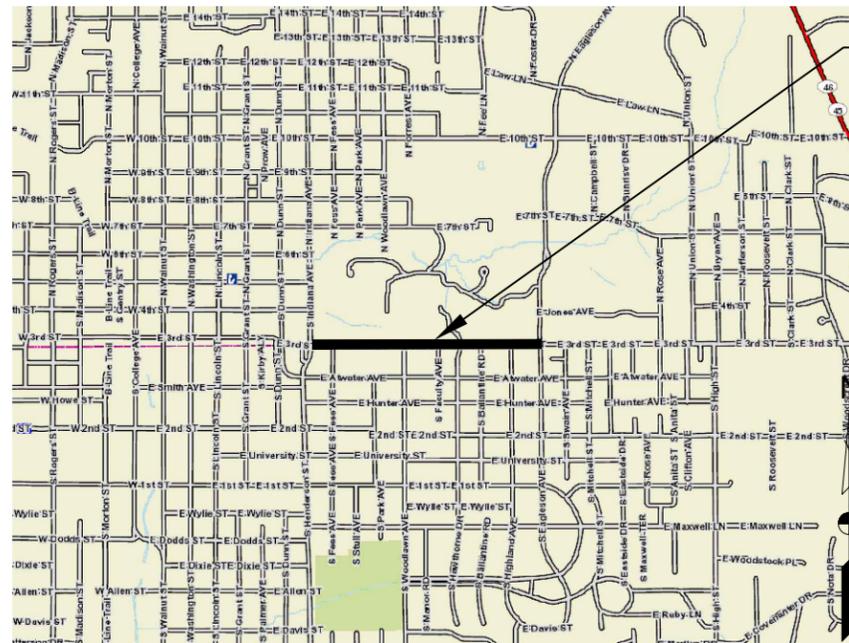




CITY OF BLOOMINGTON

THIRD STREET BICYCLE LANE IMPROVEMENTS

SOUTH INDIANA AVENUE TO SOUTH EAGLESON AVENUE
TRAFFIC SEPARATION BARRIER AND DELINEATOR INSTALLATION



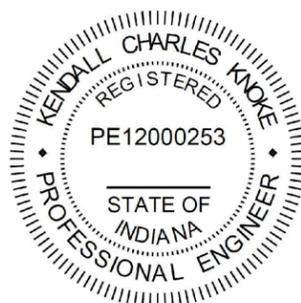
PROJECT LOCATION

N.T.S.

CITY OF BLOOMINGTON, MONROE COUNTY, INDIANA
SECTION 33 TOWNSHIP 9N RANGE 1W, SECTION 34 TOWNSHIP 9N RANGE 1W,
SECTION 04 TOWNSHIP 8N RANGE 1W, SECTION 03 TOWNSHIP 8N RANGE 1W
LATITUDE: 39° 9' 51.3432" N LONGITUDE: 86° 31' 18.1668" W

INDIANA DEPARTMENT OF TRANSPORTATION 2024 STANDARD SPECIFICATIONS TO BE USED WITH THIS PLAN SET

PLOTTED: Friday, December 1, 2023 2:10:57 PM



RECOMMENDED FOR APPROVAL

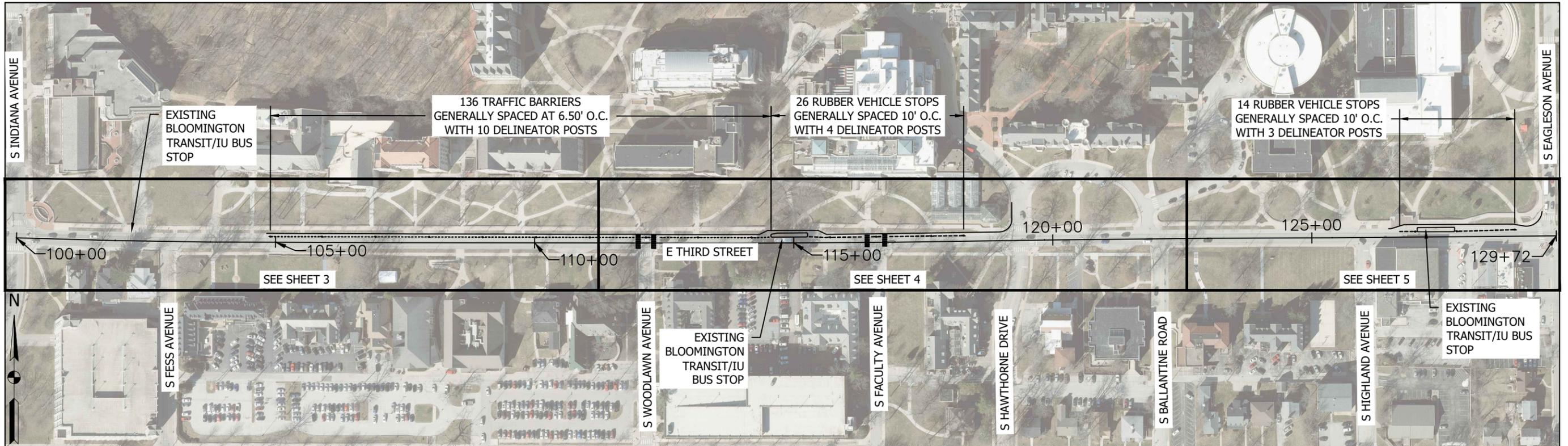
[Signature] 12/01/2023
ENGINEER DATE



DESIGNED: KCK DRAWN: KCK
CHECKED: NHK CHECKED: NHK

PROJECT NAME:
THIRD STREET BICYCLE LANE IMPROVEMENTS

HORIZONTAL SCALE	BRIDGE FILE
N.T.S.	N/A
VERTICAL SCALE	DESIGNATION
N.T.S.	N/A
SURVEY BOOK	SHEETS
N/A	1 of 8
CONTRACT	PROJECT #
N/A	N/A



OVERALL PLAN

PLOTTED: Friday, December 1, 2023 2:11:17 PM

NOTES

1. BASEMAP HAS BEEN PREPARED FROM GIS INFORMATION AND HAS NOT BEEN SURVEYED. CONTRACTOR TO INFORM ENGINEER IF FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE DESIGN. ALL DIMENSIONS GIVEN ON THIS SHEET ARE APPROXIMATE. STATIONING IS FOR REFERENCE PURPOSES ONLY.
2. CONTRACTOR TO CALL 811 TO VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION WORK. NOTIFY ENGINEER IF THE PRESENCE OF UNDERGROUND UTILITIES REQUIRES DESIGN MODIFICATIONS.



RECOMMENDED FOR APPROVAL

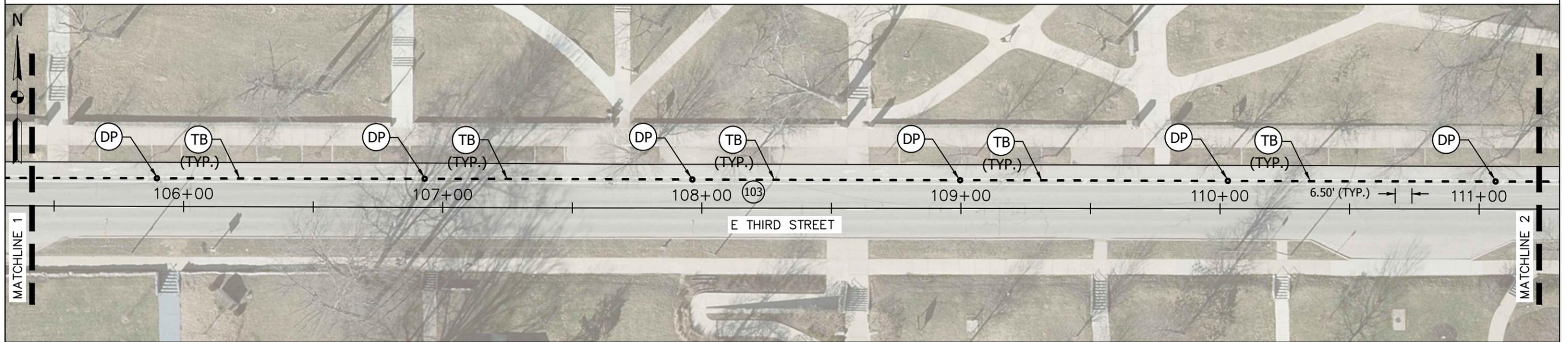
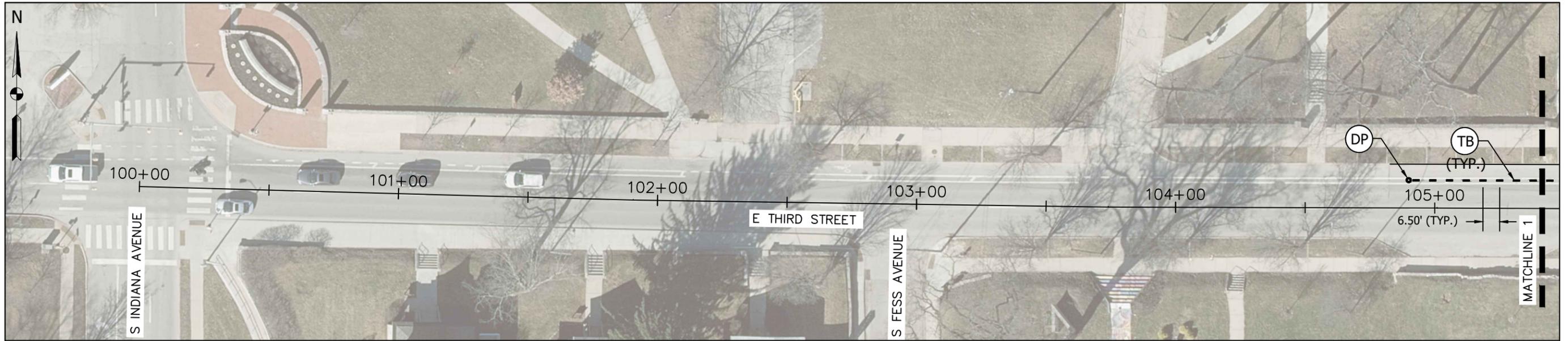
 ENGINEER DATE 12/01/2023

DESIGNED: KCK DRAWN: KCK
 CHECKED: NHK CHECKED: NHK

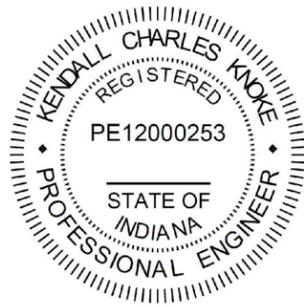


PROJECT NAME:
 THIRD STREET BICYCLE LANE IMPROVEMENTS

HORIZONTAL SCALE	BRIDGE FILE
1"=200'	N/A
VERTICAL SCALE	DESIGNATION
1"=200'	N/A
SURVEY BOOK	SHEETS
N/A	2 of 8
CONTRACT	PROJECT #
N/A	N/A



LEGEND	DELINEATOR POST (SEE TYPICAL DETAILS AND SUMMARY TABLE)	TRAFFIC BARRIER (SEE TYPICAL DETAILS AND SUMMARY TABLE)	VEHICLE STOP (SEE TYPICAL DETAILS AND SUMMARY TABLE)
	NUMBER OF VEHICLE STOPS/TRAFFIC BARRIERS IN A SECTION		
NOTES			
1. BASEMAP HAS BEEN PREPARED FROM GIS INFORMATION AND HAS NOT BEEN SURVEYED. CONTRACTOR TO INFORM ENGINEER IF FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE DESIGN. ALL DIMENSIONS GIVEN ON THIS SHEET ARE APPROXIMATE. STATIONING IS FOR REFERENCE PURPOSES ONLY.			
2. CONTRACTOR TO CALL 811 TO VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION WORK. NOTIFY ENGINEER IF THE PRESENCE OF UNDERGROUND UTILITIES REQUIRES DESIGN MODIFICATIONS.			

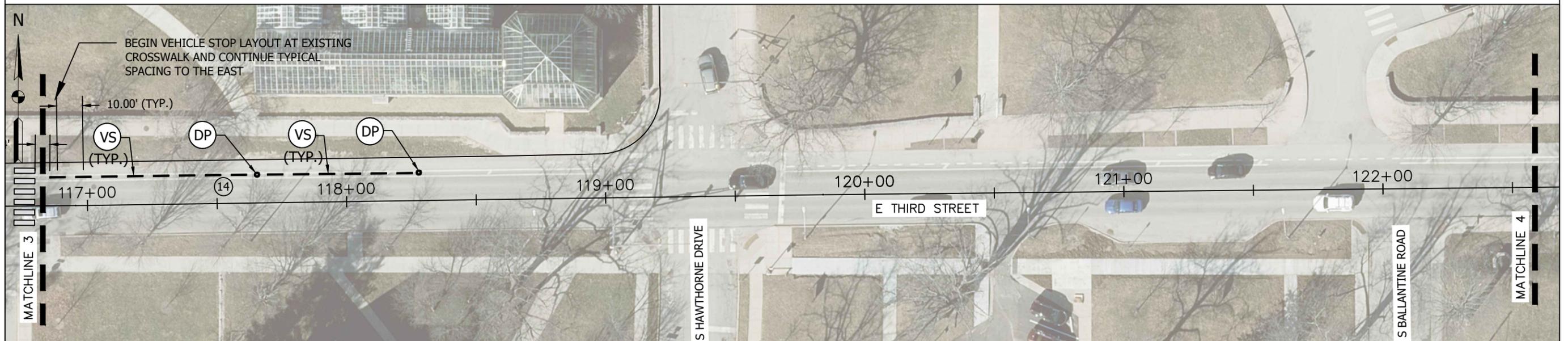
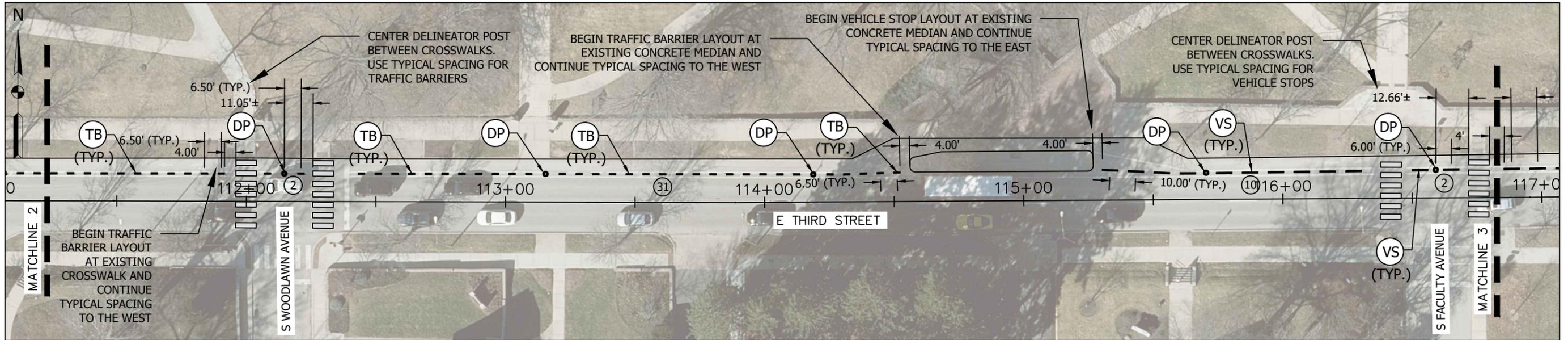


RECOMMENDED FOR APPROVAL	
	12/01/2023
ENGINEER	DATE
DESIGNED: <u>KCK</u>	DRAWN: <u>KCK</u>
CHECKED: <u>NHK</u>	CHECKED: <u>NHK</u>

	CITY OF BLOOMINGTON ENGINEERING
	PROJECT NAME: THIRD STREET BICYCLE LANE IMPROVEMENTS

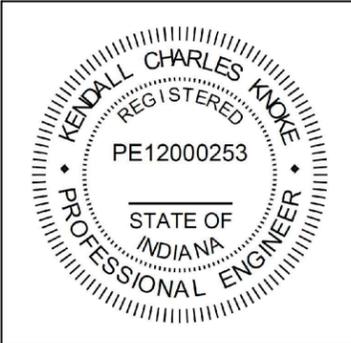
HORIZONTAL SCALE	BRIDGE FILE
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VERTICAL SCALE	DESIGNATION
1"=40'	N/A
SURVEY BOOK	SHEETS
N/A	3 of 8
CONTRACT	PROJECT #
N/A	N/A

PLOTTED: Friday, December 1, 2023 2:11:23 PM



PLOTTED: Friday, December 1, 2023 2:11:28 PM

LEGEND	DELINEATOR POST (SEE TYPICAL DETAILS AND SUMMARY TABLE)	TRAFFIC BARRIER (SEE TYPICAL DETAILS AND SUMMARY TABLE)	VEHICLE STOP (SEE TYPICAL DETAILS AND SUMMARY TABLE)
NOTES	NUMBER OF VEHICLE STOPS/TRAFFIC BARRIERS IN A SECTION 1. BASEMAP HAS BEEN PREPARED FROM GIS INFORMATION AND HAS NOT BEEN SURVEYED. CONTRACTOR TO INFORM ENGINEER IF FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE DESIGN. ALL DIMENSIONS GIVEN ON THIS SHEET ARE APPROXIMATE. STATIONING IS FOR REFERENCE PURPOSES ONLY. 2. CONTRACTOR TO CALL 811 TO VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION WORK. NOTIFY ENGINEER IF THE PRESENCE OF UNDERGROUND UTILITIES REQUIRES DESIGN MODIFICATIONS.		



RECOMMENDED FOR APPROVAL

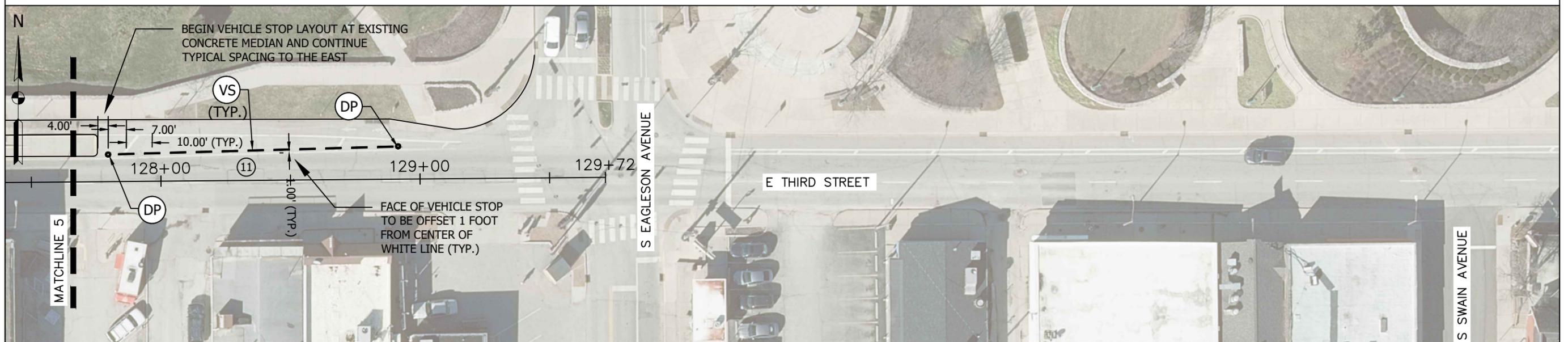
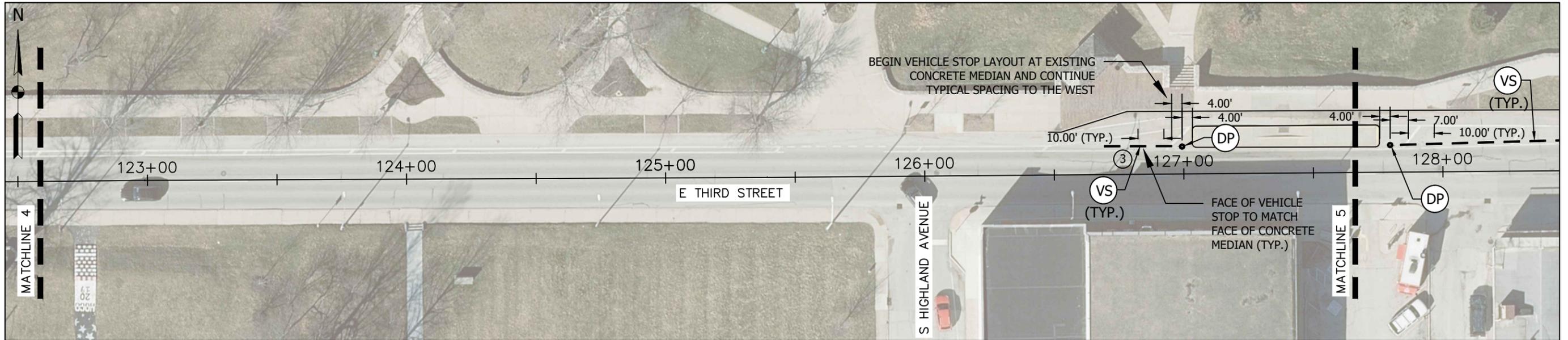
 ENGINEER DATE 12/01/2023



DESIGNED: KCK DRAWN: KCK
 CHECKED: NHK CHECKED: NHK

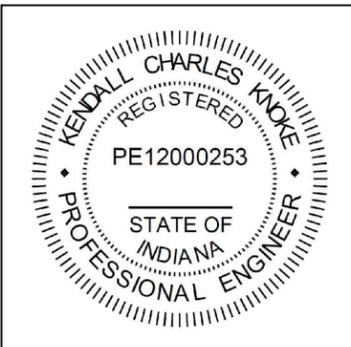
PROJECT NAME:
 THIRD STREET BICYCLE LANE IMPROVEMENTS

HORIZONTAL SCALE	BRIDGE FILE
1"=40'	N/A
VERTICAL SCALE	DESIGNATION
1"=40'	N/A
SURVEY BOOK	SHEETS
N/A	4 of 8
CONTRACT	PROJECT #
N/A	N/A



PLOTTED: Friday, December 1, 2023 2:11:38 PM

LEGEND	DP DELINEATOR POST (SEE TYPICAL DETAILS AND SUMMARY TABLE)	TB TRAFFIC BARRIER (SEE TYPICAL DETAILS AND SUMMARY TABLE)	VS VEHICLE STOP (SEE TYPICAL DETAILS AND SUMMARY TABLE)
NOTES	10 NUMBER OF VEHICLE STOPS/TRAFFIC BARRIERS IN A SECTION 1. BASEMAP HAS BEEN PREPARED FROM GIS INFORMATION AND HAS NOT BEEN SURVEYED. CONTRACTOR TO INFORM ENGINEER IF FIELD CONDITIONS REQUIRE MODIFICATIONS TO THE DESIGN. ALL DIMENSIONS GIVEN ON THIS SHEET ARE APPROXIMATE. STATIONING IS FOR REFERENCE PURPOSES ONLY. 2. CONTRACTOR TO CALL 811 TO VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION WORK. NOTIFY ENGINEER IF THE PRESENCE OF UNDERGROUND UTILITIES REQUIRES DESIGN MODIFICATIONS.		



RECOMMENDED FOR APPROVAL
[Signature] 12/01/2023
 ENGINEER DATE

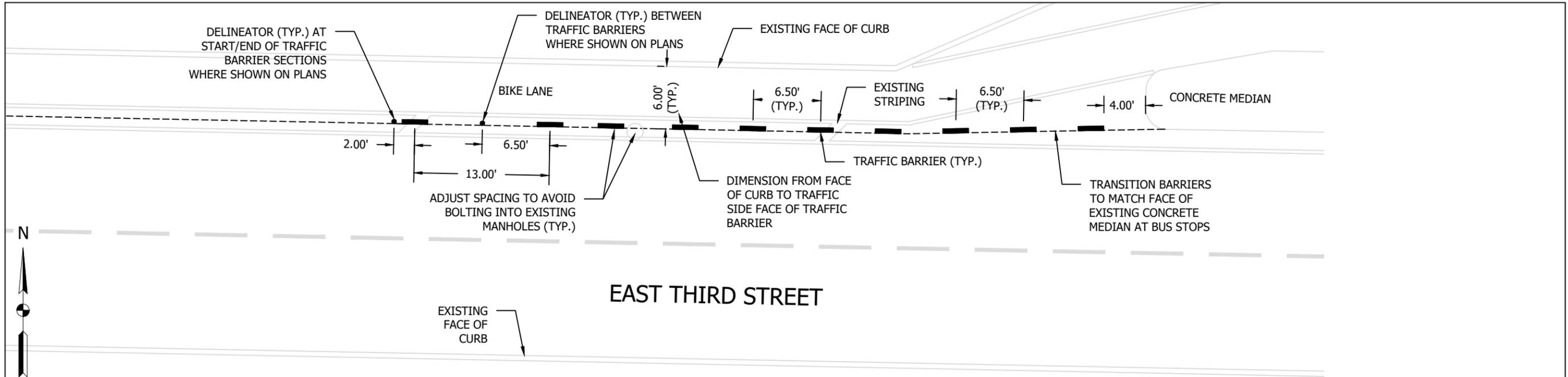


HORIZONTAL SCALE	BRIDGE FILE
1"=40'	N/A
VERTICAL SCALE	DESIGNATION
1"=40'	N/A

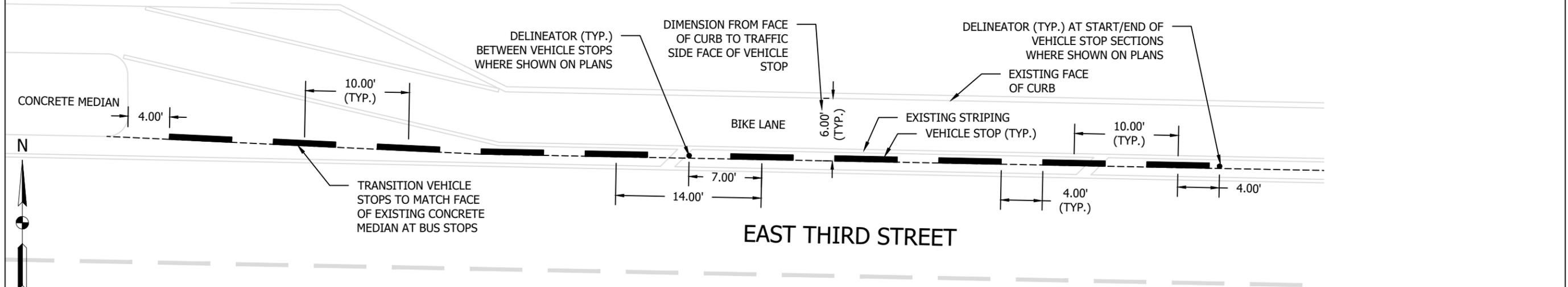
DESIGNED: KCK DRAWN: KCK
 CHECKED: NHK CHECKED: NHK

PROJECT NAME:
 THIRD STREET BICYCLE LANE IMPROVEMENTS

SURVEY BOOK	SHEETS	
N/A	5	of 8
CONTRACT	PROJECT #	
N/A	N/A	



TRAFFIC BARRIER TYPICAL PLACEMENT DETAIL

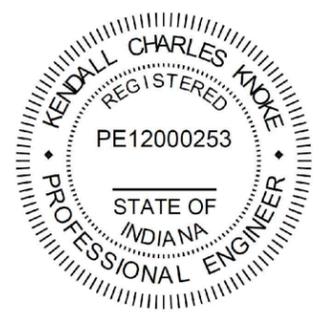


VEHICLE STOP TYPICAL PLACEMENT DETAIL

PLOTTED: Friday, December 1, 2023 2:11:42 PM

NOTES

- CONTRACTOR TO LAY OUT TRAFFIC BARRIERS WITH PAINT AND THEN CONTACT CITY OF BLOOMINGTON ENGINEERING 812-349-3913 FOR INSPECTION PRIOR TO INSTALLATION.



RECOMMENDED FOR APPROVAL

 ENGINEER DATE 12/01/2023

DESIGNED: KCK DRAWN: KCK
 CHECKED: NHK CHECKED: NHK



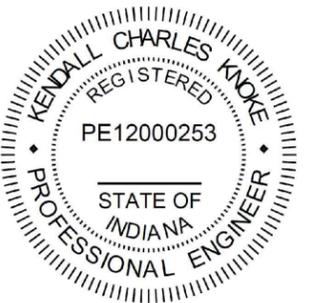
PROJECT NAME:
THIRD STREET BICYCLE LANE IMPROVEMENTS

HORIZONTAL SCALE	BRIDGE FILE
1"=10'	N/A
VERTICAL SCALE	DESIGNATION
1"=10'	N/A
SURVEY BOOK	SHEETS
N/A	6 of 8
CONTRACT	PROJECT #
N/A	N/A

TRAFFIC BARRIER, VEHICLE STOP, & DELINEATOR SUMMARY				
LOCATION		TRAFFIC BARRIER	VEHICLE STOP	DELINEATOR
Plan Sheets No.	Stations	EA	EA	EA
3 & 4	104+89 to 114+57	136		10
4	115+30 to 118+29		26	4
5	126+69 to 128+93		14	3

PRODUCT INFORMATION							
TRAFFIC BARRIER							
Product	Size	Color	Weight	Installation Orientation	Required Parts	Provided by City	Provided by Contractor
TrafficLogix "Cycle Lane" Traffic Barriers	29.5" L x 4.75" W x 4" H	Black with White Stripe	10 lbs	Rounded side facing bike lane, vertical side facing vehicle traffic (bolt holes on bike lane side)	THREE (3) 3/8" x 7" lag bolts, THREE (3) 3/8" washers, and THREE (3) plastic polypropylene shields per traffic barrier	Traffic Barrier Product	Lag Bolts, Washers, plastic shields, Hammer Drill, Drill Bits, Installation Tool for plastic shields, any other equipment or parts required for product installation per manufacturer's recommendations
VEHICLE STOP							
Product	Size	Color	Weight	Installation Orientation	Required Parts	Provided by City	Provided by Contractor
Park-It Parking Curb Rubber Vehicle Stop	72" L x 6" W x 4" H	Black with molded in white reflective tape	34 lbs	N/A	FOUR (4) 1/2" x 14" asphalt rebar spikes with rounded head, FOUR (4) 1/2" washers per vehicle stop	Rubber Vehicle Stop Product	Rebar spikes, Washers, Drill, Drill Bits, any other equipment or parts required for product installation
DELINEATOR POST, FLEXIBLE, TYPE II							
Product	Size	Color	Weight	Installation Orientation	Required Parts	Provided by City	Provided by Contractor
Impact Recovery Systems "MP2 Post" Black Cap Top with Surface Mount Quick Release Base Or Approved Equal	36" L x 2.375" Diameter	White with Two 3" White Bands	N/A	N/A	FOUR (4) 16mm x 3" plastic sleeves, FOUR (4) 1/2" x 4" lag screws, FOUR (4) 1-1/4" metal washers	None	Delineator product, parts, any other equipment required for product installation

PLOTTED: Friday, December 1, 2023 2:11:47 PM

	RECOMMENDED FOR APPROVAL			HORIZONTAL SCALE	BRIDGE FILE
	 12/01/2023 ENGINEER DATE			N.T.S.	N/A
	DESIGNED: <u>KCK</u>	DRAWN: <u>KCK</u>	PROJECT NAME: THIRD STREET BICYCLE LANE IMPROVEMENTS	VERTICAL SCALE	DESIGNATION
	CHECKED: <u>NHK</u>	CHECKED: <u>NHK</u>		N.T.S.	N/A
			SURVEY BOOK	SHEETS	
			N/A	7 of 8	
			CONTRACT	PROJECT #	
			N/A	N/A	

Notes for Figure 6H-33—Typical Application 33
Stationary Lane Closure on a Divided Highway

Standard:

1. This information also shall be used when work is being performed in the lane adjacent to the median on a divided highway. In this case, the LEFT LANE CLOSED signs and the corresponding Lane Ends signs shall be substituted.
2. When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed as needed.

Guidance:

3. When paved shoulders having a width of 8 feet or more are closed, channelizing devices should be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

Option:

4. A truck-mounted attenuator may be used on the work vehicle and/or shadow vehicle.

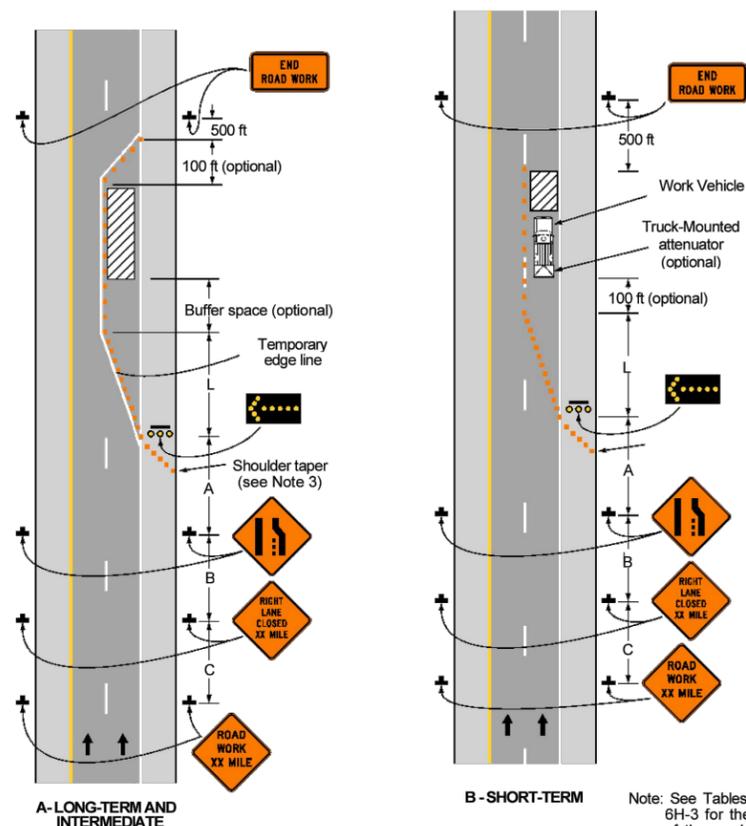
Support:

5. Where conditions permit, restricting all vehicles, equipment, workers, and their activities to one side of the roadway might be advantageous.

Standard:

6. An arrow board shall be used when a freeway lane is closed. When more than one freeway lane is closed, a separate arrow board shall be used for each closed lane.

Figure 6H-33. Stationary Lane Closure on a Divided Highway (TA-33)



Typical Application 33

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

	Arrow board		Shadow vehicle
	Arrow board support or trailer (shown facing down)		Sign (shown facing left)
	Changeable message sign or support trailer		Surveyor
	Channelizing device		Temporary barrier
	Crash cushion		Temporary barrier with warning light
	Direction of temporary traffic detour		Traffic or pedestrian signal
	Direction of traffic		Truck-mounted attenuator
	Flagger		Type 3 barricade
	High-level warning device (Flag tree)		Warning light
	Longitudinal channelizing device		Work space
	Luminaire		Work vehicle
	Pavement markings that should be removed for a long-term project		

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

* Speed category to be determined by highway agency
 ** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

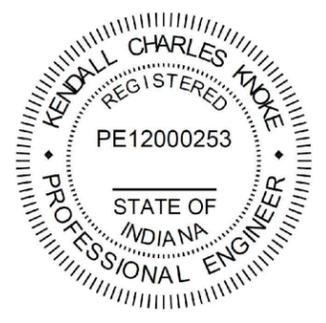
Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

PLOTTED: Friday, December 1, 2023 2:11:52 PM

Sect. 6H.01 November 2011 November 2011 Sect. 6H.01 November 2011 Sect. 6H.01

NOTES

1. EAST THIRD STREET IS AN URBAN LOW SPEED ROAD WITH A POSTED SPEED LIMIT OF 25 MPH.
2. AN ARROW BOARD IS REQUIRED FOR LANE CLOSURE.
3. CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE BIKE LANE (TYPICAL WIDTH 5' PLUS 2' BUFFER). SIGNS R3-17 "BIKE LANE" WITH R3-17bP "ENDS" and R4-11 "MAY USE FULL LANE" SHALL BE POSTED 100FT IN ADVANCE OF THE BIKE LANE CLOSURE.



RECOMMENDED FOR APPROVAL

 12/01/2023
 ENGINEER DATE



DESIGNED: KCK DRAWN: KCK
 CHECKED: NHK CHECKED: NHK

PROJECT NAME:
THIRD STREET BICYCLE LANE IMPROVEMENTS

HORIZONTAL SCALE	BRIDGE FILE
N.T.S.	N/A
VERTICAL SCALE	DESIGNATION
N.T.S.	N/A
SURVEY BOOK	SHEETS
N/A	8 of 8
CONTRACT	PROJECT #
N/A	N/A