

**EMPIRE TOWNSHIP SAND & GRAVEL MINING EIS
TRAFFIC MITIGATION ANALYSIS - COMMUNITY & AGENCY INVOLVEMENT**

T15.20711
12/9/2005

Full Details as Included in Transportation EIS

		Min/DOT	Dakota Cty	Apple Valley	Burnsville	Empire	Farmington	Lakeville	Rosemount
NOTE: 170th Street in Empire Township remains County Road 58.									
Improvements Required by Planned Residential Development Studies									
1. 160 th Street at Aggregate Industries Mining Access (future Cobblestone Lake and Brandtjen Entrance)									
	• On the north approach, provide one left turn lane and one shared through/right-turn lane.		X					X	
	• On the south approach, provide one left turn lane and one shared through/right-turn lane.		X	X					
	• Install a traffic signal.		X	X				X	
2. 160 th Street at Diamond Path									
	• On the north approach, provide one left turn lane, one through lane and one right turn lane.		X	X					
	• On the south approach, provide one left turn lane, one through lane and one right turn lane.		X					X	
	• Extend Diamond Path southward to 170 th Street.		X					X	
	• Install a traffic signal.		X	X		X		X	X
3. Pilot Knob Road at Dodd Boulevard									
	On the east approach, provide one shared through/left turn lane and one exclusive right turn lane. (The following section will provide an improvement to this approach).							X	
4. Construct the 195 th Street extension.			X			X	X	X	
5. Construct the 208 th Street extension			X				X	X	
6. On TH 3, provide a four-lane cross-section from north of Elm Street to approximately 500 feet north of 160 th Street. (The following section will provide further improvement to TH 3).		X				X	X		X
7. Provide an exclusive 300-foot left turn and right turn lane on both the northbound and southbound approaches at the TH 3/170 th Street intersection.		X	X			X			
Additional Improvements Not Previously Identified									
The following measures illustrated in Figure 6-2 of the TIS are required by Year 2015:									
(1) Cedar Avenue at 160 th Street (Refer to Section 5.2.3)									
	◆ Reconstruct northbound and southbound to include three through lanes in each direction.		X	X				X	
	◆ Add dual left turn lanes on all four approaches. The southbound left turn lanes should provide at least 400 feet of storage.		X	X				X	

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(2)	Pilot Knob Road								
	◆ Reconstruct Pilot Knob Road to include three lanes of travel in both the northbound and southbound directions. The six-lane section should extend from 150th Street to south of 170th Street.		X	X				X	
(3)	150th Street								
	◆ Reconstruct 150th Street to include three lanes of travel in both the eastbound and westbound directions. The six-lane section should begin and end at a point between TH 3 and Pilot Knob Road and then extend westward. Although the study area did not evaluate intersections west of Pilot Knob Road, it is expected the six-lane section would need to be continued west of Cedar Avenue into Burnsville.		X	X	X				X
(4)	150th Street at Pilot Knob Road								
	◆ In addition to the eastbound/westbound six lane section, construct a free right turn movement for eastbound-to-southbound. The eastbound-to-southbound right turn movement should be designed to allow a continuous right turn movement into its own dedicated lane of travel. The dedicated lane would be the start of the third southbound travel lane on Pilot Knob Road.		X	X					
	◆ Add a second left turn lane on both the eastbound and westbound approaches.		X	X					
(5)	160th Street at Pilot Knob Road								
	◆ In addition to the northbound/southbound six lane section, construct a second left turn lane on the southbound approach.		X	X					
(6)	Pilot Knob Road at 170th Street								
	◆ In addition to the northbound/southbound six lane roadway, reconstruct both the eastbound and westbound approaches to include one exclusive left turn lane, one through lane and one exclusive right turn lane. The westbound left turn lane and right turn lanes should include approximately 450 feet of storage.		X					X	
	◆ Change the eastbound and westbound signal phasing to a protected/permissive left turn operation.		X					X	
(7)	TH 3 at 170th Street								
	◆ Install a traffic signal with protected left turn phasing for northbound/southbound TH 3 and permissive only phasing for eastbound and westbound left turn movements.	X	X			X			
(8)	TH 3 at Elm Street (CSAH 50)								
	◆ Extend the northbound left turn lane to include 300 feet of storage.	X	X				X		

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The following measures illustrated in Figure 6-2 , are required by Year 2025, in addition to those required by 2015:									
(1) 160 th Street									
	◆ Reconstruct 160 th Street to include three lanes of travel in both the eastbound and westbound directions. The six-lane section should begin and end at a point just west of Diamond Path and then extend westward beyond Cedar Avenue. The transition point, west of Cedar Avenue, should be included in the scope of a future traffic study.		X	X				X	X?
(2) 160 th Street at Galaxie Avenue									
	◆ In addition to the eastbound/westbound six lane roadway, construct a second left turn lane on the southbound approach. The southbound approach should consist of two left turn lanes and one shared through/right turn lane. The left most left turn lane should include approximately 300 feet of storage. The right most left turn lane should extend the full length of roadway.		X	X				X	
	◆ Re-stripe the northbound approach to include one exclusive left turn lane and one shared through/right turn lane.		X	X				X	
	◆ Change the northbound/southbound left turn phasing to protected only.		X	X				X	
(3) Pilot Knob Road at Dodd Boulevard									
	◆ Add a second left turn lane on the eastbound approach with approximately 300 feet of storage.		X					X	
	◆ Change the lane assignment on the westbound approach to one left turn lane and one shared through/right turn lane.		X					X	
	◆ Change the eastbound/westbound left turn phasing to protected only.		X					X	
(4) Pilot Knob Road at 170 th Street									
	◆ Construct a second left turn lane on the southbound approach.		X					X	
	◆ To accommodate the southbound dual left turn lanes, a second eastbound lane, east of Pilot Knob Road, will need to be constructed. The eastbound second receiving lane should allow for a minimum of 500 feet prior to transitioning back to one lane of travel.		X					X	
(5) TH 3									
	◆ Extend the four-lane roadway cross-section to north of 150 th Street. The four-lane roadway should begin and end at approximately ¼ to ½ mile north of 150 th Street.	X	X						
(6) TH 3 at CSAH 66									
	◆ Evaluate the need and justification for constructing a traffic signal system.	X	X			X	X		

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Potential Regional Improvements										
		• The feasibility and regional benefit of providing freeway design with grade separated interchanges along Cedar Avenue.		X	X				X	
		• The feasibility of providing a grade separated interchange at Pilot Knob Road and 160 th Street.		X	X				X	
		• The feasibility and regional volume benefit of providing additional east/west collector roadways, providing access from the study area to west of Cedar Avenue. Dakota County has already identified 180 th Street as a viable east/west alternative. Local agencies should continue working together to make necessary efforts to accelerate further planning and potentially its implementation.		X			X	X	X	
		• Improvement of Biscayne Avenue to a north/south collector arterial.					X	X		X
		• Improvement of Flagstaff Avenue, south of 160 th Street, to a collector arterial.							X	
Mitigation Option 1 - Year 2015 Build										
	1. TH 3 at 160 th Street									
		Construct a second northbound left turn lane. The northbound left turn lanes should include a minimum of 300 feet of storage.	X	X			X			X
	2. TH 3 at 170 th Street									
		• Reconstruct both the eastbound and westbound approaches to include one exclusive left turn lane, one through lane and one exclusive right turn lane. The left turn lane and right turn lanes should include approximately 250 feet of storage.	X	X			X			
		• Construct a second left turn lane on the southbound approach.	X	X			X			
		• To accommodate the southbound dual left turn lanes, a second eastbound lane, east of TH 3, will need to be constructed. The eastbound second receiving lane should allow for a minimum of 500 feet prior to transitioning back to one lane of travel.		X			X			
		The eastbound and westbound left turn movements should operate under protected/permissive signal operations	X	X			X			

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Mitigation Option 1 - Year 2025 Build										
1. TH 3 at 160 th Street										
		Construct a free right turn movement on the eastbound approach. The free right turn movement should be designed to provide an acceleration lane for turning vehicles to merge with the southbound traffic. Adequate distance and geometric design elements should be utilized to allow vehicles to flow freely, accelerate and merge safely with the southbound traffic flow, without coming to a stop or yield.	X	X			X			
2. TH 3 at 170 th Street										
		• Construct a second left turn lane on the northbound and southbound approaches.	X	X			X			
		• To accommodate the northbound dual left turn lanes, a second westbound lane, west of TH 3, will need to be constructed. The westbound second receiving lane should allow for a minimum of 500 feet prior to transitioning back to one lane of travel.		X			X			
3. Pilot Knob Road at 170 th Street										
		Provide a westbound right turn overlap signal phase.		X					X	
Potentially removed with truck restriction on 170th Street by Lakeville										
Mitigation Option 2 - Year 2025 Build										
1. TH 3 at 160 th Street										
		Construct a second northbound left turn lane. The northbound left turn lanes should include a minimum of 300 feet of storage.	X	X			X			
2. TH 3 at 170 th Street										
		• Reconstruct both the eastbound and westbound approaches to include one exclusive left turn lane, one through lane and one exclusive right turn lane. The left turn lane and right turn lanes should include a minimum of 250 feet of storage.	X	X			X			
		• The eastbound and westbound left turn movements should operate under protected/permissive signal operations.	X	X			X			
3. 160 th Street										
		Extend the four-lane roadway cross-section eastward, to transition to/from the two-lane cross-section east of Biscayne Avenue.		X			X			X

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		4. 160 th Street at Biscayne Avenue								
		• Install a traffic control signal system with protected left turn phasing for eastbound and westbound and protected/permissive phasing for southbound/northbound		X			X			X
		• Construct the northbound and southbound approaches to include one exclusive left turn and one shared through/right turn lane. The left turn lanes should include approximately 300 feet of storage.		X			X			X
		• In addition to the four-lane roadway cross-section and the existing exclusive left turn lanes, construct 300-foot exclusive right turn lanes on the eastbound and westbound approaches.		X			X			X
		5. Biscayne Avenue at 170 th Street								
		The eastbound and westbound approaches should operate under a stop control. The northbound and southbound movements would have the right-of-way.		X			X			
		Other Potential Mitigation								
		• 170 th Street, between the railroad tracks and Biscayne Avenue; and		X			X			
		• Biscayne Avenue, between 160 th Street and 180 th Street.					X	X		
		If the roadways are lowered to gain access to material beneath the road surface and/or to provide reasonable access to properties adjacent to the these roadways, then the mining operators benefiting from the material would need to participate in the reconstruction of the new lower roads. A few requirements may include:								
		• The mining companies collectively phase the mining of material at the location of the new roadway alignment, such that the new roadway can be built without altering traffic patterns	X	X			X			
		• Both 170 th Street and Biscayne Avenue are to be built to Dakota County pavement and geometric design standards and accommodate the projected vehicle and truck volumes		X			X			
		• In addition, the intersection at Biscayne Avenue and 170 th Street should be re-built to meet County standards and meet the intended functional classification of the roadways (i.e., exclusive turn lane requirements, etc.) at such time. The number of lanes required (i.e., 2-lane or 4-lane) along Biscayne will be determined in future studies		X			X			
		• The alignment of Biscayne Avenue is to coincide with the MSEC interceptor corridor					X			