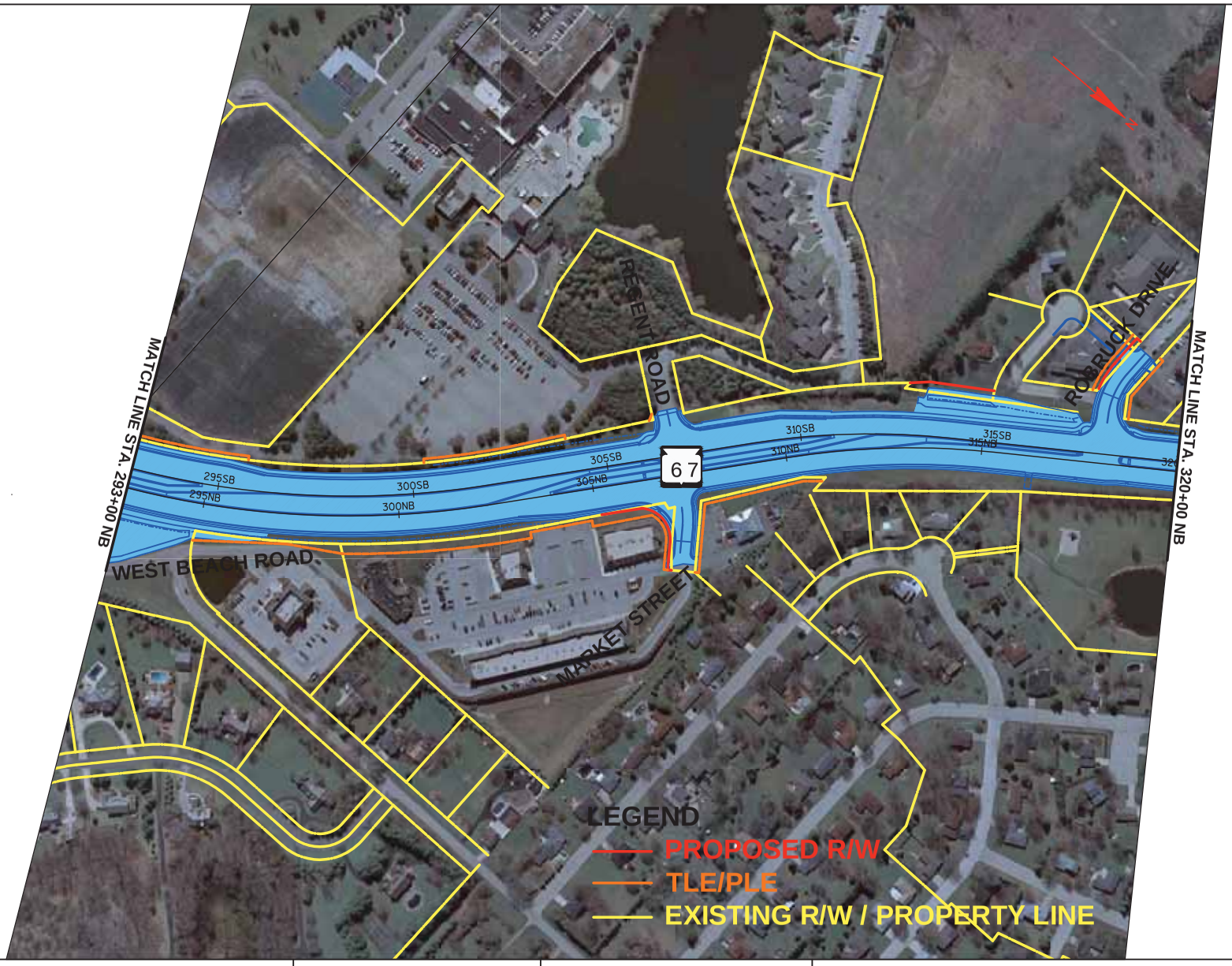
WISDOT/CADDS SHEET 42



PROJECT NO: 3030-08-00	HWY: STH 67	COUNTY: WAUKESHA	PLAN OVERVIEW	SHEET	E

FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSOTHER\ROADWAY LAYOUT SHEETS.DWG PLOT DATE : 9/27/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 250'_XREF

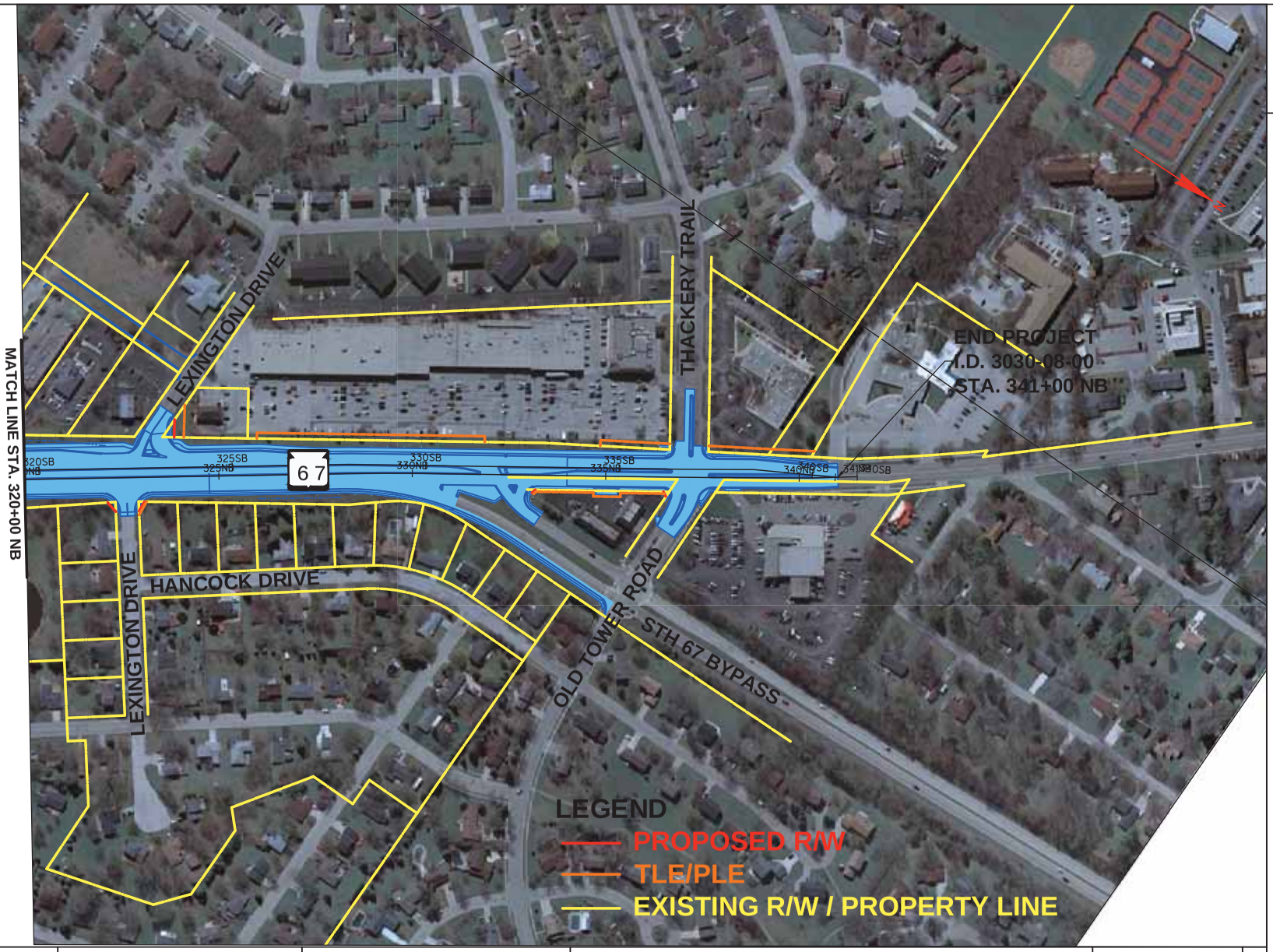
WISDOT/CADDS SHEET 42



PROJECT NO: 3030-08-00	HWY: STH 67	COUNTY: WAUKESHA	PLAN OVERVIEW	SHEET	E

FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSOTHER\ROADWAY LAYOUT SHEETS.DWG PLOT DATE : 9/27/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 250'_XREF

WISDOT/CADDS SHEET 42

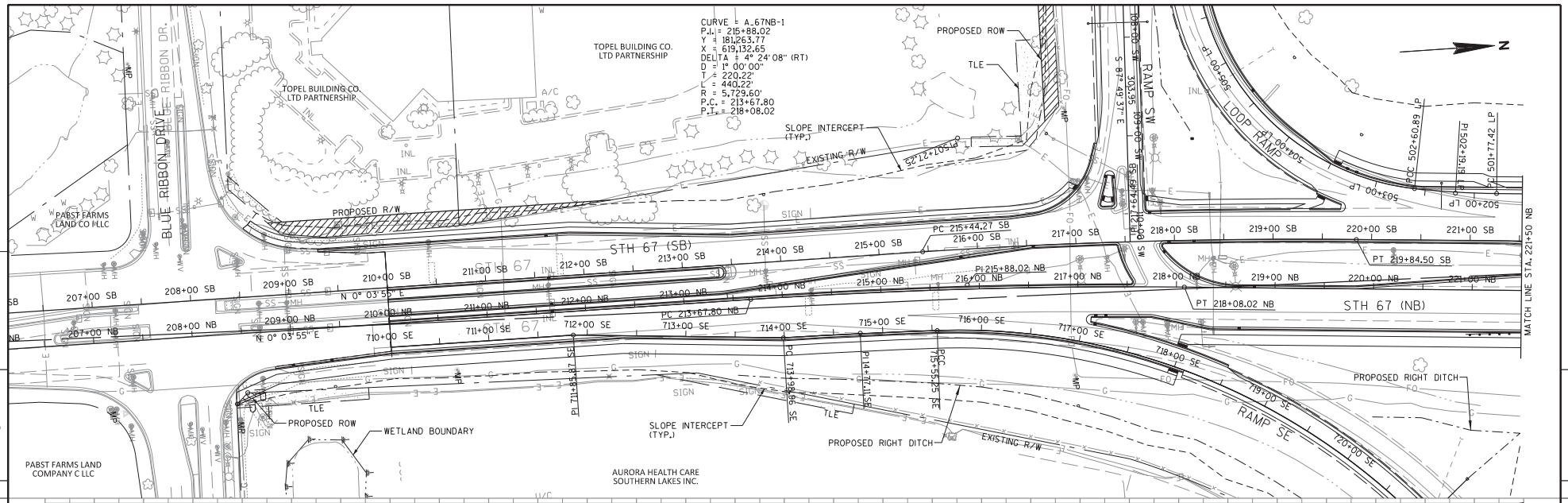


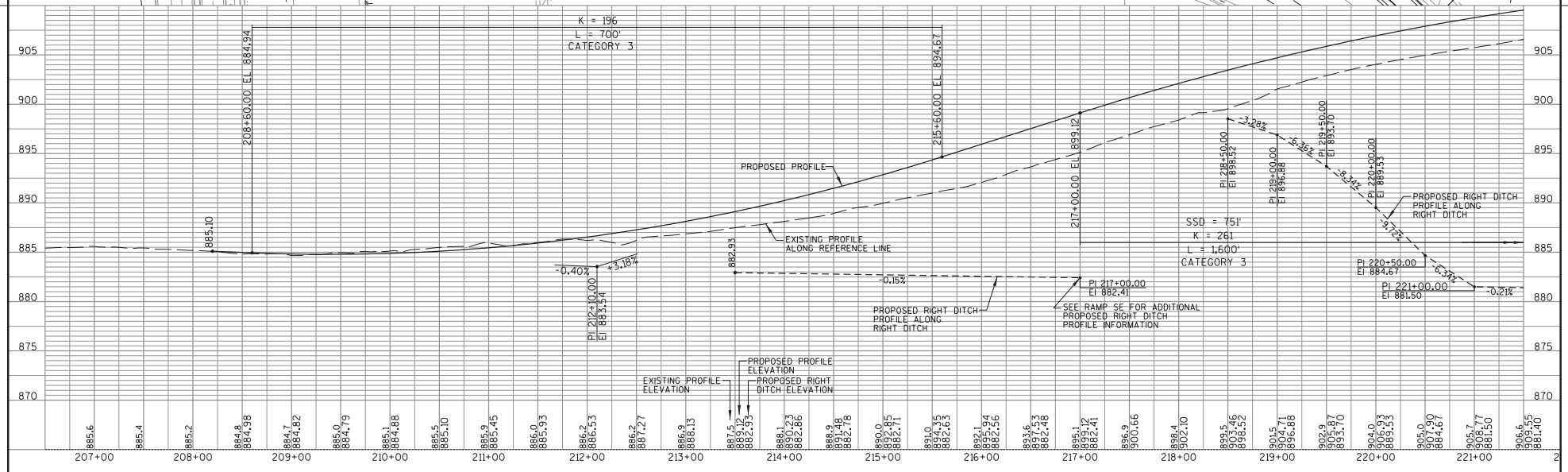
PROJECT NO: 3030-08-00	HWY: STH 67	COUNTY: WAUKESHA	PLAN OVERVIEW	SHEET	E

FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSOTHER\ROADWAY LAYOUT SHEETS.DWG PLOT DATE : 9/27/2013 PLOT BY : KL ENGINEERING PLOT NAME : ---------- PLOT SCALE : 1" = 250'_XREF

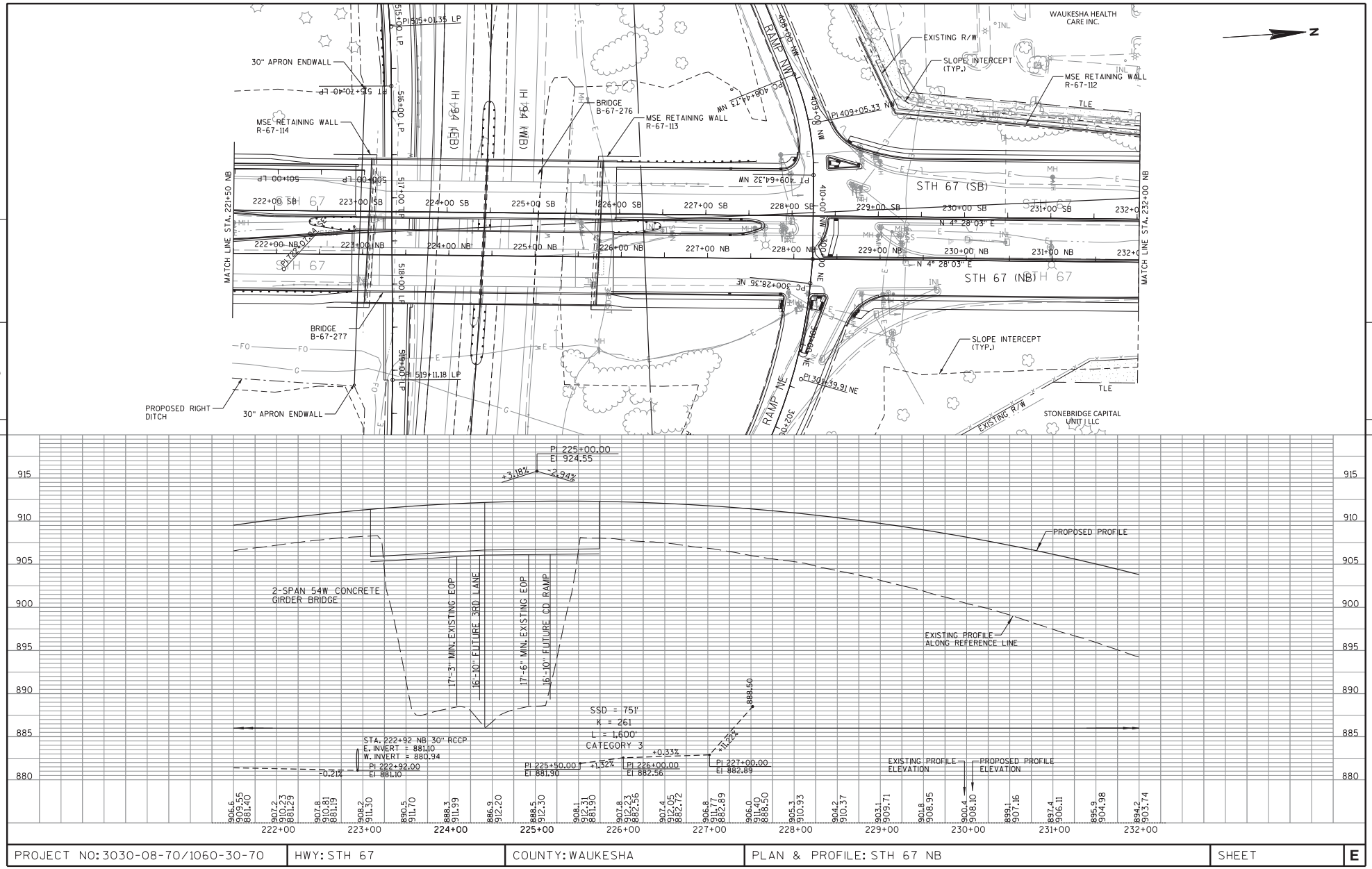
WISDOT/CADDS SHEET 42

Preliminary Plans



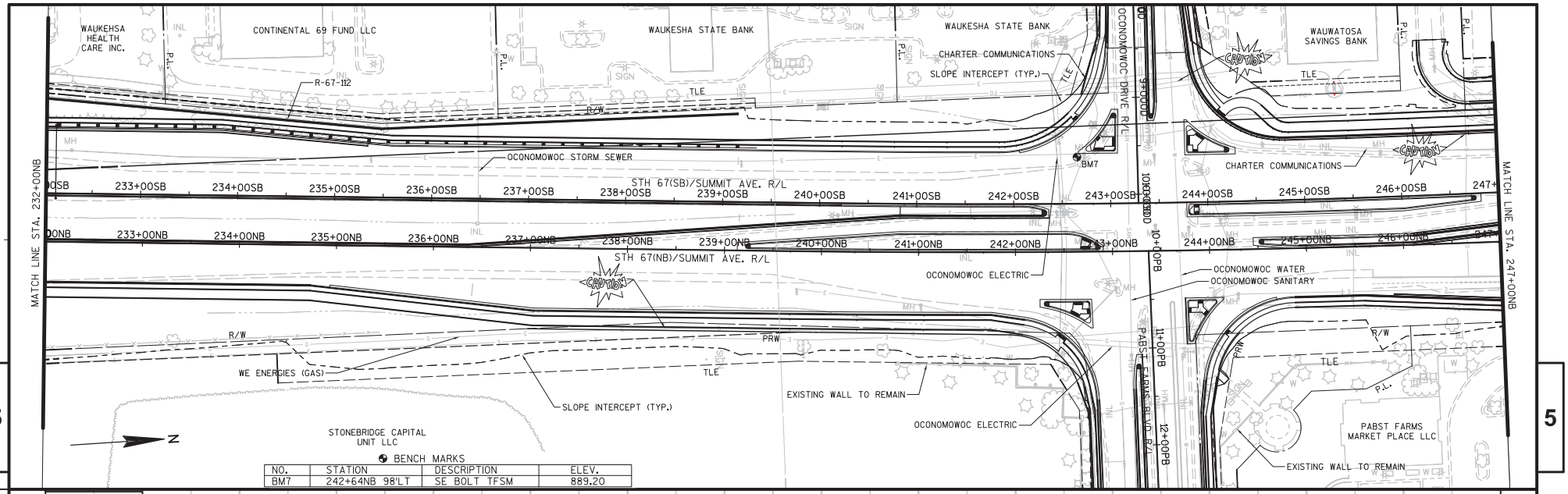


PROJECT NO: 3030-08-70/1060-30-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN & PROFILE: STH 67 NB	SHEET	E



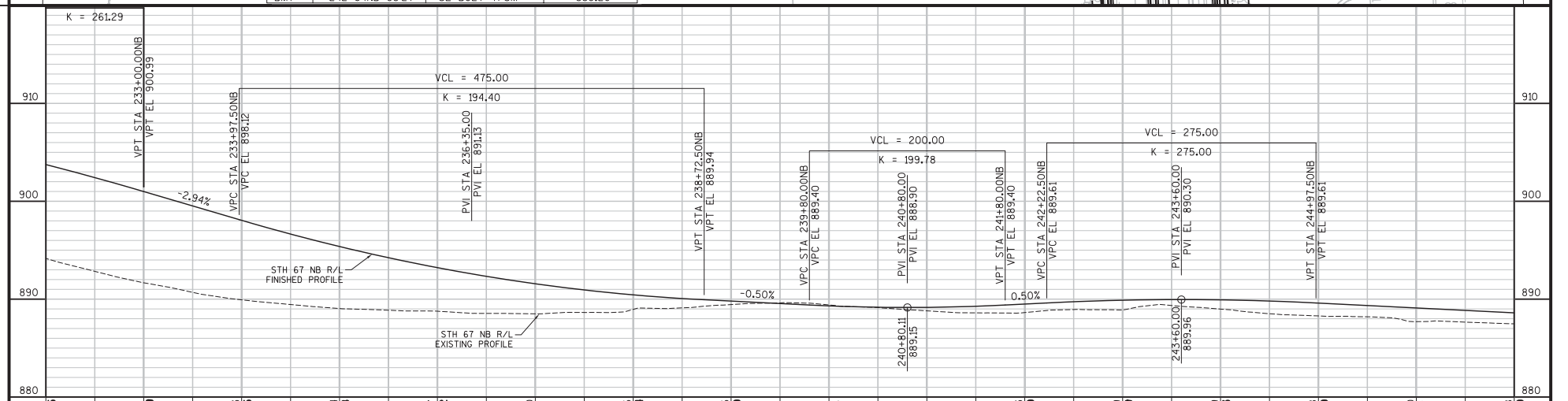
PROJECT NO: 3030-08-70/1060-30-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN & PROFILE: STH 67 NB	SHEET	E

FILE NAME : L:\Jobs2009\20090167\CAD\WisDOT_Trans\dgn\01\050102_pp.dgn PLOT DATE : 2/26/2013 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 40

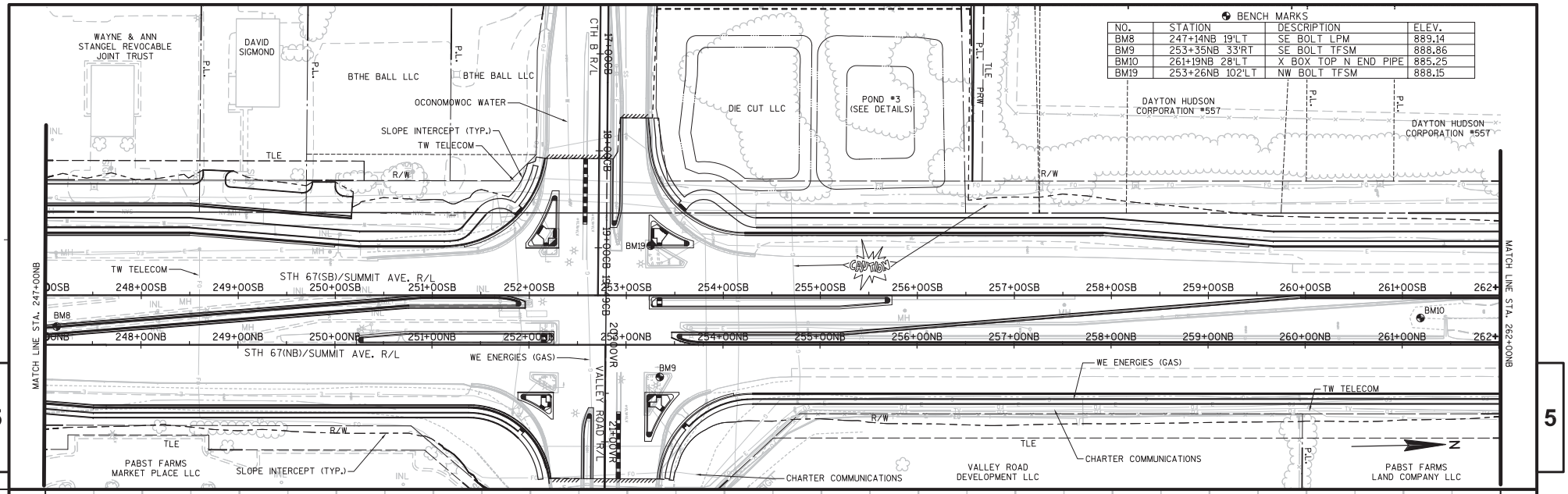


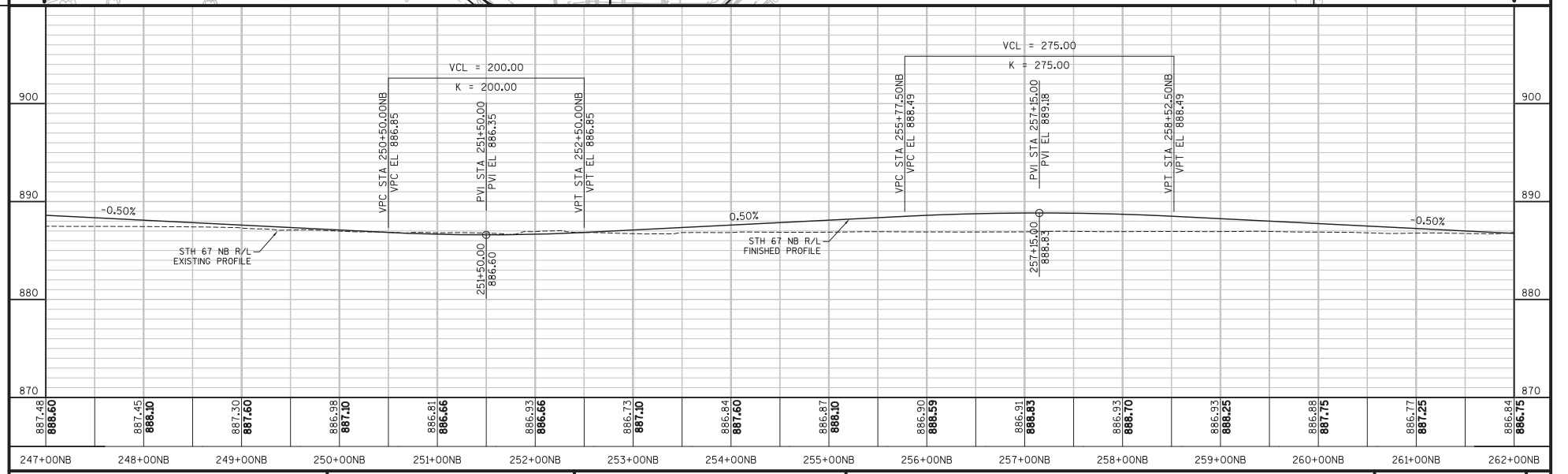
BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM7	242+64NB 98'LT	SE BOLT TFSM	889.20

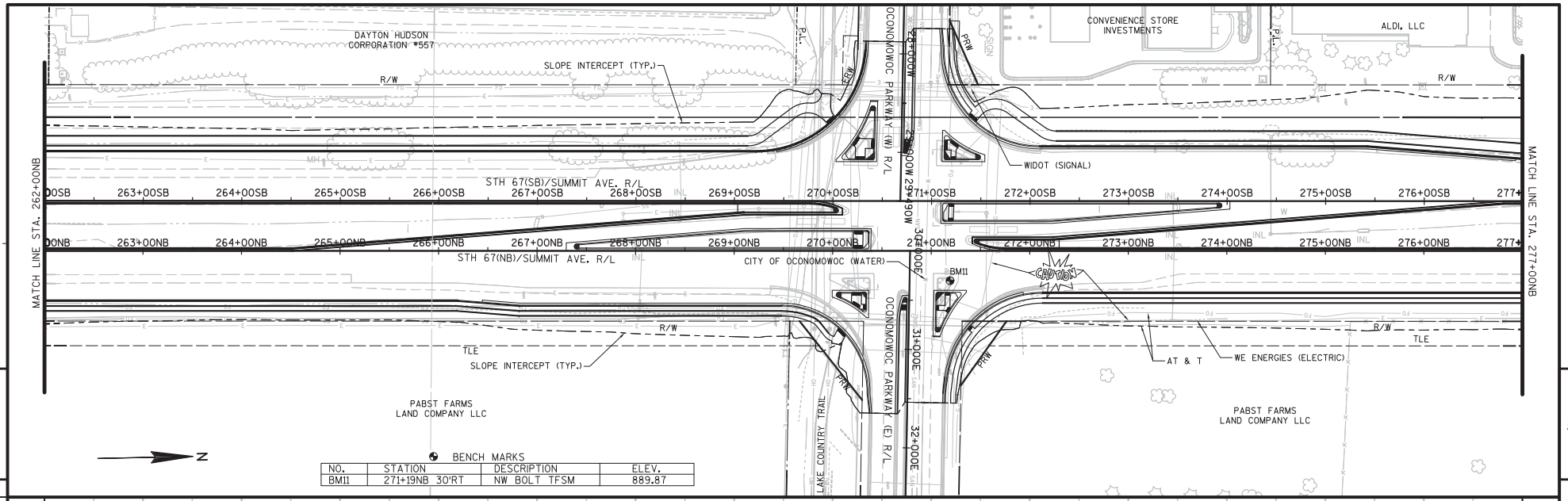


PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E



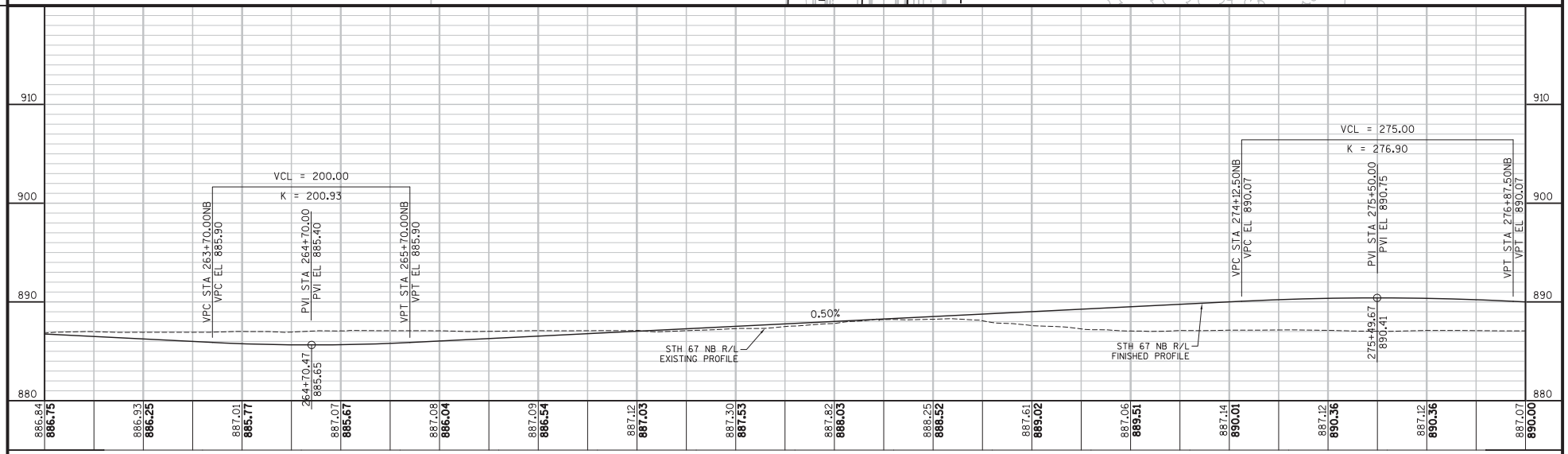


PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E

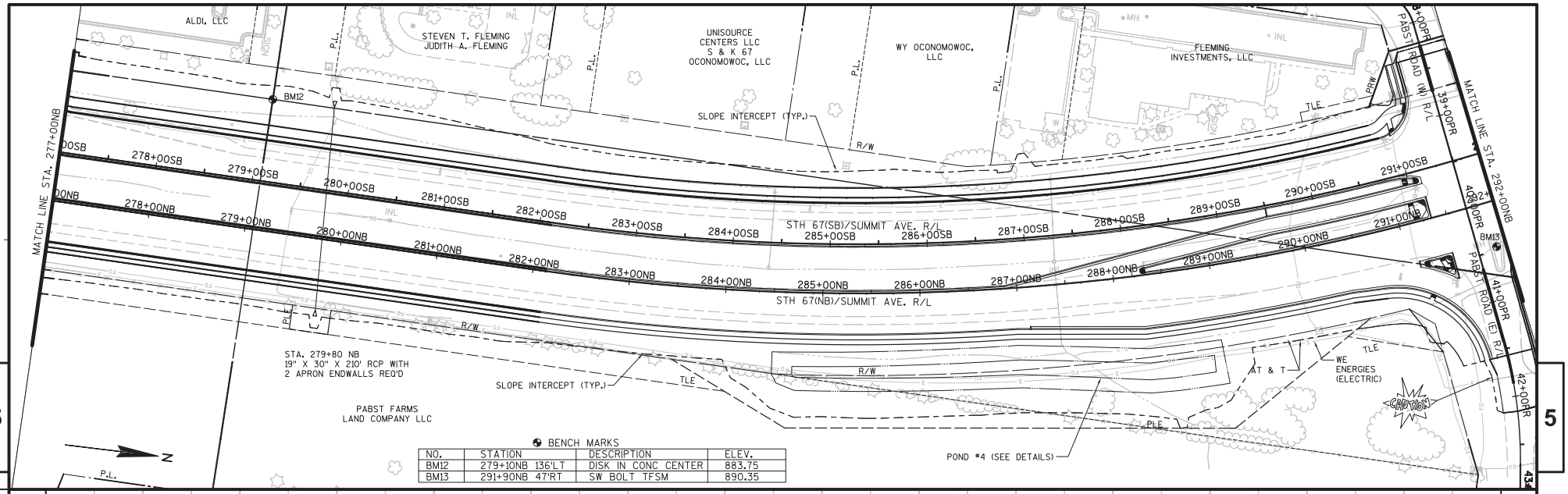


BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
BM11	271+19NB 30'RT	NW BOLT TFSM	889.87

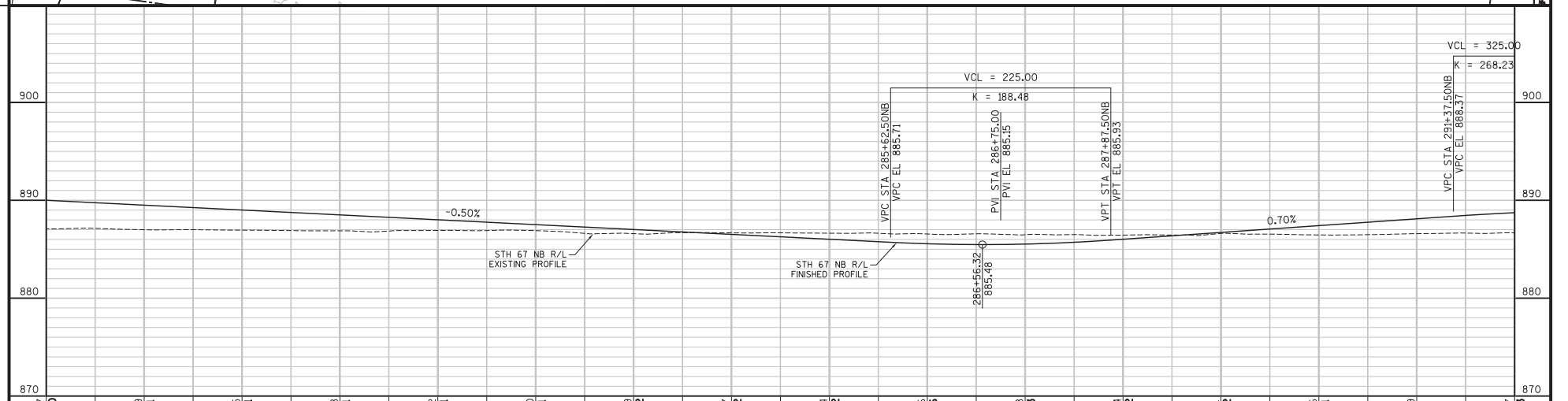


PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E



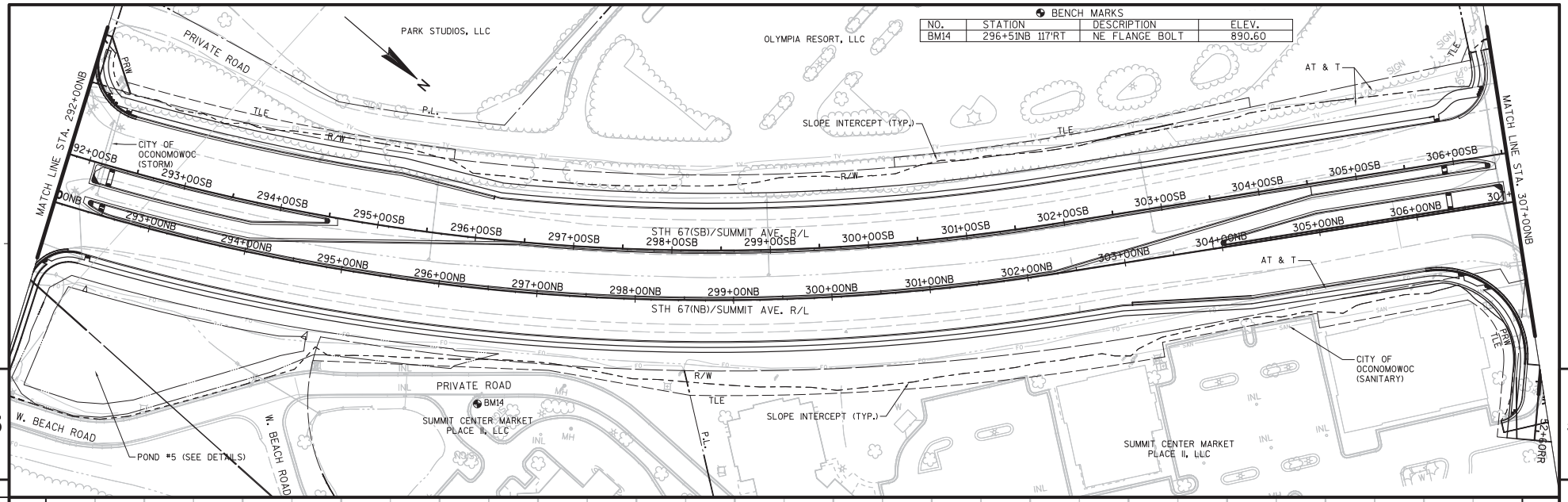
BENCH MARKS

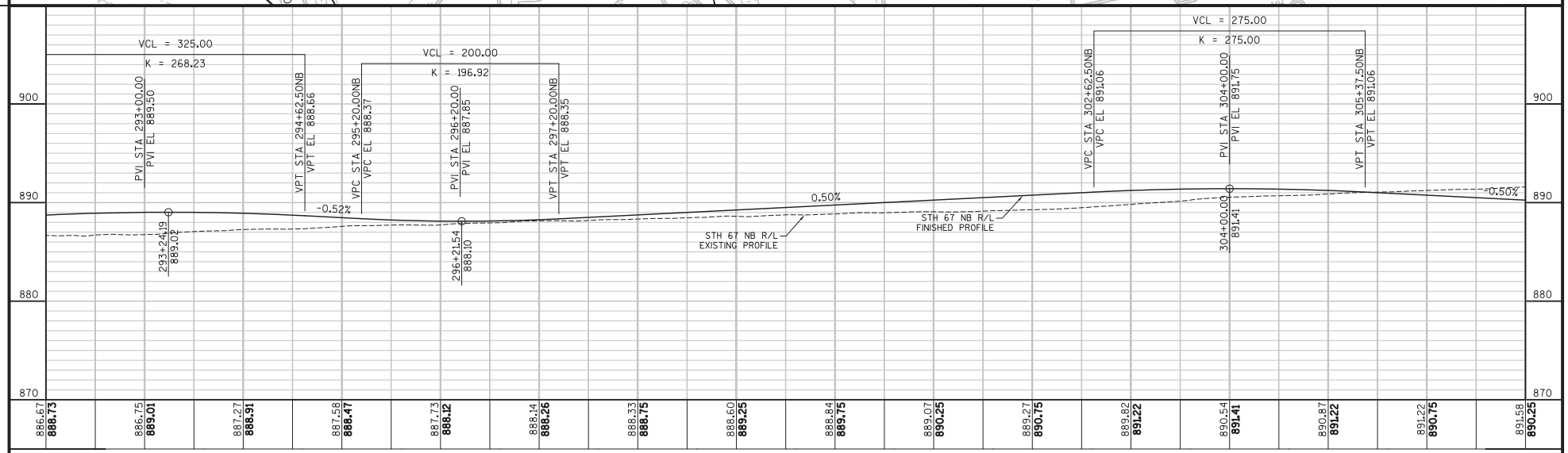
NO.	STATION	DESCRIPTION	ELEV.
BM12	279+10NB 136'LT	DISK IN CONC CENTER	883.75
BM13	291+90NB 47'RT	SW BOLT TFSM	890.35



277+00NB	278+00NB	279+00NB	280+00NB	281+00NB	282+00NB	283+00NB	284+00NB	285+00NB	286+00NB	287+00NB	288+00NB	289+00NB	290+00NB	291+00NB	292+00NB
887.07 **890.00**	886.99 **889.51**	886.95 **889.01**	886.88 **888.51**	886.92 **888.01**	886.90 **887.51**	886.59 **887.02**	886.67 **886.52**	886.64 **886.02**	886.56 **885.56**	886.48 **885.53**	886.44 **886.02**	886.61 **886.72**	886.46 **887.41**	886.59 **888.11**	886.67 **888.73**

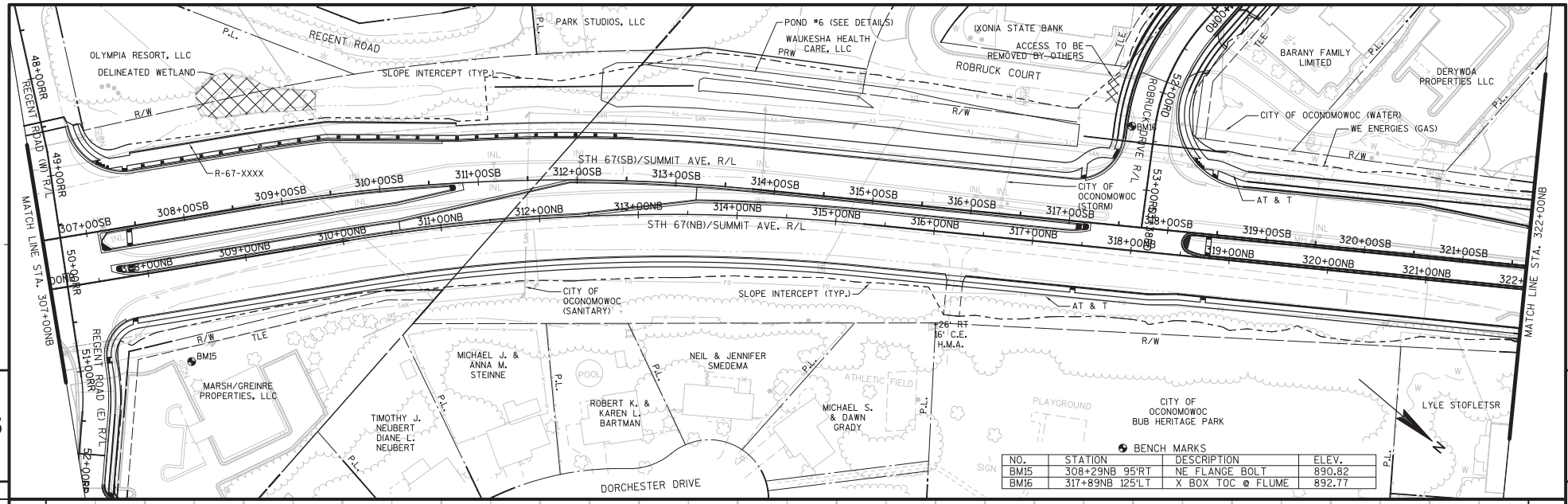
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E

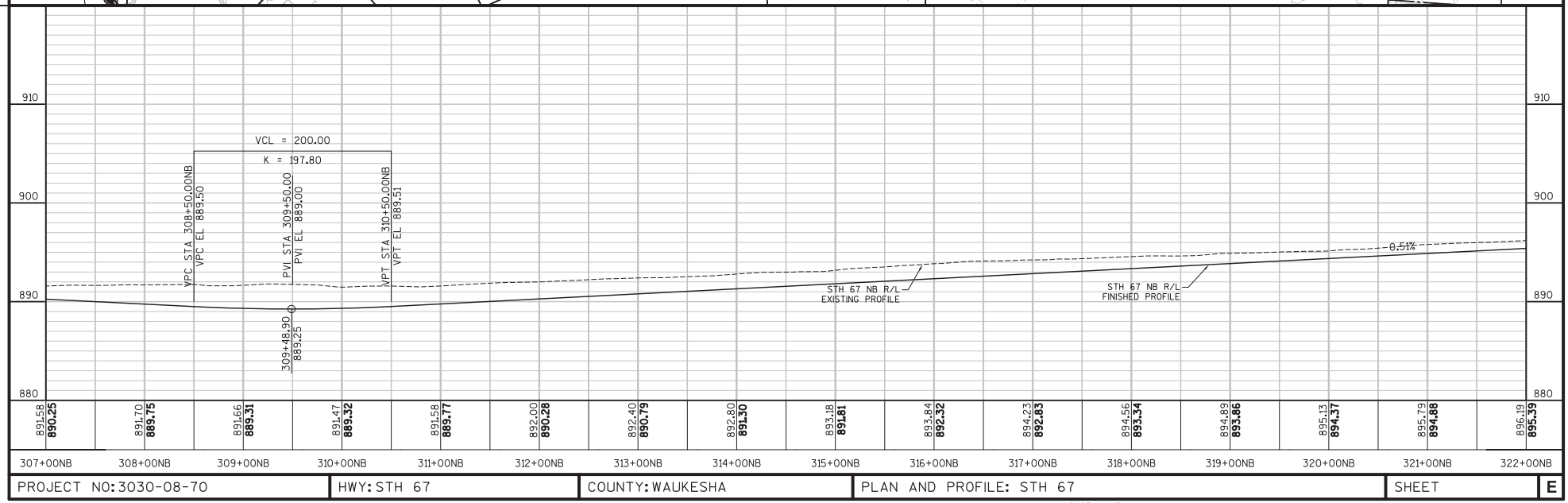




PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E

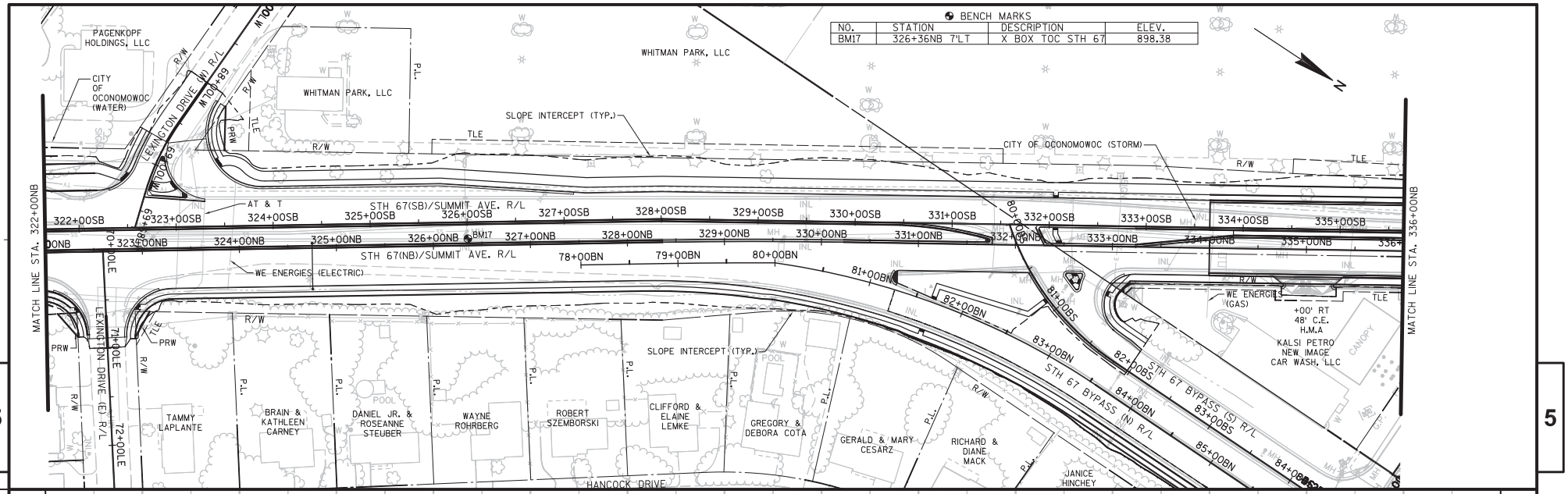
FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSPLAN\PLAN AND PROFILE\050101_PP_67.DWG PLOT DATE : 6/26/2013 PLOT BY : KL ENGINEERING PLOT NAME : _____ PLOT SCALE : 1:100_XREF

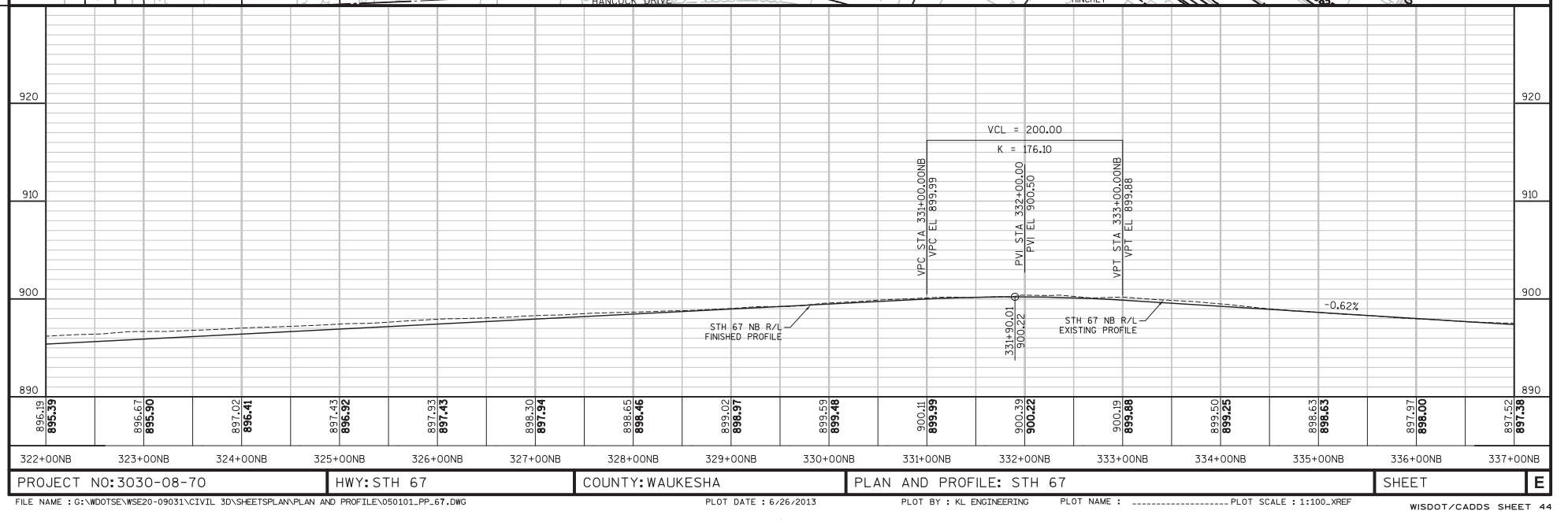




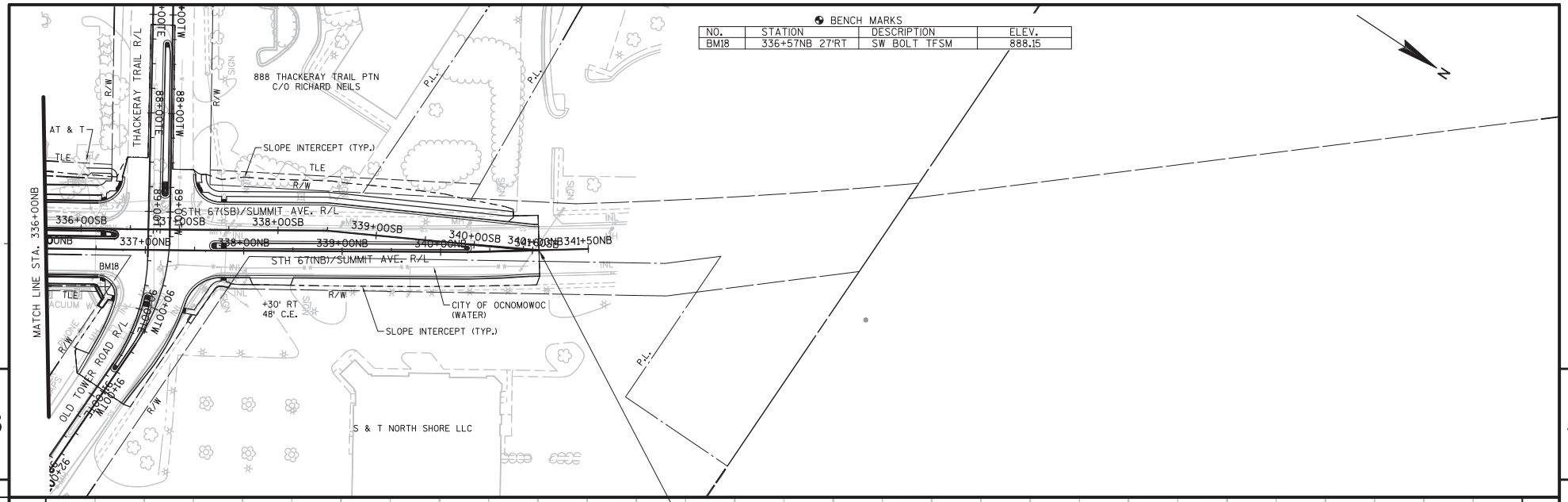
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E

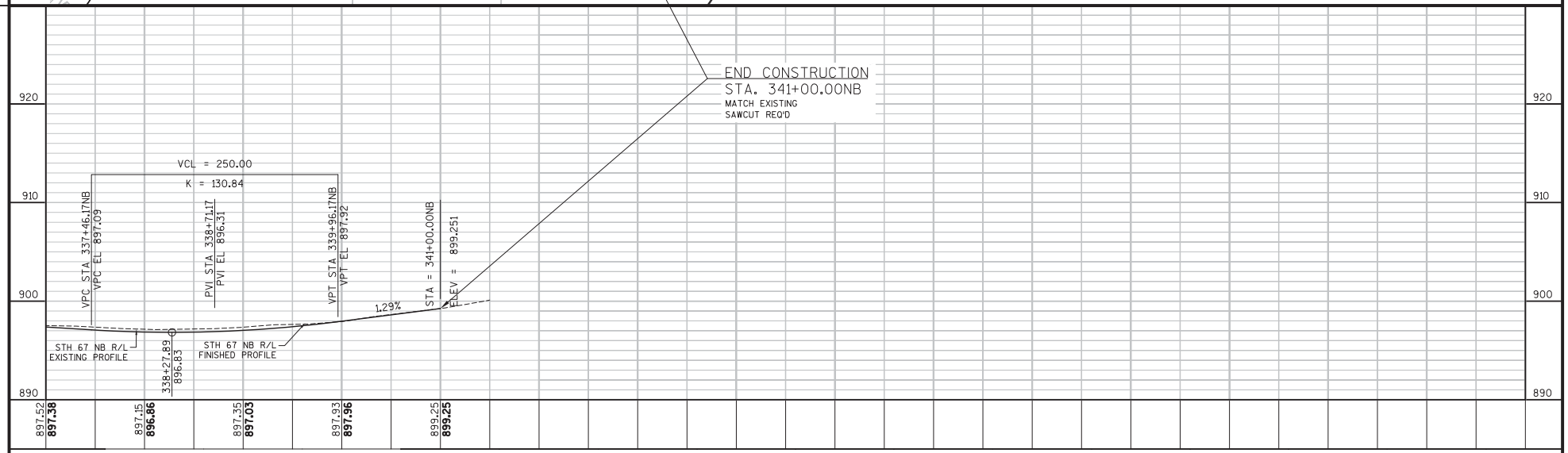
FILE NAME : G:\WDOTSE\WSE20-09031\CIVIL 3D\SHEETSPLAN\PLAN AND PROFILE\050101_PP_67.DWG
PLOT DATE : 8/20/2013
PLOT BY : KL ENGINEERING
PLOT NAME : _____ PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 44





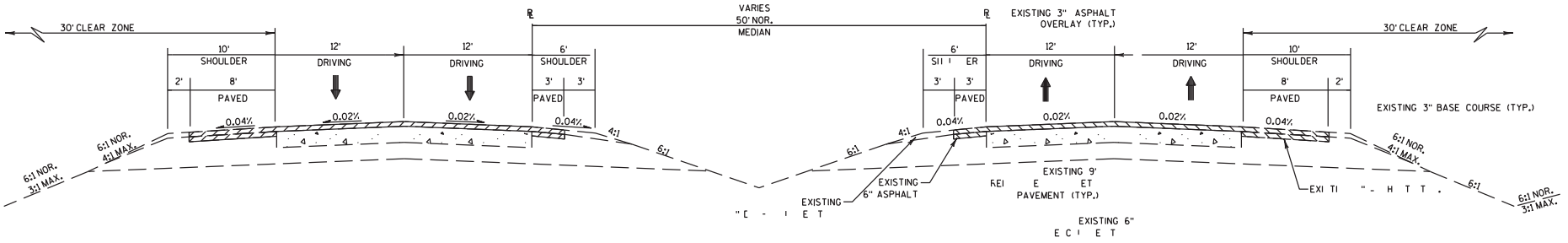
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E





PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	PLAN AND PROFILE: STH 67	SHEET	E

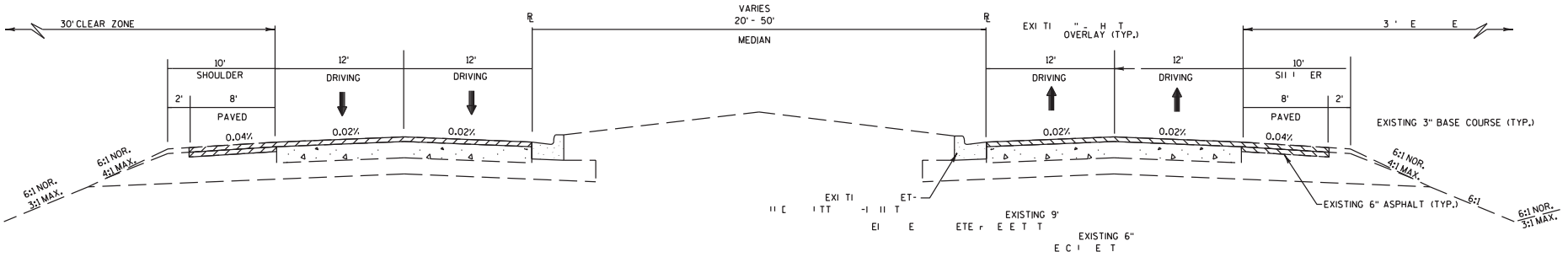
Existing Typical Sections



IN FILL

TYPICAL EXISTING SECTION, STH 67

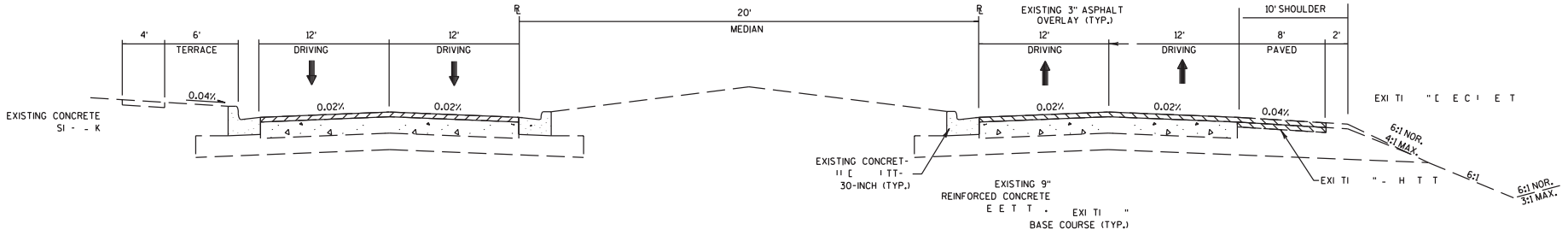
IN CUT



IN FILL

TYPICAL EXISTING SECTION, STH 67

PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E



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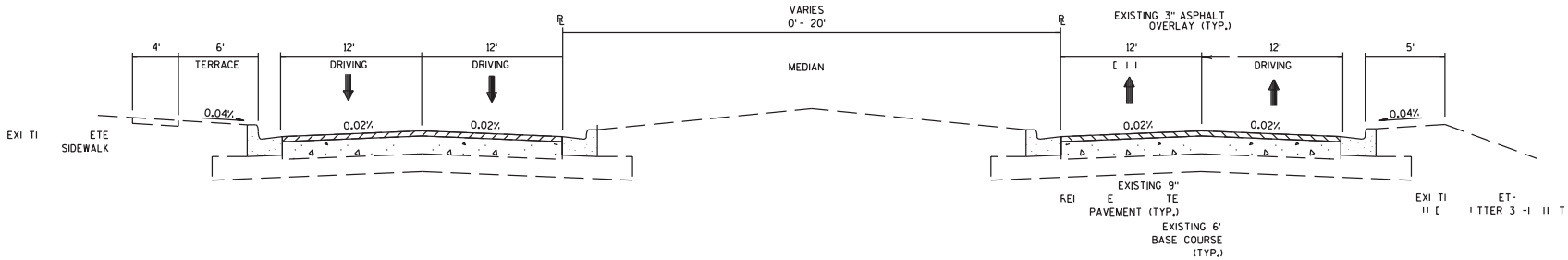

TYPICAL EXISTING SECTION, STH 67

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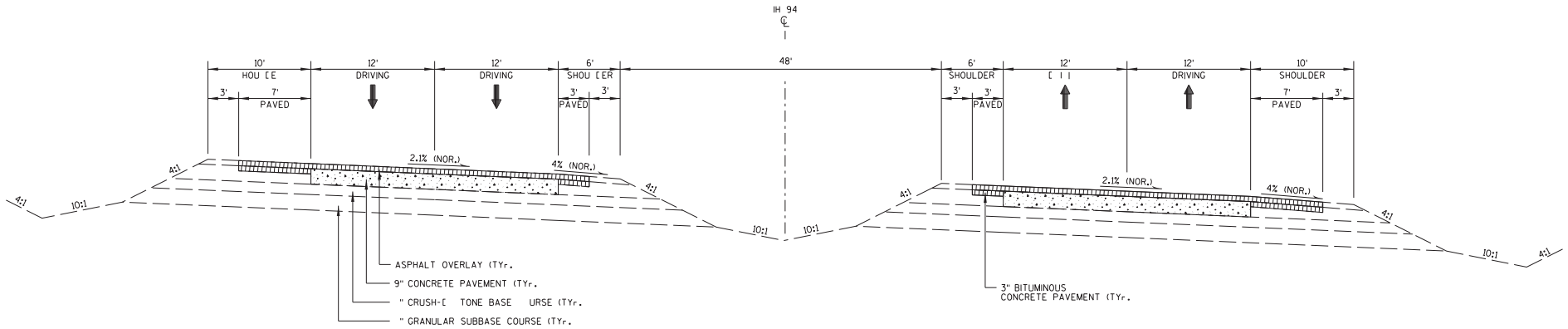
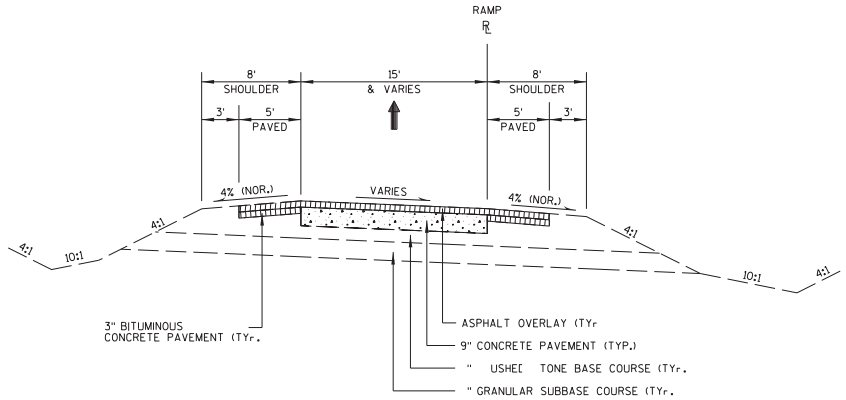
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	T, I - TI	SHEET	E

-I E E : :\WD T E\W - 1\DGN\F I \020301_ts ex.dc PLOT DATE : 2/20/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE : I T/ HEE-



TYPICAL EXISTING SECTION
IH 94

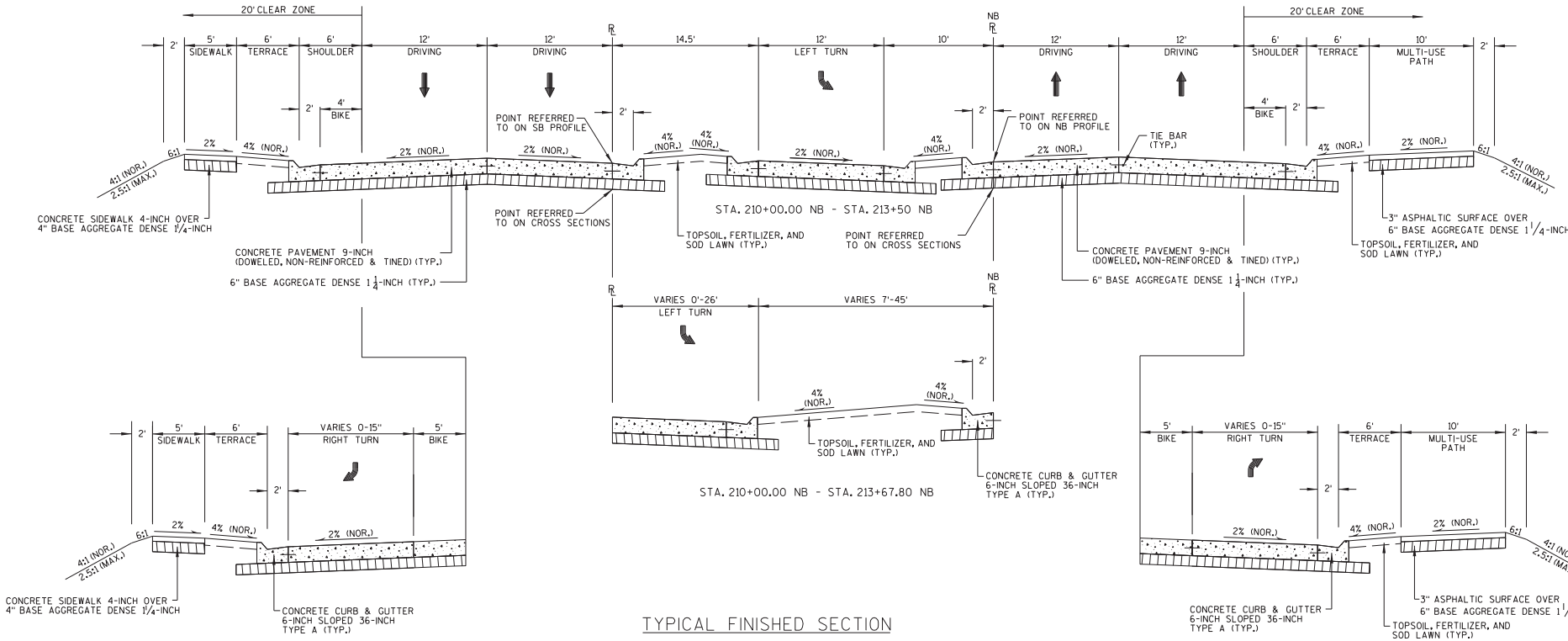


TYPI AL EXI TI ECTI
RAMPS

PROJECT NO: 1060-30-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : :\Jobs2009\20090167\CAD\Wi T_Trans\dgn\01\020301_t .dgn PLOT DATE : 2/26/2013 PLOT BY : $i...plotuse: ...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WI [T/ [HEET 42

Proposed Typical Sections

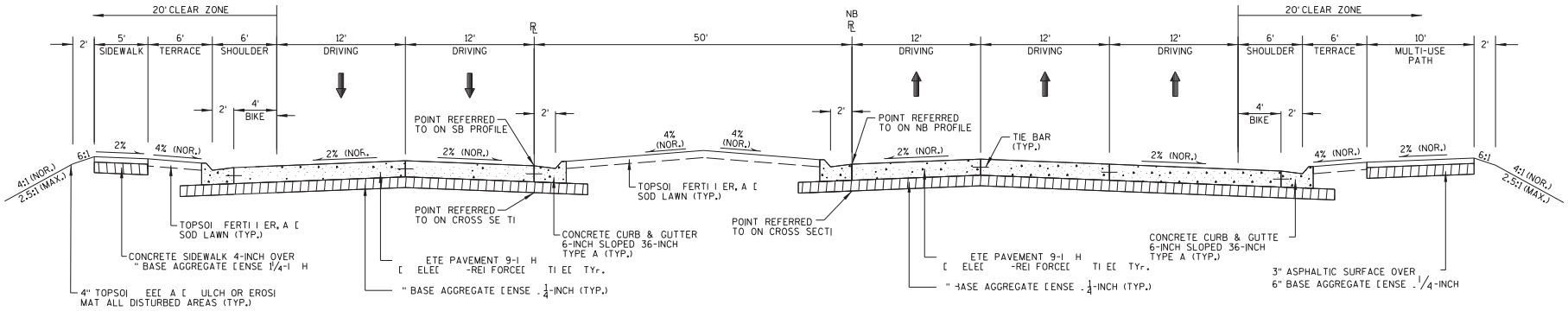


TYPICAL FINISHED SECTION

STH 67 - MAINLINE
STA. 210+00.00 NB - STA. 217+50.00 NB

DESIGN SPEED = 50 M.P.H.

PROJECT NO: 3030-08-70/1060-30-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E



TYPI AL FI I HE[ECTI

STH 67 - MAINLINE
T-. 217+5 . B - ST-. 220+5 . B

[ESI EE[= 50 .H.

PROJECT N :1060-30-70	HWY: STH 67	COUNTY· WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : :\Jobs2009\20090167\CAD\Wi T_Trans\dgn\01\020301_† .dgn PLOT DATE : 2/26/2013 PLOT BY : $i...plotuse ...$$ PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WI [T/ [HEET 42

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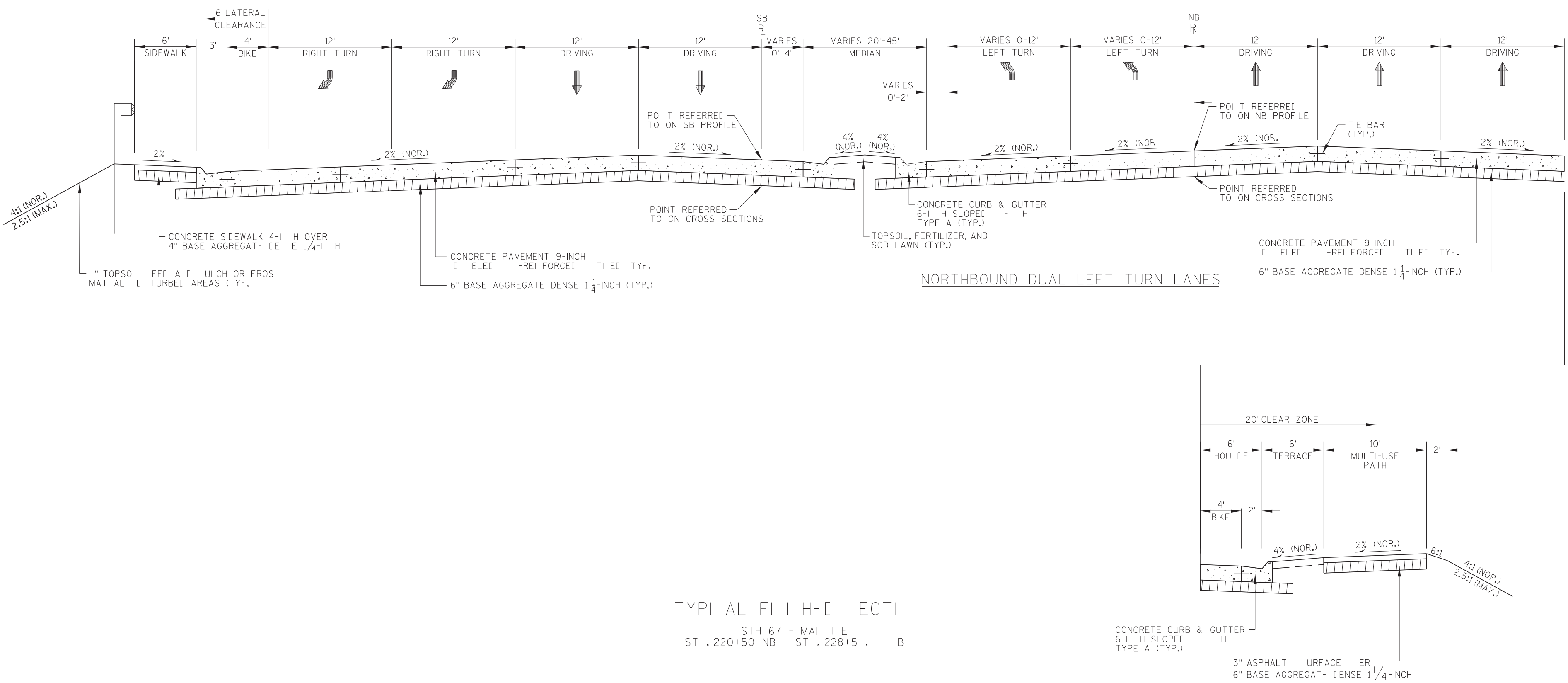

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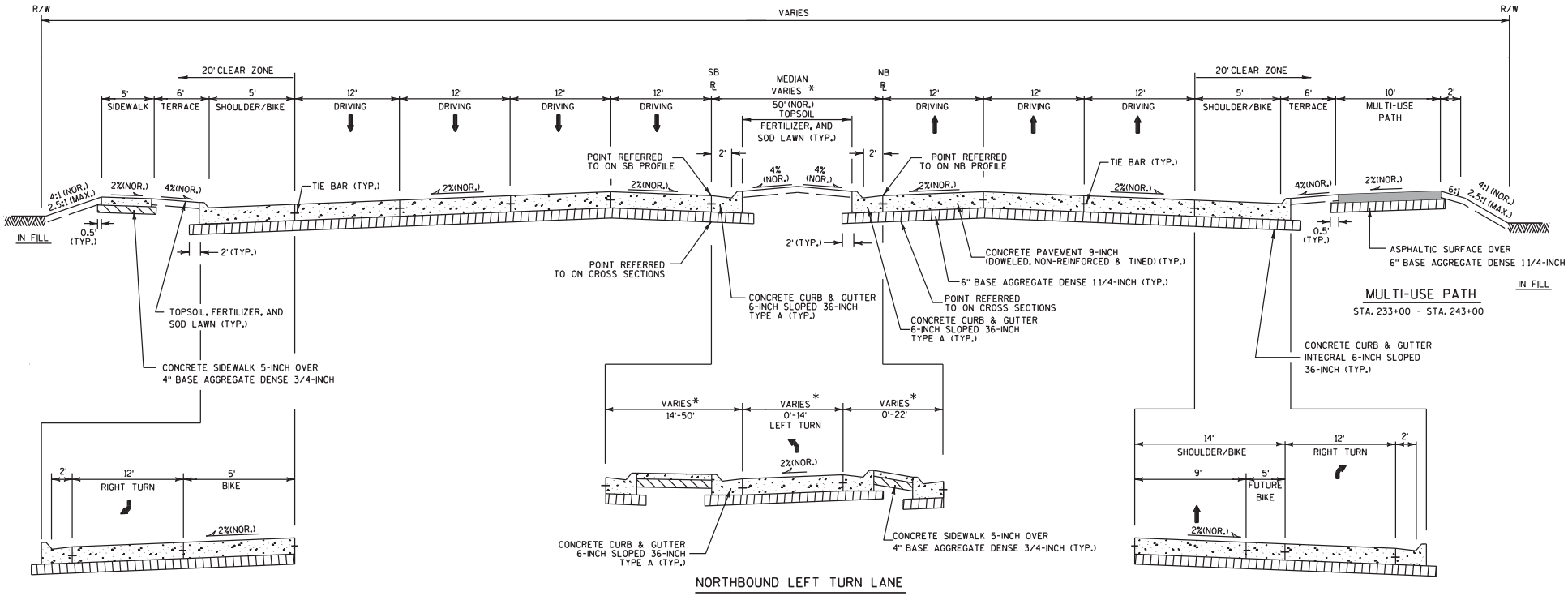
[ESI EE[= 50 .H.

PROJECT NO: 1060-30-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

FI E NAME : :\Jobs2009\20090167\CAD\W1 T_Trans\dgn\01\020301_t .dgn T [ATE : 2/26/2013 PLOT BY : $I...plotuse...$$ PLOT NAME : PLOT SCALE : $I.....plotscal .....$$ WI [T/ [HEET 42



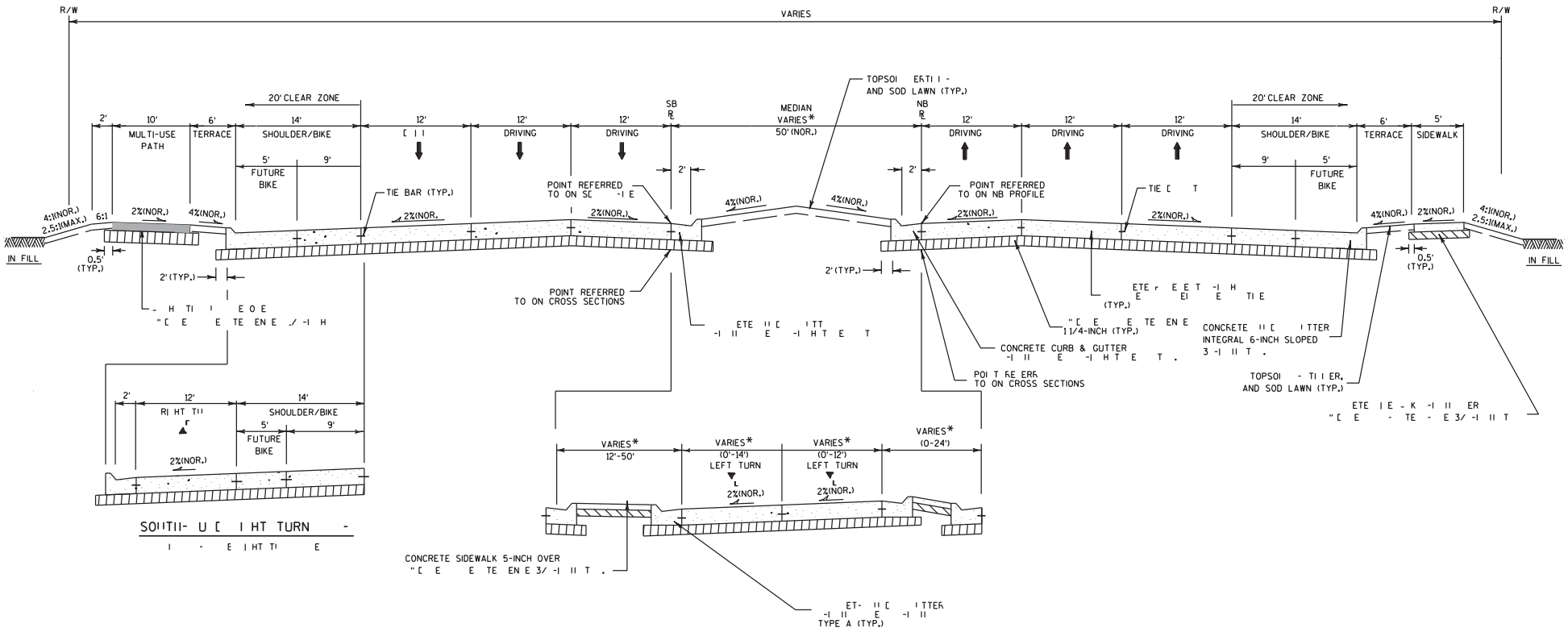
TYPICAL FINISHED SECTION, STH 67

STA. 228+50'NB' - STA. 243+50'NB'
(IH 94 RAMPS - OCONOMOWOC DRIVE/PABST FARMS BOULEVARD)

*SEE PLAN DETAILS

DESIGN SPEED = 50 M.P.H.

PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

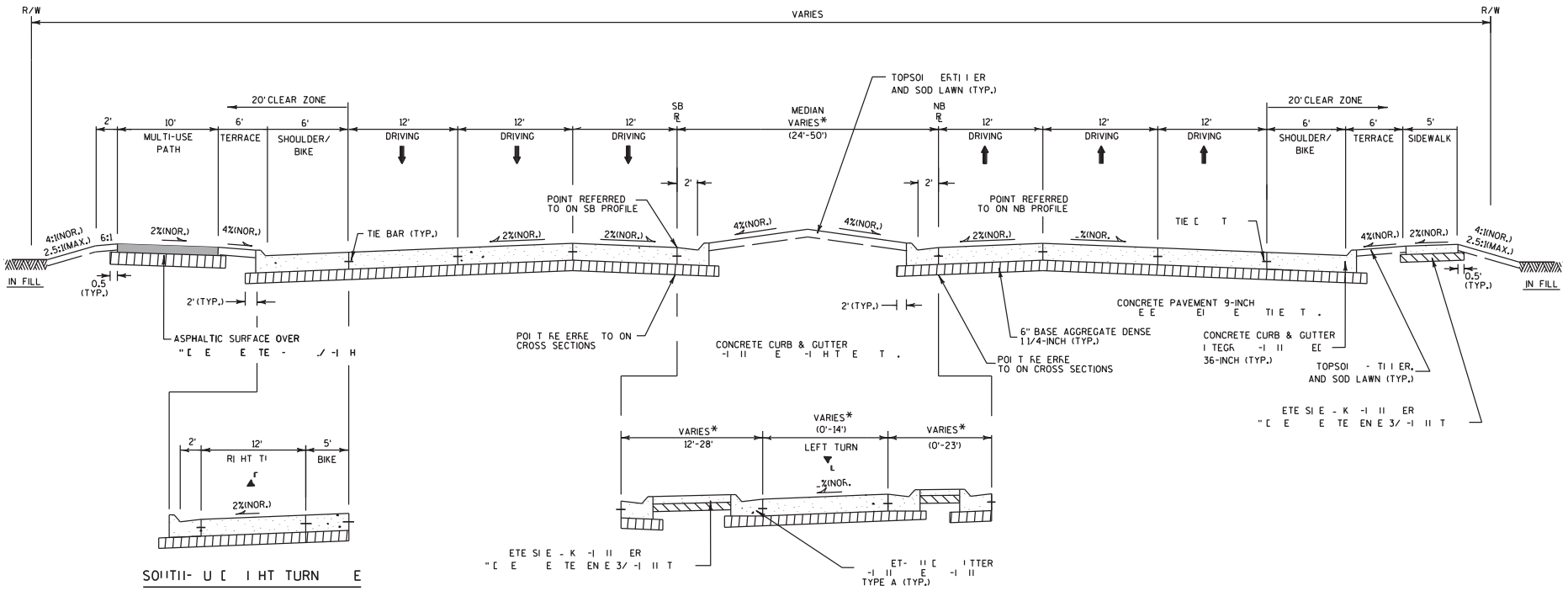


*SEE PLAN DETAILS

ESI E - .H.

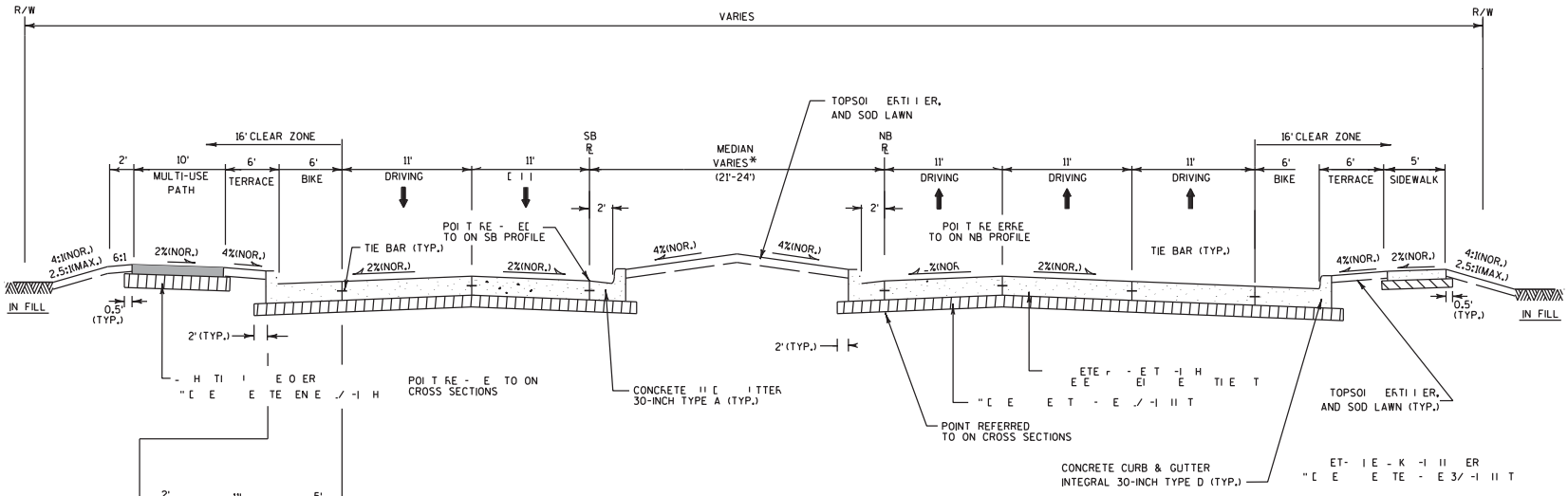
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : :\WD T E\W - 1\DGN\F I \02030__ts I .dc | PLOT DATE : 2/20/2013 | PLOT BY : K E i ii PL T : | PLOT SCALE :



DESIGN SPEED = 50 M.P.H.

PROJECT NO. -	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E



POI T RE - EE TO ON SB PROFILE

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POI T RE - E TO ON CROSS SECTIONS

CONCRETE II [I TTER 30-INCH TYPE A (TYP.)

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POINT REFERRED TO ON CROSS SECTIONS

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*SEE PLAN DETAILS

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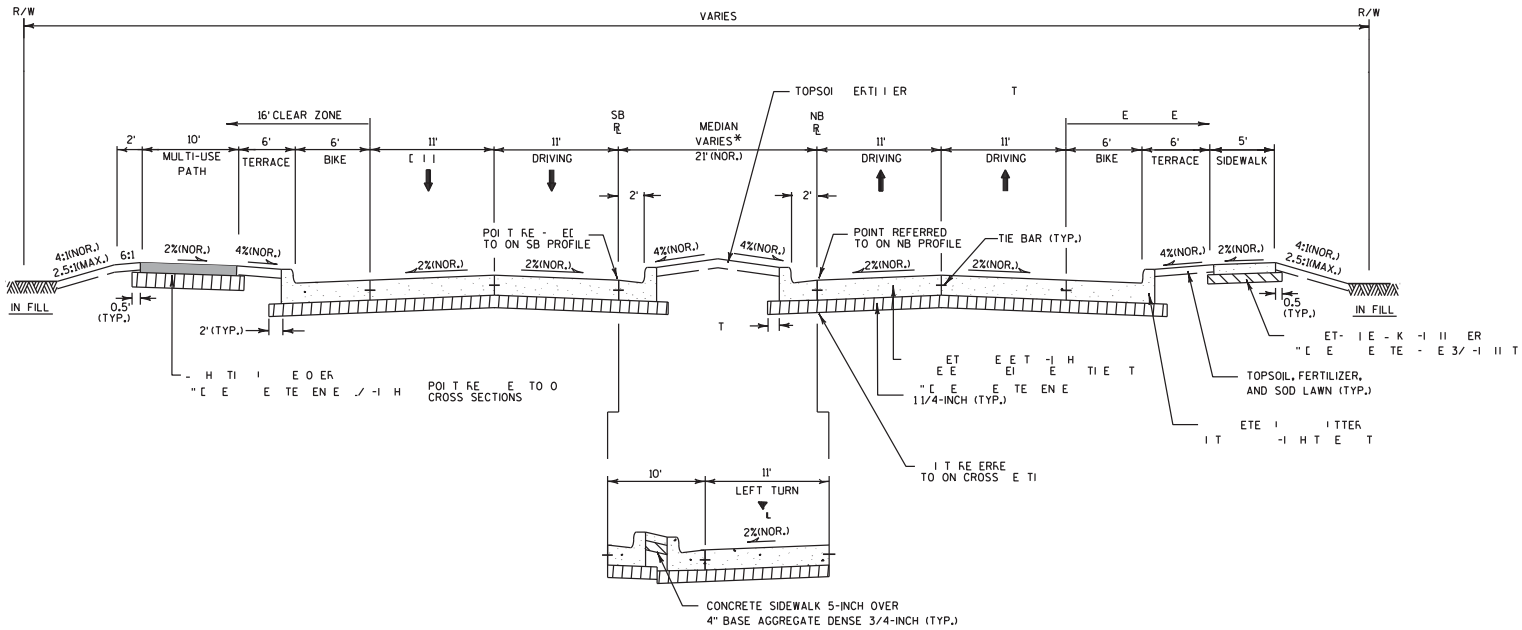
PROJECT NO• -	HWY: STH 67	UNT •WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : :\WD T E\W - 1\DGN\F I \02030__ts I .dc PLOT DATE : 2/20/2013 PLOT BY : K E i ii PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42



NORTH- U E T TURN E

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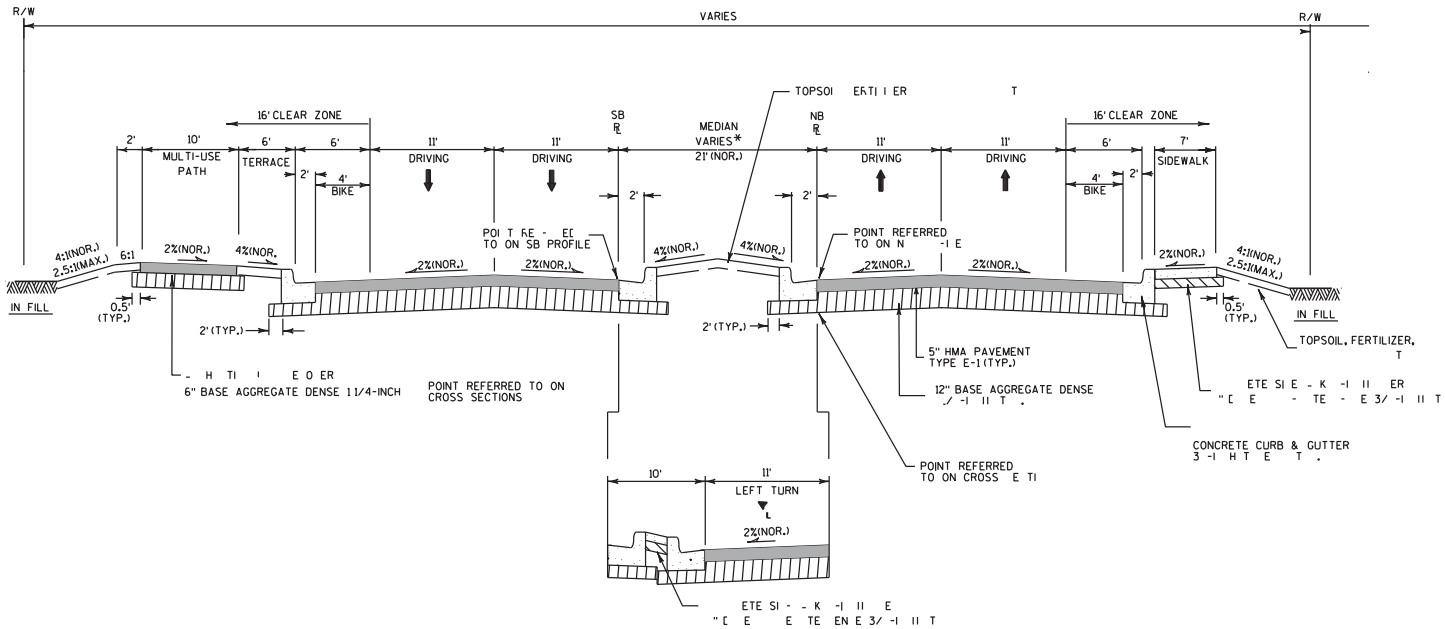
*SEE PLAN DETAILS

DESIGN SPEED = 40 M.P.H

PROJECT NO· -	HWY: STH 67	COUNTY·WAUKESHA	TYPICAL SECTIONS	SHEET	E

-I E E : :\WD T E\W - 1\DGN\F I \02030__ts I .dc PLOT DATE : 2/20/2013 PLOT BY : K E i i PLOT NAME : PLOT SCALE : I T/ HEE- _



NORTHBOUND LEFT TURN LANE

I - E

T, I -I I H E TI TII

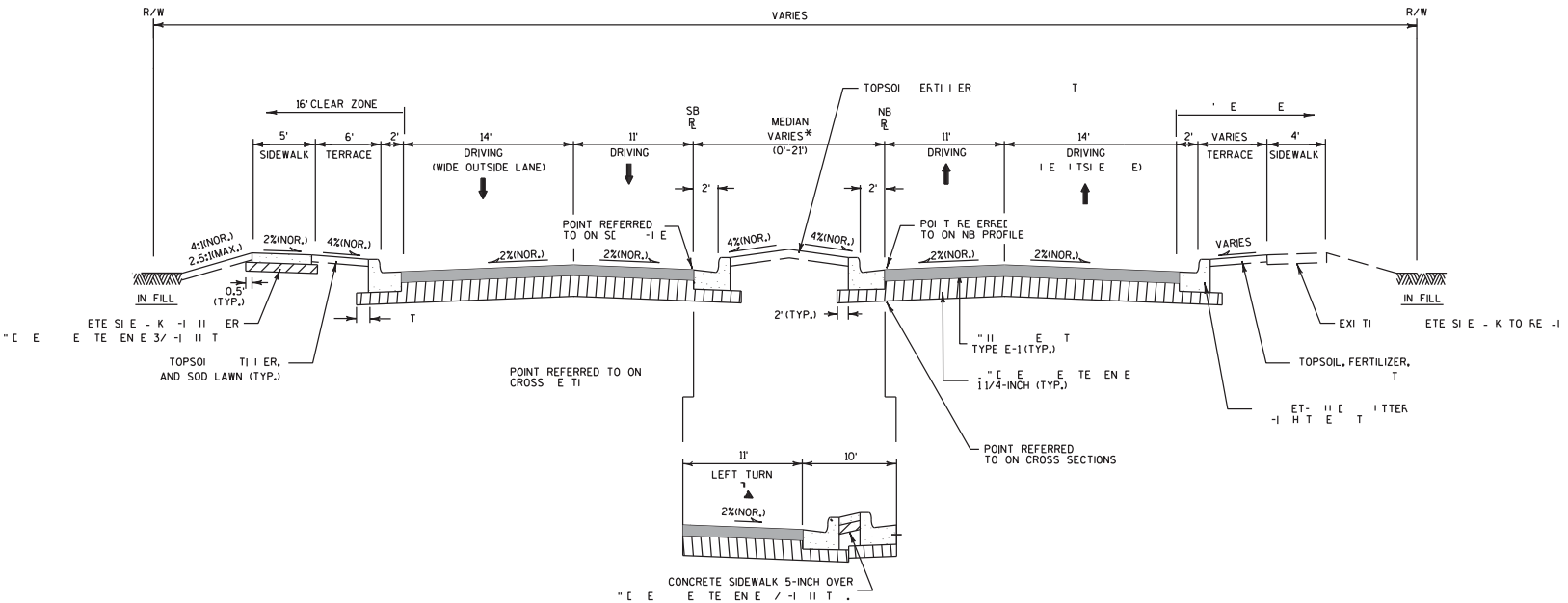
STA. 334+00'NB' - STA. 337+00'NB
(THACKERAY TRAIL)

*SEE PLAN DETAILS

DESIGN SPEED = 40 M.P.H

PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

-I E E : :\WD T E\W - 1\DGN\F I \02030__ts I .dc T TE : 2/20/2013 PLOT BY : KL Engineering PLOT NAME : PLOT SCALE : I T/ HEE- _



SOUTHBOUND LEFT TURN LANE

(MIRROR FOR NB)

T, I -I I H TI UMMIT - IIE

T - '[' T .+ [' (THACKERAY TRAIL - END)

*SEE PLAN DETAILS

ESI E - .H.

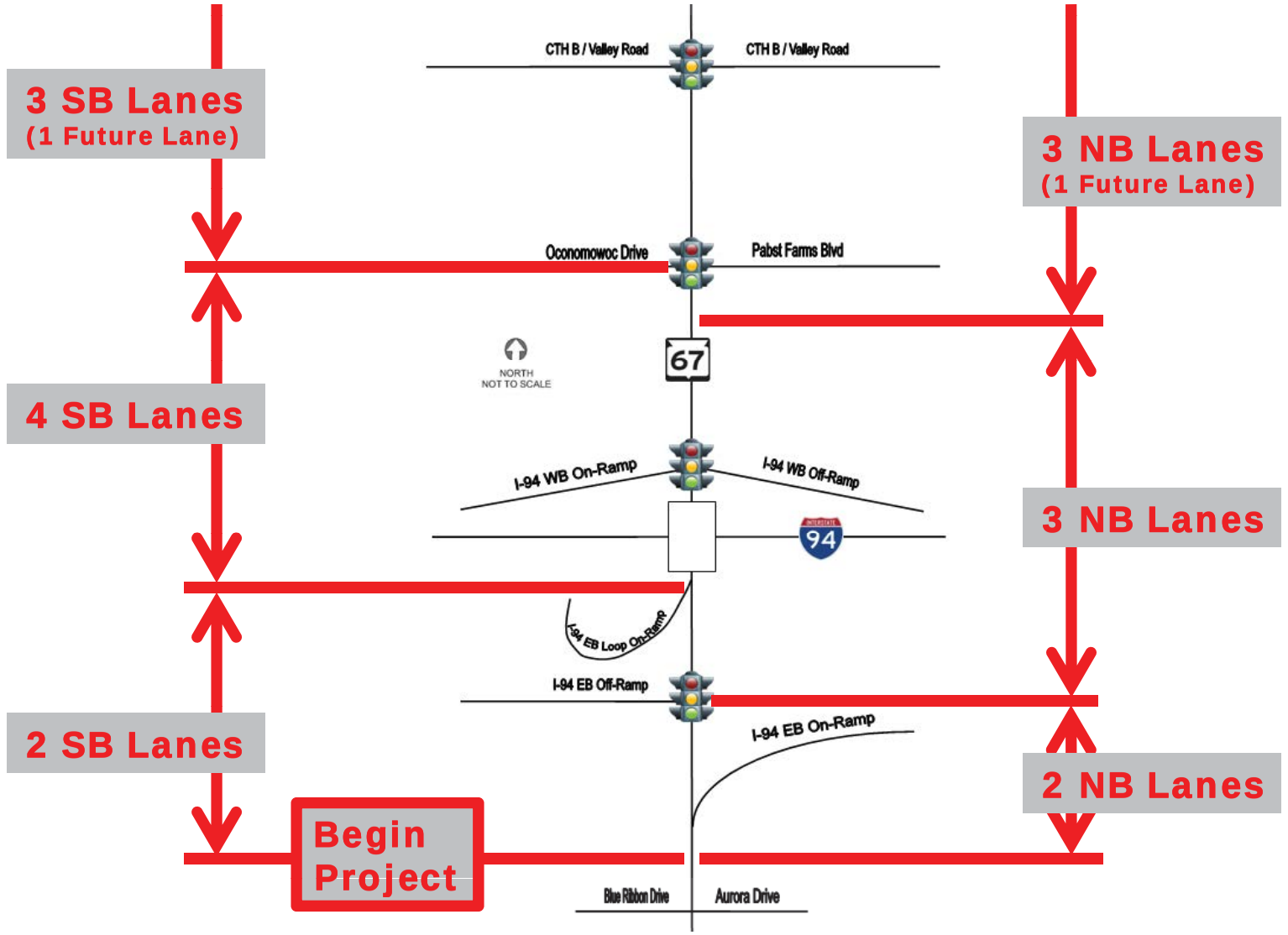
PROJECT NO: 3030-08-70	HWY: STH 67	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET	E

FILE NAME : :\WD T E\W - 1\DGN\F I \02030__ts I .dc PLOT DATE : 2/20/2013 PLOT BY : K E i i PLOT NAME : PLOT SCALE :

WISDOT/CADDS SHEET 42

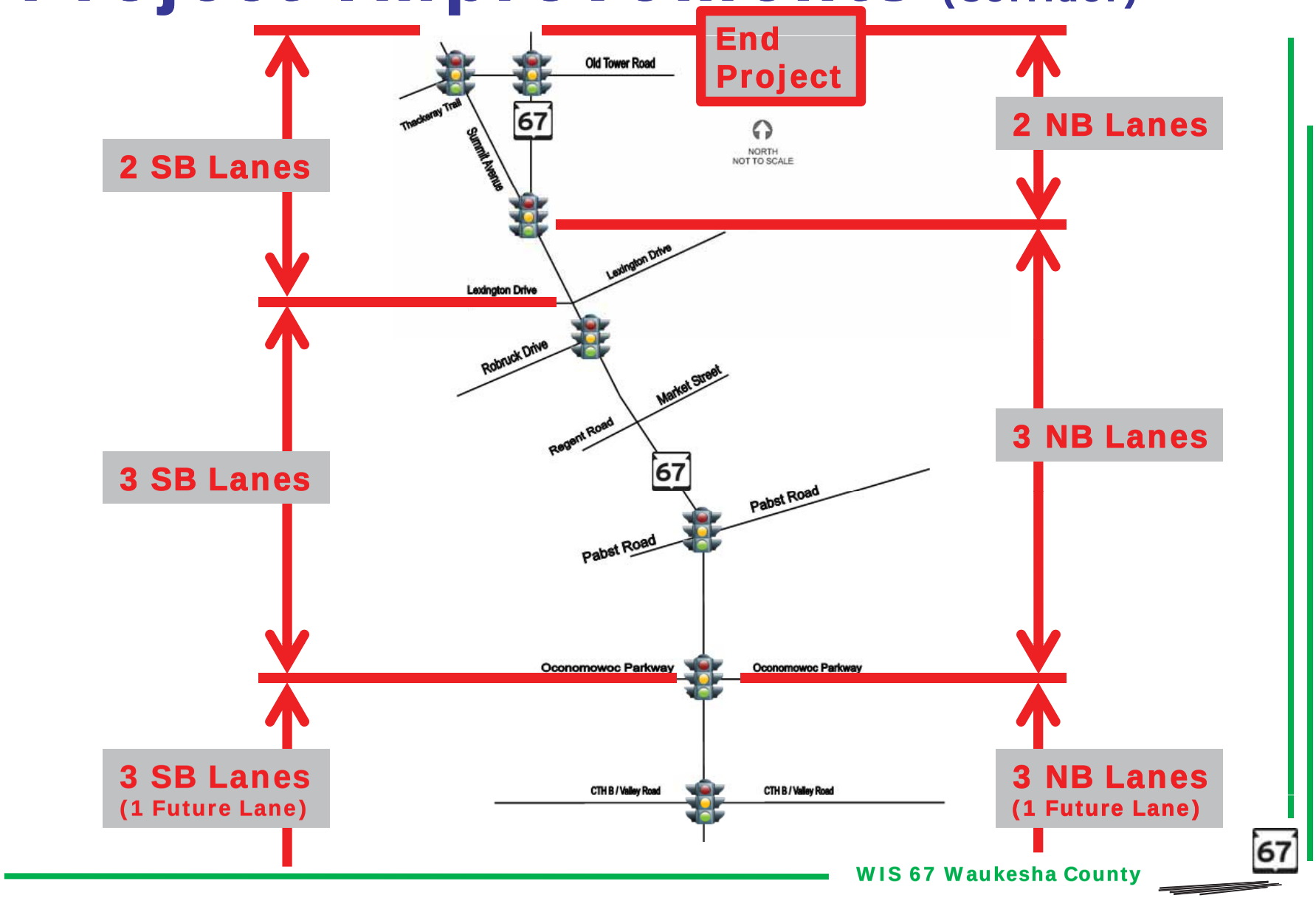
APPENDIX 4
Visual Displays of Proposed Improvements

Project Improvements (Corridor)

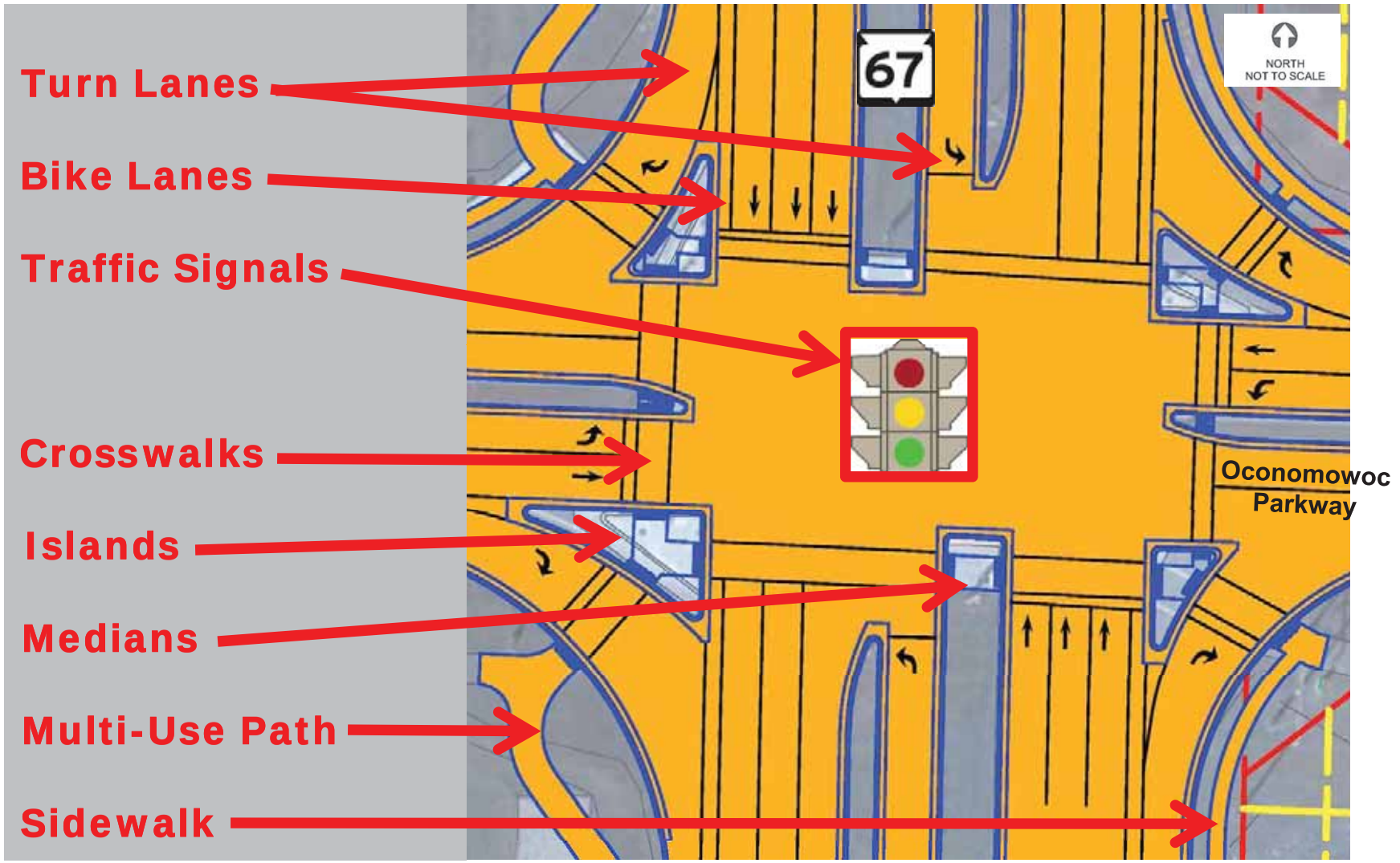


WIS 67 Waukesha County

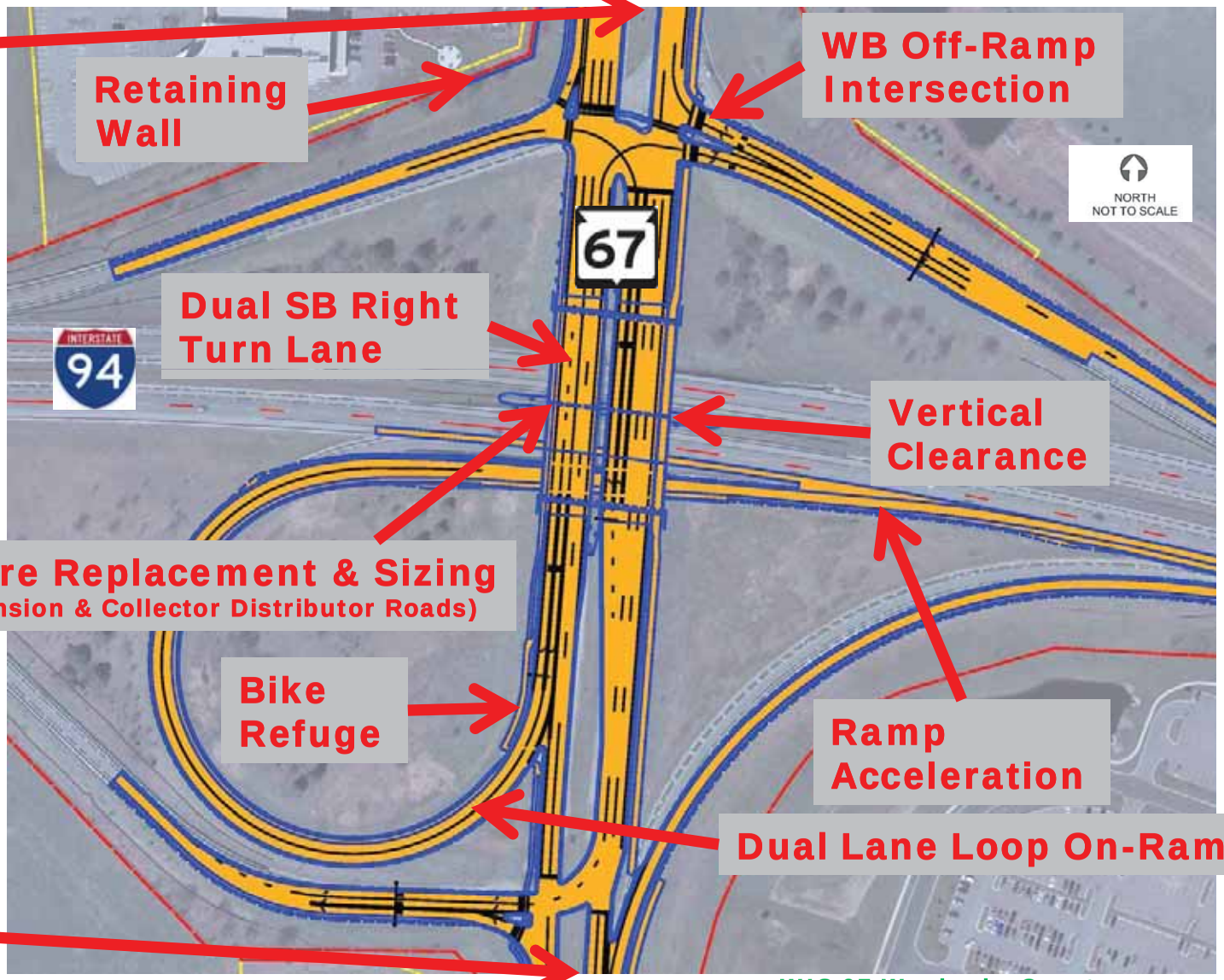
Project Improvements (Corridor)



Project Improvements (Intersections)



Project Improvements (Interchange)



APPENDIX 5
Agency Coordination

State of Wisconsin
Governor Scott Walker

Department of Agriculture, Trade and Consumer Protection
Ben Brancel, Secretary

December 17, 2012

Scott Cramer
KL Engineering, Inc.
5950 Seminole Centre Court
Fitchburg, WI 53711

Dear Scott Cramer:

Re: Project ID: 3030-08-00
Project Name: STH 67: Delafield Road to Summit Avenue
County: Waukesha

The Department of Agriculture, Trade, and Consumer Protection (DATCP) has reviewed the notification and any supplemental information you have provided concerning the potential need for an agricultural impact statement (AIS) for the above project. We have determined that an AIS will not be prepared for this project.

Please note that if the proposed project or project specifications are altered in any way which could be construed as increasing the potential adverse effects of the project on agriculture or on any farm operation, the DATCP should be renotified. Questions on the AIS program can be directed to me at the above address or by dialing 608/224-4650.

Peter Nauth
Agricultural Impact Program

DATCP ID: #3881

From: Webster, Craig M - DNR [mailto:Craig.Webster@Wisconsin.gov]
Sent: Tuesday, January 22, 2013 10:39 AM
To: Aaron Steger
Cc: Zemke, Jason - DOT; Mike Bakalars; Lee, Scott - DOT; Pilichowski, Zachary - DOT; Webster, Craig M - DNR
Subject: DNR Initial Review WisDOT# 3030-08-00 and 1060-30-00, STH 67

DNR offers initial review for WisDOT# 3030-08-00 and 1060-30-00, STH 67, from I94 interchanges to Summit Ave. This interstate interchange and capacity expansion project should not impact waterway or wetlands. Advanced levels of post-construction stormwater management and treatment have been discussed and shown on preliminary design plans. DNR concurs with the stormwater and drainage report.

No rare, threatened or endangered species will be negatively impacted, as the project has been proposed to the DNR.

Please incorporate final erosion control best management practices, including language and plan notes/quantitates needed to stabilize any and all graded/disturbed areas within 7days, regardless of placement of final top soil, and final post construction stormwater management controls in the 60% or draft PS&E documents. Upon review of those items, DNR may issue the Final Review and Project Concurrence letter.

Thanks
Craig Webster, *Environmental Review Specialist*
Transportation Liaison and Environmental Management
(414) 303 3011

Attention: **Jason Zemke, P.E**
Project Manager
WisDOT SE Region

Re: WIS 67 Delafield Road to Summit Avenue
WisDOT I.D. 3030-08-00

Dear Jason,

The NRCS staff has reviewed the AD-1006 form and supporting information submitted by your February 4, 2013 e mail, with respects to requirements of the Farmland Protection Policy Act (FPPA).
Because the site assessment score is less than 60 and converts less than 1 acres of prime farmland, this project is not subject to the requirements of the FPPA. No further action is needed to comply with the FPPA.

If you have any questions feel free to contact me.

Jeremy Ziegler
Area Resource Soil Scientist-SE WI
USDA-NRCS
451 West North Street
Juneau, WI 53039-1120
920-886-9999 ext. 122
Gov cell 920-210-9007

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Green Bay ES Field Office
2661 Scott Tower Drive
New Franken, Wisconsin 54229-9565
Telephone 920/866-1717 FAX 920/866-1710
http://www.fws.gov/midwest/GreenBay

To: Christine Rawson **USFWS Project ID:** 12-TA-0084

Regarding your: ☑ Letter ☐ E-mail ☐ FAX **Dated:** December 14, 2011

RE: WisDOT ID's 3030-08-00/1060-30-00 STH 67 Highway & Bridge Reconstruction, Waukesha County, WI

Pursuant to the **Endangered Species Act of 1973,** the **Fish and Wildlife Coordination Act,** and the **Migratory Bird Treaty Act**, the U.S. Fish and Wildlife Service (Service) has reviewed the information provided for the project noted above. Our comments follow (see checked boxes below).

☑ Due to the project location, no federally-listed, proposed, or candidate species, or designated critical habitat occurs within the project area. We recommend checking our website (http://www.fws.gov/midwest/GreenBay/) every 6 months from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.

☑ If migratory birds are known to nest on any structures (*e.g.,* bridges) which may be disturbed by project construction, activities should begin (and be concluded) before the initiation of the breeding season for those species or after the breeding has concluded. Alternatively, the structures can be *tightly screened* before the breeding season (May 1 through August 30) to prevent nesting. If you will not be able to begin construction prior to or after the breeding season, please contact our office.

☐ Under the Migratory Bird Treaty Act of 1918, as amended, it is unlawful to take, capture, kill, or possess migratory birds, their nests, eggs, and young. If migratory birds are known to nest on any structures or habitat which may be disturbed by project construction, activities (e.g., tree removal) should begin and be completed before the initiation of the breeding season for those species or after breeding has concluded. Generally, we recommend that any habitat disturbance occur before May 1 or after August 30 to minimize potential impacts to migratory birds, but please be aware that some species may initiate nesting before May 1.

☑ We recommend, when possible, that bridges and abutments be designed and constructed in such a way as to allow terrestrial wildlife to pass under the bridge without entering the river during normal flow conditions. This may require lengthening the bridge, limitations on the use of exposed riprap, modifications to the surface of the riprap (e.g., grouting the surface or filling with soil or other natural materials), or modifications in the substrate and/or slope at the base of the abutments, as some wildlife species cannot or prefer not to traverse areas of riprap.

☐ The Service supports and encourages the maintenance or creation of habitat connectivity wherever possible. As such, we recommend installing bridges or culverts that do not impede the movement of water, sediments, or aquatic species along existing waterways. Specifically, we strongly recommend replacing failing culverts with bridges or bottomless culverts where possible. At minimum, we recommend new culverts be set at a zero slope, with a width that matches bank flow.

☐ We note that the project area includes wetlands. In refining and selecting project alternatives, efforts should be made to select an alternative that does not adversely impact wetlands. If no other alternative is feasible and it is clearly demonstrated that project construction resulting in wetland disturbance or loss cannot be avoided, a wetland mitigation plan should be developed that identifies measures proposed to minimize adverse impacts and replace lost wetland habitat values and other wetland functions and values.

USFWS Contact(s): Jill Utrup **Phone Number:** 920-866-1734

For the Field Supervisor: _____ **Date:** December 21, 2011

American Indian Tribal Contact Letter Template

Division of Transportation
System Development
Southeast Regional Office
141 N.W. Barstow Street
P.O. Box 798
Waukesha, WI 53187-0798

Scott Walker, Governor
Mark Gottlieb, P.E., Secretary
Internet: www.dot.wisconsin.gov

Telephone: (262) 548-5903
Facsimile (FAX): (262) 548-5662
E-Mail: waukesha.dtd@dot.state.wi.us

December 14, 2011

«FIRST» «LAST»
«TITLE»
«TRIBE»
«ADD1»
«ADD2»
«CITY», «ST» «ZIP»

RE: WisDOT ID 3030-08-00
Delafield Road – Summit Avenue
STH 67
Waukesha County

WisDOT ID 1060-30-00
Bridge & Ramp Work at I-94
STH 67
Waukesha County

Dear «T» «Last»:

The Wisconsin Department of Transportation (WisDOT) is initiating an improvement project on STH 67 in Waukesha County. The proposed project will consist of reconstructing STH 67 from the I-94 interchange ramps north to Thackeray Trail. The STH 67 bridge over I-94 will also be reconstructed. STH 67 from I-94 to Regent Road will be expanded to six lanes. STH 67 from Regent Road to Thackeray Trail will be reconstructed to 4-lanes. Construction of the project is scheduled for 2015-2016. A project location map is enclosed.

A public information meeting will be held in early 2012 to familiarize interested parties with the project. In the near future, cultural resource investigation studies will be conducted for the above project. These investigations will enable WisDOT to determine whether historical properties as defined in 36 CFR 800 are located in the project area. Other environmental studies will also be conducted and may include; endangered species survey, contaminated material investigations, and right-of-way surveys. Information obtained from these studies will assist the engineers in the design to avoid, minimize or mitigate the proposed project's effect upon cultural and natural resources.

We would be pleased to receive any comments regarding this project or information you wish to share pertaining to cultural resources located in the area. If your tribe would like to become a consulting party under Section 106 of the National Historic Preservation Act or if you would like to receive additional information regarding this proposed project, please contact:

James Becker
DTSD Bureau of Technical Services
Environmental Services Section
4802 Sheboygan Avenue, Room 451
Madison, WI 53707
(608) 261-0137

Sincerely,

Christine Rawson /pll

Christine Rawson
WisDOT Project Manager
Enclosures as stated
cc: James Becker, DTSD Bureau of Technical Services, Environmental Services Section
Christine Rawson, WisDOT SE Region
Scott Lee WisDOT SE Region Environmental Coordinator
Al Lindner, Graef
KL Engineering

American Indian Tribal Contacts

T	FIRST	LAST	TITLE	TRIBE	ADD1	ADD2	CITY	ST	ZIP
Ms.	Edith	Leoso	THPO	Bad River Band of Lake Superior	Chippewa Indians - WI	PO Box 39	Odanah	WI	54861
Mr.	Mike	Alloway		Forest CO Potawatomi Community – WI	Tribal Office	PO Box 340	Crandon	WI	54520
Mr.	William	Quackenbush	THPO	Ho-Chunk Nation	Executive Offices	405 Airport Rd (Box 667)	Black River Falls	WI	54615
Mr.	giiwegiizhigookway	Martin	Ketegitigaaning Ojibwe Nation/THPO	Lac Vieux Desert Band - Lake Superior	Chippewa Indians	PO Box 249	Watersmeet	MI	49969
Mr.	David	Grignon	THPO	Menominee Indian Tribe – WI	W3426 CTH V V West	PO Box 910	Keshena	WI	54135
Mr.	Joseph	Hale, Jr.	NAGPRA Representative	Prairie Band Potawatomi Nation		16281 Q Road	Mayetta	KS	66509
Mr.	Larry	Balber	THPO	Red Cliff Band of Lake Superior	Chippewa Indians – WI	88385 Pike Rd, HWY 13	Bayfield	WI	54814
Ms.	Jane	Nioce		Sac & Fox Nation of Missouri	In Kansas & Nebraska	305 N. Main	Reserve	KS	66434
Ms.	Sandra	Massey	NAGPRA Representative	Sac & Fox Nation of the Oklahoma		RR 2, Box 246	Stroud	OK	74079
Mr.	Jonathon	Buffalo	NAGPRA Representative	Sac & Fox of the Mississippi	In Iowa	349 Meskwaki Rd	Tama	IA	52339
			Cultural Resource Director	Sokaogon Chippewa Community	Mole Lake Band	3051 Sand Lake Road	Crandon	WI	54520

APPENDIX 6
SHPO Coordination

Archaeology/Burial No Effect
WisDOT Project ID # 3030-08-00 & 1060-30-00
WHS# 13-0127
STH 67: Delafield Road – Summit Ave. & East-West Freeway
Waukesha County

The proposed undertaking consists of improving the existing STH 67 corridor at the interchange with Interstate 94 (I-94) in Waukesha County. Project activities will include the reconstruction of STH 67 between the I-94 ramps and Thackeray Trail with curb and gutter, raised medians, and intersection improvements. The STH 67 bridges over I-94 will be reconstructed and sidewalks, bike lanes, and multi-use paths will be added. The existing STH 67 corridor between I-94 and Oconomowoc Parkway will be expanded to 8 driving lanes, STH 67 between Oconomowoc Parkway and Lexington Drive will be expanded to 6 driving lanes, STH 67 between Lexington Drive and the STH 67 Bypass will be expanded to 5 driving lanes, and STH 67 between STH 67 Bypass and Thackeray Trail will be expanded to 4 driving lanes. Proposed ground disturbance is expected to include tree clearing and grubbing, topsoil removal, and the excavation and construction of an embankment.

In 2012 a Phase I archaeological investigation was completed for the proposed project area by CCRG.
One previously identified archaeology site and five previously reported cemetery/burial sites were identified within the Area of Potential Effects (APE). On May 20, 2013, Wisconsin Department of Transportation (WisDOT) Cultural Resources Team (CRT) submitted an amended request to the State Historic Preservation Office (SHPO) to work within the boundaries of the following un-cataloged burial sites (WHS #: 13-0314/WK):

- 47WK0160/BWK-0172 (Summit Corners)
- 47WK0231/BWK-0228 (Pabst Mounds)
- 47WK0584/BWK-0284 (Summit Center II)
- 47WK0634/BWK-0296 (67-94 Interchange)

SHPO expressed concerns regarding the proposed project's impacts to sites 47WK0165/BWK-0177 and 47WK0231/BWK-0228. Upon further coordination with the design engineer, CCRG was able to verify the proposed project plans and APE had been revised and WisDOT has determined that this project will have no effect on sites 47WK0165/BWK-0177 and 47WK0231/BWK-0228.

Per the authorization letter (WHS 13-0314 dated 5/20/13) under Wis. Stats. 157.70 the following commitments will be adhered to during construction for the burial sites specific to the letter (WHS 13-0314)

- WisDOT shall ensure an archaeologist is present to monitor all project-related ground-disturbing activities within the boundaries of the burial site(s). Note: An archaeologist qualified to excavate human burial sites (per Wis. Stats. 157.70(1) (i) and Wis. Admin. Code § HS 2.04 (6) (a) will oversee monitoring activities.
- If human bone is discovered during construction, WisDOT will cease work activities immediately and will contact the Wisconsin Historical Society at 1-800-342-7834 or 608-264-6507 for compliance with Wis. Stat.157.70 regarding protection of burial sites.

Jason Kennedy 7/23/13

Jason Kennedy, WisDOT — Date
Environmental Analysis & Review Specialist

We concur with your current finding of "no adverse effect" for this project.

Sherman Banker 8/13/13

Sherman Banker, SHPO — Date

Wisconsin Department of Transportation

13-0314/WK

www.dot.wisconsin.gov

Scott Walker
Governor

Mark Gottlieb, P.E.
Secretary

RECEIVED
MAY 23 2013
DIV HIST PRES

Division of Transportation
System Development
4802 Sheboygan Ave, Rm 451
P O Box 7965
Madison, WI 53707-7965
Phone: 608-266-0099
Fax: 608-264-6667
E-Mail: bees.cr@dot.wi.gov

5/20/2013

Mr. Sherman Banker, Compliance
Wisconsin Historical Society, Office of Preservation Planning
816 State Street
Madison, Wisconsin 53706-1482

RE: **Amended** request to work within the boundaries of **un-cataloged** burial site(s):

47WK160/BWK-0172 (Summit Corners)	T.R.S. – 0717E-10,15
47WK231/BWK-0228 (Pabst Mounds)	T.R.S. – 0717E-14
47WK584/BWK-0284 (Summit Center II)	T.R.S. – 0717E-15
47WK634/BWK-0296 (67-94 Interchange)	T.R.S. – 0717E-15

WisDOT Project ID: 3030-08-00 & 1060-30-00 **WHS #: 13-0314 x-ref: 13-0127 & 09-0476**
STH 67: Delafield Rd - Summit Ave & East-West Freeway
Waukesha County, Wisconsin

Pursuant to Wisconsin Statute 157.70(4) and Wisconsin Administrative Code HS 2.04(4), the Wisconsin Department of Transportation (WisDOT) is requesting authorization to work within the reported boundaries of **un-cataloged** burial site(s) 47WK160/BWK-0172, 47WK231/BWK-0228, & 47WK584/BWK-0284 & 47WK634/BWK-0296.

Undertaking

- Reconstruction

Ground Disturbing Activities (see also attached 106 form & project plans)

- Tree clearing & grubbing
- Stripping topsoil
- Excavation/embankment construction
- Curb & gutter
- Raised medians
- Intersection improvement
- Sidewalks/multi paths & bike lanes
- STH 67 bridge over IH 94 reconstruct
- Lane expansion

Commitments

- WisDOT shall ensure an archaeologist is present to monitor all project-related ground-disturbing activities within the boundaries of the burial site(s). Note: An archaeologist qualified to excavate human burial sites (per Wis. Stats. 157.70 (1) (i) and Wis. Admin Code § HS 2.04 (6) (a)) will oversee the monitoring activities.
- If human bone is discovered during construction, WisDOT will cease work activities immediately and will contact the Wisconsin Historical Society at 1-800-342-7834 or 608-264-6507 for compliance with Wis. Stat. 157.70 regarding the protection of human burial sites.

If I can be of further assistance, or provide additional information please feel call me at 608-267-6693.

Sincerely,

Jason Kennedy — 5/20/2013
Jason Kennedy — Date
Cultural Resources Team

WHS concurrence authorizes request

Sherman Banker — 6/4/13
Sherman Banker — Date
Office of Preservation Planning

Enclosure
Cc: SE Region

APPENDIX 7
WisDOT Pre-Screening Indirect Effects Analysis Worksheets

WisDOT's Pre-Screening Worksheet for EA and ER Projects For Determining the Need to Conduct a *Detailed* Indirect Effects Analysis

1. Project Design Concepts and Scope

Do the project design concepts include any one of the following?

- Additional thru travel lanes (expansion) **YES**
- New alignment **NO**
- New and/or improved interchanges and access **NO**
- Bypass alternatives **NO**

2. Project Purpose and Need

Does the project purpose and need include:

- Economic development –in part or full (i.e. improved access to a planned industrial park, new interchange for a new warehouse operation). **NO**

3. Project Type

What is the project document "type"? **EA**

- EIS project—a detailed indirect effects analysis is warranted.
- Many EAs will require a detailed indirect effects analysis (However, it also depends on the project design concepts and other factors noted here.)
- If a Categorical Exclusion applies, a detailed assessment is not generally warranted, however documentation must be provided that addresses this determination including basic sheet information.

4. Facility Function

What is the primary function of the existing facility? What is the proposed facility?

- **Urban arterial**
- Rural arterial

5. Project Location (Location can be a combination.)

- Urban (within an Metropolitan Planning Area)
- **Suburban (part of larger metropolitan/regional area, may or may not be part of an metropolitan planning area)**
- Small community (population under 5000)
- Rural with scattered development
- Rural, primarily farming/agricultural area

6. Improved travel times to an area or region

- Will the proposed project provide an improvement of 5 or more minutes? (Based on research, improvements in travel time can impact the attractiveness of an area for new development.) **NO**

7. Land Use and Planning

- What are the existing land use types in project area?
  The land immediately surrounding the project area is used for a variety of uses, including residential, commercial, recreational, office, warehouse and industrial uses. The STH 67 corridor is a major business park, industrial, and commercial area, and a gateway into the City of Oconomowoc.

  The northern half of the project corridor is lined by a strip of commercial businesses on the west side of STH 67, and a residential neighborhood on the eastern side of STH 67.

  The southern half of the project corridor is populated by the Oconomowoc Corporate Center to the west. The Oconomowoc Corporate Center is a planned, controlled, full-service business park located at the northwest quadrant of STH 67 and IH 94. The business park consists of nearly 130 acres of prime office, industrial, commercial and warehouse land in carefully designated areas.

  The Aurora Medical Center, a regional medical center, is located in the southeast quadrant of the STH 67/IH 94 interchange, in the Village of Summit.

- What do the local plans, neighborhood plans, and regional plans, indicate for future changes in land use?
  The eastern side of the southern half of the project corridor is dominated by land dedicated to the development of Pabst Farms. Pabst Farms is a 1,500-acre master planned community. The stated long-term plans for Pabst Farms include:
    - **1,200 residences: single-family homes and condos/townhomes;**
    - **600,000 – 900,000 square feet of retail space;**
    - **5,000,000 square feet of business, office and health care;**
    - **360 acres of open space, recreational trails and civic uses.**

- What types of permitted uses are indicated in the local zoning?
  There are a variety of permitted uses, including residential, commercial, recreational, office, warehouse and industrial uses.

- Would the project potentially conflict with plans in the project area? (e.g., capacity expansion in areas in which agricultural preservation is important to local government(s)?)
  NO, the project does not conflict with land use plans for the area.

8. Population/Demographic Changes

- Have the population changes over past 5, 10 and 20 years been high, medium, low growth rate vs. state average over same period? (i.e. USDA defines high growth in rural areas as greater than annual population growth of 1.4 %.)
  The project area has experienced a high level of growth relative to surrounding communities and other similar sized areas.

- What are the projections for the future for population? (Use Wisconsin DOA projections.)
  WI DOA City of Occonomowoc Population Projections (2005-2030); from 2008

Census 2000	2005 Estimate	2010 Projection	2015 Projection	2020 Projection	2025 Projection	2030 Projection	Numeric Change	Percent Change
12,382	13,561	14,234	14,958	15,666	16,320	16,893	4,511	36.4%

Have there been considerable changes for population demographics and employment over the past 10 – 20 or more years? **NO**

9. Rate of Urbanization

- Does the project study area contain proposed new developments? **YES**
- What are the main changes in developed area vs. undeveloped areas over past 5, 10 and 20 years? **Main changes are from planned developments including the Oconomowoc Corporate Center, the Aurora Medical Center, and the planned Pabst Farms development.**
- Have there been significant conversions of agricultural land uses to other land use types, such as residential or industrial? **NO**

10. Public, State and/or Federal Agency Concerns

- Have local officials, federal and/or state agencies, property owners, stakeholders or others raised concerns related to potential indirect effects from the project? (e.g., land use changes, “sprawl”, increase traffic, loss of farmland, etc.)
  No, no concerns related to land use changes, “sprawl”, increased traffic, loss of farmland, etc. have been expressed as a result of this project. Changes in the project area are not DUE TO the proposed action. Any changes to the project area are planned developments taking place in accordance with local/regional land use and transportation plans.

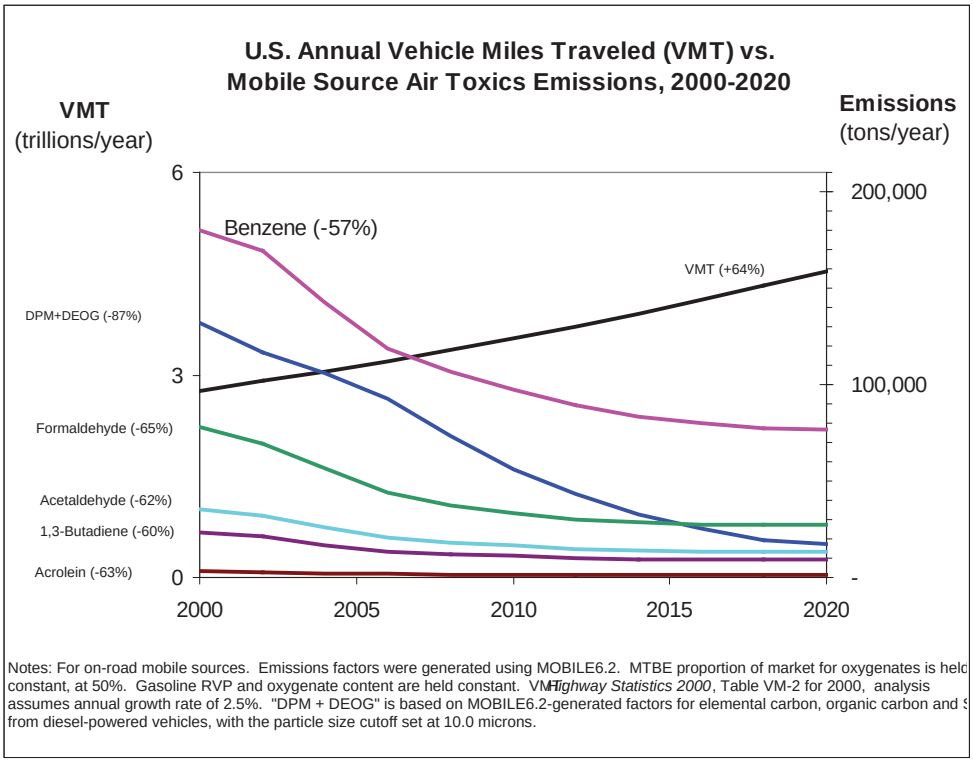
APPENDIX 8
Mobile Source Air Toxics

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (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 Clean Air Act. 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.

The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources. 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) 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. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in VMT, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent, as shown in the following graph:



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: *Highway Statistics 2000*, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and S from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(l) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

This EA includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the alternatives in this EA. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Information that is Unavailable or Incomplete.
Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

1. Emissions: The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

   These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

2. Dispersion. The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The NCHRP is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

3. Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period.

There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs. Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust** (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes -- particularly respiratory problems[1]. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community.
Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

In this document, FHWA has provided a quantitative analysis of MSAT emissions relative to the various alternatives, (or a qualitative assessment, as applicable) and has acknowledged that (some, all, or identify by alternative) the project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions under the project.

Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:
www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm.

For the recommended alternative in this EA the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for the recommended alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions on other routes.

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 MSAT emissions by 57 to 87 percent between 2000 and 2020. 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.

[1] South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.