

MEMO LETTER

TO: City of Hobart Board of Public Works
FROM: Andrea Langille
CC: Brandon Towle, Jake Dammarell
DATE: January 23, 2019
JOB NO.: 4950
SUBJECT: 61st Avenue and Wisconsin Street Roundabout

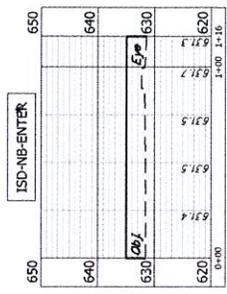
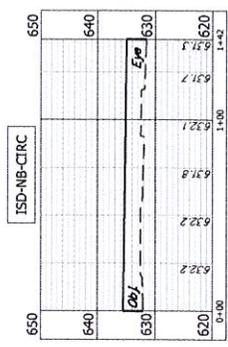
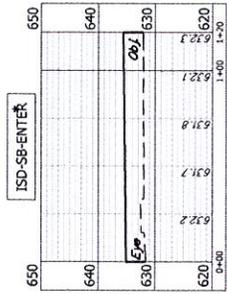
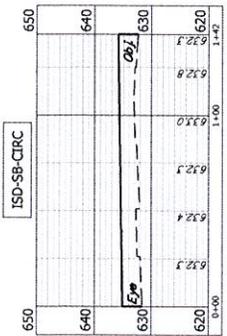
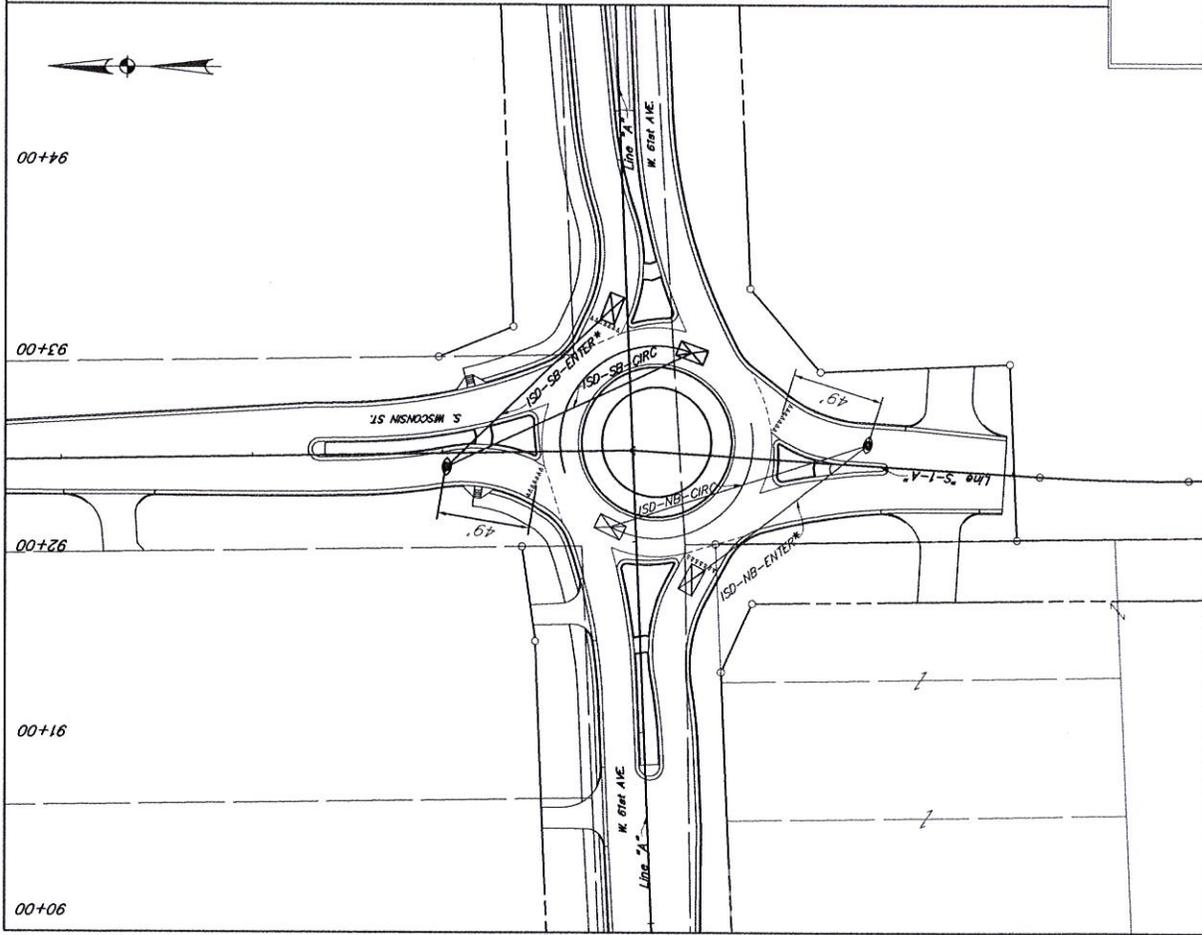
It has been brought to our attention that a letter of concern about the roundabout at 61st Avenue and Wisconsin Street has been submitted to the Board of Public Works for consideration. The concern is related to the tall masonry wall in the center of the roundabout and its impact on sight distance. The letter noted that the masonry wall obstructs the view of oncoming vehicles and requests the removal of a portion of the wall.

We have reviewed the design and sight distance calculations for the roundabout and have confirmed that the sight-distance requirements needed to safely maneuver the roundabout have been provided. As you approach a roundabout you should be reducing your speed, looking to the left and yielding to the oncoming traffic from the left. See attached sight distance check. The wall at the center of the roundabout does not impact this sight distance. There is not a need to see through the wall to be able to see oncoming traffic from the left. The wall would however need to be removed to see traffic from opposite direction, which is not recommended.

Federal Highway Administration (FHWA) design guidelines recommend that no more than the minimum required intersection sight distance be provided on each approach. Excessive intersection sight distance can lead to higher vehicle speeds that reduce the safety of the intersection for all road users. Landscaping can be effective in restricting sight distance to the minimum requirements. Outside the line of sights needed, the use of higher landscape treatment in the central island may serve to break the forward vista for through vehicles.

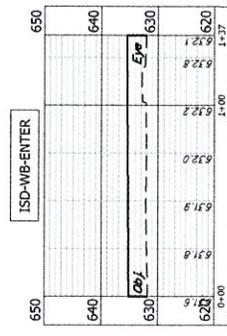
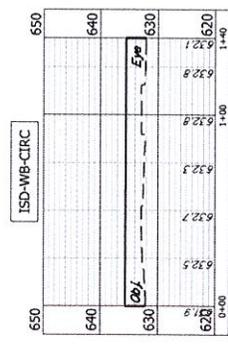
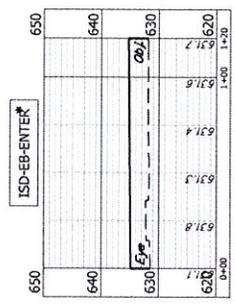
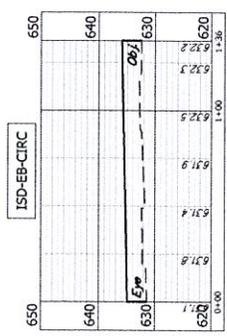
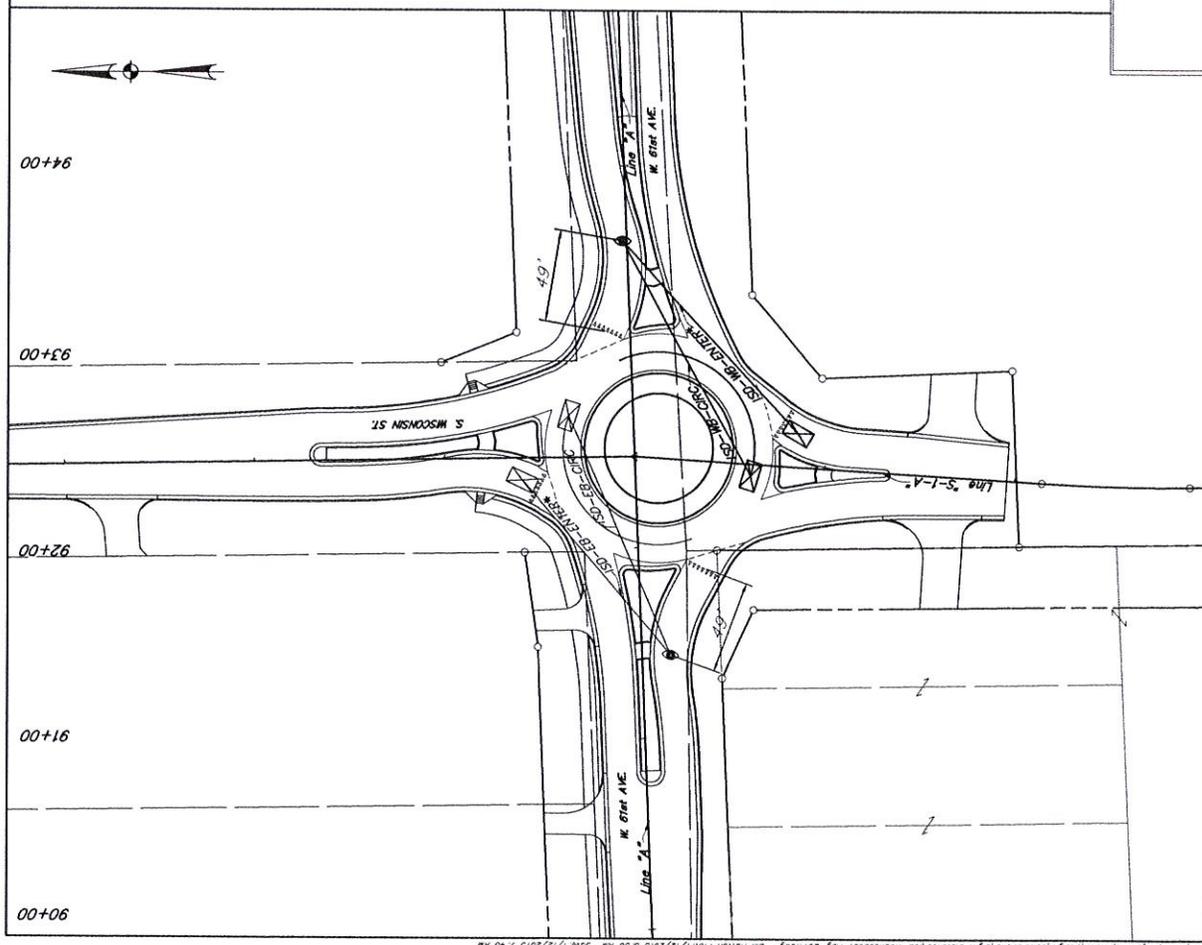
Indiana Department of Transportation (INDOT) design manual states that a raised and landscaped center island also serves to enhance driver recognition of the roundabout upon approach and to limit the ability of the approaching driver to see through the other side of the roundabout. The inability to see through the roundabout also reduces or can eliminate headlight glare at night and driver distraction caused by other vehicles in the circulatory roadway.

Upon review of the design, sight distance and recommendations from FHWA and INDOT, we would not recommend removal of portions of the wall in order to provide visibility to oncoming traffic from the opposite direction. Required sight distance is not impacted by the wall.



Design Speed - Based on Fastest Path Calc.
 Eye Location - 48' from Field
 Circulatory Stream - 115'
 Object Height - 3.5'
 *NB Entering Stream - 240'
 *SB Entering Stream - 270'
 Circulatory Stream (All Legs) - 115'
 *City Manual ISD Method From M007
 Design Manual Ch. 51-12.08(9)

RECOMMENDED FOR APPROVAL:		DESIGN ENGINEER	DATE
DESIGNED:	AM	DRAWN:	MSS
CHECKED:	BZ	CHECKED:	AM
INDIANA DEPARTMENT OF TRANSPORTATION			
61st AVENUE - PHASE 3			
I.S.D. ROUNDABOUT NB & SB			
HORIZONTAL SCALE	FILE	VERTICAL SCALE	DESCRIPTION
1" = 10'	0400071	1" = 10'	0400071
SURVEY BOOK	SHEET	CONTRACT	JOB #
		047	0400071
			0400071

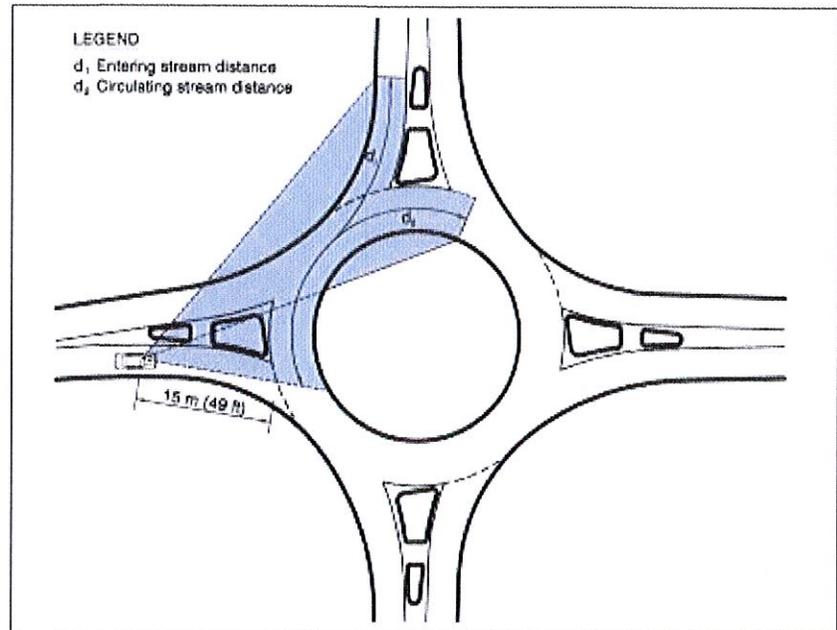


Design Speed - Based on Fastest Path Calc.
 Eye Location - 49' From Yield
 Eye Height - 5.5'
 Object Height - 3.5'
 WB Entering Stream - 245'
 WB Entering Stream - 270'
 Circulatory Stream (All Laps) - 115'
 Using Alternative ISD Method From R2007
 Design Manual Ch. 51-12.09(19)

RECOMMENDED FOR APPROVAL:	DESIGN ENGINEER:	DATE:
DESIGNED:	AML	BZZ
CHECKED:	AML	BZZ
DRAWN:	MSS	
CHECKED:	AML	

HORIZONTAL SCALE	1" = 30'
VERTICAL SCALE	1" = 10'
SURVEY BOOK	547
CONTRACT	0600071
PROJECT	INDIANA
SHEET	3
DESIGNATION	61st AVENUE - PHASE 3
FILE	I.S.D. ROUNDABOUT EB & WB

Exhibit 6-32. Intersection sight distance



6.3.10.1 Length of approach leg of sight triangle

The length of the approach leg of the sight triangle should be limited to 15 m (49 ft). British research on sight distance determined that excessive intersection sight distance results in a higher frequency of crashes. This value, consistent with British and French practice, is intended to require vehicles to slow down prior to entering the roundabout, which allows them to focus on the pedestrian crossing prior to entry. If the approach leg of the sight triangle is greater than 15 m (49 ft), it may be advisable to add landscaping to restrict sight distance to the minimum requirements.

6.3.10.2 Length of conflicting leg of sight triangle

A vehicle approaching an entry to a roundabout faces conflicting vehicles within the circulatory roadway. The length of the conflicting leg is calculated using Equation 6-3:

$$b = 0.278(V_{major})(t_c) \tag{6-3a, metric}$$

where: b = length of conflicting leg of sight triangle, m
 V_{major} = design speed of conflicting movement, km/h, discussed below
 t_c = critical gap for entering the major road, s, equal to 6.5 s

$$b = 1.468(V_{major})(t_c) \tag{6-3b, U.S. customary}$$

where: b = length of conflicting leg of sight triangle, ft
 V_{major} = design speed of conflicting movement, mph, discussed below
 t_c = critical gap for entering the major road, s, equal to 6.5 s