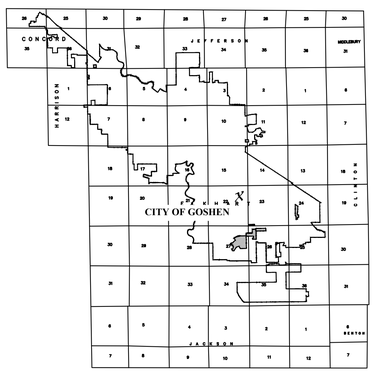
SIXTEENTH STREET RECONSTRUCTION
JN: 2020-0038



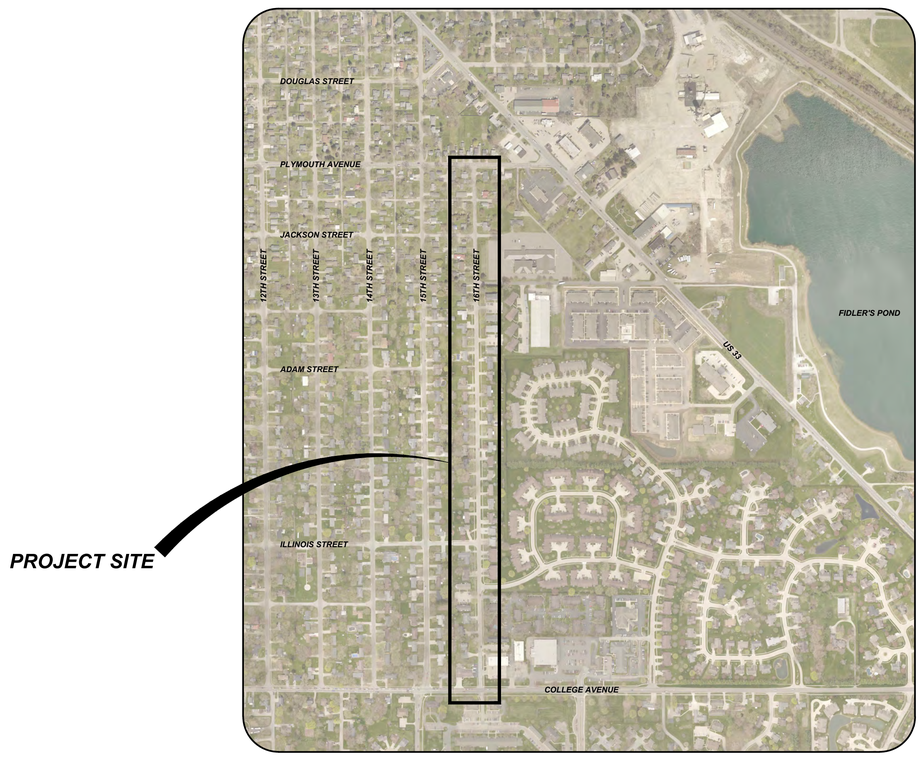
PROJECT LOCATION SHOWN BY X

UTILITIES

GAS	NIPSCO 300 E. KERCHER ROAD GOSHEN, INDIANA 46526 1-574-535-0264
ELECTRIC	NIPSCO 300 E. KERCHER ROAD GOSHEN, INDIANA 46526 1-574-535-0259
TELEPHONE	FRONTIER 24373 COUNTY ROAD 45 ELKHART, INDIANA 46516 1-574-535-4549 NEW PARIS TELEPHONE/ COMMUNITY FIBER 19066 MARKET STREET NEW PARIS, INDIANA 46553 1-574-831-2179
TV	COMCAST CABLE 4045 EDISON LAKES PARKWAY MISHAWAKA, INDIANA 46545 1-574-252-2562
WATER & SEWER	GOSHEN UTILITIES 308 N. 5th STREET GOSHEN, INDIANA 46528 1-574-533-9399
UTILITY LOCATE	HOLEY MOLEY 1-800-382-5544 OR 811

ADMINISTRATION

MAYOR	JEREMY P. STUTSMAN
CITY CLERK-TREASURER	ADAM SCHARF
COMMON COUNCIL	JIM McKEE - DISTRICT ONE DOUG NISLEY - DISTRICT TWO MATT SCHROCK - DISTRICT THREE MEGAN EICHORN - DISTRICT FOUR GILBERTO PEREZ - DISTRICT FIVE BRETT F. WEDDELL - AT LARGE JULIA KING - AT LARGE
BOARD OF PUBLIC WORKS AND SAFETY	JEREMY P. STUTSMAN - MAYOR MICHAEL A. LANDIS - MEMBER MARY NICHOLS - MEMBER



VICINITY MAP

PROJECT DESCRIPTION

REMOVAL OF EXISTING ASPHALT/CONCRETE PAVEMENT AND CURB ON SIXTEENTH STREET BETWEEN COLLEGE AVENUE AND PLYMOUTH AVENUE. REPLACEMENT OF EXISTING STORM STRUCTURES AND PIPES. INSTALLATION OF NEW CURB, ASPHALT PAVEMENT AND DRIVE APPROACHES.

FOR THE PROTECTION OF UNDERGROUND UTILITIES, CONTRACTOR SHALL CALL UNDERGROUND PLANT PROTECTION A MINIMUM OF THREE WORKING DAYS PRIOR TO EXCAVATING IN THE VICINITY OF THE UTILITY LINES. ALL "HOLEY MOLEY" PARTICIPATING MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "HOLEY MOLEY" PLANT PROTECTION SYSTEM.

PER CHAPTER 30, SECTION 38.3 OF RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES, SEWER (STORM & SANITARY) TO WATER MAIN HORIZONTAL SEPARATION SHALL BE 10' AND VERTICAL SEPARATION SHALL BE 18".

IF ANY ERRORS BECOME APPARENT, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY FOR CLARIFICATION OR REDESIGN.

THE CONTRACTOR SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL GOVERNMENT, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, INDIANA DEPARTMENT OF NATURAL RESOURCES, AND THE INDIANA DEPARTMENT OF TRANSPORTATION.

CONTRACTORS SHALL MAKE WHATEVER SOIL BORINGS NECESSARY TO FULLY ACQUAINT THEMSELVES WITH CONDITIONS AS THEY EXIST SO THAT THEY MAY FULLY UNDERSTAND THE CONDITIONS THAT MAY AFFECT THE COST OF THE WORK. FAILURE TO MAKE SUCH BORINGS OR ANY BORING MADE THAT DOES NOT PROVIDE A COMPLETE UNDERSTANDING OF THE CONDITIONS ENCOUNTERED SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR CARRYING OUT ALL THE WORK TO COMPLETION AS SHOWN ON THE PLAN, OR AS SPECIFIED, AT THE PRICE SPECIFIED TO BE PAID FOR THE WORK. WHERE THE RESULTS OF ANY TEST BORINGS ARE SHOWN ON THE PLANS, THE INFORMATION IS NOT GUARANTEED AND THE CONTRACTOR MUST SATISFY HIMSELF AS TO THE CHARACTER OF MATERIALS THAT MAY BE ENCOUNTERED.

CONTRACTOR SHALL ADHERE TO THE EROSION CONTROL REQUIREMENTS DEVELOPED FOR THIS PROJECT AND AS APPROVED BY THE LOCAL SOIL AND WATER OFFICE.

WORK ON THIS PROJECT MAY REQUIRE CONFINED SPACE ENTRY. CONTRACTOR EMPLOYEES ENTERING CONFINED SPACES OWNED BY THE CITY SHALL BE TRAINED TO ENTER CONFINED SPACES, SHALL BE PROPERLY EQUIPPED TO MAKE CONFINED SPACE ENTRY, AND SHALL PREPARE AND FILE THE PROPER CONFINED SPACE ENTRY PLAN. THE CITY SHALL NOT BE HELD LIABLE FOR ANY PERSONAL DAMAGES BY THE CONTRACTOR'S EMPLOYEE'S RESULTING FROM A POORLY EXECUTED CONFINED SPACE ENTRY.

UTILITY LOCATIONS

UTILITY LOCATIONS ARE APPROXIMATED FROM RECORD INFORMATION AND MUST BE VERIFIED PRIOR TO CONSTRUCTION. PIPE INVERTS HAVE BEEN MEASURED WITH AS MUCH ACCURACY AS CAN BE ACHIEVED WITHOUT CONFINED SPACE ENTRY. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR VERIFYING UTILITY LOCATIONS AND ELEVATIONS AS NECESSARY FOR THE PROPER CONSTRUCTION OF THE DETAILED IMPROVEMENTS.

VERTICAL CONTROL

BENCHMARK 701
STA. 10+19.89, 131.26' RT.
RR SPIKE ON S. FACE OF POWER POLE #692938
LOCATED ON COLLEGE AVE. EAST OF 16TH ST.
ELEV: 806.80 NAVD 88

BENCHMARK 702
MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE
1-059/930
STA. 17+25.62, 22.90' LT.
ELEV: 804.64 NAVD 88

BENCHMARK 703
NORTH B. BOLT ON FIRE HYDRANT, NEAR 1404 16TH STREET,
EAST SIDE OF STREET
STA. 21+81.33, 24.11' RT.
ELEV: 806.19 NAVD 88

BENCHMARK 704
MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE
1-059/931
STA. 26+24.50, 23.03' LT.
ELEV: 804.41 NAVD 88

BENCHMARK 705
MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE
1-059/928
STA. 31+51.06, 22.22' LT.
ELEV: 803.75 NAVD 88

BENCHMARK 706
MAG SPIKE WITH A A+Z DISK IN EAST FACE OF POWER
POLE 693/891
STA. 37+67.66, 22.38' LT.
ELEV: 804.78 NAVD 88

BENCHMARK 707
NORTH B. BOLT OF FIRE HYDRANT, NORTHEAST
CORNER OF JEACKSON ST. AND 16TH ST.
STA. 40+86.18, 22.38' RT.
ELEV: 805.23 NAVD 88

BENCHMARK 708
MAG SPIKE WITH A+Z DISK IN SOUTH FACE OF POWER
POLE 675298
STA. 45+48.87, 4.60' LT.
ELEV: 803.60 NAVD 88

HORIZONTAL CONTROL

CP 500 29+25.95, 77.96' RIGHT, ELEV. 802.53, 5/8" REBAR W/A&Z CAP-GPS BASE
CP 501 1+33.66, 29.92' RIGHT, ELEV. 806.05, 5/8" REBAR W/A&Z CAP
CP 502 3+61.29, 17.23' RIGHT, ELEV. 804.15, 5/8" REBAR W/A&Z CAP
CP 503 8+04.97, 24.56' RIGHT, ELEV. 803.76, 5/8" REBAR W/A&Z CAP
CP 504 12+65.99, 21.65' RIGHT, ELEV. 803.69, 5/8" REBAR W/A&Z CAP
CP 505 17+31.30, 22.20' RIGHT, ELEV. 803.88, 5/8" REBAR W/A&Z CAP
CP 506 21+95.26, 21.60' RIGHT, ELEV. 802.44, 5/8" REBAR W/A&Z CAP
CP 507 26+31.10, 20.91' RIGHT, ELEV. 802.98, 5/8" REBAR W/A&Z CAP
CP 508 30+49.73, 32.67' RIGHT, ELEV. 803.28, 5/8" REBAR W/A&Z CAP
CP 509 35+15.18, 30.89' LEFT, ELEV. 802.80, 5/8" REBAR W/A&Z CAP

CP 500 N 2304133.99, E 287009.7973
CP 501 N 2301341.162, E 286995.4521
CP 502 N 2301568.618, E 286980.0369
CP 503 N 2302012.358, E 286982.0506
CP 504 N 2302473.314, E 286973.6229
CP 505 N 2302938.595, E 286968.5920
CP 506 N 2303402.51, E 286962.4365
CP 507 N 2303838.317, E 286956.5273
CP 508 N 2304257.121, E 286962.7594
CP 509 N 2304721.624, E 286892.6277

ENGINEERING BY:

GOSHEN CITY ENGINEERING
204 E. JEFFERSON STREET
GOSHEN, INDIANA 46528

SURVEY BY:

A & Z ENGINEERING, LLC
1220 RUSTON PASS
FORT WAYNE, INDIANA 46825

SHEET DESCRIPTION

X-2525-01	COVER SHEET
X-2525-02	SOIL BORING LOCATION MAP AND SOIL BORING REPORTS
X-2525-03	ROADWAY DETAILS
X-2525-04	STORM DETAILS
X-2525-05	ADA RAMP, DRIVEWAY AND GENERAL DETAILS
X-2525-06	TRAFFIC CONTROL PLAN
X-2525-07	RIGHT OF ENTRY
X-2525-08	16TH ST. - PLAN & PROFILE STA. 10+00 TO 15+00
X-2525-09	16TH ST. - PLAN & PROFILE STA. 15+00 TO 21+00
X-2525-10	16TH ST. - PLAN & PROFILE STA. 21+00 TO 27+00
X-2525-11	16TH ST. - PLAN & PROFILE STA. 27+00 TO 33+00
X-2525-12	16TH ST. - PLAN & PROFILE STA. 33+00 TO 39+00
X-2525-13	16TH ST. - PLAN & PROFILE STA. 39+00 TO 44+00
X-2525-14	16TH ST. - PLAN & PROFILE STA. 44+00 TO 46+50
X-2525-15	KENTFIELD WAY- PLAN & PROFILE STA. 8+50 TO 11+00
X-2525-16	ILLINOIS ST.- PLAN & PROFILE STA. 9+50 TO 12+50
X-2525-17	JACKSON ST. - PLAN & PROFILE STA. 9+00 TO 11+75
X-2525-18	GRADING PLAN - 16TH ST. AND COLLEGE AVE., ALLEY STA. 43+00.00, FAIRFEILD AVE.
X-2525-19	16TH ST. - X-SECTIONS STA. 11+00.00 TO 13+00.00
X-2525-20	16TH ST. - X-SECTIONS STA. 13+25.00 TO 15+00.00
X-2525-21	16TH ST. - X-SECTIONS STA. 15+25.00 TO 16+75.00
X-2525-22	16TH ST. - X-SECTIONS STA. 17+00.00 TO 18+25.00
X-2525-23	16TH ST. - X-SECTIONS STA. 18+50.00 TO 19+75.00
X-2525-24	16TH ST. - X-SECTIONS STA. 20+00.00 TO 21+25.00
X-2525-25	16TH ST. - X-SECTIONS STA. 21+50.00 TO 23+00.00
X-2525-26	16TH ST. - X-SECTIONS STA. 23+25.00 TO 24+75.00
X-2525-27	16TH ST. - X-SECTIONS STA. 24+90.18 TO 26+50.00
X-2525-28	16TH ST. - X-SECTIONS STA. 26+75.00 TO 28+50.00
X-2525-29	16TH ST. - X-SECTIONS STA. 28+65.00 TO 29+75.00
X-2525-30	16TH ST. - X-SECTIONS STA. 30+00.00 TO 31+75.00
X-2525-31	16TH ST. - X-SECTIONS STA. 32+00.00 TO 33+75.00
X-2525-32	16TH ST. - X-SECTIONS STA. 33+89.00 TO 35+50.00
X-2525-33	16TH ST. - X-SECTIONS STA. 35+75.00 TO 37+50.00
X-2525-34	16TH ST. - X-SECTIONS STA. 37+72.78 TO 39+25.00
X-2525-35	16TH ST. - X-SECTIONS STA. 39+50.00 TO 41+00.00
X-2525-36	16TH ST. - X-SECTIONS STA. 41+25.00 TO 42+75.00
X-2525-37	16TH ST. - X-SECTIONS STA. 43+00.00 TO 44+75.00
X-2525-38	EROSION CONTROL MEASURES
X-2525-39	EROSION CONTROL MEASURES
X-2525-40	EROSION CONTROL MEASURES
X-2525-41	EROSION CONTROL MEASURES

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE19101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

Cover Sheet

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: Not To Scale	

X-2525-01

SOIL BORING LOCATION MAP

N.T.S.

LOG OF BORING SB-1

(Page 1 of 1)

16th Street Full Reconstruction
Goshen, Indiana

Client Name : City of Goshen
Project Number : 20-1574-04G
Logged By : S. Lauletta
Start Date : 12/14/2020
Drilling Method : HSA
Driller : M. Walker
Sampling : Splitspoon

Water Levels
___ During Drilling - 13.0 feet
▽ After Completion - Dry
___ After 24 Hours - N/A

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
0				CONCRETE (5.5")						
				CRUSHED STONE (4")						
		SP-SM		Brown, slightly moist, loose to medium dense, fine to medium grained, SAND with trace silt and trace gravel	1	89	3/3/4			
					2	100	4/3/4			
					3	100	3/5/8			
					4	100	4/5/7			
5					5	100	3/4/6			
					6	100	4/6/8			
					7	100	7/8/8			
					8	100	7/8/9			Boring caved to 12 feet upon auger removal.
10		SP-SM		Brown, saturated, medium dense, fine to medium grained, SAND with trace silt and trace gravel	9	100	8/9/8			
					10	100	8/10/9			
15				Boring terminated at 16 feet.						
20										

LOG OF BORING SB-2

(Page 1 of 1)

16th Street Full Reconstruction
Goshen, Indiana

Client Name : City of Goshen
Project Number : 20-1574-04G
Logged By : S. Lauletta
Start Date : 12/14/2020
Drilling Method : HSA
Driller : M. Walker
Sampling : Splitspoon

Water Levels
___ During Drilling - 13.0 feet
▽ After Completion - Dry
___ After 24 Hours - N/A

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
0				CONCRETE (6")						
				CRUSHED STONE (5")						
		CL		Brown, moist, soft, SANDY CLAY transitioning to brown, slightly moist, very loose, fine to medium grained, SAND with trace silt and trace gravel	1	78	2/2/2		18	
				Brown, slightly moist, loose to medium dense, fine to medium grained, SAND with trace silt and trace gravel	2	89	2/3/2			
					3	89	1/3/5			
		SP-SM			4	100	2/4/3			
5					5	100	7/9/12			
					6	100	9/10/9			
					7	100	16/12/12			
		SP-SM		Brown, slightly moist, dense, fine to medium grained, SAND with trace silt and trace gravel	8	100	14/13/18			Boring caved to 11.5 feet upon auger removal.
10		SP-SM		Brown, saturated, medium dense, fine to medium grained, SAND with trace silt and trace gravel	9	100	7/9/9			
					10	100	9/8/11			
15				Boring terminated at 16 feet.						
20										

LOG OF BORING SB-3

(Page 1 of 1)

16th Street Full Reconstruction
Goshen, Indiana

Client Name : City of Goshen
Project Number : 20-1574-04G
Logged By : S. Lauletta
Start Date : 12/14/2020
Drilling Method : HSA
Driller : M. Walker
Sampling : Splitspoon

Water Levels
___ During Drilling - 13.0 feet
▽ After Completion - Dry
___ After 24 Hours - N/A

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
0				CONCRETE (5.5")						
				CRUSHED STONE (3")						
				Brown, slightly moist, loose to medium dense, fine to medium grained, SAND with trace silt and trace gravel	1	89	2/2/4			
					2	100	2/3/4			
					3	100	3/4/4			
		SP-SM			4	100	3/5/9			
5					5	100	11/8/8			
					6	100	9/8/7			
					7	100	4/6/8			Boring caved to 11 feet upon auger removal.
					8	100	5/9/11			
10		SP-SM		Brown, saturated, medium dense, fine to medium grained, SAND with trace silt and trace gravel	9	100	5/7/7			
					10	100	6/5/9			
15				Boring terminated at 16 feet.						
20										

LOG OF BORING SB-4

(Page 1 of 1)

16th Street Full Reconstruction
Goshen, Indiana

Client Name : City of Goshen
Project Number : 20-1574-04G
Logged By : S. Lauletta
Start Date : 12/14/2020
Drilling Method : HSA
Driller : M. Walker
Sampling : Splitspoon

Water Levels
___ During Drilling - 14.5 feet
▽ After Completion - Dry
___ After 24 Hours - N/A

Depth in Feet	Water Level	USCS	GRAPHIC	DESCRIPTION	Samples	Rec %	SPT Results	qp tsf	w %	REMARKS
0				ASPHALT (3")						
				CRUSHED STONE (4")						
		SP-SM		Brown, slightly moist, very loose, fine to medium grained, SAND with trace silt and trace gravel	1	94	1/1/1			
		SC		Brown, slightly moist, loose, CLAYEY SAND with trace gravel	2	89	2/2/3			
		SC		Brown, slightly moist, medium dense, CLAYEY SAND with trace gravel transitioning to fine to medium grained, SAND with trace silt and trace gravel	3	89	1/5/9			
5				Brown, slightly moist, medium dense, fine to medium grained, SAND with trace silt and trace gravel	4	100	2/4/7			
					5	100	10/11/12			
					6	100	9/12/8			
					7	100	10/13/16			
					8	100	10/12/14			Boring caved to 11.5 feet upon auger removal.
					9	100	6/7/8			
10		SP-SM								
15		SP-SM		Brown, saturated, loose, fine to medium grained, SAND with trace silt and trace gravel	10	100	5/5/5			
				Boring terminated at 16 feet.						
20										

EXISTING PAVEMENT CONDITIONS

Our interpretation of the existing pavement conditions is based upon visual observations made in our soil borings collected along the alignment at the approximate locations shown on the Boring Location Maps (Figures No. 2) in Appendix "A".

Based on visual observations, the pavement sections along the alignment consists of asphalt and concrete pavement layers over crushed stone layers. The asphalt pavement layer was about 3 inches thick. The concrete pavement layer varied in total thickness from approximately 5.5 to 6 inches. The crushed stone layer varied in total thickness from approximately 3 to 5 inches. A summary of the pavement thickness at each soil boring location is shown in Table No.1 below.

Table No. 1: Summary of Existing Pavement Thickness at Core Locations

Boring Location	Concrete Thickness (in)	Asphalt Thickness (in)	Crushed Stone Thickness (in)
SB-1	5.5	-	4
SB-2	6	-	5
SB-3	5.5	-	3
SB-4	-	3	4

SUBSURFACE CONDITIONS

Our interpretation of the subsurface conditions is based upon four (4) soil borings (SB-1 through SB-4) drilled at the approximate locations shown on the Boring Location Map (Figure No. 2) in Appendix "A".

The following discussion is general; for more specific information, please refer to the boring logs presented in Appendix "A". It should be noted that the dashed stratification lines shown on the soil boring logs indicate approximate transitions between soil types. In-situ stratification changes could occur gradually or at different depths. All depths discussed below refer to depths below the existing ground surface. Our soil boring locations were not surveyed. Therefore, existing ground surface elevations at each boring location were not provided.

The pavement section is generally underlain by brown, loose to dense Sand (SP-SM) to the termination depths of 16 feet below the existing pavement surface. Standard Penetration Test N-values (blow counts) in this material varied from 5 to 31 blows per foot (bpf). Please note, a layer of ***very loose sand was encountered from the pavement section to approximately 2.5 feet below existing pavement in boring SB-4. Standard Penetration Test N-values (blow counts) in this material was 2 blows per foot (bpf).***

BORING LOG KEY

UNIFIED SOIL CLASSIFICATION SYSTEM
FIELD CLASSIFICATION SYSTEM
FOR SOIL EXPLORATION

NON COHESIVE SOILS
(Silt, Sand, Gravel and Combinations)

Density

Very Loose	-4 blows/ft. or less
Loose	-5 to 10 blows/ft.
Medium Dense	-11 to 30 blows/ft.
Dense	-31 to 50 blows/ft.
Very Dense	-51 blows/ft. or more

Grain Size Terminology

Soil Fraction	Particle Size	US Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to12"	3" to 12"
Gravel: Coarse	¾" to 3"	¾" to 3"
Small	4.76mm to ¾"	#4 to ¾"
Sand: Coarse	2.00mm to 4.76mm	#10 to #4
Medium	0.42mm to 2.00mm	#40 to #10
Fine	0.074mm to 0.42mm	#200 to #40
Silt	0.005mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005mm	Smaller than #200

RELATIVE PROPORTIONS FOR SOILS

Descriptive Term	Percent
Trace	1 - 10
Little	11 - 20
Some	21 - 35
And	36 - 50

COHESIVE SOILS
(Clay, Silt and Combinations)

Consistency	Unconfined Compressive Strength (tons/sq. ft.)	Field Identification (Approx.) SPT Blows/ft.
Very Soft	Less than 0.25	0 - 2
Soft	0.25 – < 0.5	3 - 4
Medium Stiff	0.5 - < 1.0	5 - 8
Stiff	1.0 - < 2.0	9 -15
Very Stiff	2.0 - < 4.0	16 - 30
Hard	Over 4.0	> 30

Classification on logs are made by visual inspection.

Standard Penetration Test - Driving a 2.0" O.D., 13/8" I.D., sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30.0 inches. It is customary for Patriot to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and making the tests are recorded for each 6.0 inches of penetration on the drill log (Example - 6/8/9). The standard penetration test results can be obtained by adding the last two figures (i.e. 8 + 9 = 17 blows/ft.).

Strata Changes - In the column "Soil Descriptions" on the drill log the horizontal lines represent strata changes. A solid line (_____) represents an actually observed change, a dashed line (- - - - -) represents an estimated change.

Groundwater observations were made at the times indicated. Porosity of soil strata, weather conditions, site topography, etc., may cause changes in the water levels indicated on the logs.

Groundwater symbols: ▼-observed groundwater elevation, encountered during drilling; -observed groundwater elevation upon completion of boring.

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE19101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

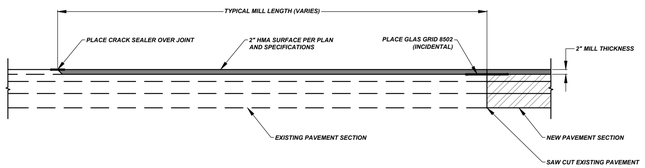
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

SOIL BORING LOCATION MAP AND SOIL BORING REPORTS

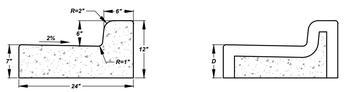
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-02



MILLING AT PAVEMENT TRANSITION DETAIL

NOT TO SCALE



CONCRETE CURB & GUTTER

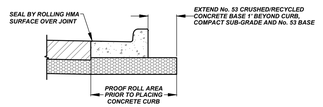
CONTRACTION JOINT SECTION

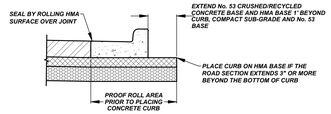
CONCRETE CURB & GUTTER DETAIL

NOT TO SCALE

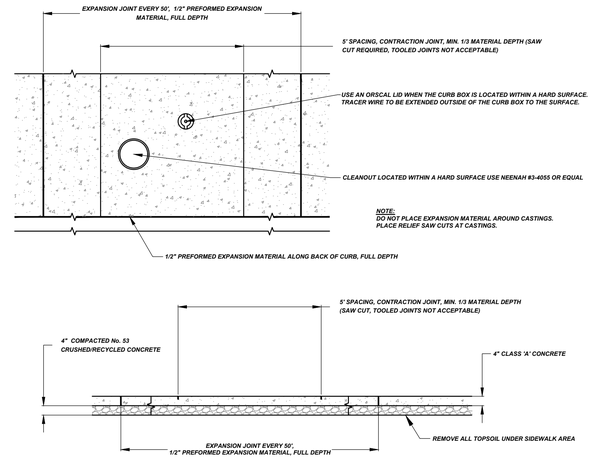
NOTES:

- EXPANSION JOINTS REQUIRE 1/2" MATERIAL EVERY 40' ALONG STRAIGHT SECTIONS, BEGINNING AND ENDING OF ROADWAY CURVES, MID POINT OF SMALL ROADWAY CURVE AND EVERY 40' ALONG LARGE ROADWAY CURVE AND 4' EACH SIDE OF A CURB CASTING. EXPANSION MATERIAL MUST BE FULL DEPTH AND WIDTH OF CURB SECTION OR THEY WILL BE REQUIRED TO BE REPLACED.
- CONTRACTION JOINTS ARE REQUIRED EVERY 10' AT 1/3 THE DEPTH, D/3. NO TOOLING OF CONTRACTIONS JOINTS IS ALLOWED.
- REMOVE ALL EXCESS MATERIAL ALONG THE FACE OF THE CURB PRIOR TO MATERIAL SETTING TO ALLOW A CLEAN VERTICAL FACE TO PAVE AGAINST.
- BROOM FINISH CURB SURFACE
- APPLY TWO COATS OF SEALER CONTAINING WHITE PIGMENT IF CONCRETE IS POURED DURING THE MONTH OF SEPTEMBER OR LATER
- STAMP 'W' FOR WATER AND 'S' FOR SEWER ON CURB AT SERVICE LOCATIONS



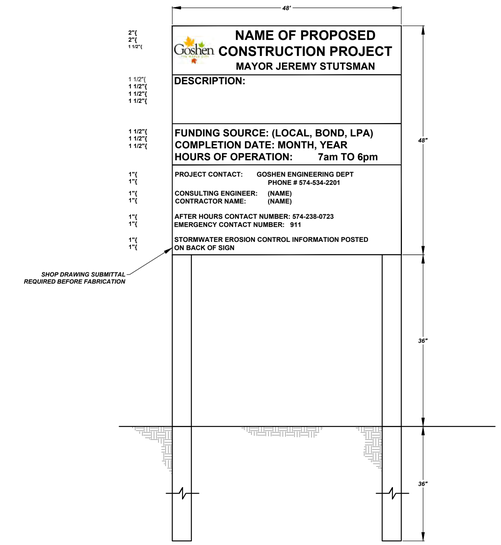


TYPICAL CONCRETE CURB & GUTTER INSTALLATION ON No. 53 BASE AND HMA BASE



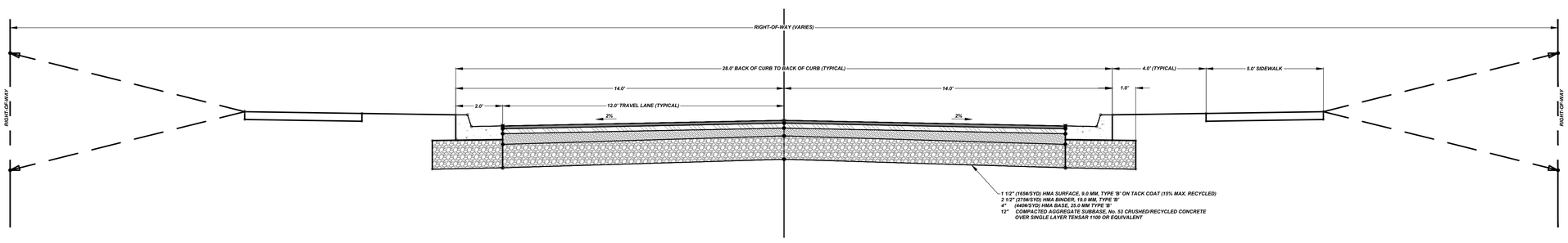
TYPICAL SIDEWALK DETAIL

NOT TO SCALE



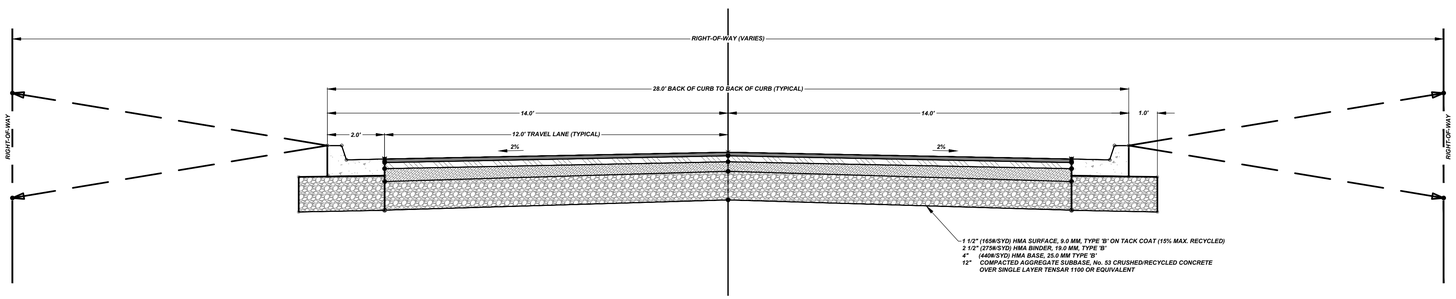
PROJECT CONSTRUCTION SIGN

NOT TO SCALE



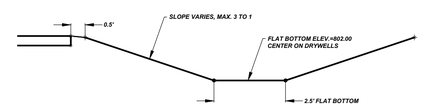
TYPICAL ROAD SECTION DETAIL W/ SIDEWALKS

NOT TO SCALE



TYPICAL ROAD SECTION DETAIL

NOT TO SCALE



TYPICAL DITCH DETAIL STA. 37+75 TO 40+50

NOT TO SCALE

REV.	DESCRIPTION	BY	DATE

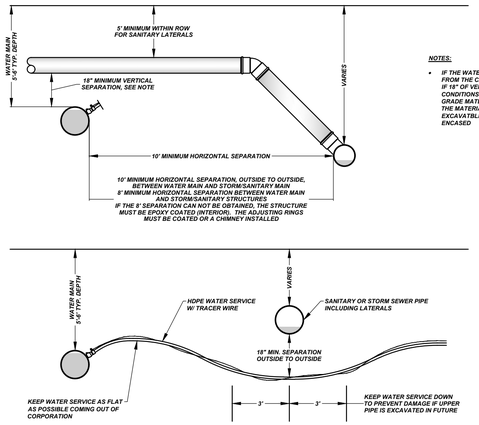
JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

ROADWAY DETAILS

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	
X-2525-03	

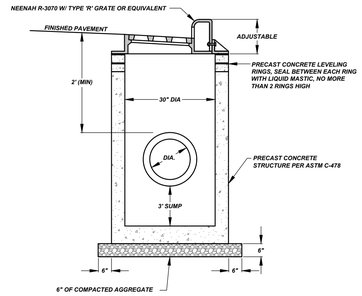


NOTES:

- IF THE WATER MAIN DEPTH MUST BE ADJUSTED DEEPER THAN 6', APPROVAL FROM THE CITY OF GOSHEN ENGINEERING DEPARTMENT MUST BE OBTAINED. IF 18" OF VERTICAL SEPARATION CANNOT BE OBTAINED DUE TO EXISTING CONDITIONS THEN CHANGE THE STORM/SANITARY MATERIAL TO A PRESSURE GRADE MATERIAL. A MINIMUM OF 6" OF SEPARATION REQUIRED NO MATTER THE MATERIAL TYPE. BETWEEN 12" TO 6" OF SEPARATION WILL REQUIRE EXCAVATBLE FLOWABLE FILL BE PLACED OVER THE TWO PIPES, FULLY ENCASED

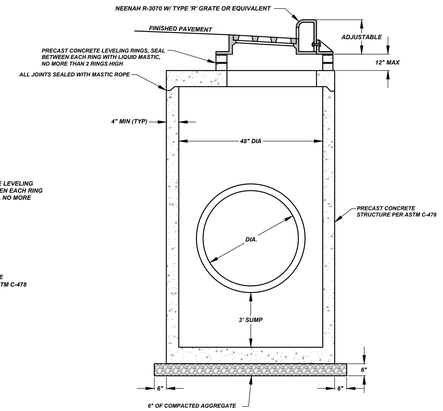
UTILITY SEPARATION DETAIL

NOT TO SCALE



30" DIA. CATCH BASIN DETAIL

NOT TO SCALE



48" DIA. CATCH BASIN DETAIL

NOT TO SCALE

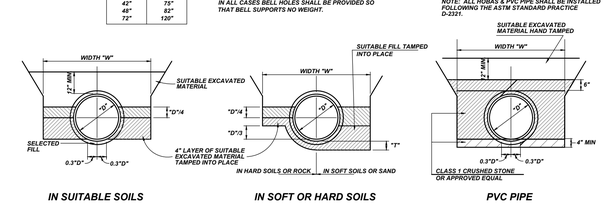
MAX. TRENCH WIDTH AT TOP OF PIPE	
DIA. "D"	WIDTH "W"
6"	18"
8"	24"
10"	24"
12"	30"
15"	36"
18"	39"
21"	42"
24"	45"
27"	48"
30"	53"
36"	66"
42"	75"
48"	82"
72"	120"

MIN. THICKNESS "T"	
TO 15"	6"
18" TO 36"	9"
OVER 36"	12"

NOTE:

PIPE SHALL BE FIRMLY BEDDED ON UN-DISTURBED SOIL AS SHOWN IN LEFT SECTION. IN THE EVENT THE SOIL CAN NOT BE SHAPED, OR THE CONTRACTOR PREFERS, THE TRENCH SHALL BE EXCAVATED TO A GREATER DEPTH AND BACKFILLED WITH SELECTED FILL AND COMPACTED AS SHOWN IN RIGHT SECTION. IN ALL CASES BELL HOLES SHALL BE PROVIDED SO THAT BELL SUPPORTS NO WEIGHT.

NOTE: ALL HOBAS & PVC PIPE SHALL BE INSTALLED FOLLOWING THE ASTM STANDARD PRACTICE D-2321.



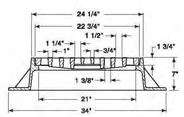
TYPICAL TRENCH, PIPE LAYING AND BEDDING DETAILS

NOT TO SCALE

R-2502
Inlet Frame, Grate

Heavy Duty

CATALOG NUMBER	GRATE TYPE	SQ. FT. OPEN	WEIR PERIMETER LINEAL FEET
R-2502	D	0.9	6.0
R-2502	G	1.3	6.0
R-2502	C	1.2	6.0
R-2502	E	1.5	6.0



Standard Grate (shown): Type D
Alternate Grate(s):

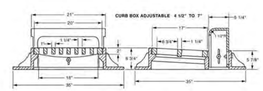
Available Lid: R-1772

NOTE:

- ALL STORM STRUCTURE CASTINGS TO HAVE 'STREAM WARNING' ON THE CASTING

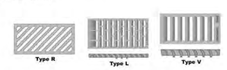
R-3070
Combination Inlet Frame, Grate, Curb Box

Heavy Duty



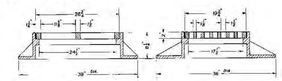
Standard Grate (shown): Type A
Alternate Grate(s):

CATALOG NUMBER	GRATE TYPE	SQ. FT. OPEN	WEIR PERIMETER LINEAL FEET
R-3070	A	0.9	4.5
R-3070	L	0.8	4.5
R-3070	R	0.9	4.5
R-3070	V	1.3	4.5



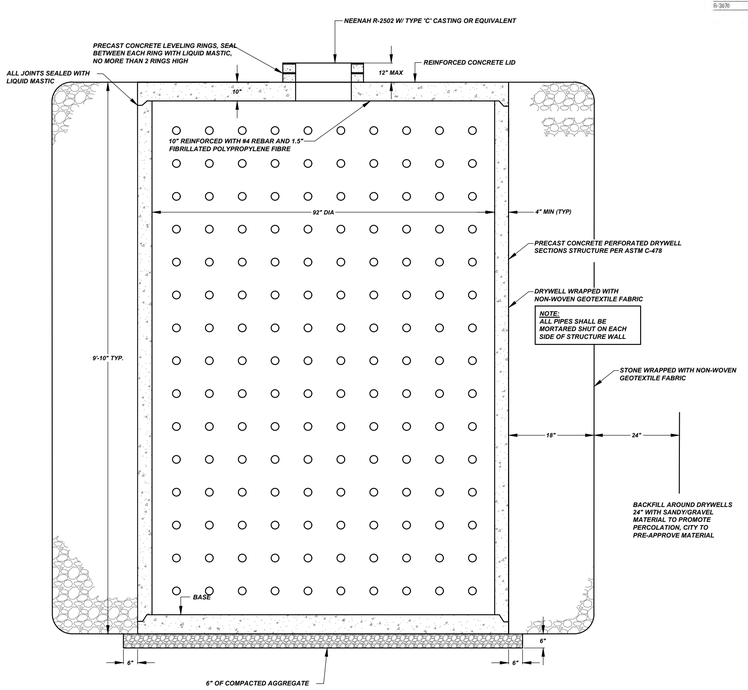
R-3339
Catch Basin Inlet Frame, Grate

Heavy Duty



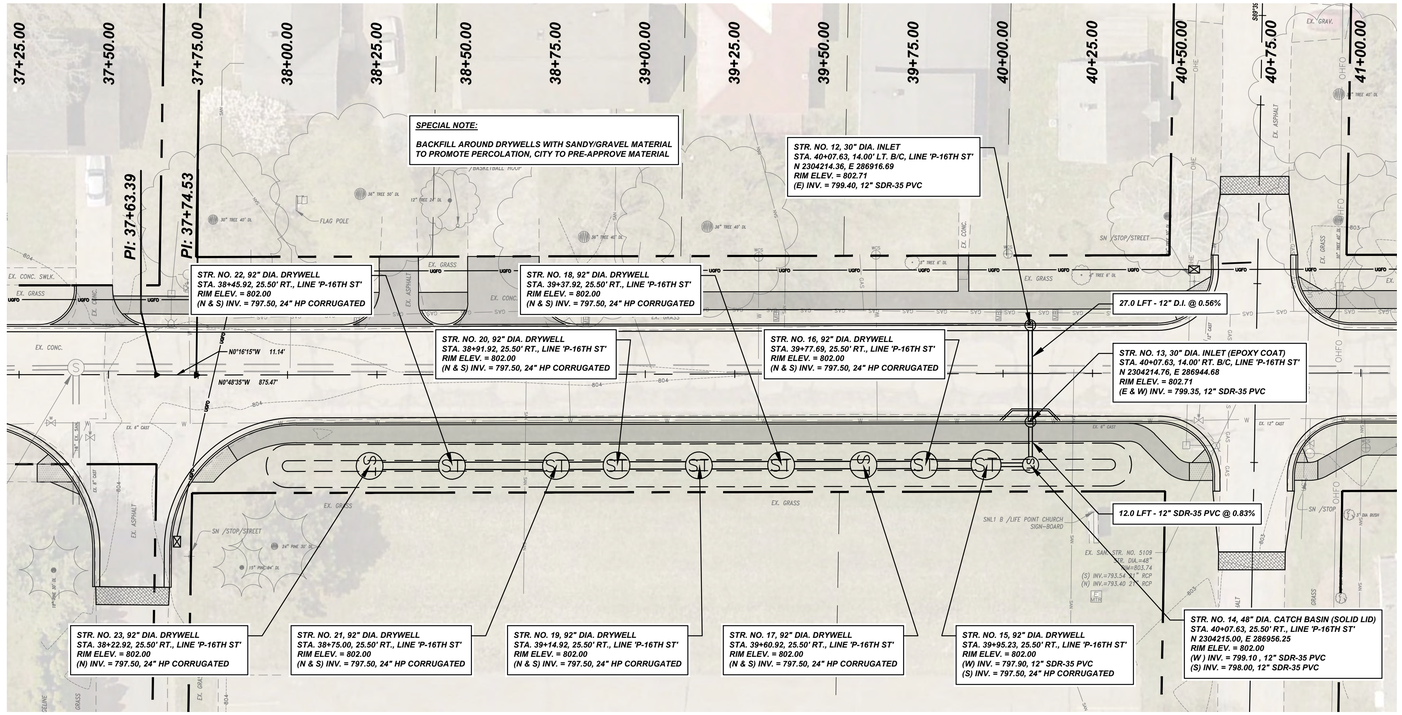
CATALOG NUMBER	GRATE TYPE	SQ. FT. OPEN	WEIR PERIMETER LINEAL FEET
R-3339	C	1.6	7.8
R-3339-1	C	1.4	7.8

Alternate grate available (1-1/2" x 4-15/16" slots), order as R-3339-1.



TYPICAL DRYWELL DETAIL

NOT TO SCALE



DRYWELL LAYOUT

SCALE 1" = 20' H

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

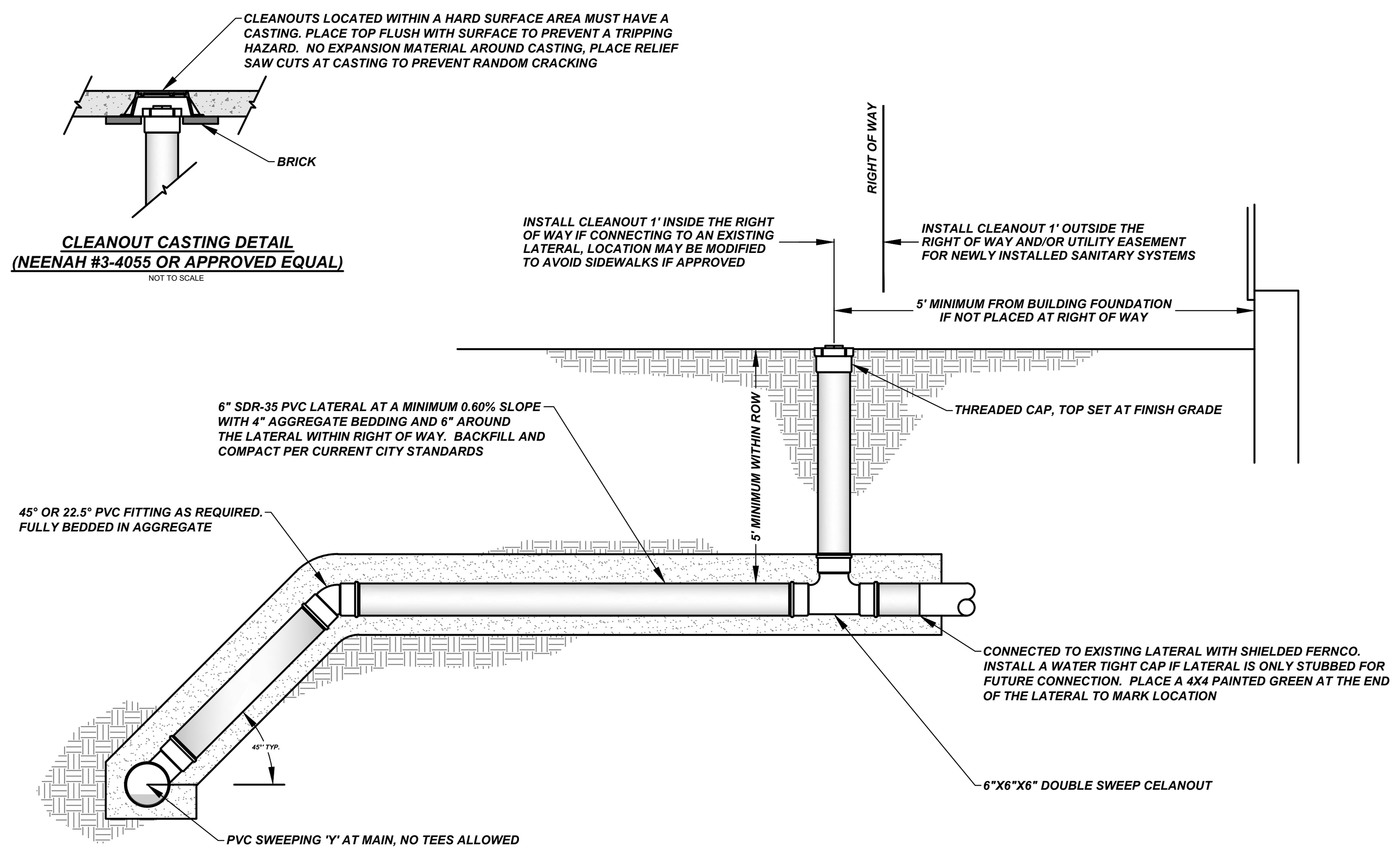
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

STORM DETAILS

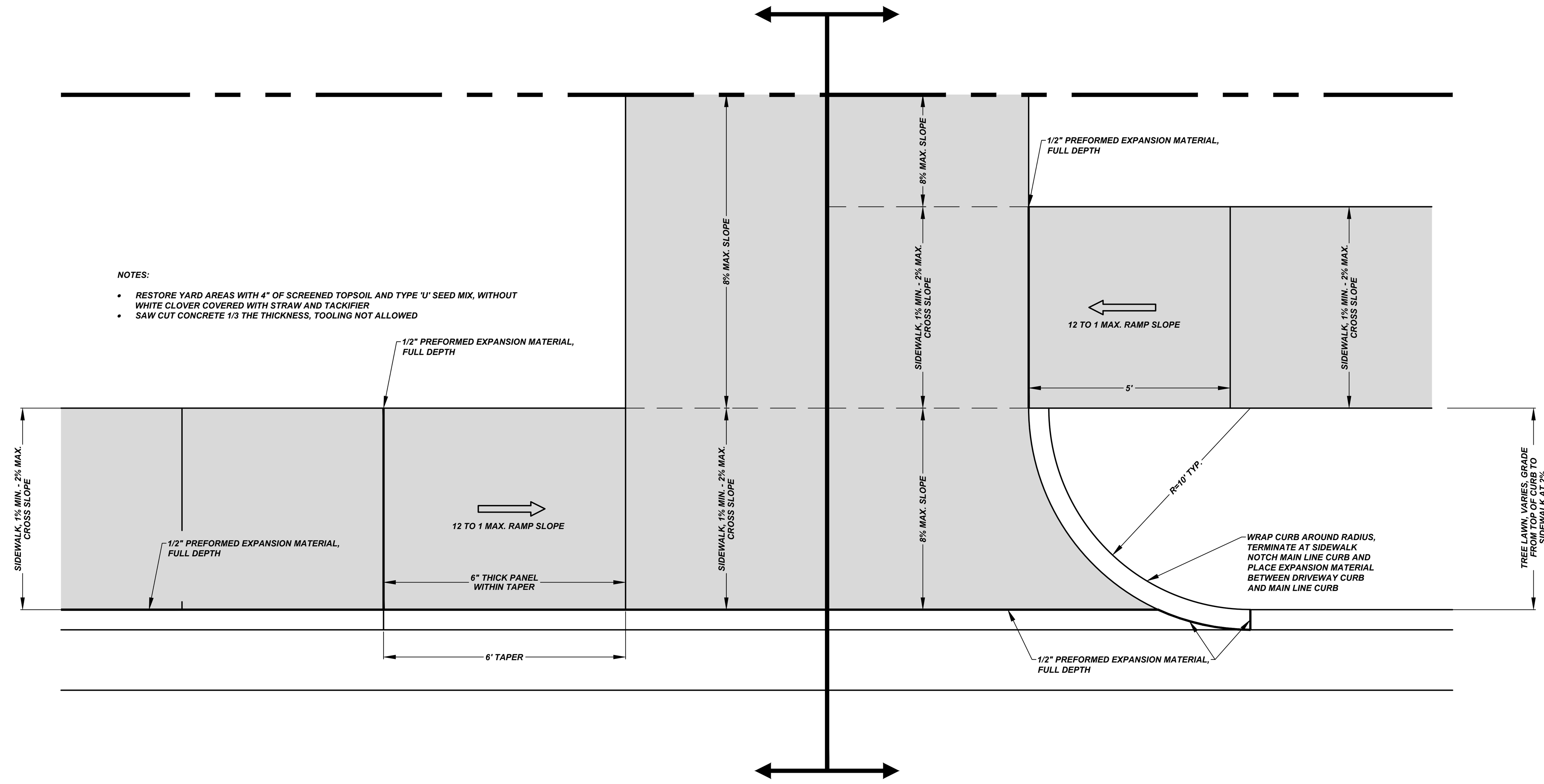
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-04



SEWER LATERAL DETAIL

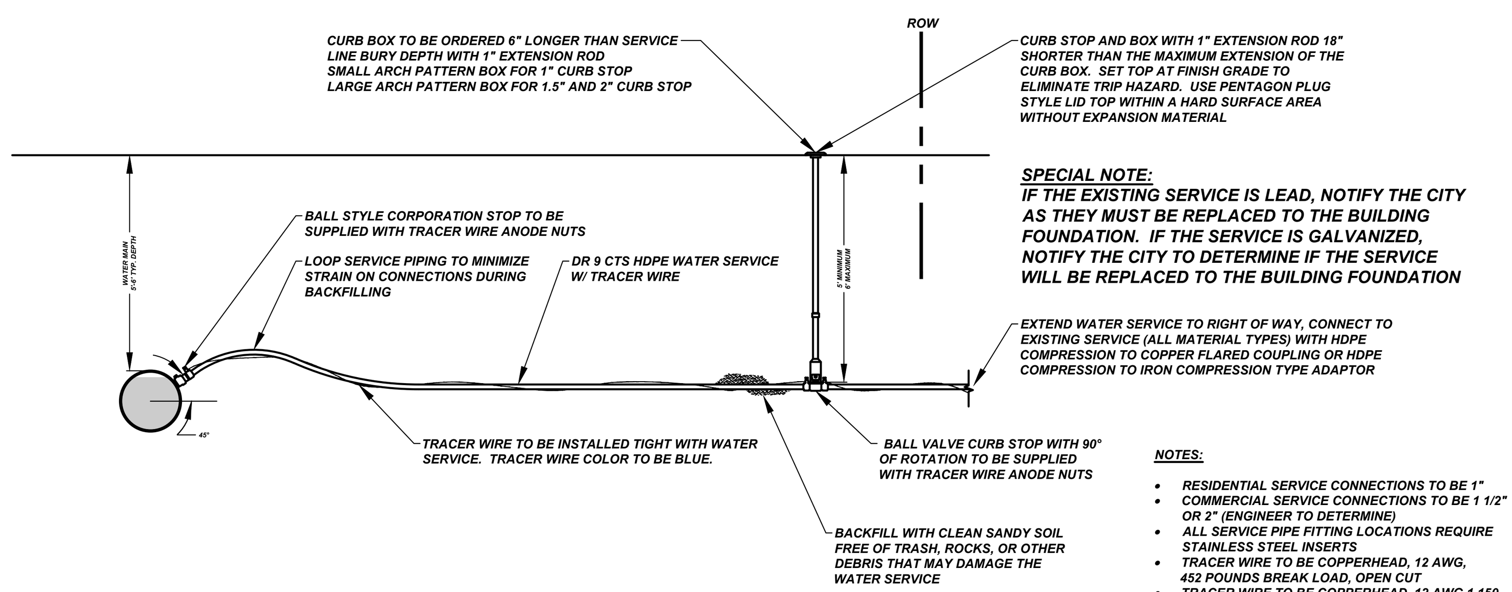
NOT TO SCALE



TYPICAL DRIVEWAY APPROACH DETAIL

NOT TO SCALE

NOTE: CONNECT TRACER WIRE TO CORPORATION STOP AND CURB STOP, ANODE NUTS ON BOTH						
	CORPORATION STOP		CURB STOP		CONNECTION TO EXISTING SERVICE	
SERVICE SIZE	FORD PART NO.	AY MCDONALD PART NO.	FORD PART NO.	AY MCDONALD PART NO.	FORD PART NO.	AY MCDONALD PART NO.
1"	FB1000-4-TW-Q-NL	74701QA	B44-444-TW-Q-NL	76100QA	B41-444-TW-Q-NL	76102QA
1.5"	FB1000-6-TW-Q-NL	74701BQA	B44-666-TW-Q-NL	76100QA	B41-666-TW-Q-NL	76102QA
2"	FB1000-7-TW-Q-NL	74701BQA	B44-777-TW-Q-NL	76100QA	B41-777-TW-Q-NL	76102QA
CURB STOP LID STYLE: GREEN SPACE - ERIE STYLE HARD SURFACE - PENTAGON PLUG STYLE						

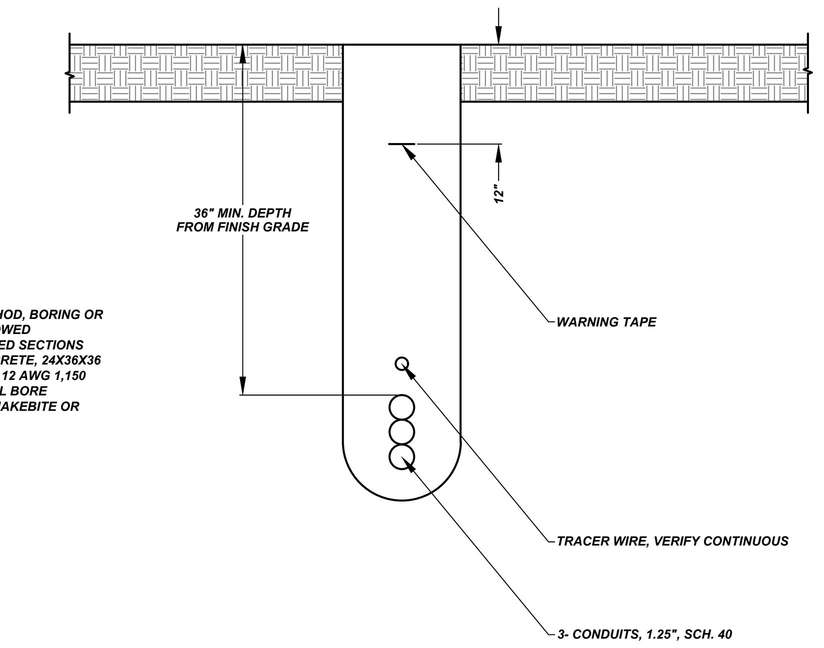


SPECIAL NOTE:
IF THE EXISTING SERVICE IS LEAD, NOTIFY THE CITY AS THEY MUST BE REPLACED TO THE BUILDING FOUNDATION. IF THE SERVICE IS GALVANIZED, NOTIFY THE CITY TO DETERMINE IF THE SERVICE WILL BE REPLACED TO THE BUILDING FOUNDATION

NOTES:
- RESIDENTIAL SERVICE CONNECTIONS TO BE 1"
- COMMERCIAL SERVICE CONNECTIONS TO BE 1 1/2" OR 2" (ENGINEER TO DETERMINE)
- ALL SERVICE PIPE FITTING LOCATIONS REQUIRE STAINLESS STEEL INSERTS
- TRACER WIRE TO BE COPPERHEAD, 12 AWG, 452 POUNDS BREAK LOAD, OPEN CUT
- TRACER WIRE TO BE COPPERHEAD, 12 AWG 1,150 POUNDS BREAK LOAD, DIRECTIONAL BORE
- WIRE SPLICES TO BE MADE WITH SNAKEBITE OR 3M DBR CONNECTORS

WATER SERVICE CONNECTION DETAIL

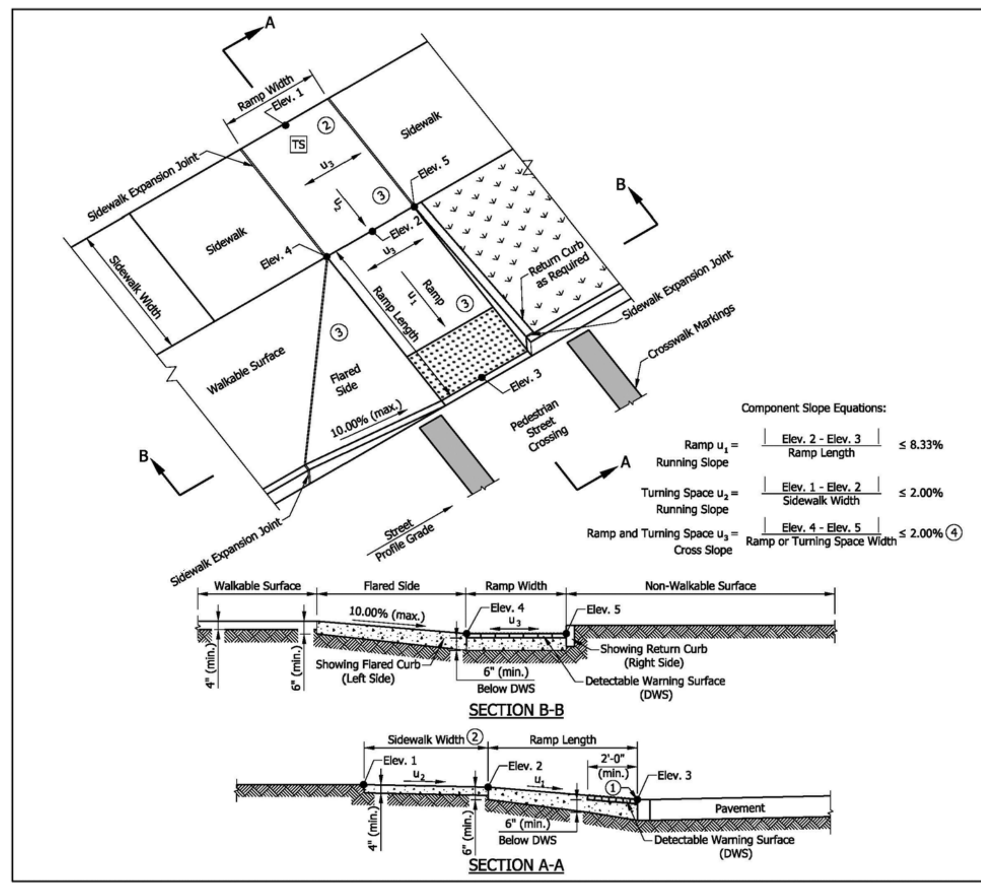
NOT TO SCALE



NOTES:
- DETAIL SHOWS OPEN TRENCH METHOD, BORING OR A COMBINATION OF METHODS ALLOWED
- 2 TRACER WIRES REQUIRED IN BORED SECTIONS
- HANDHOLES TO BE POLYMER CONCRETE, 24X36X36
- TRACER WIRE TO BE COPPERHEAD, 12 AWG 1,150 POUNDS BREAK LOAD, DIRECTIONAL BORE
- WIRE SPLICES TO BE MADE WITH SNAKEBITE OR 3M DBR CONNECTORS

FIBER OPTIC CONDUIT BANK DETAIL

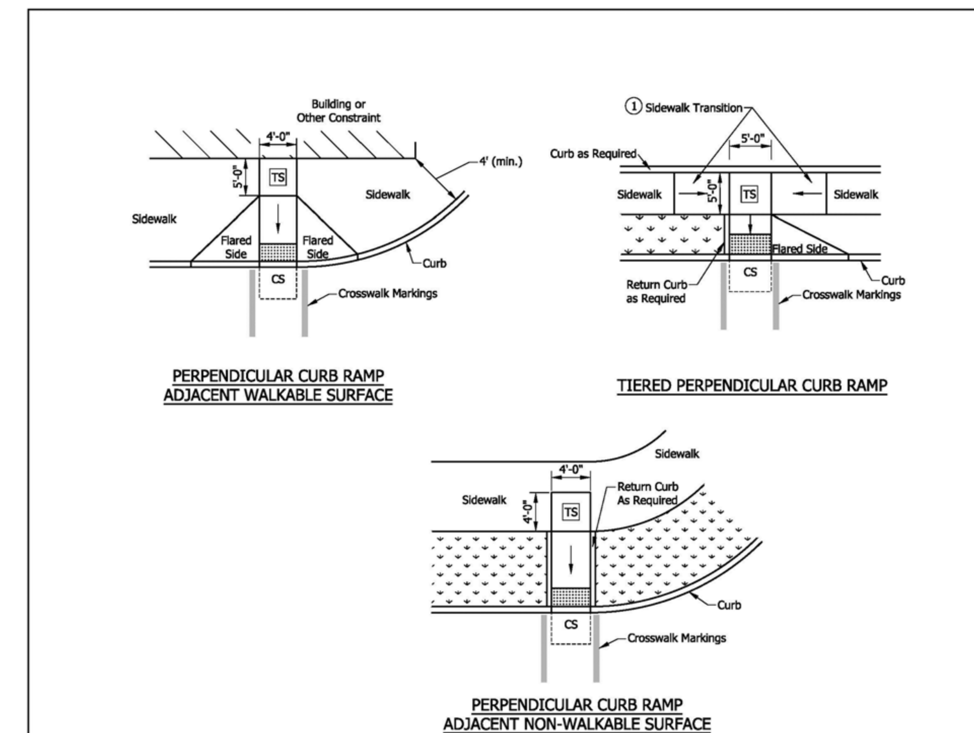
NOT TO SCALE



NOTES:
1. The bottom edge of the ramp and top of curb shall be flush with the edge of adjacent pavement and gutter line.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope. Where a tiered perpendicular curb ramp is used, a constrained turning space shall have a minimum clear dimension of 5 ft x 5 ft.
3. Curb ramp surface shall be coarse broomed transverse to the running slope.
4. See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
5. See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
6. See Standard Drawing E 604-CCSJ-01 for sidewalk expansion joint details.

LEGEND:
- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- TS Turning Space

INDIANA DEPARTMENT OF TRANSPORTATION
PERPENDICULAR CURB RAMP COMPONENT DETAILS
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-04
/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE



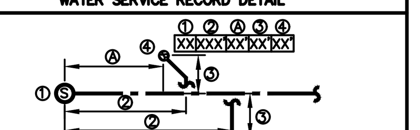
NOTES:
1. Where insufficient width between the curb and back of sidewalk prevent a standard perpendicular curb ramp running slope, a sidewalk transition may be used to lower the sidewalk grade. The sidewalk transition running slope shall not exceed 8.33%. See Standard Drawing Series E 604-SDWK for sidewalk details.
2. The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.

LEGEND:
- Buffer or Other Non-Walkable Surface
- Ramp
- Detectable Warning Surface
- TS Turning Space
- CS Clear Space

INDIANA DEPARTMENT OF TRANSPORTATION
PERPENDICULAR CURB RAMP TYPICAL PLACEMENT
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-02
/s/ Elizabeth W. Phillips 03/29/18 DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

USE THIS DETAIL ONLY IF SANITARY SEWER IS NOT IN SERVICE AREA

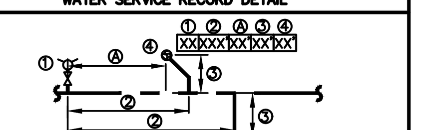
WATER SERVICE RECORD DETAIL



① = DOWNSTREAM MANHOLE NUMBER
② = LOCATION OF CORPORATION STOP FROM DOWNSTREAM MANHOLE (FEET)
Ⓐ = LOCATION OF CURB STOP FROM DOWNSTREAM MANHOLE OVER THE MAIN (FEET) (IF NOT PERPENDICULAR)
③ = LENGTH OF SERVICE OFF MAIN IN A STRAIGHT LINE (FEET)
④ = DEPTH OF SERVICE AT PROPERTY LINE (FEET)

NOTE TO DRAFTER: DIMENSIONS ARE TO AID IN UNDERSTANDING THE DETAIL. PLEASE DO NOT PUT THE DIMENSION ON THE DRAWING USE ① ② ③ ④. **DO NOT PUT THIS NOTE ON THE DRAWING.** XX XXX XX' XX' PLEASE TRY TO PUT THIS DETAIL ON EACH PLAN SHEET.

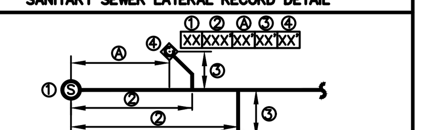
WATER SERVICE RECORD DETAIL



① = NEAREST FIRE HYDRANT
② = LOCATION OF CORPORATION STOP FROM NEAREST FIRE HYDRANT (FEET)
Ⓐ = LOCATION OF CURB STOP FROM NEAREST FIRE HYDRANT OVER THE MAIN (FEET) (IF NOT PERPENDICULAR)
③ = LENGTH OF SERVICE OFF MAIN IN A STRAIGHT LINE (FEET)
④ = DEPTH OF SERVICE AT PROPERTY LINE (FEET)

NOTE TO DRAFTER: DIMENSIONS ARE TO AID IN UNDERSTANDING THE DETAIL. PLEASE DO NOT PUT THE DIMENSION ON THE DRAWING USE ① ② ③ ④. **DO NOT PUT THIS NOTE ON THE DRAWING.** XX XXX XX' XX' PLEASE TRY TO PUT THIS DETAIL ON EACH PLAN SHEET.

SANITARY SEWER LATERAL RECORD DETAIL



① = DOWNSTREAM MANHOLE NUMBER
② = LOCATION OF TEE FROM DOWNSTREAM MANHOLE (FEET)
Ⓐ = LOCATION OF CLEAN OUT FROM DOWNSTREAM MANHOLE OVER THE MAIN (FEET) (IF NOT PERPENDICULAR)
③ = LENGTH OF LATERAL OFF MAIN IN A STRAIGHT LINE (FEET)
④ = DEPTH OF LATERAL AT PROPERTY LINE (FEET)

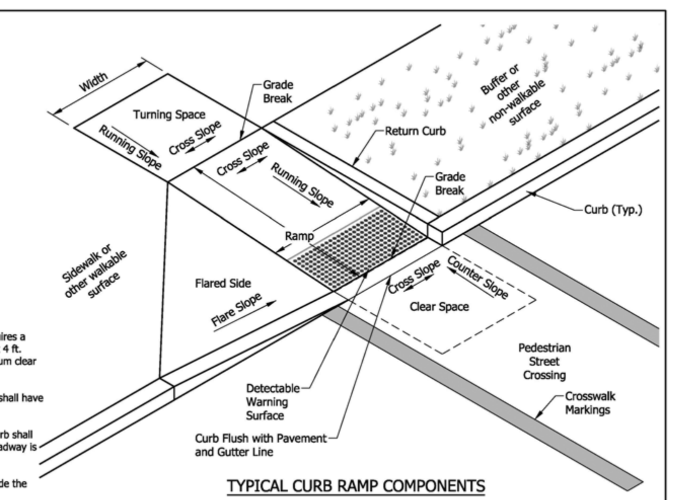
NOTE TO DRAFTER: DIMENSIONS ARE TO AID IN UNDERSTANDING THE DETAIL. PLEASE DO NOT PUT THE DIMENSION ON THE DRAWING USE ① ② ③ ④. **DO NOT PUT THIS NOTE ON THE DRAWING.** XX XXX XX' XX' PLEASE TRY TO PUT THIS DETAIL ON EACH PLAN SHEET.

CONTRACTOR:	CONTRACTOR'S NAME STREET ADDRESS P.O. BOX NUMBER CITY, STATE ZIP CODE PHONE NUMBER
CONTRACTOR SUPERINTENDENT:	SUPERINTENDENT NAME
YEAR CONSTRUCTED:	MONTH YEAR
PROJECT INSPECTOR:	INSPECTOR'S NAME

RECORD DRAWING REQUIREMENTS

INDEX	
SHEET NO.	SUBJECT
1	Curb Ramp Drawing Index and General Notes
2-3	Perpendicular Curb Ramp Typical Placement
4	Perpendicular Curb Ramp Component Details
5	One-Way-Directional Perpendicular Curb Ramp Typical Placement
6	One-Way-Directional Perpendicular Curb Ramp Component Details
7	Parallel Curb Ramps Typical Placement
8	Parallel Curb Ramp Component Details
9	Blended Transition Curb Ramp, Depressed Curb Ramp and Diagonal Curb Ramp Typical Placement
10	Blended Transition Curb Ramp Component Details
11	Median Cut-Through and Median Perpendicular Curb Ramp Typical Placement
12-13	Detectable Warning Surface Placement and Configuration
14	Detectable Warning Surface Details

GENERAL NOTES:
1. All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least 0.50% less than the maximum are preferred.
2. Ramp or Blended Transition. A ramp or blended transition shall be used to lower or raise the sidewalk to connect with the street or highway.
3. Turning Space. A turning space shall be provided at the top of a perpendicular ramp, bottom of a parallel ramp, or where the pedestrian travel requires a change in direction. A common turning space may be shared by adjacent ramps. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk by a curb, retaining wall, building, or feature over 2 inches in height, the minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
4. Flared Side. A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface. A flared side shall have a maximum slope of 10.00% measured parallel to the back of the curb.
5. Return Curb. A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface. The return curb may be omitted where the non-walkable surface is flared and the curb adjacent the roadway is tapered to meet the flush curb at the bottom of the ramp.
6. Clear Space. A clear space shall be provided beyond the bottom grade break of a curb ramp wholly contained within the crosswalk and wholly outside the parallel vehicular travel path. The clear space shall have a minimum clear dimension of 4 ft x 4 ft.
7. Detectable Warning Surface. A detectable warning surface shall consist of truncated domes and be placed at each street, highway, or railroad crossing. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and be placed the entire width of a ramp, blended transition, or turning space.
8. Running Slope. The running slope of a ramp, blended transition, or turning space shall be measured parallel to the direction of pedestrian travel.
   a. A running slope of 2.00% or less is considered level.
   b. A ramp shall have a maximum running slope of 8.33% but shall not require a ramp length to exceed 15 ft.
   c. A blended transition shall have a maximum running slope of 5.00%.
   d. A turning space shall have a maximum running slope of 2.00%.
9. Width. Unless otherwise noted, minimum width of a ramp, blended transition, or turning space, excluding flared sides or return curb, shall be 4 ft.
10. Grade Break. A grade break at the top and bottom of a ramp, blended transition, or turning space shall be perpendicular to the running slope. Grade breaks shall not be within the ramp, blended transition, turning space, or detectable warning surface. Grade breaks shall be flush. Vertical discontinuities shall not be greater than 1/2 in. Where a discontinuity is greater than 1/4 in. the surface shall be beveled with a slope not steeper than 1V:2H.
11. Cross Slope Exceptions. The cross slope of a ramp, blended transition, or turning space shall be measured perpendicular to the direction of pedestrian travel.
   a. The maximum cross slope at a pedestrian street crossing without posted yield or stop control shall be 5.00%.
   b. The maximum cross slope at a pedestrian street crossing with posted yield or stop control shall be 2.00%.
   c. The maximum cross slope at a midblock crossing shall be the established grade of the adjacent roadway.
12. Counter Slope. A counter slope is the cross slope of the gutter or street adjacent the running slope of the ramp, blended transition, or turning space. See Standard Drawing E 604-SWCR-14 for counter slope details.
13. Objects such as a utility cover, vault frame, and grating shall be placed outside the curb ramp.
14. Curb ramps shall be placed within the marked crosswalk area.
15. Drainage inlets should be located uphill from a curb ramp to prevent ponding in the path of pedestrian travel.



TYPICAL CURB RAMP COMPONENTS

INDIANA DEPARTMENT OF TRANSPORTATION
CURB RAMP DRAWING INDEX AND GENERAL NOTES
SEPTEMBER 2018
STANDARD DRAWING NO. E 604-SWCR-01
/s/ Elizabeth W. Phillips 03/20/18 DESIGN STANDARDS ENGINEER DATE
/s/ John Leckie 04/25/18 CHIEF ENGINEER DATE

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN — REGISTERED NO. PE11011684 STATE OF INDIANA — PROFESSIONAL ENGINEER

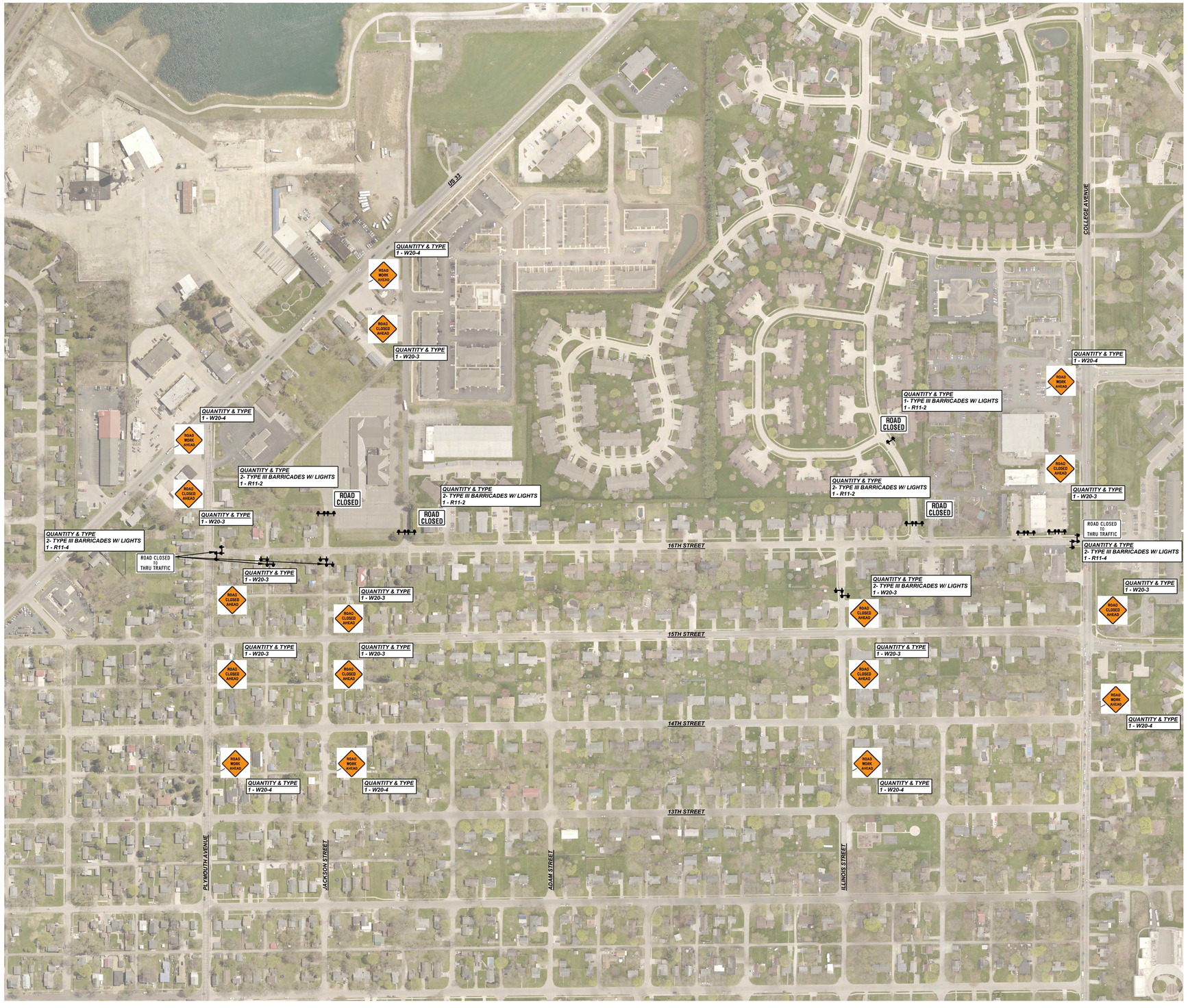
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

ADA RAMP, DRIVEWAY AND GENERAL DETAILS

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-05



TRAFFIC CONTROL PLAN

N.T.S.

REV.	DESCRIPTION	BY	DATE

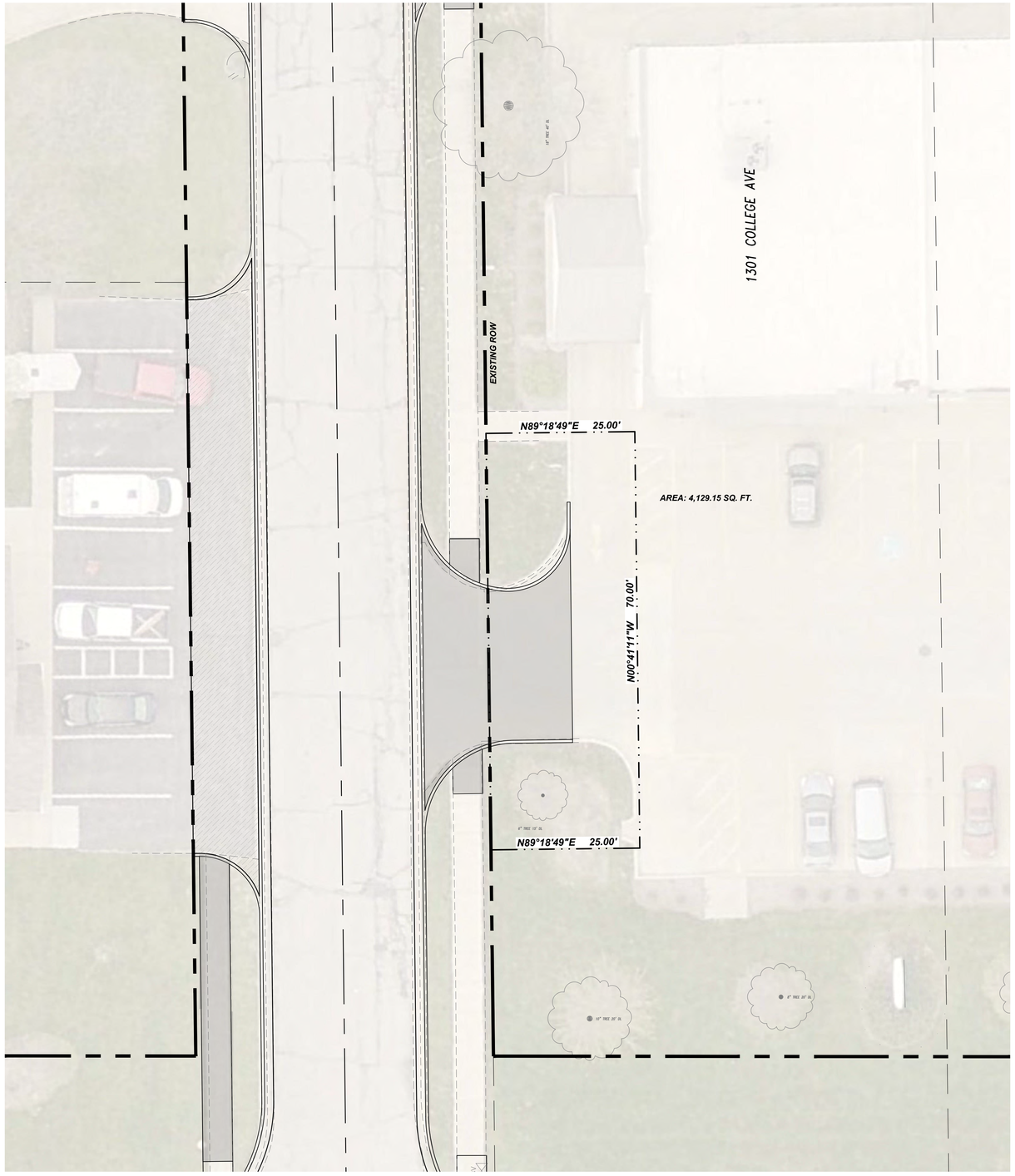
JOSHUA S. CORWIN
REGISTERED
NO. 10101684
STATE OF INDIANA
PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

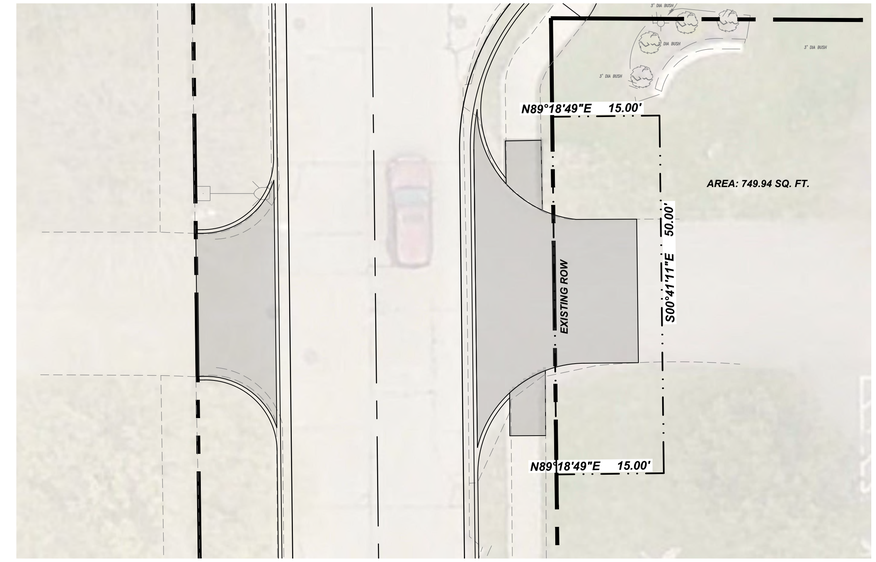
TRAFFIC CONTROL PLAN

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	
X-2525-06	



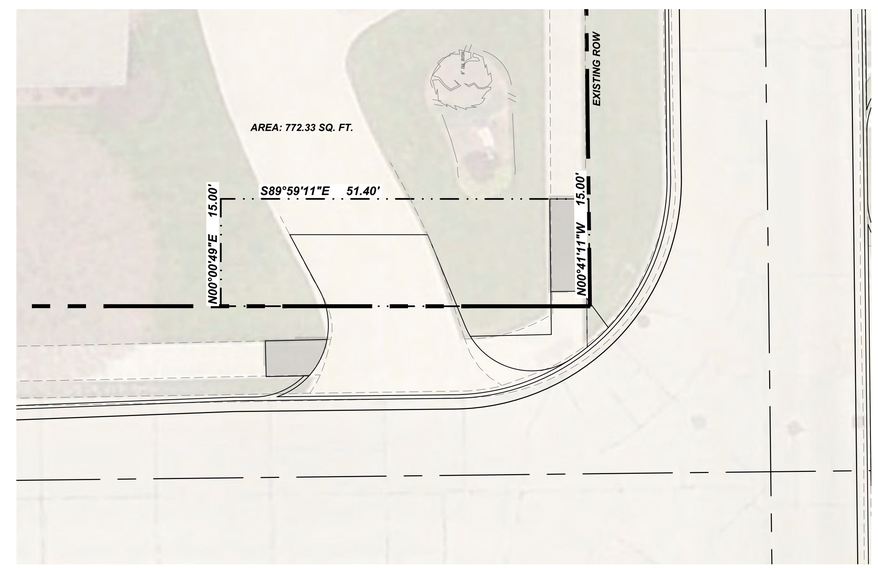
1301 COLLEGE AVE. RIGHT-OF-ENTRY

SCALE 1" = 10'



1306 CEDARBROOK CT. RIGHT-OF-ENTRY

SCALE 1" = 10'



1405 16TH STREET RIGHT-OF-ENTRY

SCALE 1" = 10'

REV.	DESCRIPTION	BY	DATE

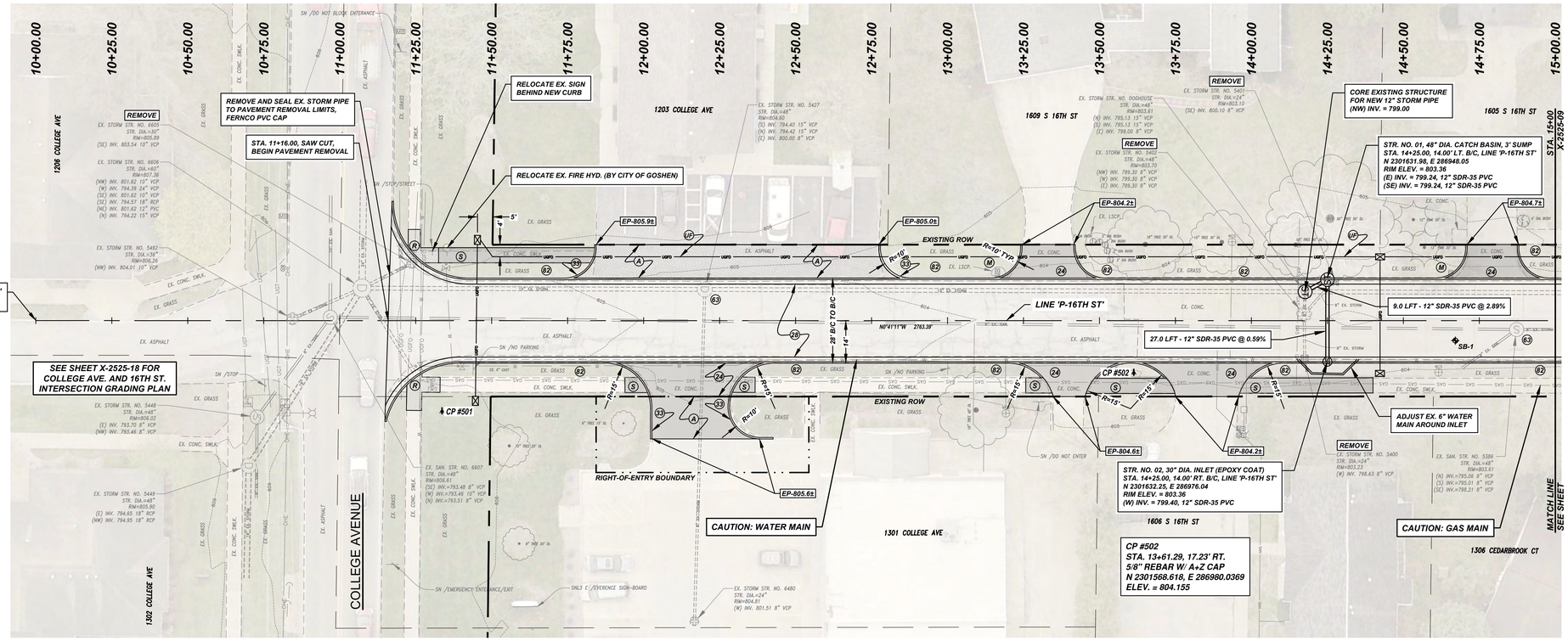
JOSHUA S. CORWIN
REGISTERED
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

RIGHT-OF-ENTRY DETAILS
1301 COLLEGE AVE. & 1306 CEDARBROOK CT.

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	
X-2525-07	



PLAN - 16TH STREET - STA. 10+00 TO STA. 15+00

SCALE 1" = 20' H

GRAPHIC SCALE 0 10 20 40

(IN FEET)
1 INCH = 20 FT

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

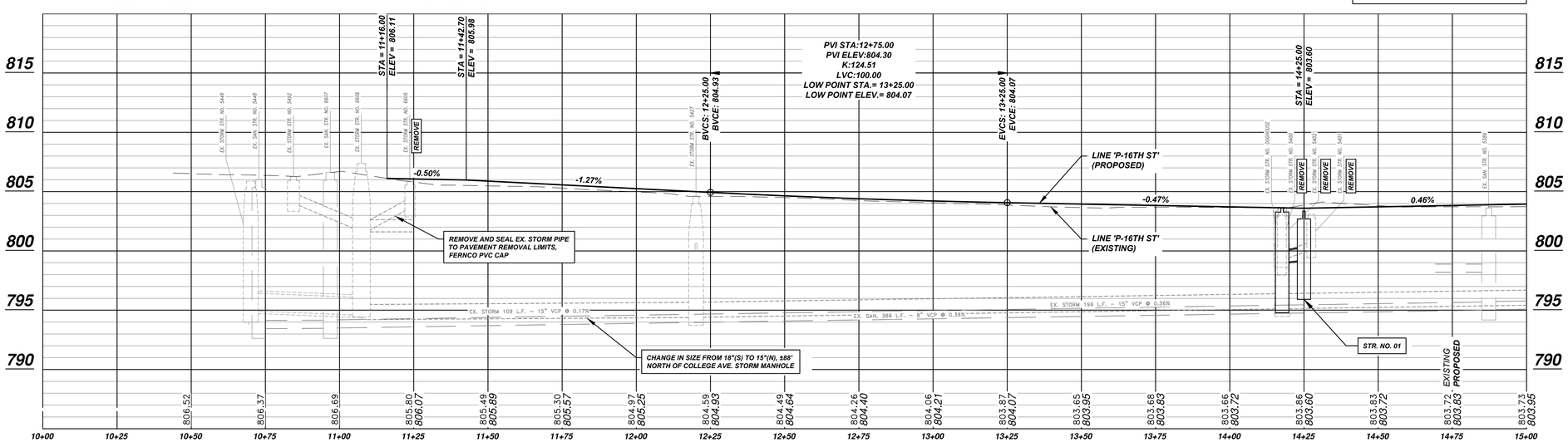
GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

BENCHMARK 701

RR SPIKE ON S. FACE OF POWER POLE #692938 LOCATED ON COLLEGE AVE. EAST OF 16TH ST. ELEVATION 806.76 FEET NGVD88.

ELEV. = 806.76



PROFILE - 16TH STREET - STA. 10+00 TO STA. 15+00

SCALE 1" = 20' H, 5' V

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

REV.	DESCRIPTION	BY	DATE

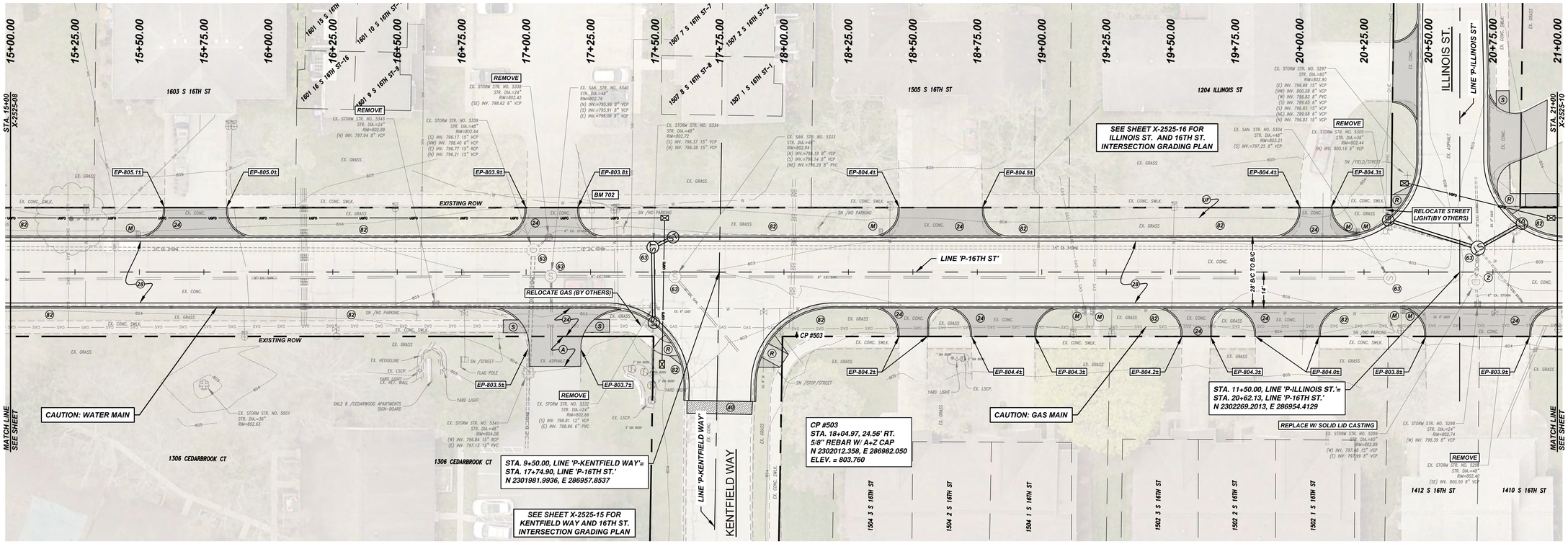
JOSHUA S. CORWIN ★ NO. F PE11011684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 10+00 TO STA. 15+00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-08



PLAN - 16TH STREET - STA. 15+00 TO STA. 21+00

SCALE 1" = 20' H

GRAPHIC SCALE 0 10 20 40

(IN FEET)
1 INCH = 20 FT

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

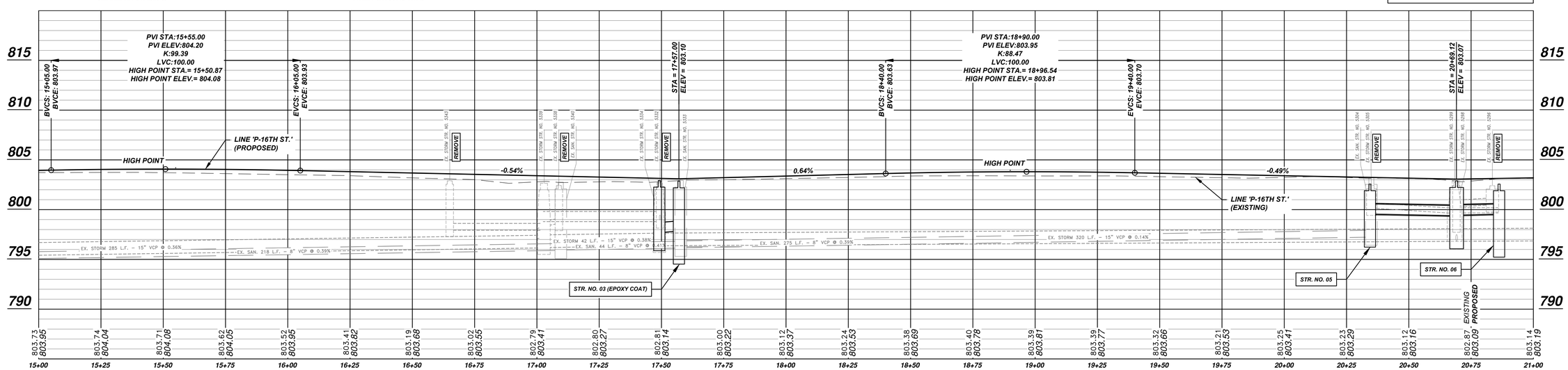
GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

BENCHMARK 702

MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE 1-059/930
ELEVATION 804.64 FEET NGVD88.

ELEV. = 804.64



PROFILE - 16TH STREET - STA. 15+00 TO STA. 21+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

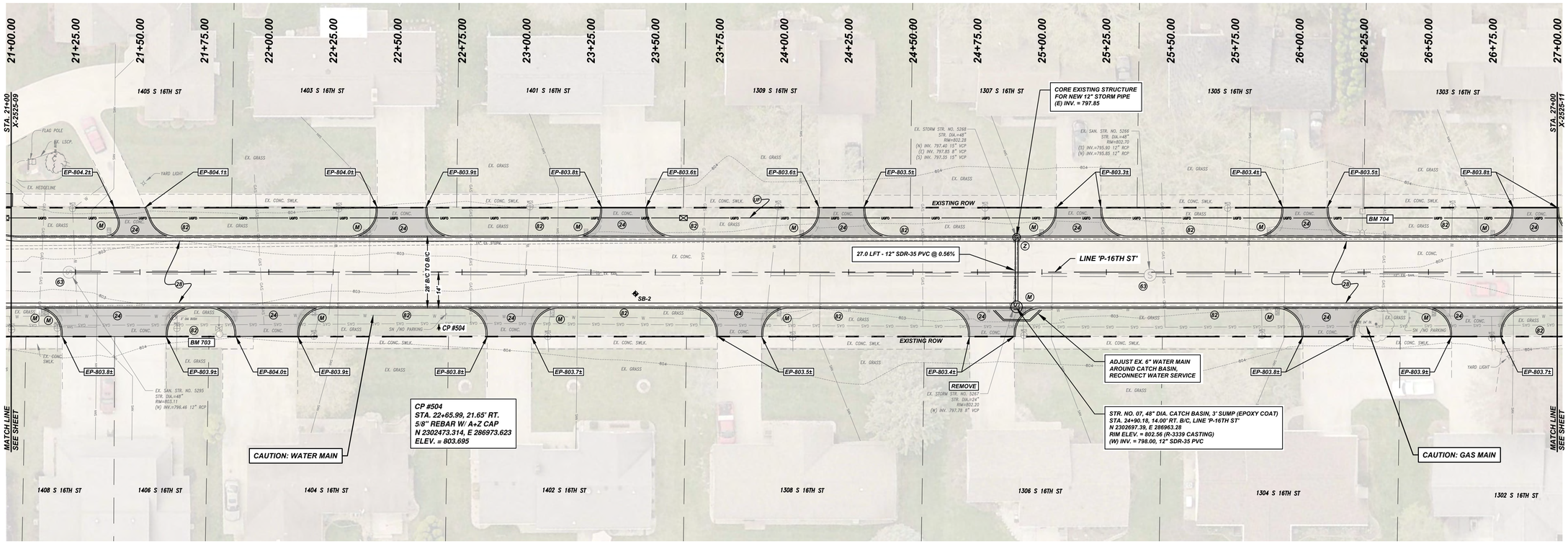
JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 15+00 TO STA. 21+00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-09



PLAN - 16TH STREET - STA. 21+00 TO STA. 27+00

SCALE 1" = 20' H

GRAPHIC SCALE 0 10 20 40

(IN FEET)
1 INCH = 20 FT

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

BENCHMARK 703

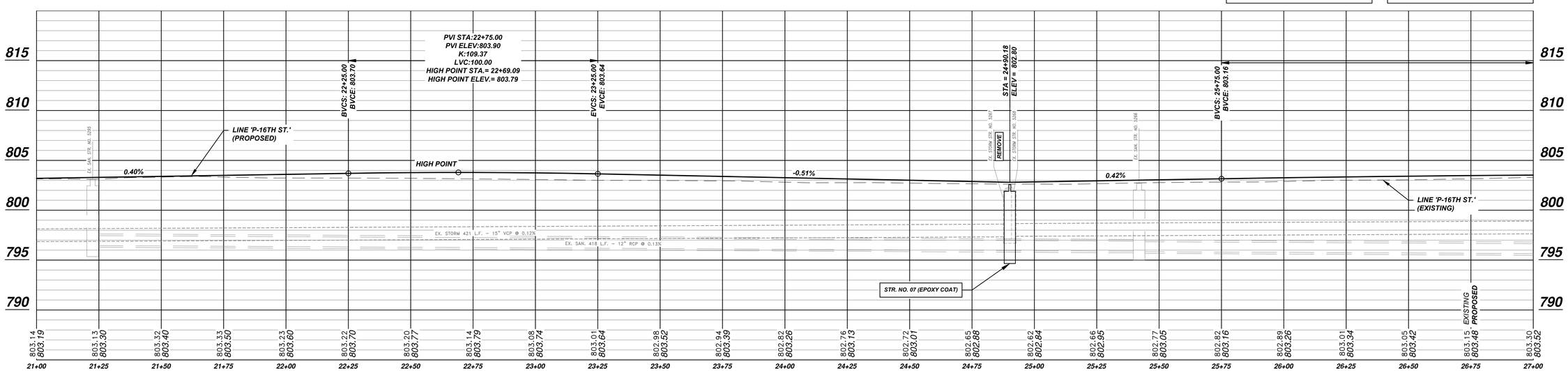
NORTH B. BOLT ON FIRE HYDRANT, NEAR 1404 16TH STREET, EAST SIDE OF STREET
ELEVATION 806.19 FEET NGVD88.

ELEV. = 806.19

BENCHMARK 704

MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE 1-059/931
ELEVATION 804.41 FEET NGVD88.

ELEV. = 804.41



PROFILE - 16TH STREET - STA. 21+00 TO STA. 27+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

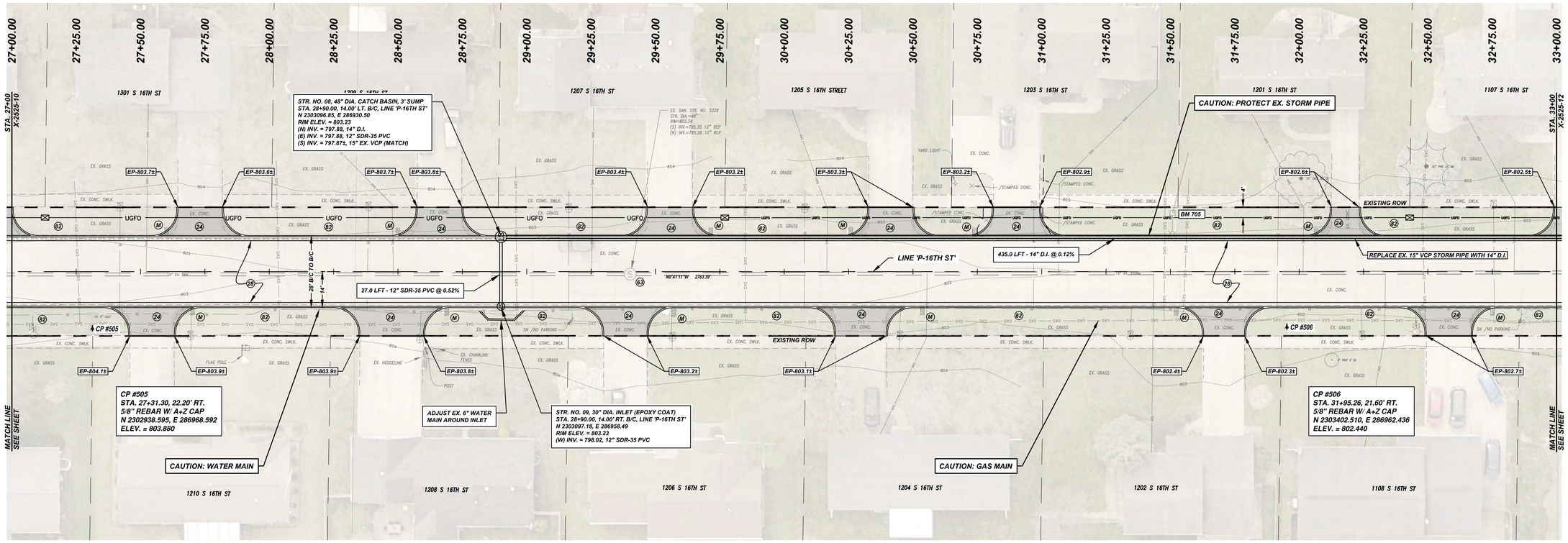
JOSHUA S. CORWIN ★ NO. F PE11011684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 21+00 TO STA. 27+00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-10



PLAN - 16TH STREET - STA. 27+00 TO STA. 33+00

SCALE 1" = 20' H

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 INCH = 20 FT

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

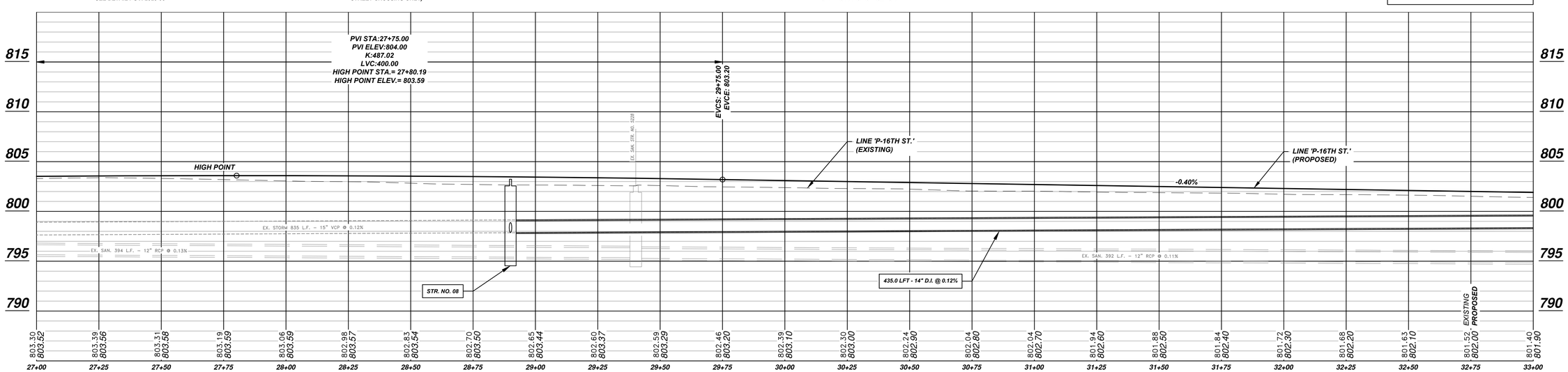
GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

BENCHMARK 705

MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE 1-059/928
ELEVATION 803.75 FEET NGVD88.

ELEV. = 803.75



PROFILE - 16TH STREET - STA. 27+00 TO STA. 33+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 10100168 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

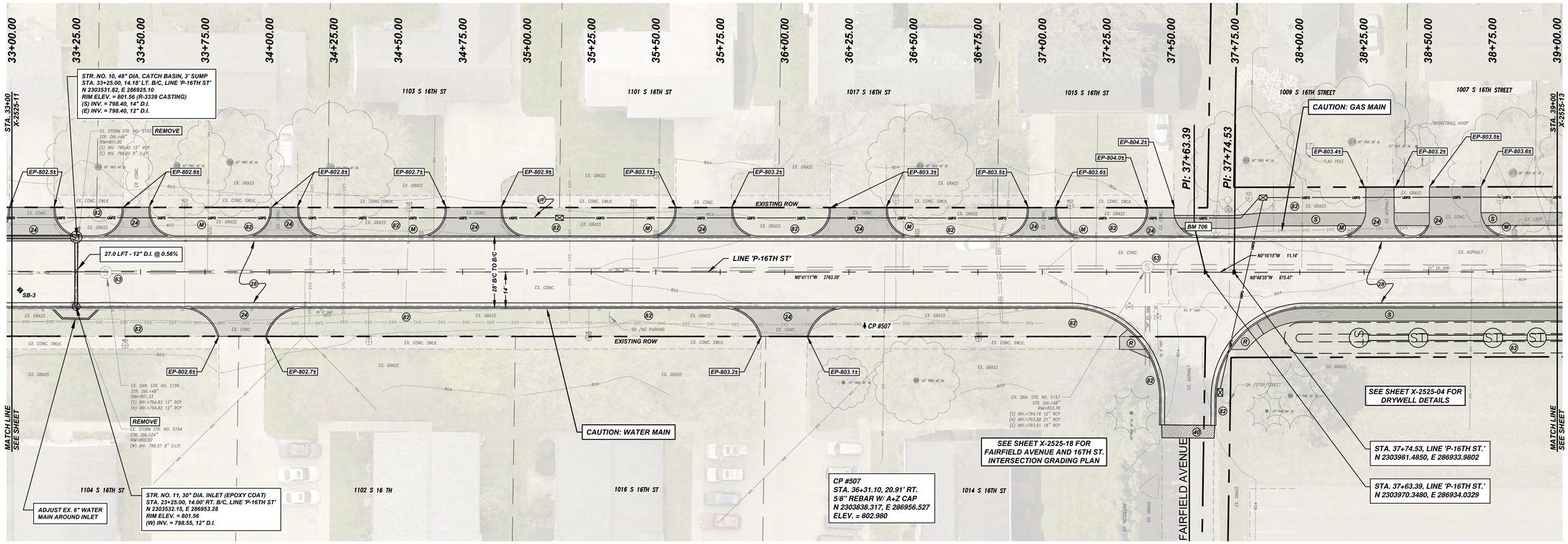
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 27+00 TO STA. 33+00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-11



PLAN - 16TH STREET - STA. 33+00 TO STA. 39+00

SCALE 1" = 20' H

GRAPHIC SCALE 0 10 20 40

(IN FEET)
1 INCH = 20 FT

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
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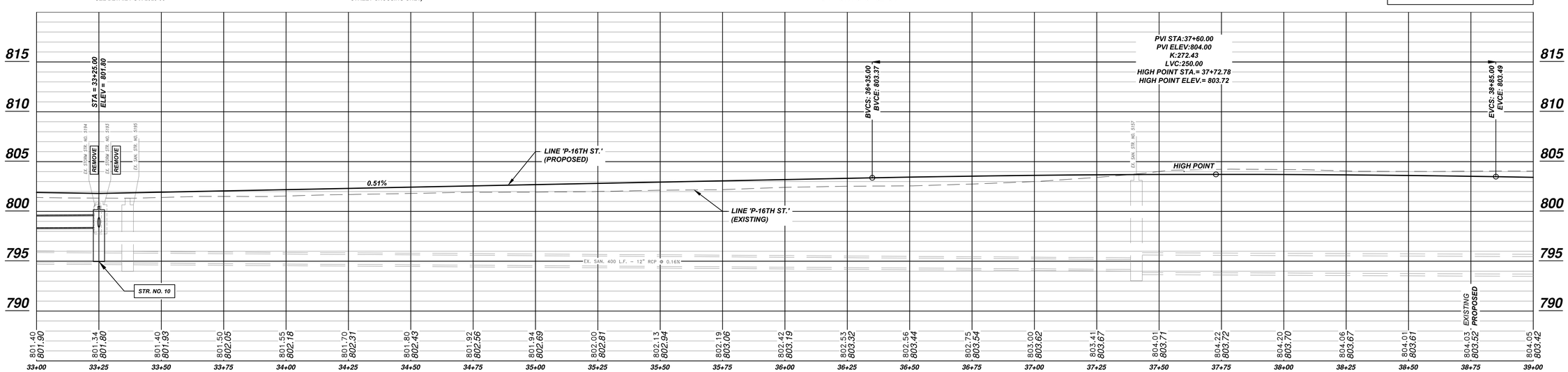
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

BENCHMARK 706

MAG SPIKE WITH A+Z DISK IN EAST FACE OF POWER POLE 693/891
ELEVATION 804.76 FEET NGVD88.

ELEV. = 804.78



PROFILE - 16TH STREET - STA. 33+00 TO STA. 39+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

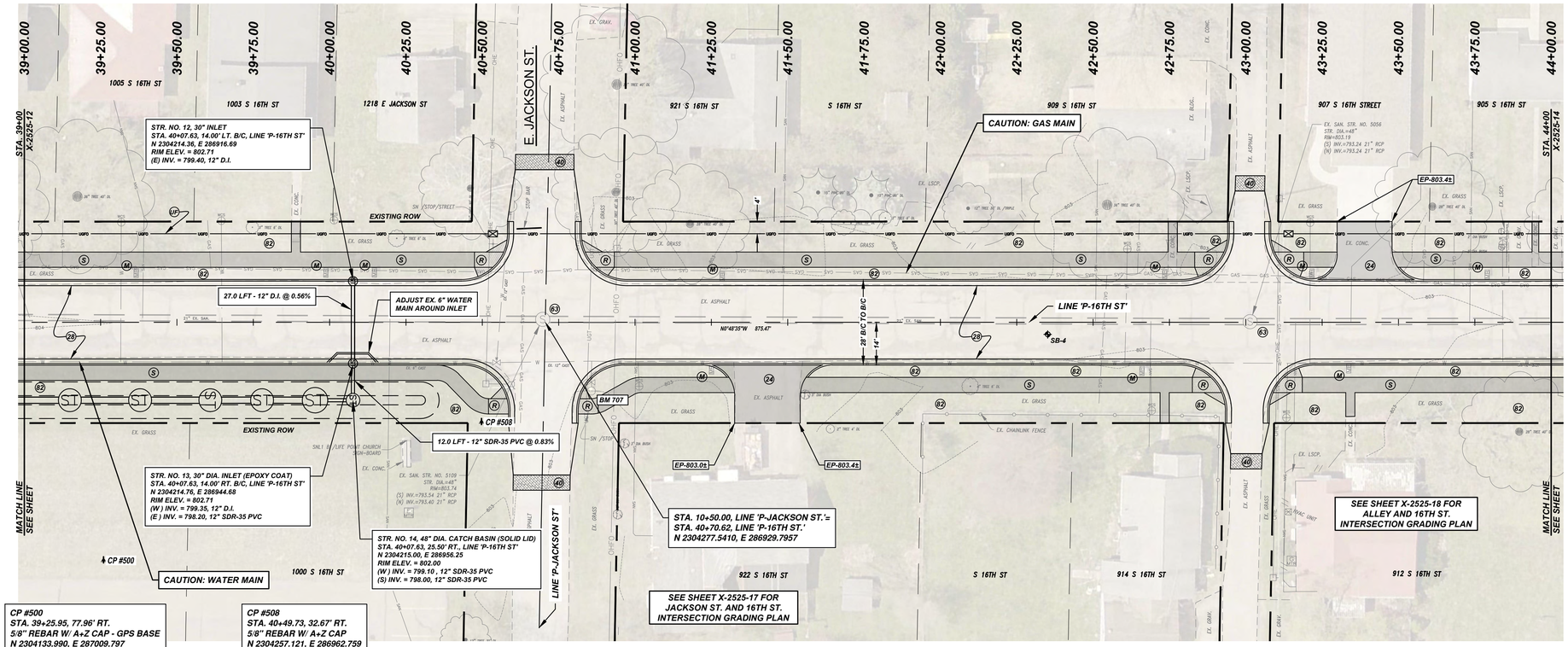
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 33+00 TO STA. 39+00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-12



CP #500
STA. 39+25.95, 77.96' RT.
5/8" REBAR W/ A+Z CAP - GPS BASE
N 2304133.990, E 287009.797
ELEV. = 802.530

CP #508
STA. 40+49.73, 32.67' RT.
5/8" REBAR W/ A+Z CAP
N 2304257.121, E 286962.759
ELEV. = 803.280

PLAN - 16TH STREET - STA. 39+00 TO STA. 44+00

SCALE 1" = 20' H

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

GENERAL NOTES:

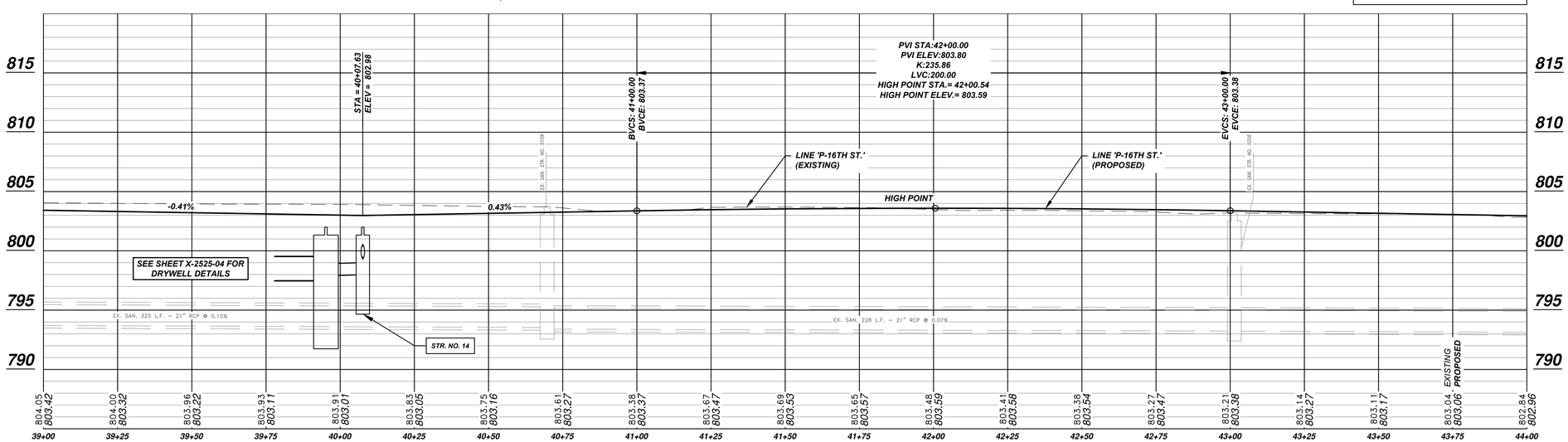
1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 INCH = 20 FT

BENCHMARK 707

NORTH B. BOLT ON FIRE HYDRANT, NORTHEAST CORNER OF JACKSON ST. AND 16TH ST. ELEVATION 805.23 FEET NGVD88.

ELEV. = 805.23



PROFILE - 16TH STREET - STA. 39+00 TO STA. 44+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE10101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

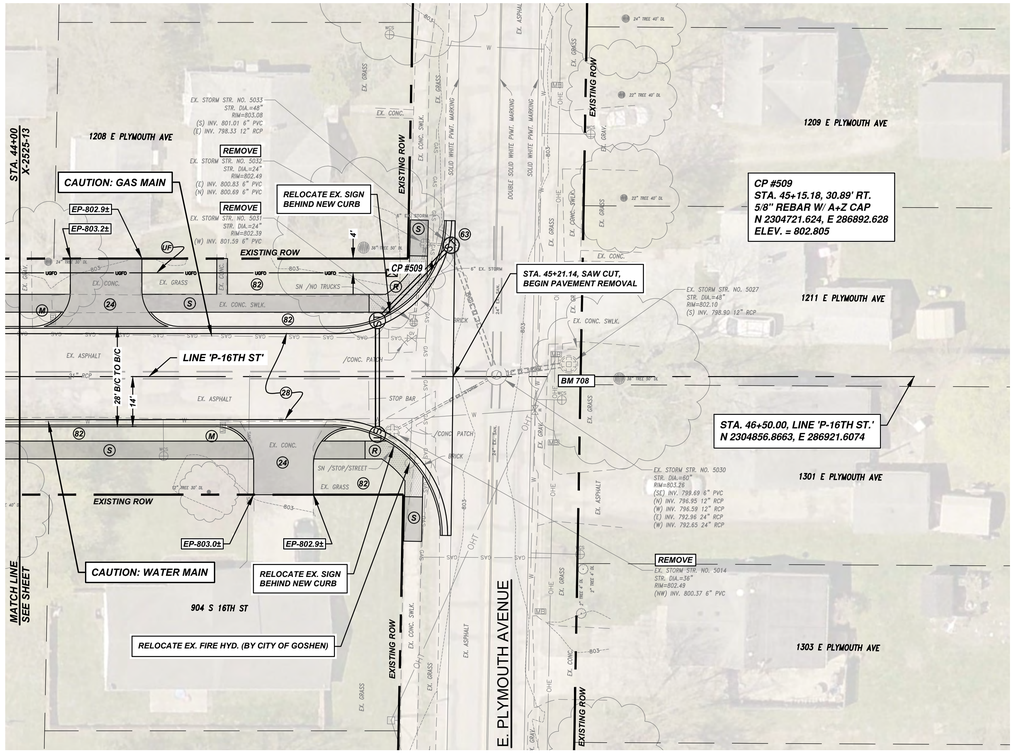
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 39+00 TO STA. 44+00

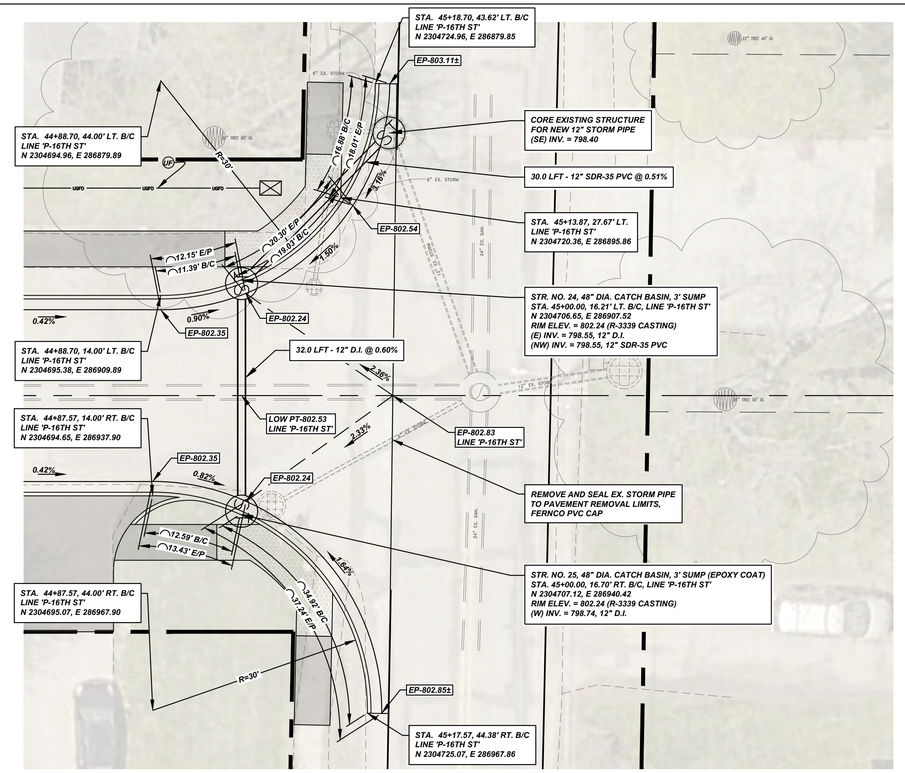
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 20' H, 5' V	

X-2525-13



PLAN - 16TH STREET - STA. 44+00 TO STA. 46+50

SCALE 1" = 20' H



GRADING PLAN - 16TH STREET AND PLYMOUTH AVENUE INTERSECTION

SCALE 1" = 10' H

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 INCH = 20 FT

BENCHMARK 708

MAG SPIKE WITH A+Z DISK IN SOUTH FACE OF POWER POLE 675298
ELEVATION 803.60 FEET NGVD88.

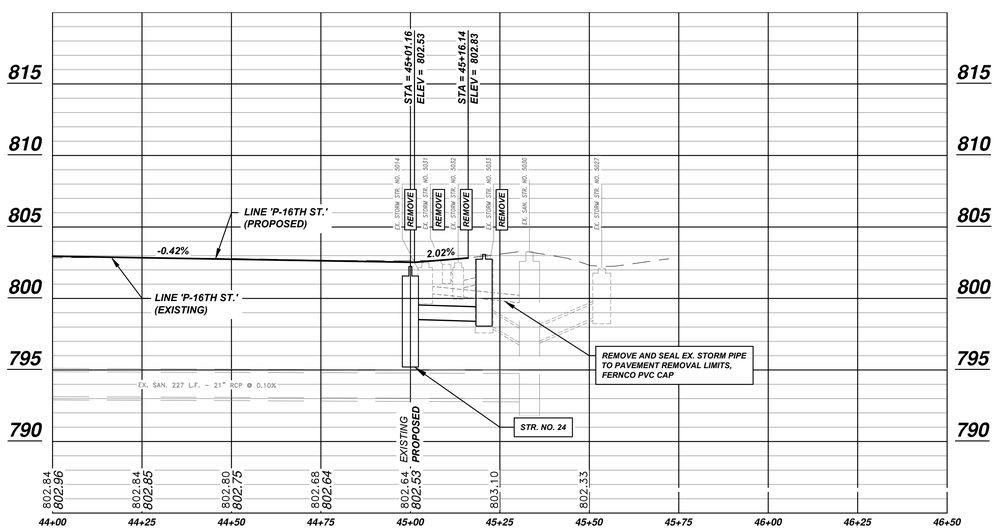
ELEV. = 803.60

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED	S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER	SB	24", STOP BAR, THERMOPLASTIC, WHITE
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)	A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE	UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
33	STRAIGHT CURB, 6"	M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED	Z	REPLACE EXISTING CASTING
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03	R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)		

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE



PROFILE - 16TH STREET - STA. 44+00 TO STA. 46+50

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

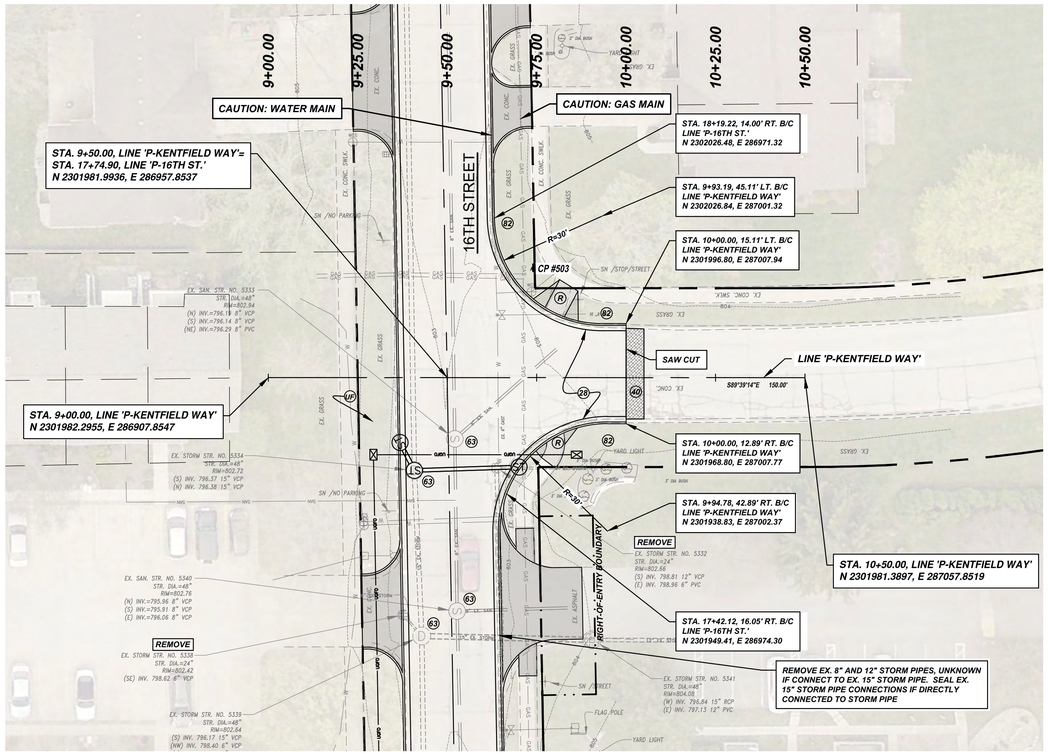
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE
STA. 44+00 TO STA. 46+50

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-14

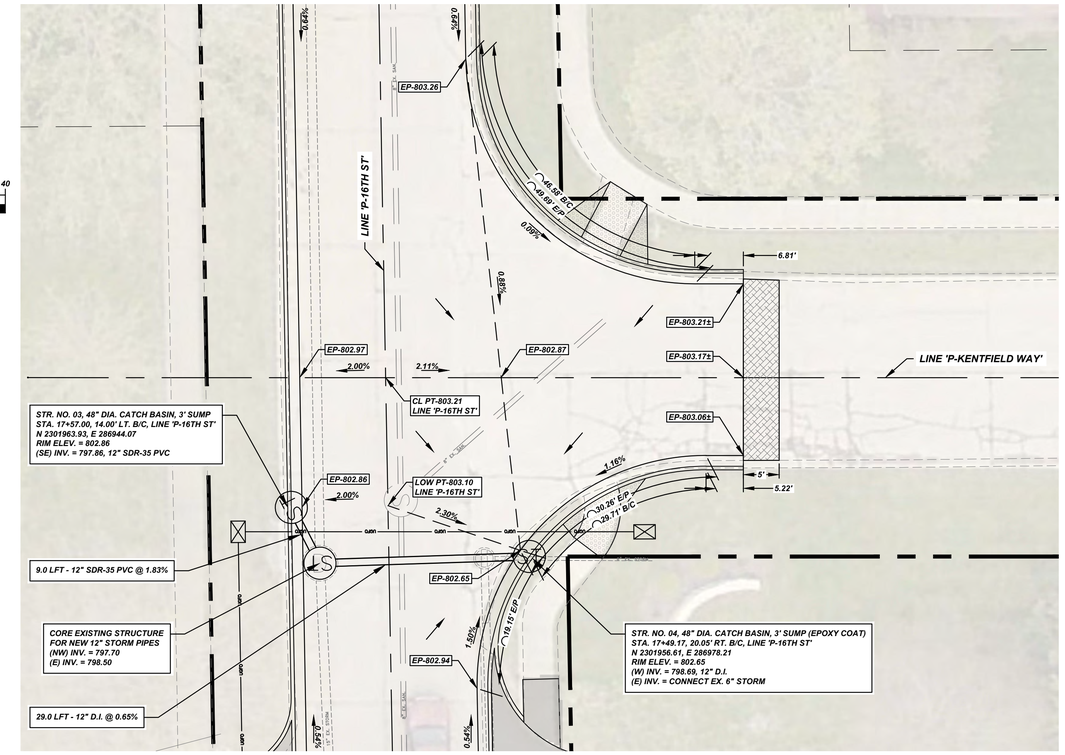


PLAN - KENTFIELD WAY - STA. 9+00 TO STA. 10+50

SCALE 1" = 20' H

CP #503
STA. 18+04.97, 24.56' RT.
5/8" REBAR W/ A-Z CAP
N 2302012.358, E 286982.050
ELEV. = 803.760

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 INCH = 20 FT

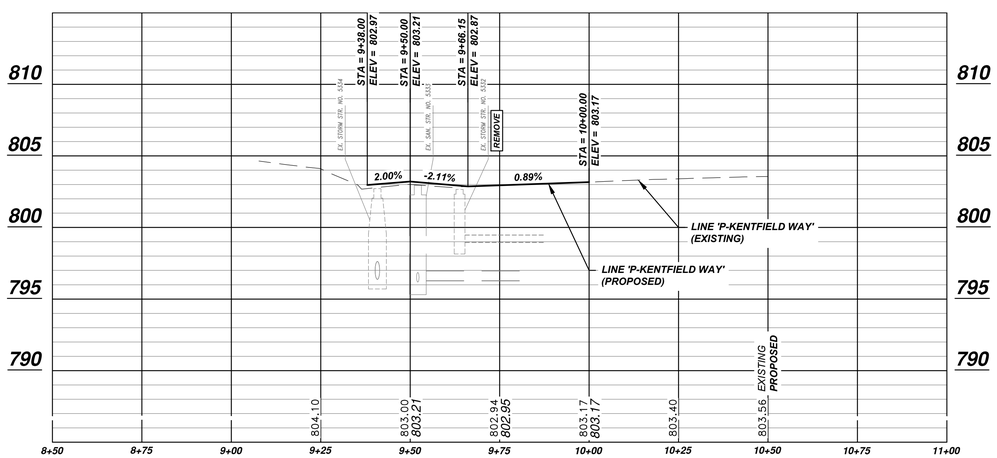


GRADING PLAN - KENTFIELD WAY

SCALE 1" = 10'

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED	S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER	SB	24", STOP BAR, THERMOPLASTIC, WHITE
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)	A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE	UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
33	STRAIGHT CURB, 6"	M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED	Z	REPLACE EXISTING CASTING
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03	R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)		



PROFILE - KENTFIELD WAY - STA. 9+00 TO STA. 10+50

SCALE 1" = 20' H, 5' V

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
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6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 21101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

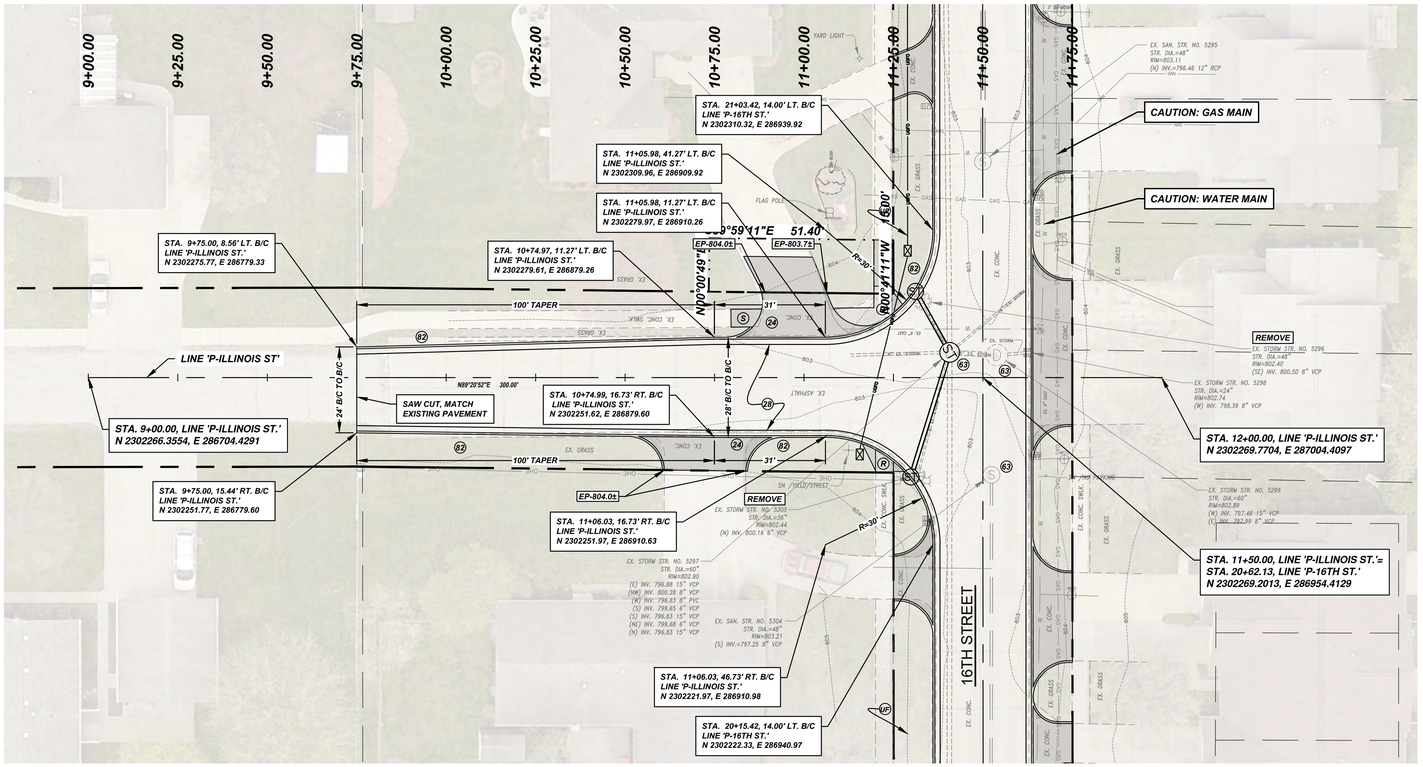
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE - KENTFIELD WAY
STA. 9+00 TO STA. 10+50

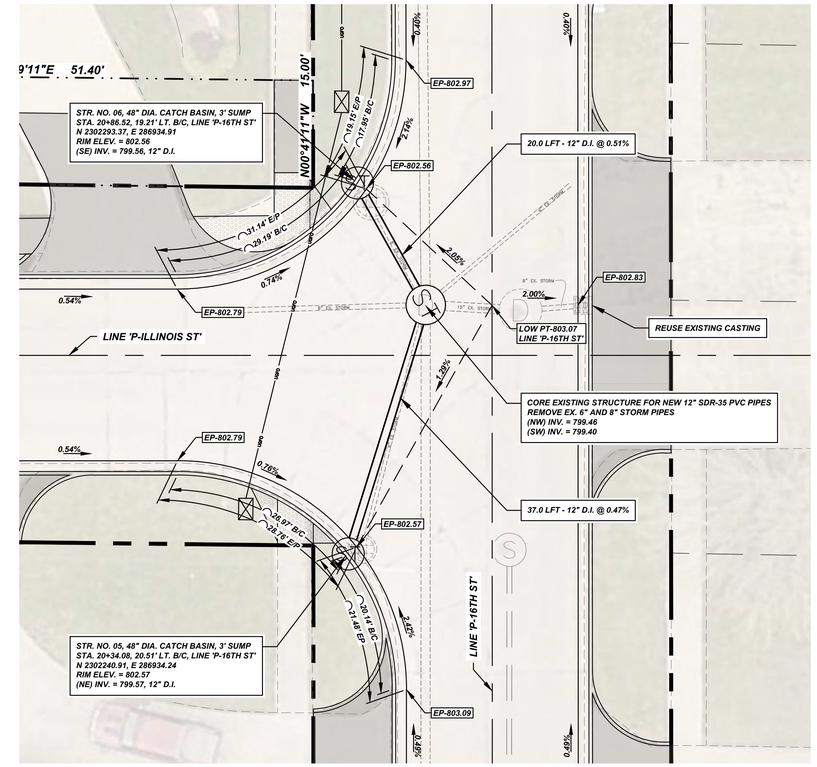
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-15



PLAN - ILLINOIS STREET - STA. 9+00 TO STA. 12+00

SCALE 1" = 20' H



GRADING PLAN - ILLINOIS ST.

SCALE 1" = 10'

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)
33	STRAIGHT CURB, 6"
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03
63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED
82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER
A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE
M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED
R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)
S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
SB	24", STOP BAR, THERMOPLASTIC, WHITE
UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
Z	REPLACE EXISTING CASTING

GENERAL NOTES:

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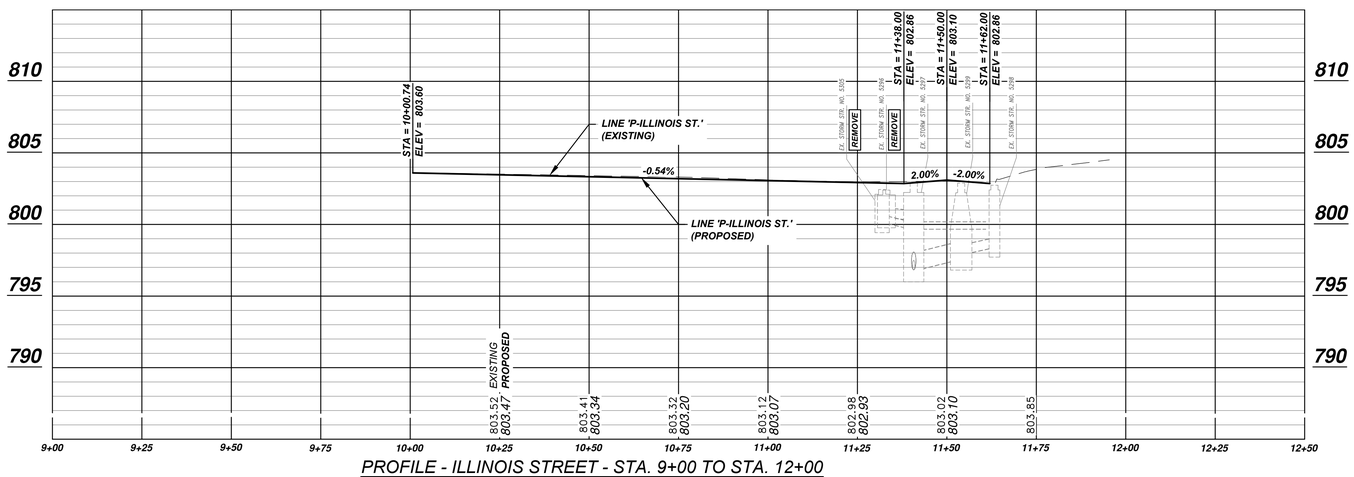
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE

GRAPHIC SCALE

0 10 20 40

(IN FEET)
1 INCH = 20 FT



PROFILE - ILLINOIS STREET - STA. 9+00 TO STA. 12+00

SCALE 1" = 20' H, 5' V

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. E-PE11011684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

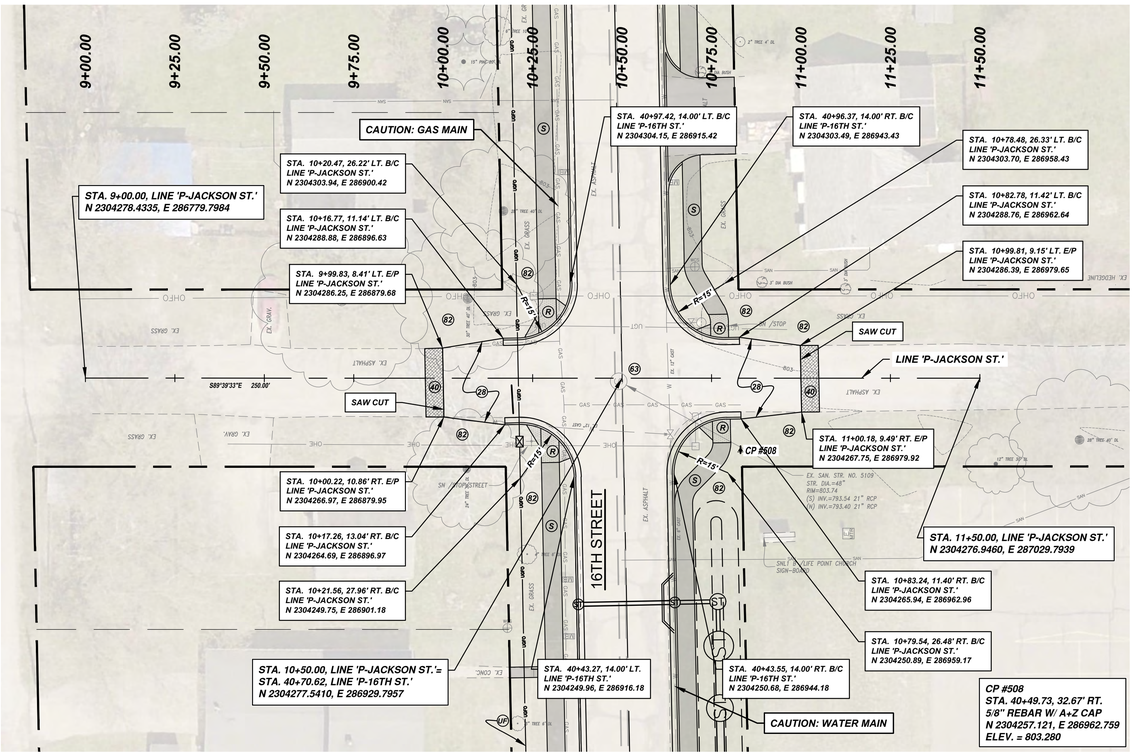
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE - ILLINOIS STREET
STA. 9+00 TO STA. 12+00

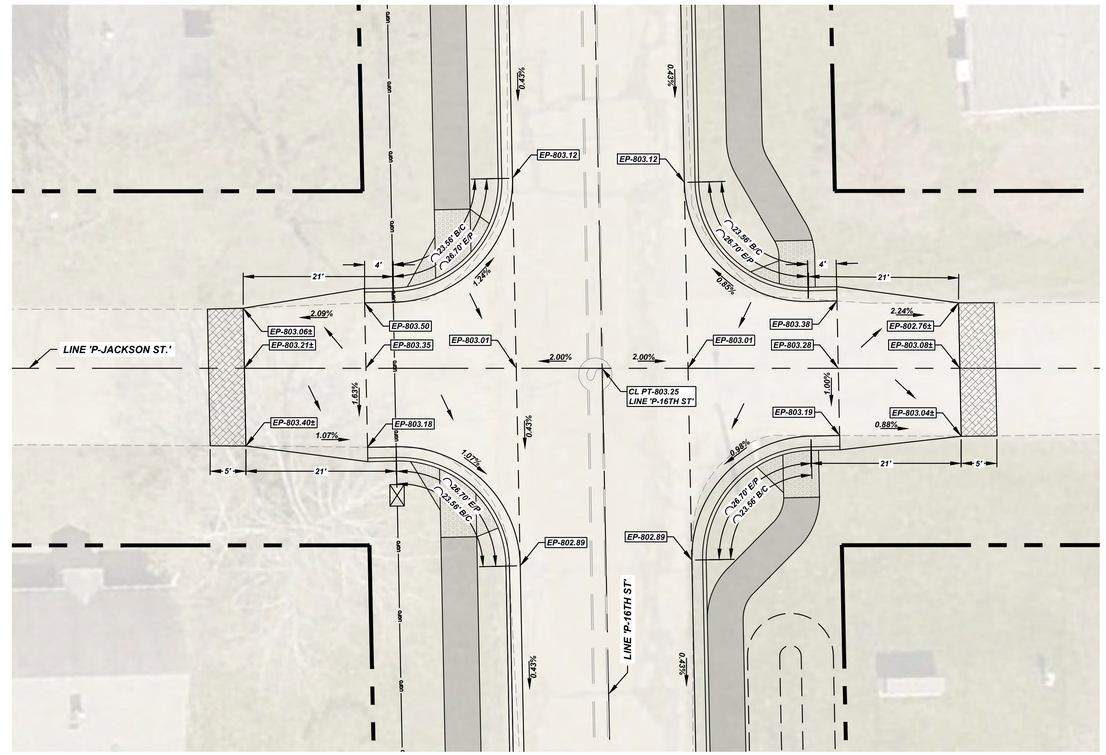
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-16



PLAN - E. JACKSON ST. - STA. 9+00 TO STA. 11+75

SCALE 1" = 20' H



GRADING PLAN - JACKSON ST.

SCALE 1" = 10'

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED	S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER	SB	24", STOP BAR, THERMOPLASTIC, WHITE
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)	A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE	UF	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
33	STRAIGHT CURB, 6"	M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED	Z	REPLACE EXISTING CASTING
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03	R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)		

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
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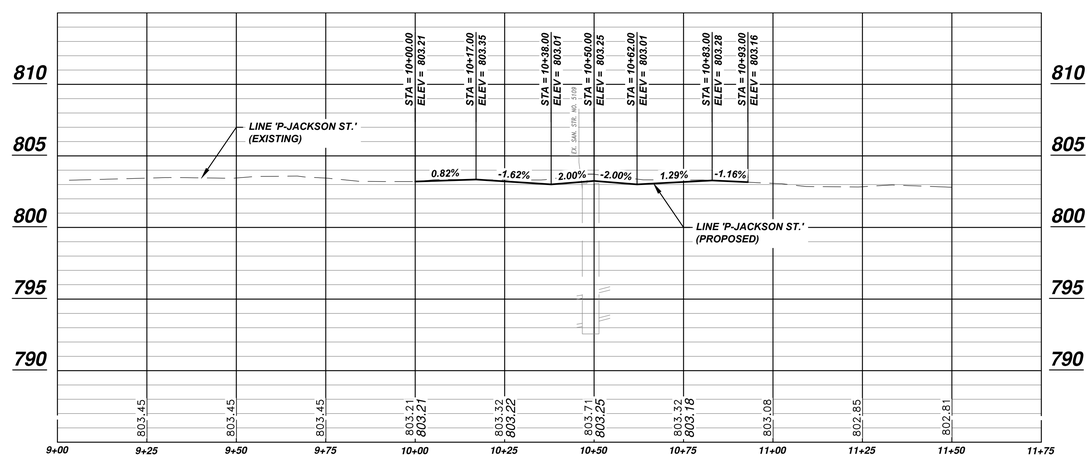
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE



PROFILE - E. JACKSON ST. - STA. 9+00 TO STA. 11+75

SCALE 1" = 20' H, 5' V

GRAPHIC SCALE
0 10 20 40
(IN FEET)
1 INCH = 20 FT

REV.	DESCRIPTION	BY	DATE

JOSHUA S CORWIN NO. PE10101684 STATE OF INDIANA PROFESSIONAL ENGINEER

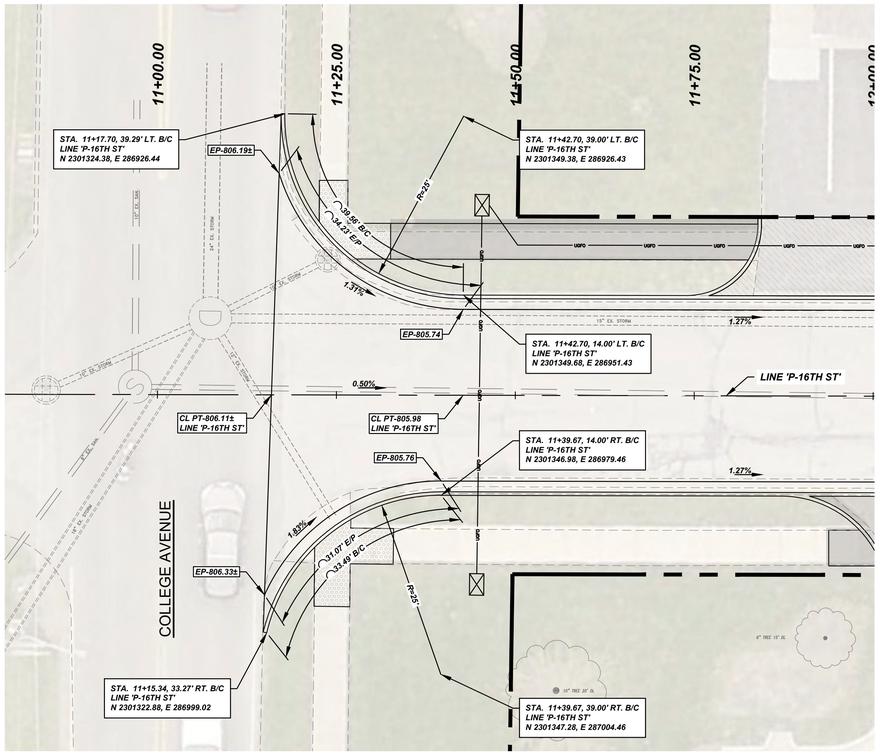
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

PLAN AND PROFILE - E. JACKSON STREET
STA. 9+00 TO STA. 11+50

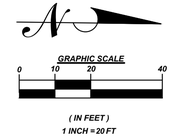
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

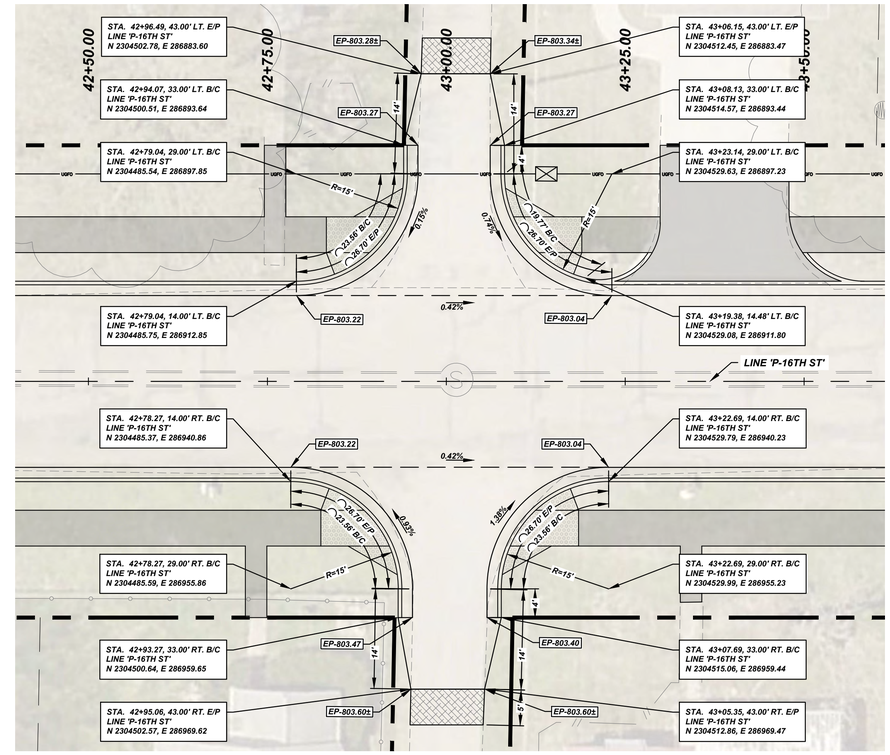
X-2525-17



GRADING PLAN - 16TH STREET AND COLLEGE AVENUE INTERSECTION

SCALE 1" = 10' H





GRADING PLAN - STA. 43+00.00 ALLEY INTERSECTION

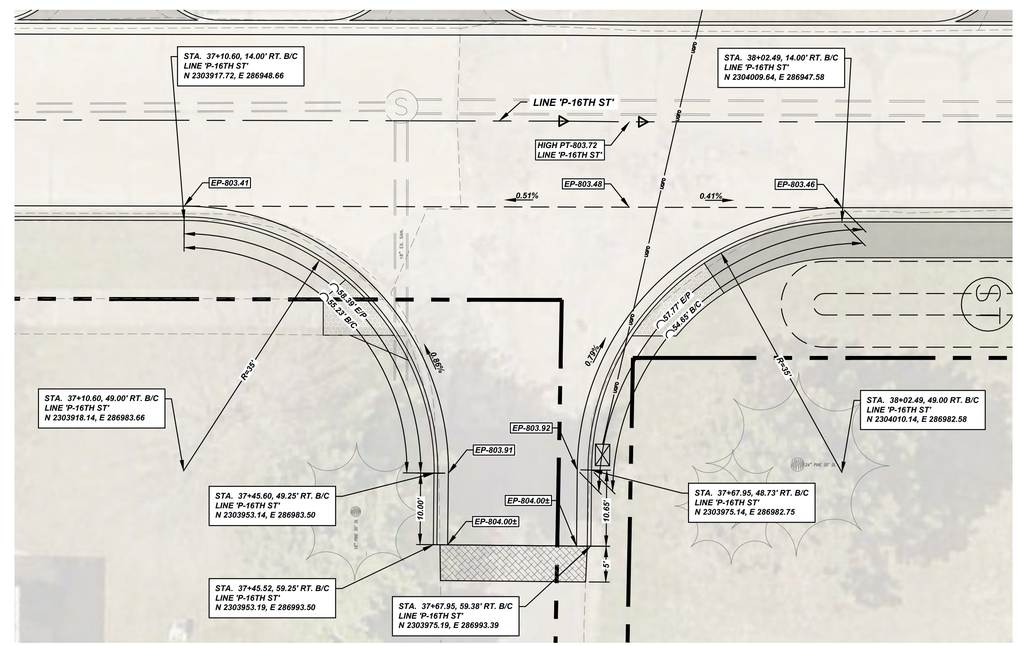
SCALE 1" = 10' H

LEGEND

23	6" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	63	ADJUST CASTING, REPLACE CRACKED/DAMAGED RINGS AS REQUIRED	S	SIDEWALK, 4" CLASS "A" CONCRETE OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, 1.5% CROSS SLOPE
24	8" CONCRETE DRIVE APPROACH OVER 4" No. 53 CRUSHED/RECYCLED CONCRETE, CLASS 'A', NON-REINFORCED	82	4" TOPSOIL, INDOT TYPE "U" (NO CLOVER), STRAW WITH TACKIFIER	SB	24", STOP BAR, THERMOPLASTIC, WHITE
28	PAVEMENT, FULL DEPTH (SEE TYPICAL ROAD SECTION PG. X-2525-03)	A	1" HMA SURFACE OVER 3" HMA BASE OVER 6" No. 53 CRUSHED/RECYCLED CONCRETE	UP	FIBER OPTIC CONDUITS, 3-1.25" CONDUITS WITH 24"X36"X36" VAULTS (SEE SHEET X-2525-05 FOR DETAILS)
33	STRAIGHT CURB, 6"	M	REMOVE/REINSTALL MAILBOX, PROVIDE MAILBOX TO OWNER FOR STORAGE UNTIL REINSTALLED	Z	REPLACE EXISTING CASTING
40	MILL, 2" THICKNESS, BITUMINOUS SURFACE OVERLAY, SEAL JOINT SEE DETAIL PG X-2525-03	R	ADA RAMP (TRUNCATED DOMES AT PUBLIC STREET CROSSING ONLY)		

GENERAL NOTES:

1. SAW CUT EXISTING PAVEMENT EDGE PRIOR TO PLACING NEW PAVEMENT AND DRIVE APPROACH. DAMAGED EDGES MUST BE CORRECTED
2. ALL DRIVEWAYS/ENTRANCES MUST BE OPEN AT THE END OF EACH DAY. RESIDENTS AND BUSINESS ARE TO BE NOTIFIED 48 HOURS PRIOR TO ANY CLOSURES OR RESTRICTIONS
3. AT THE END OF EACH WORK DAY, ALL PUBLIC UTILITIES MUST BE FULLY FUNCTIONAL. IF A UTILITY IS DAMAGED, IT MUST BE RESTORED THE SAME DAY
4. ADJUSTMENT OF WATER VALVE BOXES IS INCIDENTAL, RINGS MAY BE USED
5. CONTRACTOR TO POTHOLE EXISTING UTILITIES TO VERIFY LOCATION AND DEPTH, NOTIFY CITY OF CONFLICTS
6. REMOVAL OF EX. STORM PIPE AND SEALING OF INVERT SHALL BE INCIDENTAL TO REMOVAL OF STRUCTURE



GRADING PLAN - FAIRFIELD AVENUE AND 16TH STREET INTERSECTION

SCALE 1" = 10' H

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 1 PE10101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

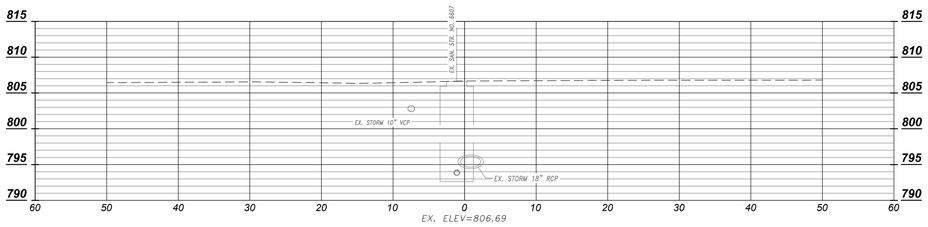
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

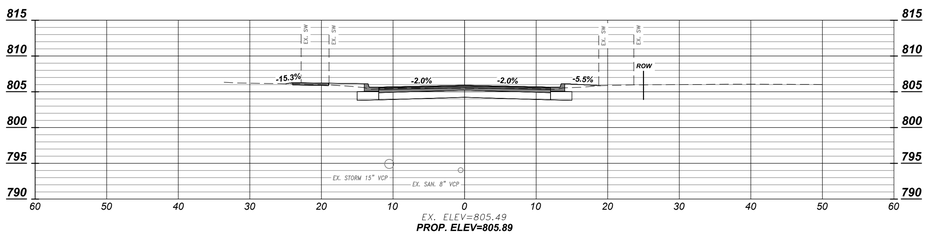
INTERSECTION GRADING PLANS

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10'	

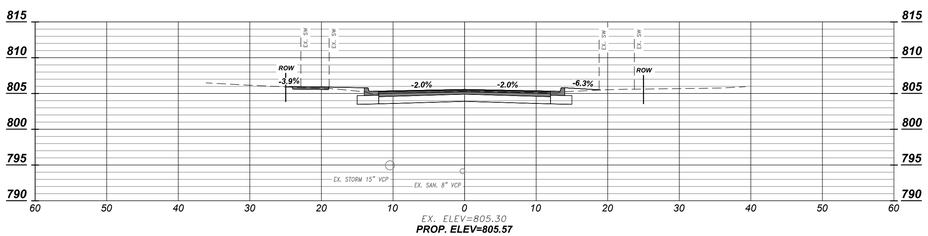
X-2525-18



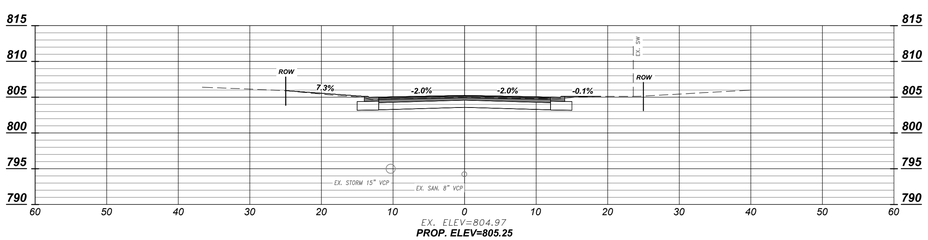
Sta. 11+00.00



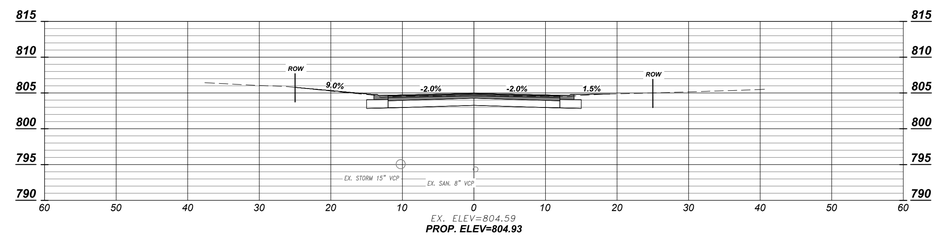
Sta. 11+50.00



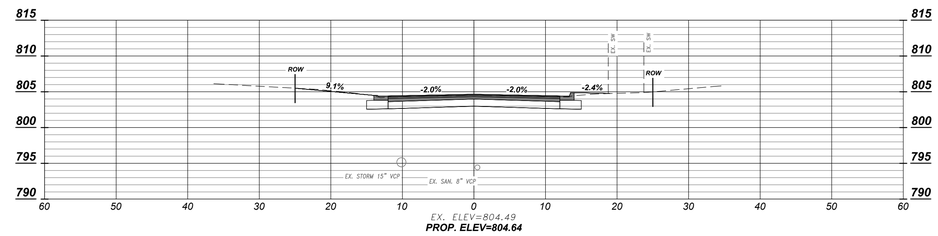
Sta. 11+75.00



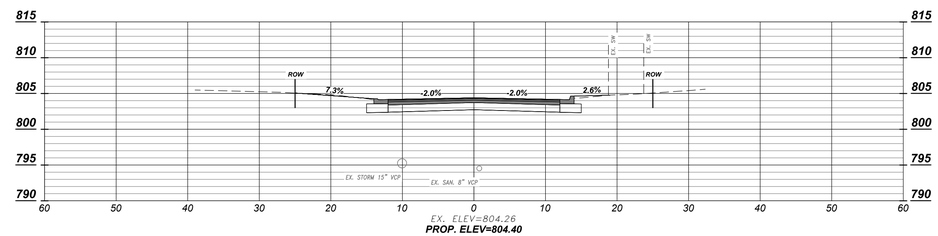
Sta. 12+00.00



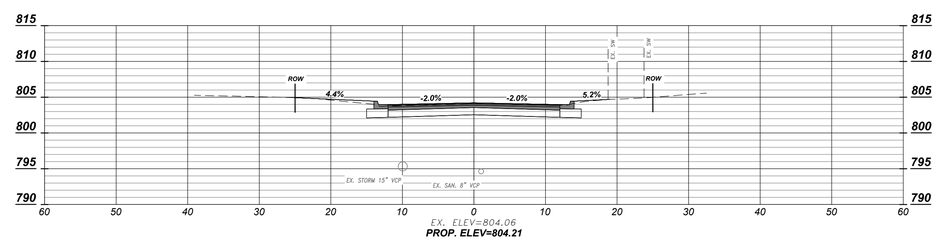
Sta. 12+25.00



Sta. 12+50.00



Sta. 12+75.00



Sta. 13+00.00

REV.	DESCRIPTION	BY	DATE

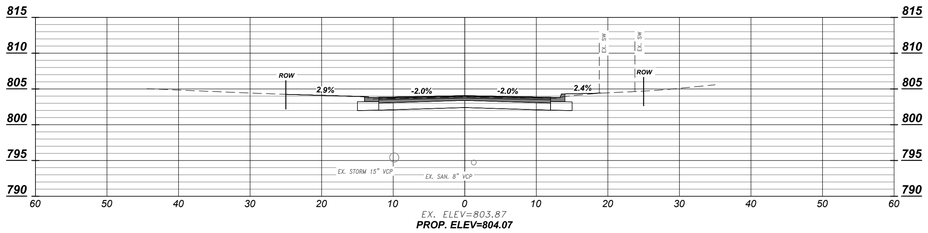
JOSHUA S. CORWIN ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

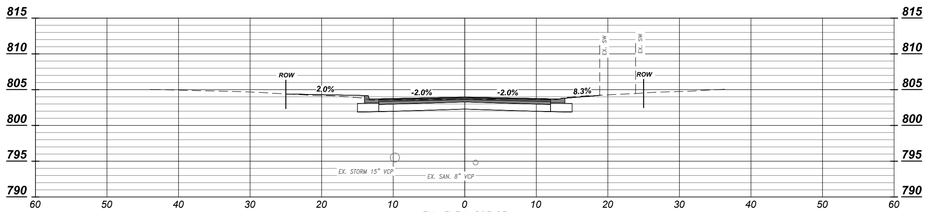
16TH STREET X-SECTIONS
STA. 11+00.00 TO STA. 13+00.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-19	



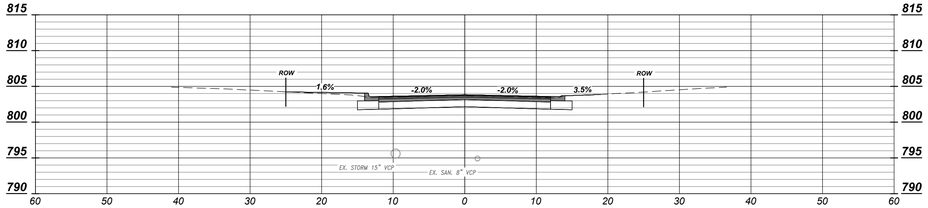
EX. ELEV=803.87
PROP. ELEV=804.07

Sta. 13+25.00



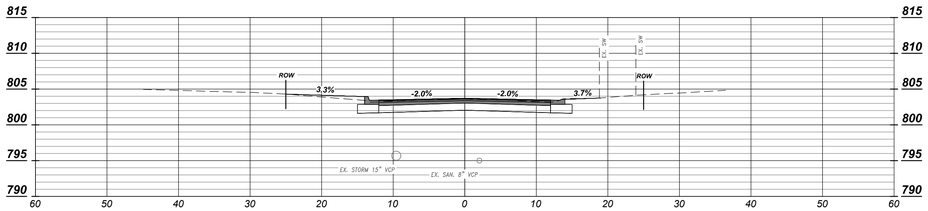
EX. ELEV=803.65
PROP. ELEV=803.95

Sta. 13+50.00



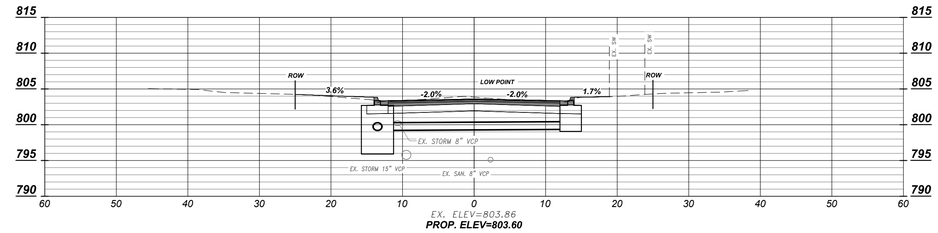
EX. ELEV=803.68
PROP. ELEV=803.83

Sta. 13+75.00



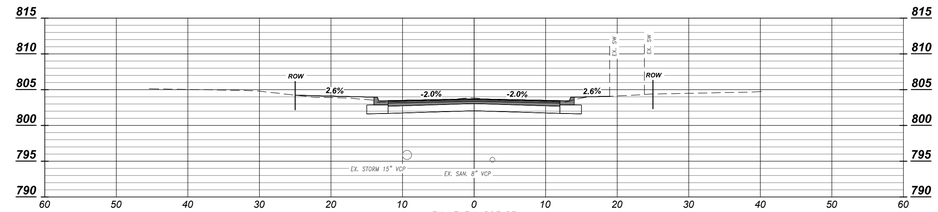
EX. ELEV=803.66
PROP. ELEV=803.72

Sta. 14+00.00



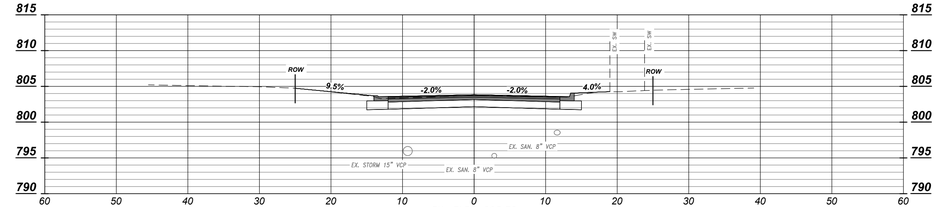
EX. ELEV=803.86
PROP. ELEV=803.60

Sta. 14+25.00



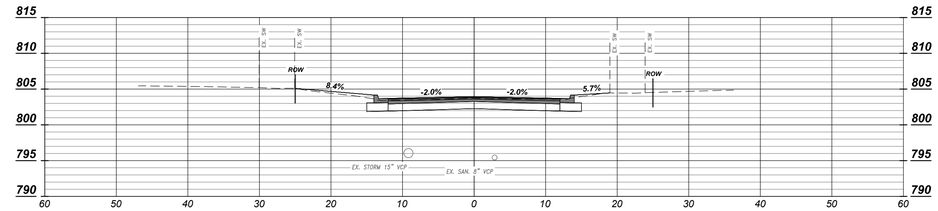
EX. ELEV=803.83
PROP. ELEV=803.72

Sta. 14+50.00



EX. ELEV=803.72
PROP. ELEV=803.83

Sta. 14+75.00



EX. ELEV=803.73
PROP. ELEV=803.95

Sta. 15+00.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN
REGISTERED
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

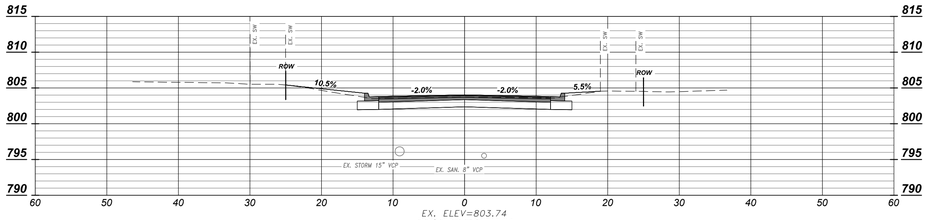
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 13+25.00 TO STA. 15+00.00

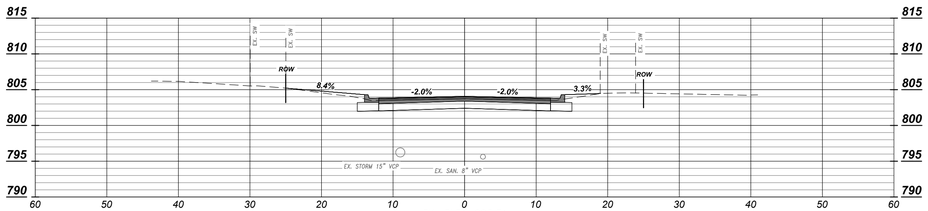
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

X-2525-20



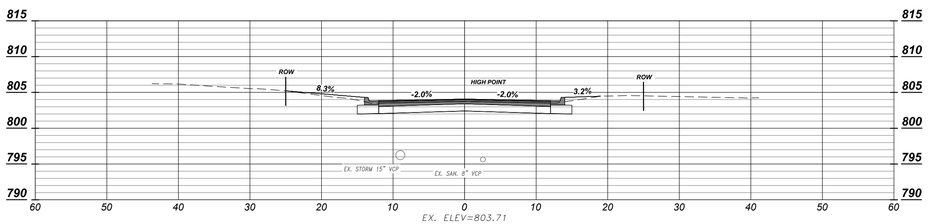
EX. ELEV=803.74
PROP. ELEV=804.04

Sta. 15+25.00



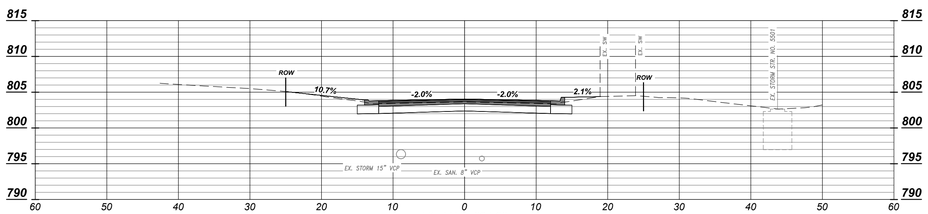
EX. ELEV=803.71
PROP. ELEV=804.08

Sta. 15+50.00



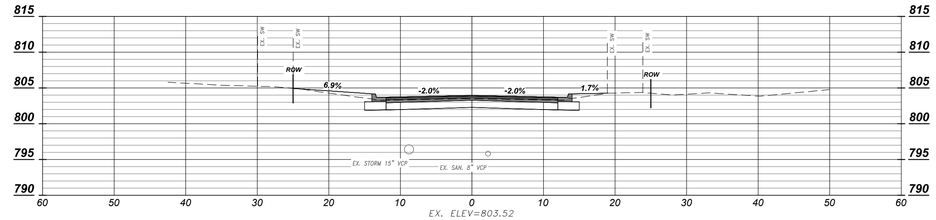
EX. ELEV=803.71
PROP. ELEV=804.08

Sta. 15+50.87



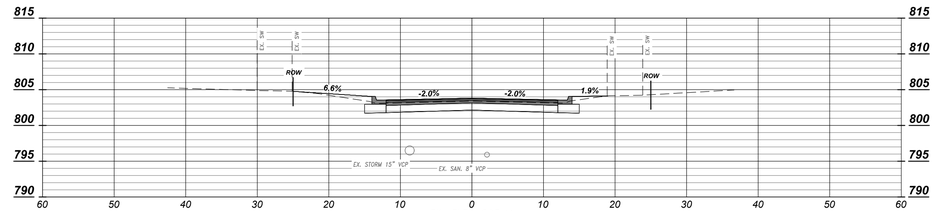
EX. ELEV=803.62
PROP. ELEV=804.05

Sta. 15+75.00



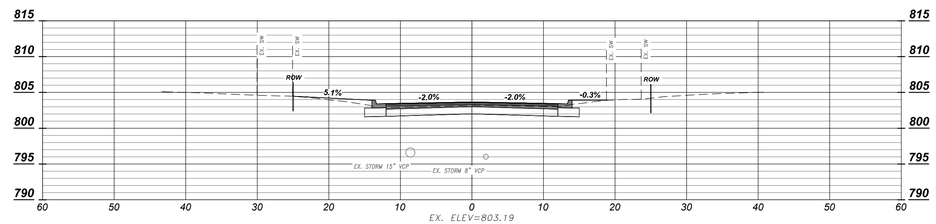
EX. ELEV=803.52
PROP. ELEV=803.95

Sta. 16+00.00



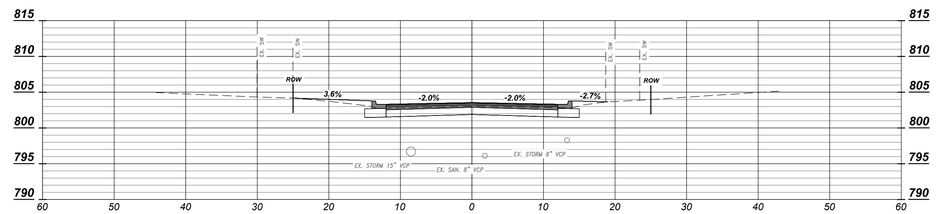
EX. ELEV=803.41
PROP. ELEV=803.82

Sta. 16+25.00



EX. ELEV=803.19
PROP. ELEV=803.68

Sta. 16+50.00



EX. ELEV=803.02
PROP. ELEV=803.55

Sta. 16+75.00

REV.	DESCRIPTION	BY	DATE

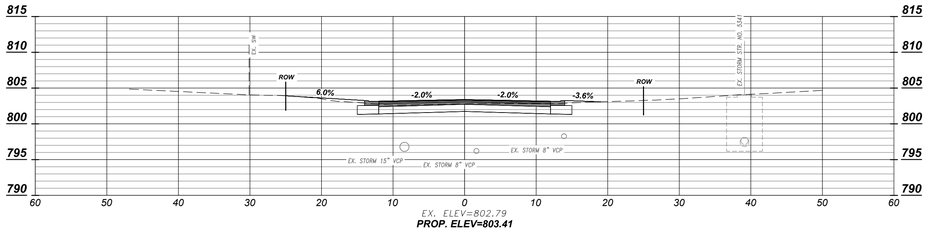
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

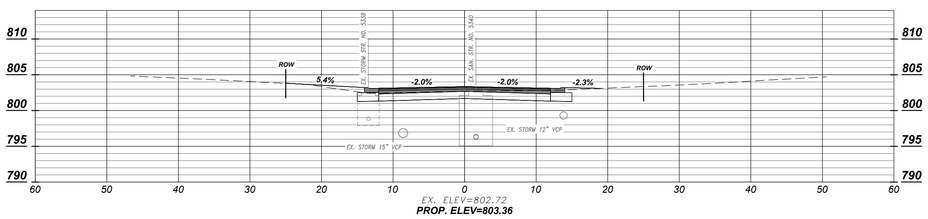
16TH STREET X-SECTIONS
STA. 15+25.00 TO STA. 16+75.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

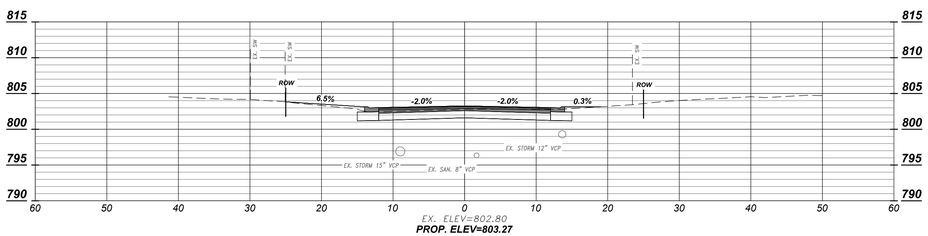
X-2525-21



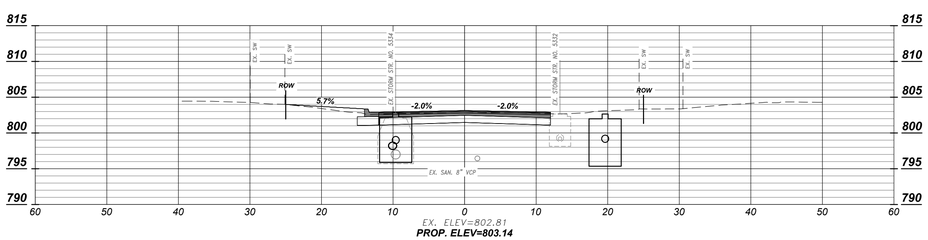
Sta. 17+00.00



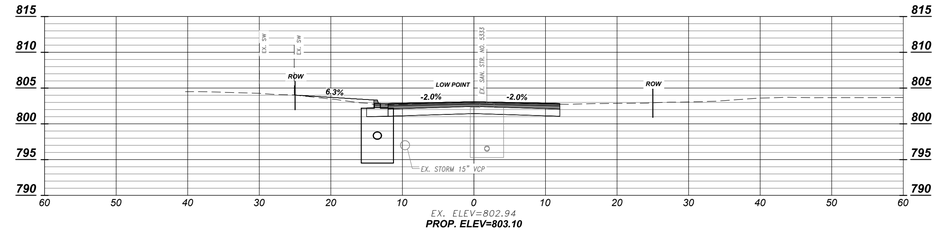
Sta. 17+10.00



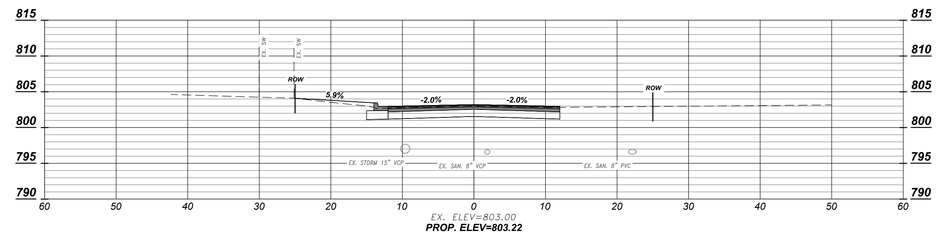
Sta. 17+25.00



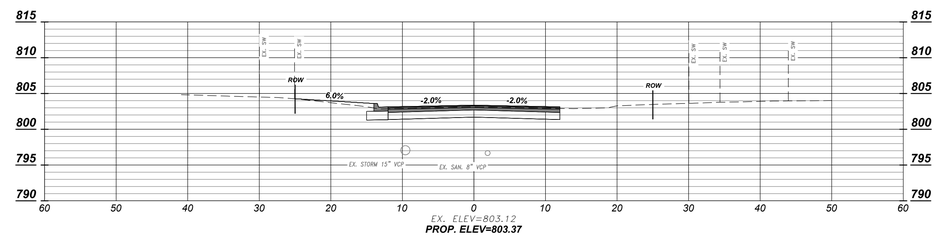
Sta. 17+50.00



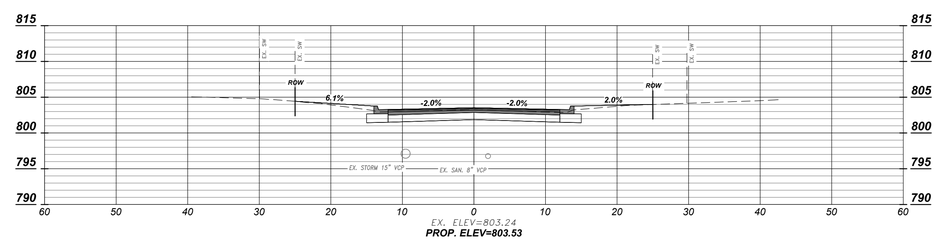
Sta. 17+57.00



Sta. 17+75.00



Sta. 18+00.00



Sta. 18+25.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
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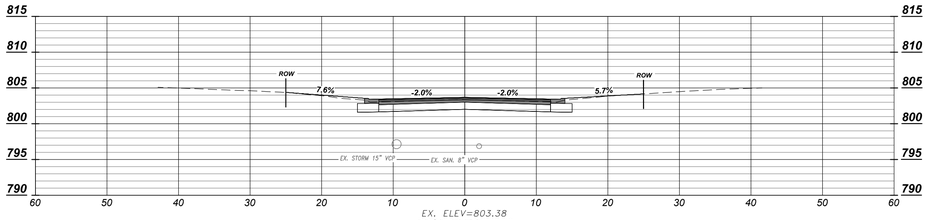
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

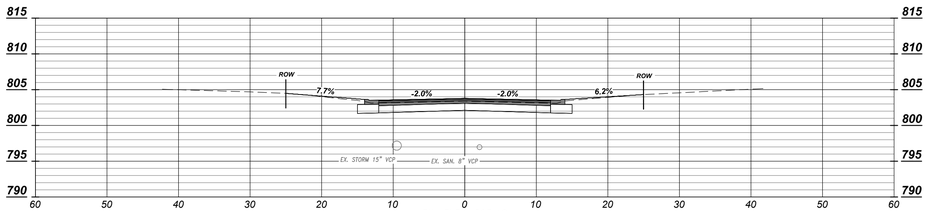
16TH STREET X-SECTIONS
STA. 17+05.00 TO STA. 18+25.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-22	



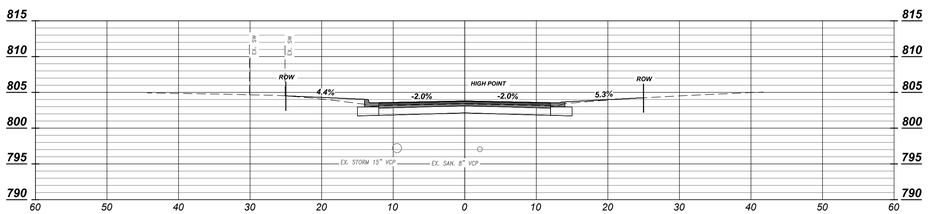
EX. ELEV=803.38
PROP. ELEV=803.69

Sta. 18+50.00



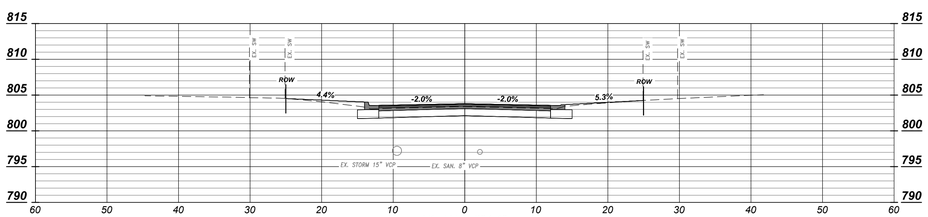
EX. ELEV=803.40
PROP. ELEV=803.78

Sta. 18+75.00



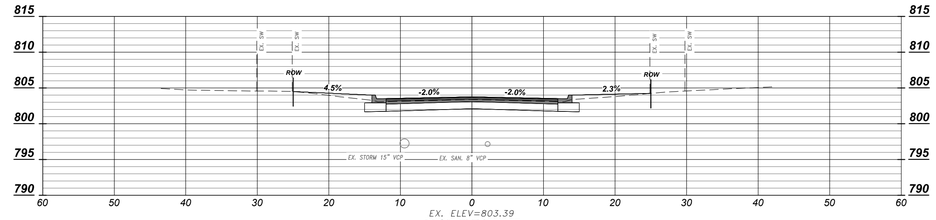
EX. ELEV=803.39
PROP. ELEV=803.81

Sta. 18+96.54



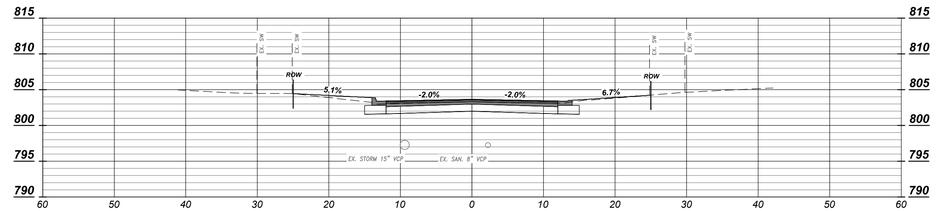
EX. ELEV=803.39
PROP. ELEV=803.81

Sta. 19+00.00



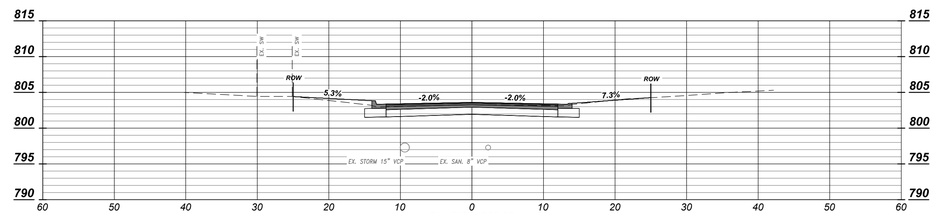
EX. ELEV=803.39
PROP. ELEV=803.77

Sta. 19+25.00



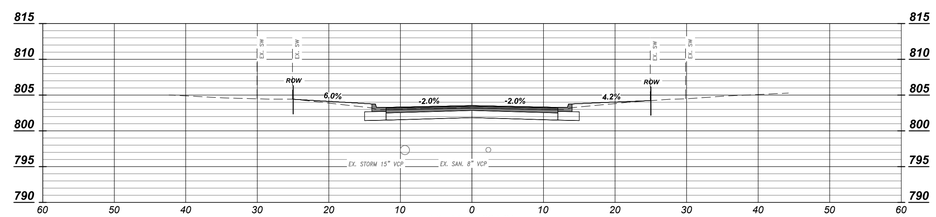
EX. ELEV=803.32
PROP. ELEV=803.66

Sta. 19+50.00



EX. ELEV=803.27
PROP. ELEV=803.61

Sta. 19+60.00



EX. ELEV=803.21
PROP. ELEV=803.53

Sta. 19+75.00

REV.	DESCRIPTION	BY	DATE

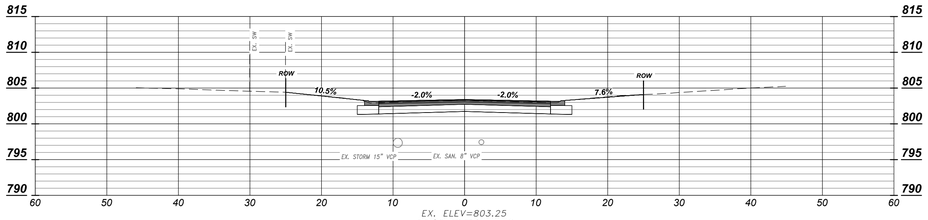
JOSHUA S. CORWIN ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

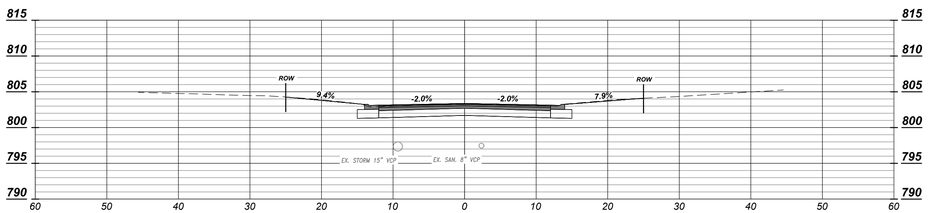
16TH STREET X-SECTIONS
STA. 18+50.00 TO STA. 19+75.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-23	



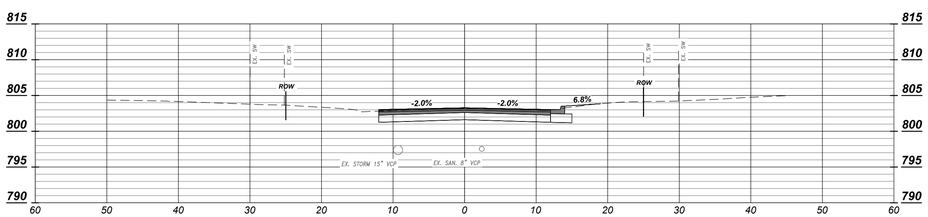
EX. ELEV=803.25
PROP. ELEV=803.41

Sta. 20+00.00



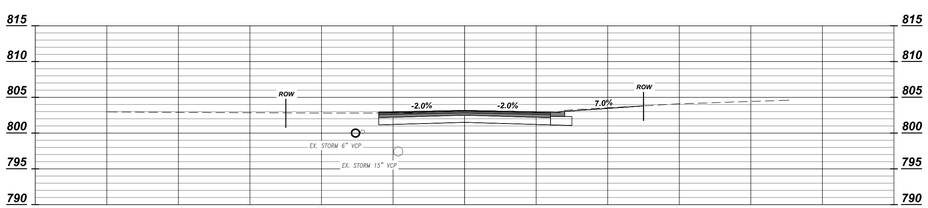
EX. ELEV=803.28
PROP. ELEV=803.38

Sta. 20+06.00



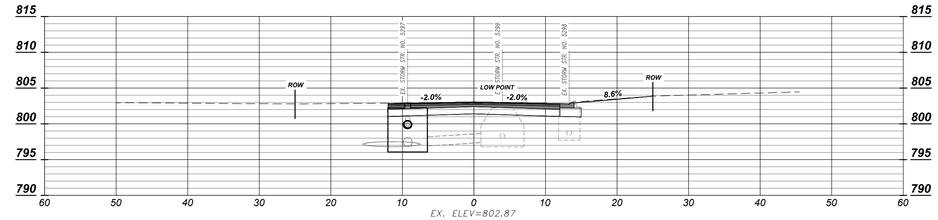
EX. ELEV=803.23
PROP. ELEV=803.29

Sta. 20+25.00



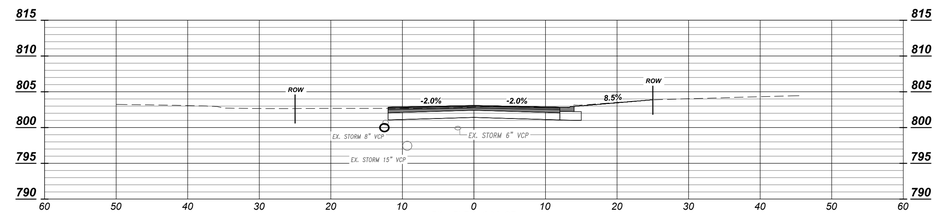
EX. ELEV=803.12
PROP. ELEV=803.16

Sta. 20+50.00



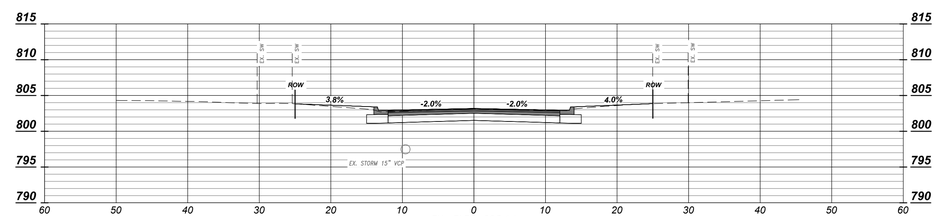
EX. ELEV=802.87
PROP. ELEV=803.07

Sta. 20+69.12



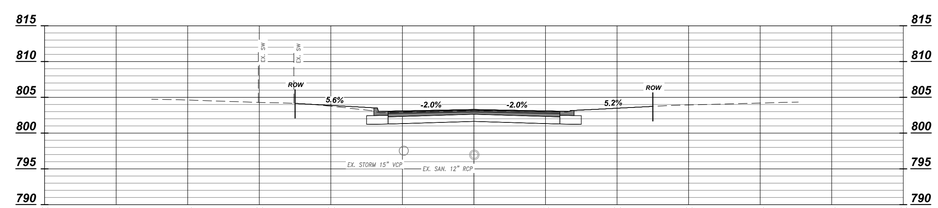
EX. ELEV=802.87
PROP. ELEV=803.09

Sta. 20+75.00



EX. ELEV=803.14
PROP. ELEV=803.19

Sta. 21+00.00



EX. ELEV=803.13
PROP. ELEV=803.30

Sta. 21+25.00

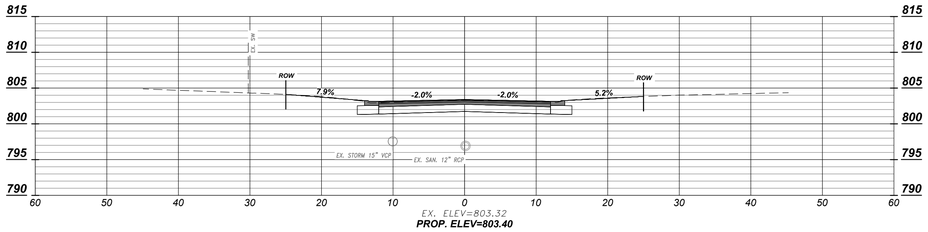
REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

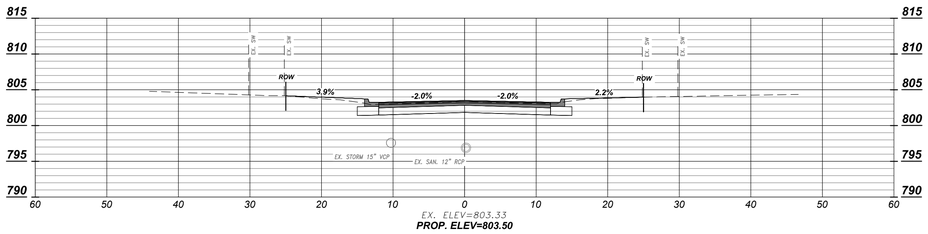
SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 20+00.00 TO STA. 21+25.00

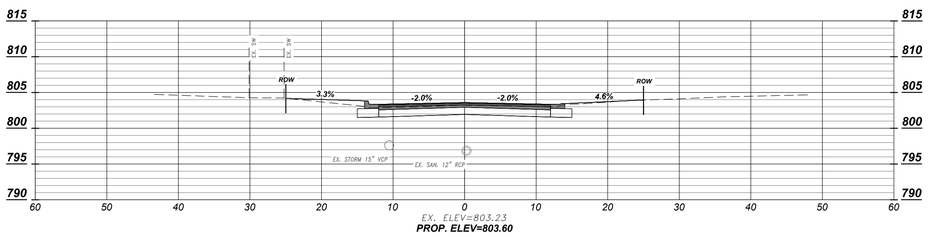
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-24	



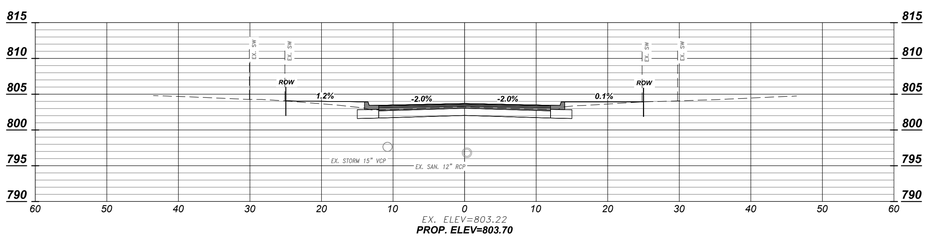
Sta. 21+50.00



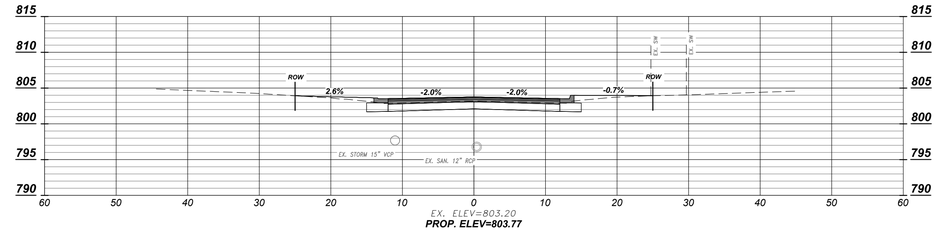
Sta. 21+75.00



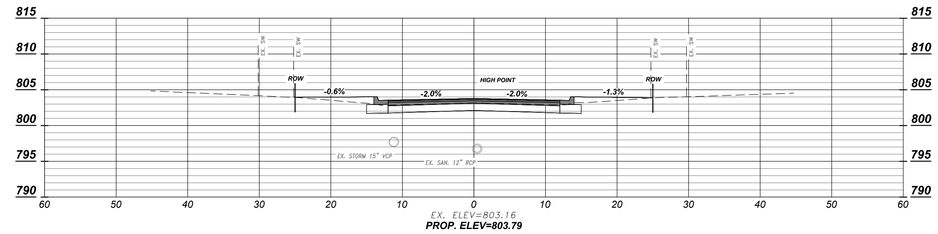
Sta. 22+00.00



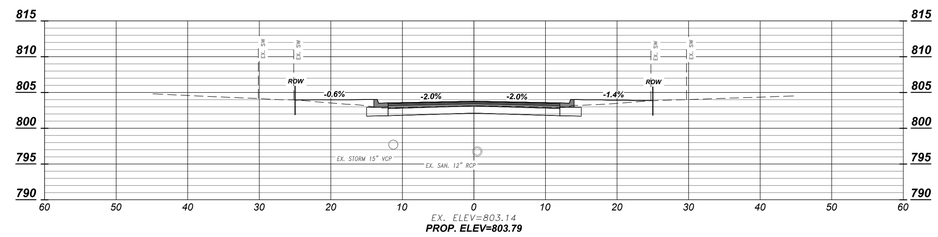
Sta. 22+25.00



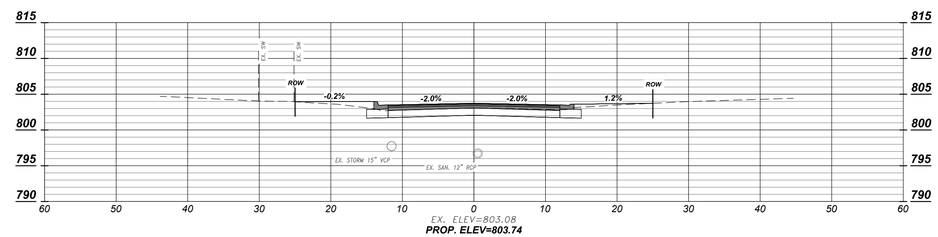
Sta. 22+50.00



Sta. 22+69.09



Sta. 22+75.00



Sta. 23+00.00

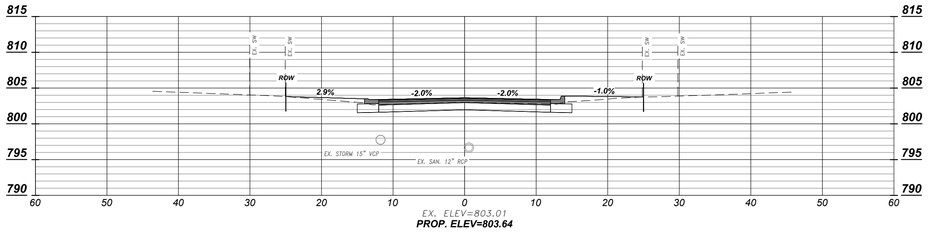
REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

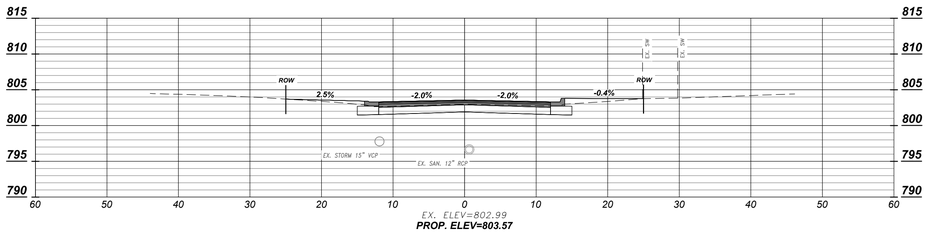
SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 21+50.00 TO STA. 23+00.00

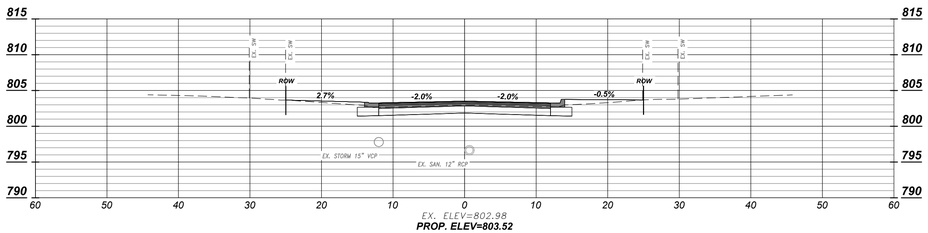
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-25	



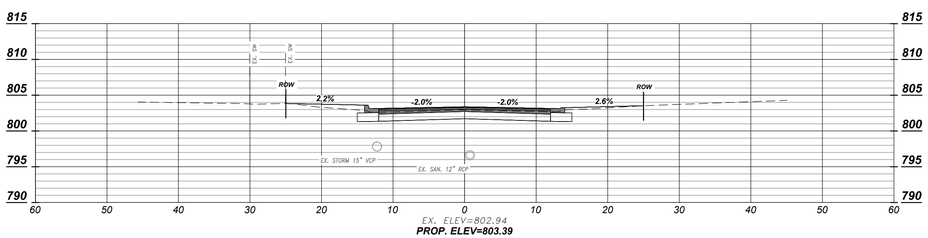
Sta. 23+25.00



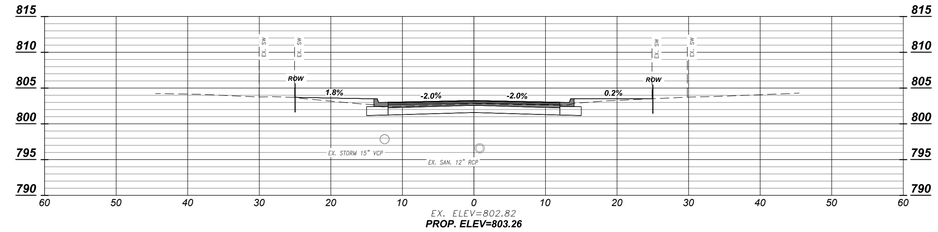
Sta. 23+40.00



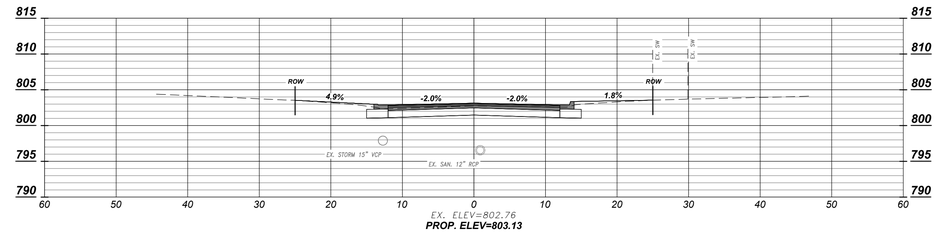
Sta. 23+50.00



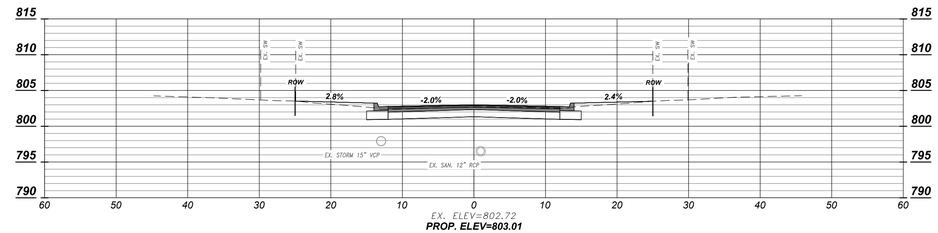
Sta. 23+75.00



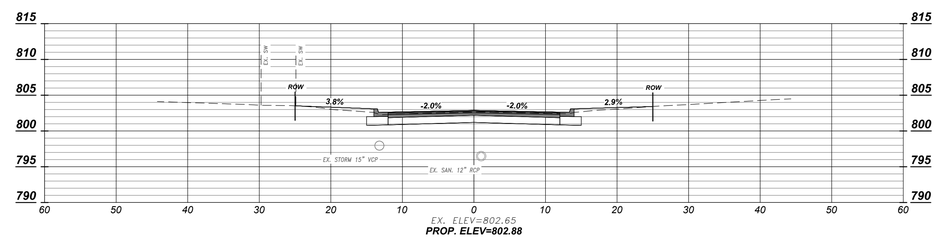
Sta. 24+00.00



Sta. 24+25.00



Sta. 24+50.00



Sta. 24+75.00

REV.	DESCRIPTION	BY	DATE

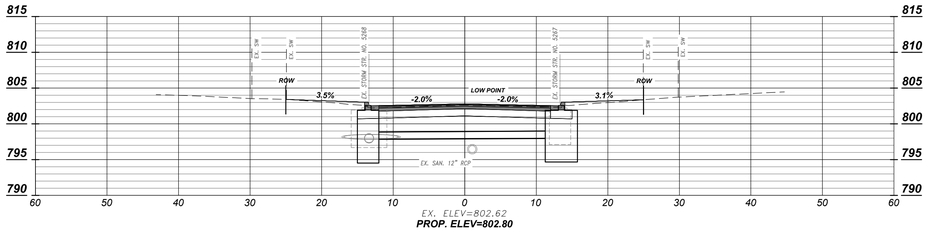
JOSHUA S. CORWIN ★ REGISTERED ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

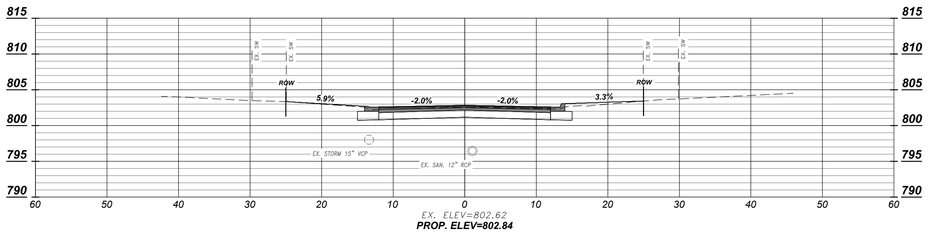
SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 23+25.00 TO STA. 24+75.00

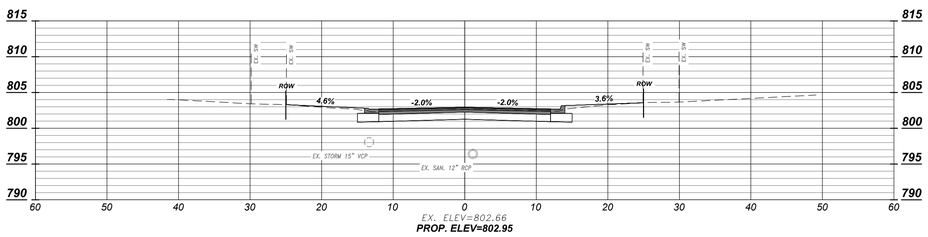
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-26	



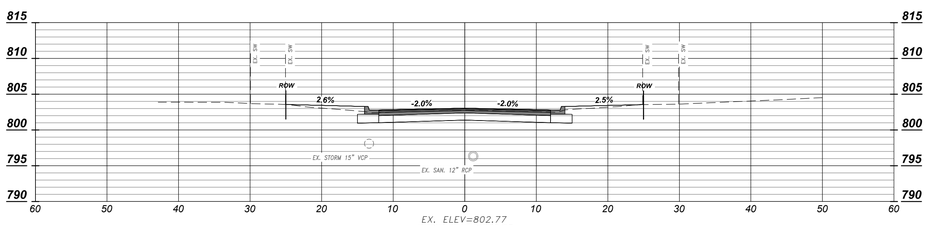
Sta. 24+90.18



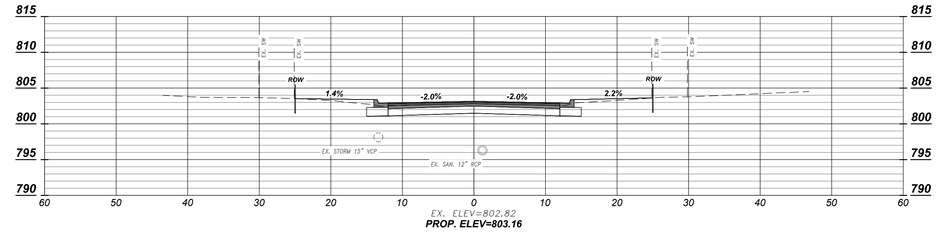
Sta. 25+00.00



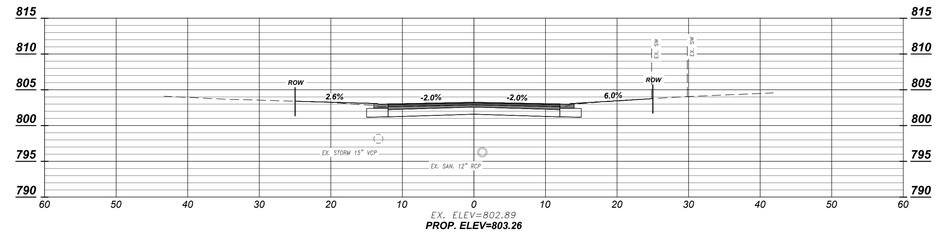
Sta. 25+25.00



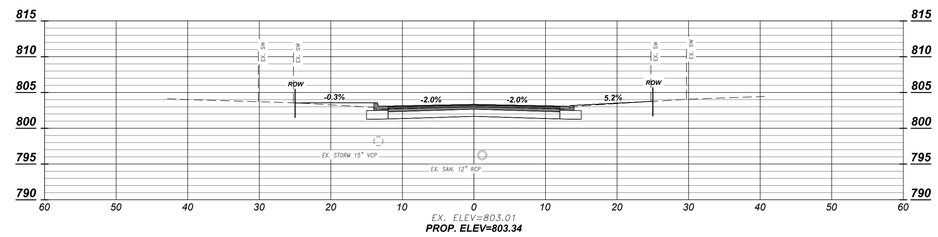
Sta. 25+50.00



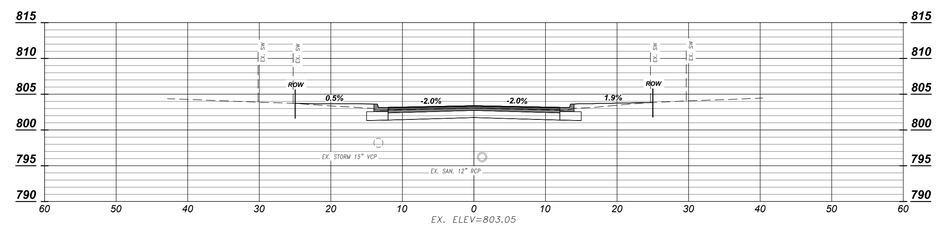
Sta. 25+75.00



Sta. 26+00.00



Sta. 26+25.00



Sta. 26+50.00

REV.	DESCRIPTION	BY	DATE

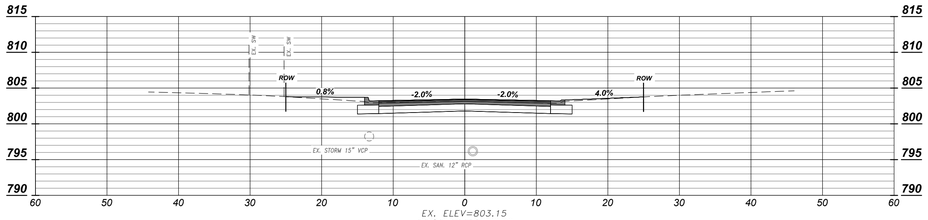
JOSHUA S. CORWIN
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

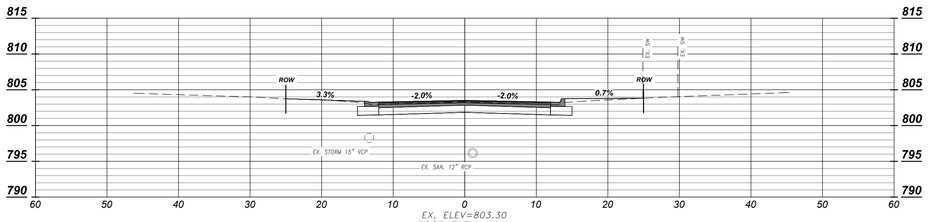
16TH STREET X-SECTIONS
STA. 24+90.18 TO STA. 26+50.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-27	



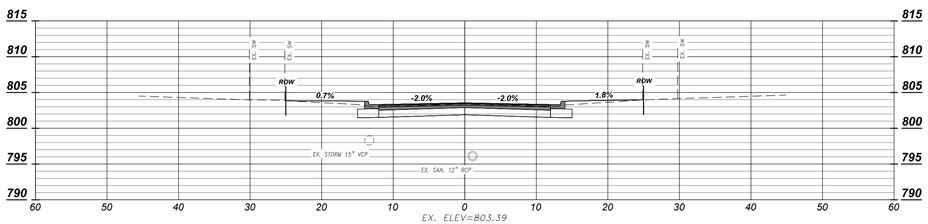
EX. ELEV=803.15
PROP. ELEV=803.48

Sta. 26+75.00



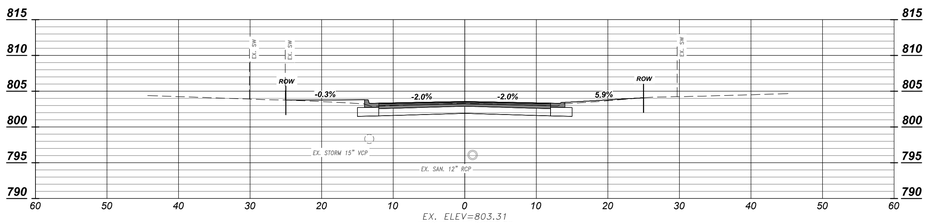
EX. ELEV=803.30
PROP. ELEV=803.52

Sta. 27+00.00



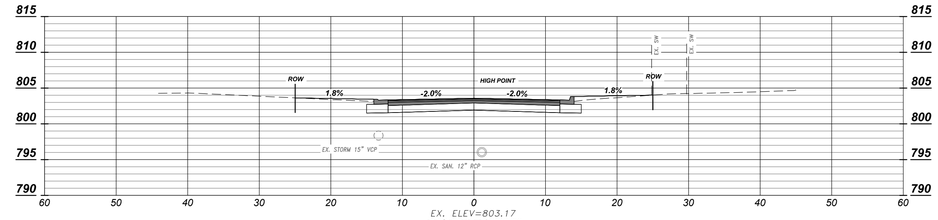
EX. ELEV=803.39
PROP. ELEV=803.56

Sta. 27+25.00



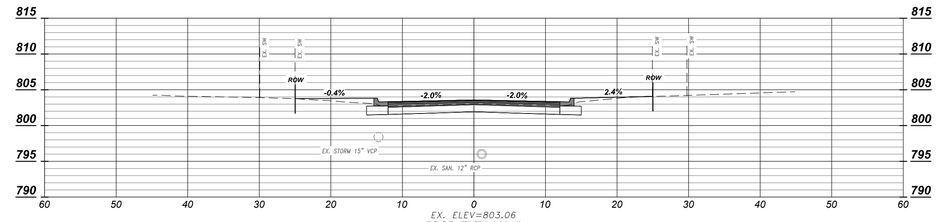
EX. ELEV=803.31
PROP. ELEV=803.58

Sta. 27+50.00



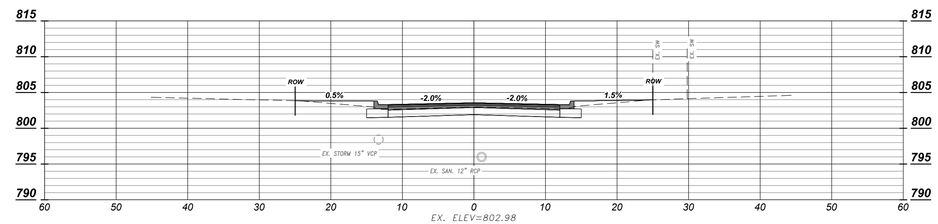
EX. ELEV=803.17
PROP. ELEV=803.59

Sta. 27+80.19



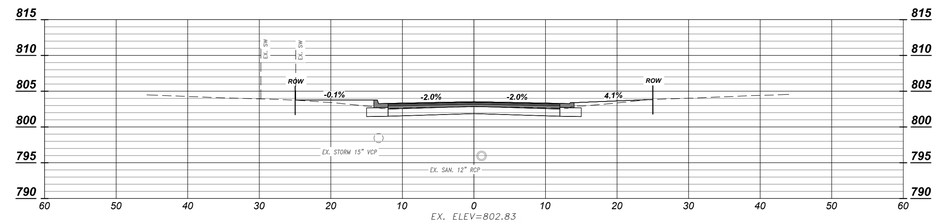
EX. ELEV=803.06
PROP. ELEV=803.59

Sta. 28+00.00



EX. ELEV=802.98
PROP. ELEV=803.57

Sta. 28+25.00



EX. ELEV=802.83
PROP. ELEV=803.54

Sta. 28+50.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN
REGISTERED
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

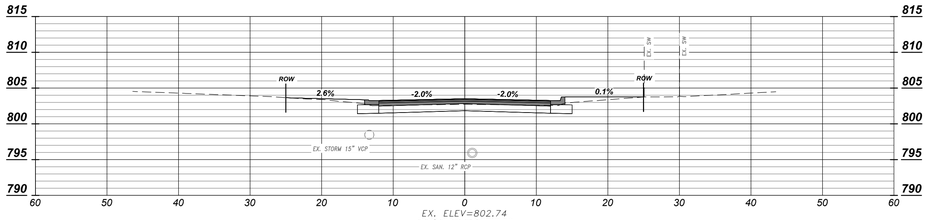
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 26+75.00 TO STA. 28+50.00

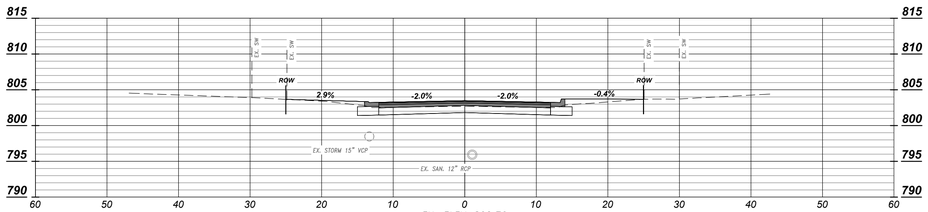
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

X-2525-28



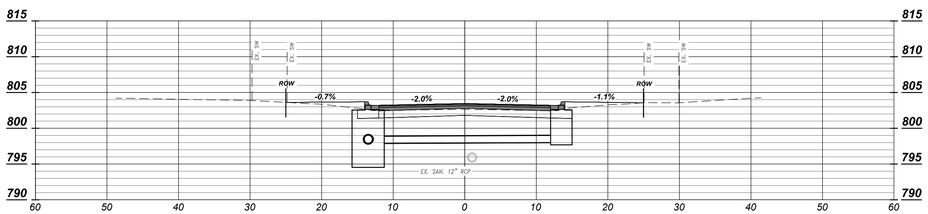
EX. ELEV=802.74
PROP. ELEV=803.52

Sta. 28+65.00



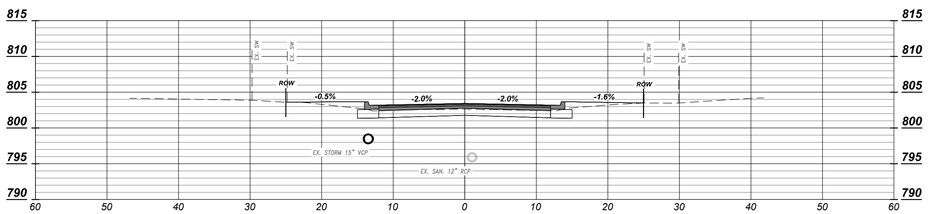
EX. ELEV=802.70
PROP. ELEV=803.50

Sta. 28+75.00



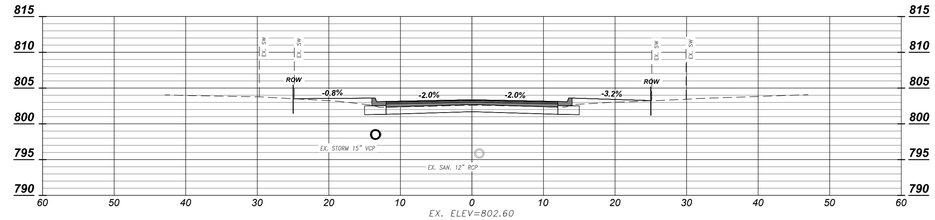
EX. ELEV=802.66
PROP. ELEV=803.47

Sta. 28+90.00



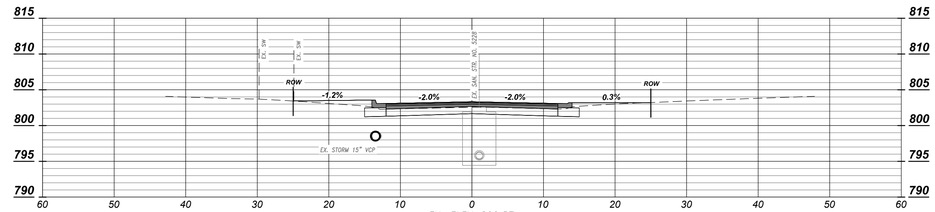
EX. ELEV=802.65
PROP. ELEV=803.44

Sta. 29+00.00



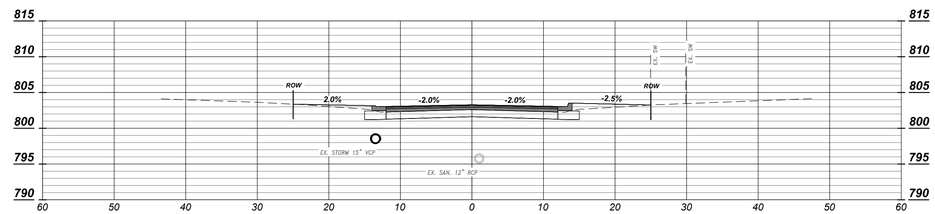
EX. ELEV=802.60
PROP. ELEV=803.37

Sta. 29+25.00



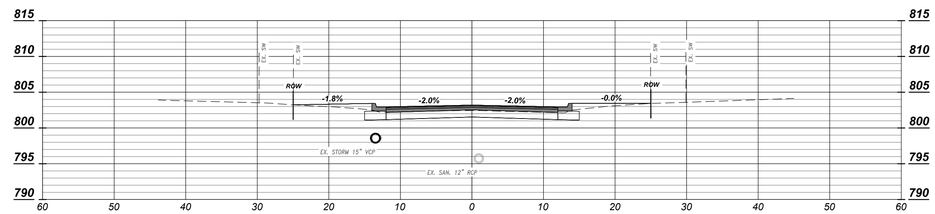
EX. ELEV=802.57
PROP. ELEV=803.33

Sta. 29+38.00



EX. ELEV=802.59
PROP. ELEV=803.29

Sta. 29+50.00



EX. ELEV=802.46
PROP. ELEV=803.20

Sta. 29+75.00

REV.	DESCRIPTION	BY	DATE

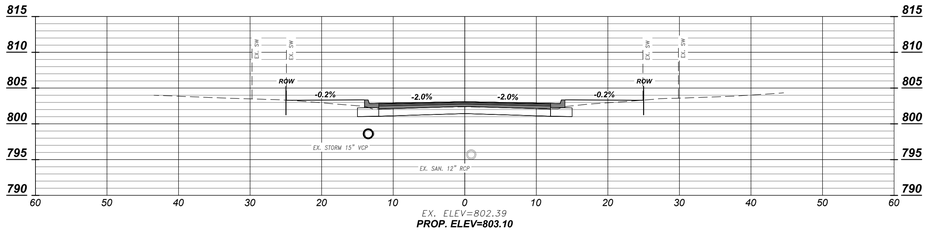
JOSHUA S. CORWIN ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

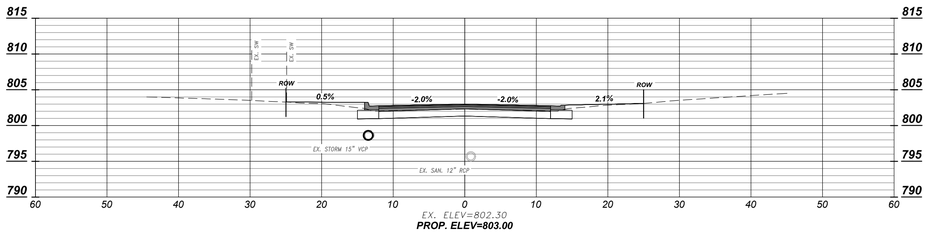
SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 28+65.00 TO STA. 29+75.00

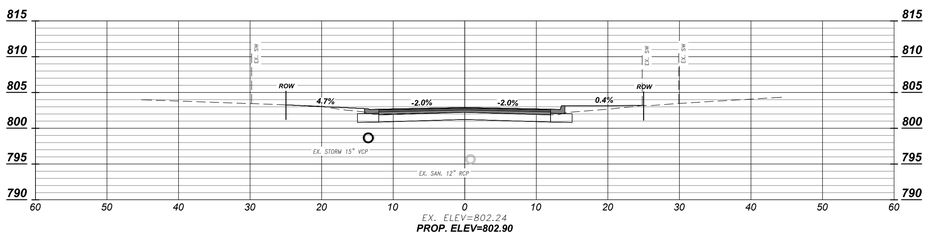
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-29	



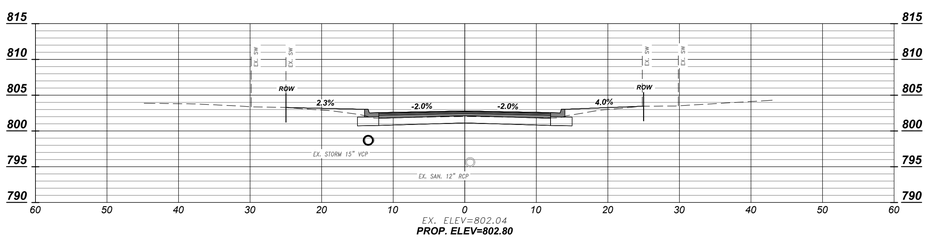
Sta. 30+00.00



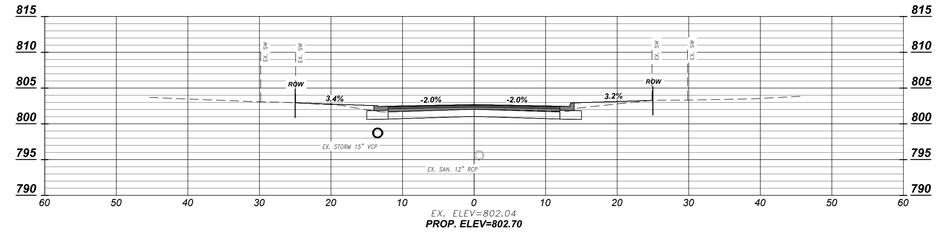
Sta. 30+25.00



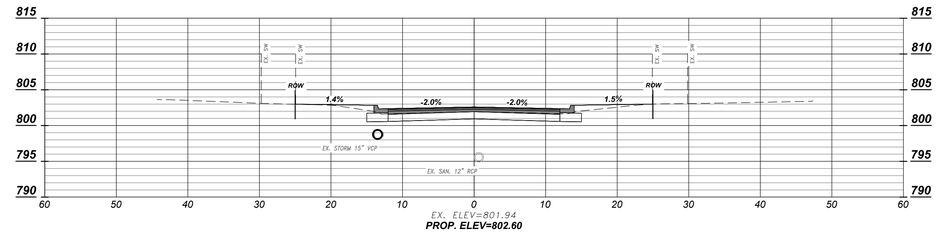
Sta. 30+50.00



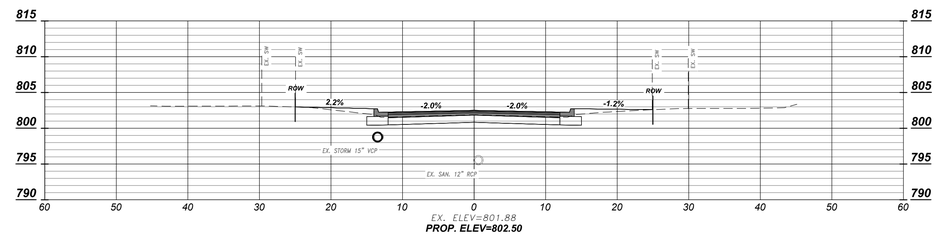
Sta. 30+75.00



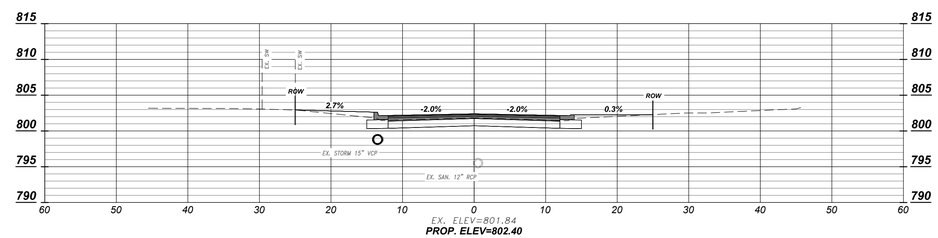
Sta. 31+00.00



Sta. 31+25.00



Sta. 31+50.00



Sta. 31+75.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

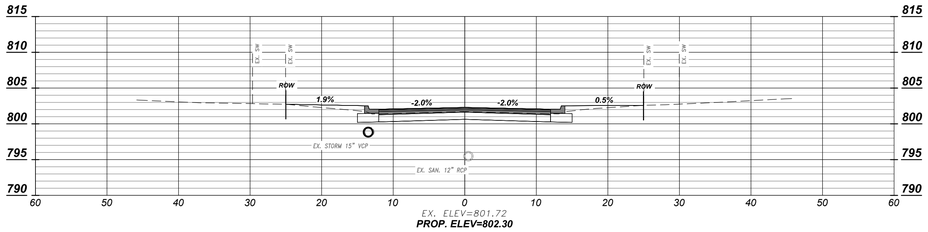
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 30+05.00 TO STA. 31+75.00

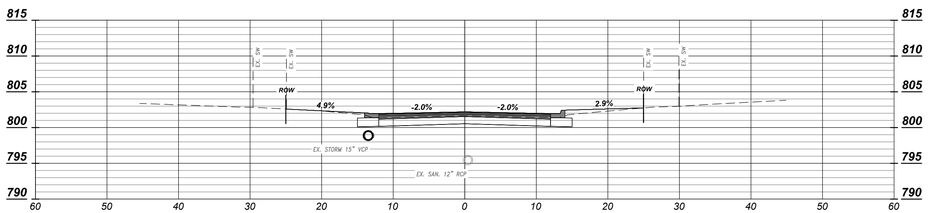
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

X-2525-30



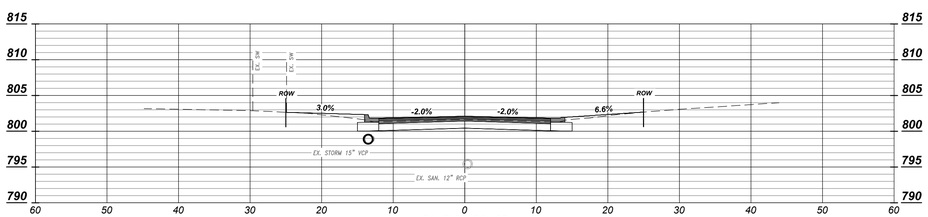
EX. ELEV=801.72
PROP. ELEV=802.30

Sta. 32+00.00



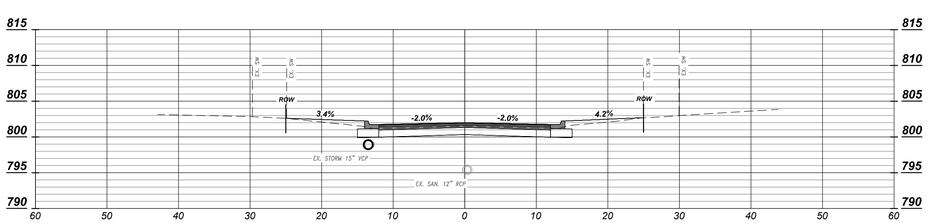
EX. ELEV=801.68
PROP. ELEV=802.20

Sta. 32+25.00



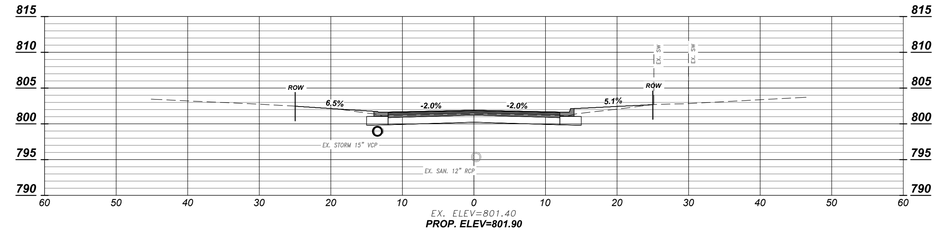
EX. ELEV=801.63
PROP. ELEV=802.10

Sta. 32+50.00



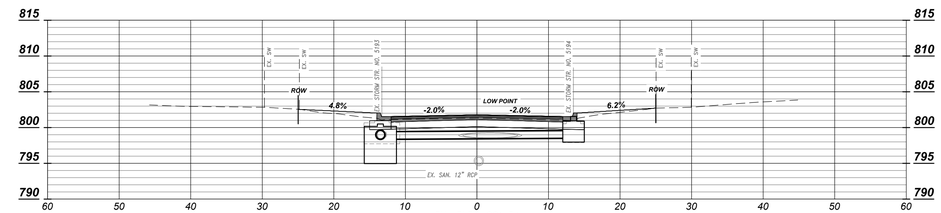
EX. ELEV=801.52
PROP. ELEV=802.00

Sta. 32+75.00



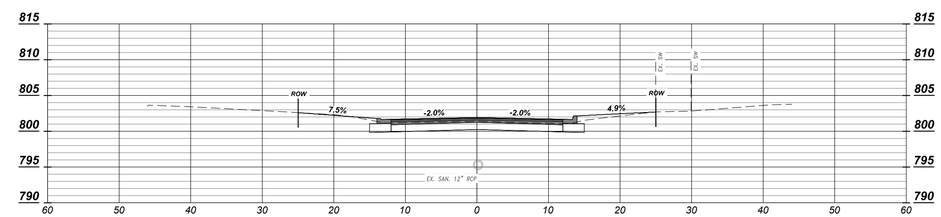
EX. ELEV=801.40
PROP. ELEV=801.90

Sta. 33+00.00



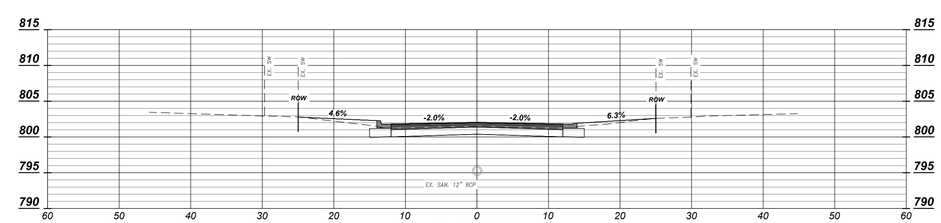
EX. ELEV=801.34
PROP. ELEV=801.80

Sta. 33+25.00



EX. ELEV=801.40
PROP. ELEV=801.93

Sta. 33+50.00



EX. ELEV=801.50
PROP. ELEV=802.05

Sta. 33+75.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN
REGISTERED
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
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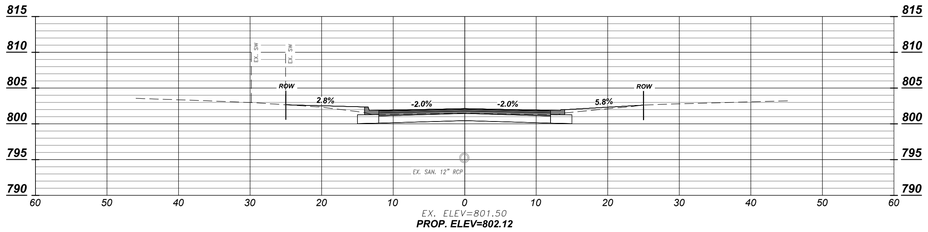
SIXTEENTH STREET RECONSTRUCTION

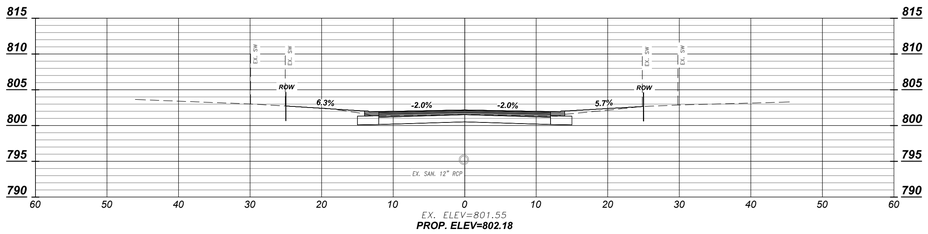
16TH STREET X-SECTIONS
STA. 32+00.00 TO STA. 33+75.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

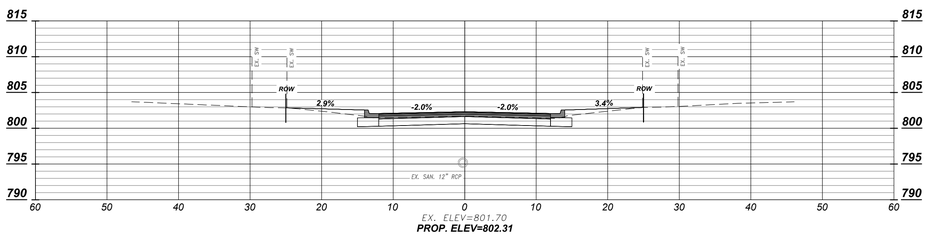
X-2525-31



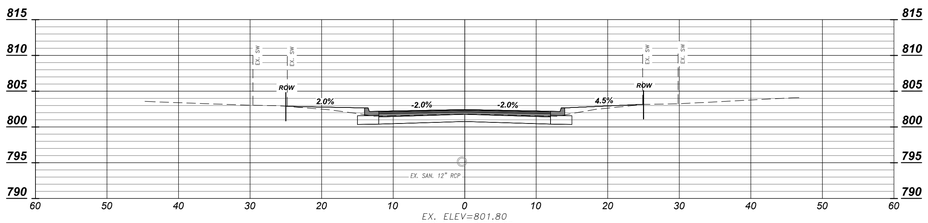
Sta. 33+89.00



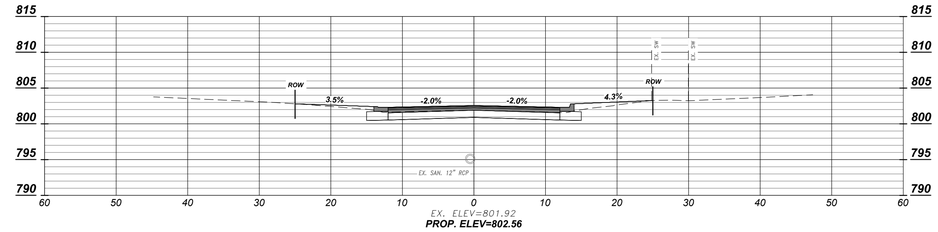
Sta. 34+00.00



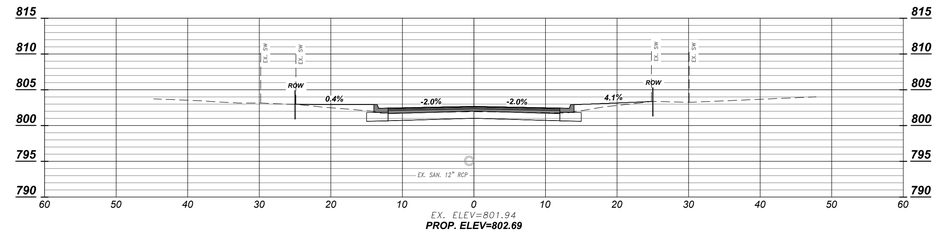
Sta. 34+25.00



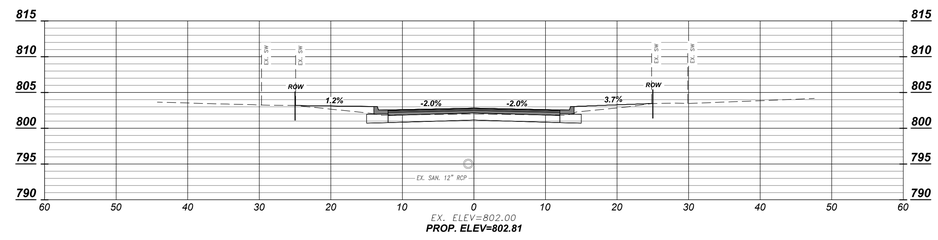
Sta. 34+50.00



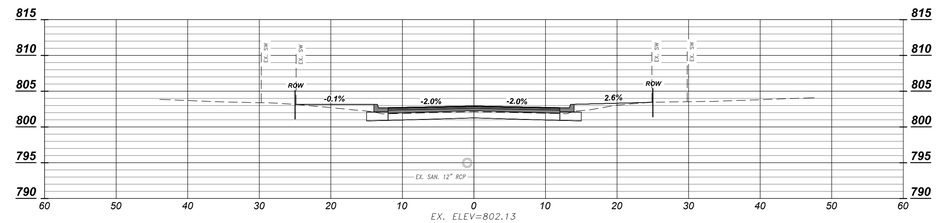
Sta. 34+75.00



Sta. 35+00.00



Sta. 35+25.00



Sta. 35+50.00

REV.	DESCRIPTION	BY	DATE

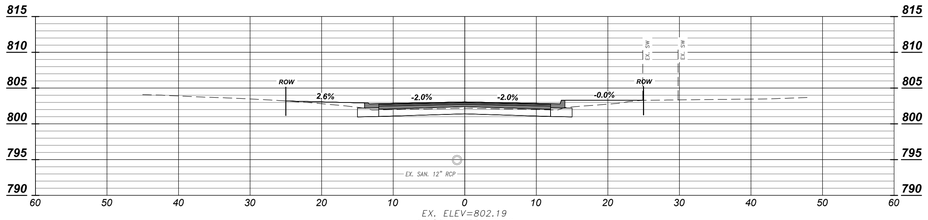
JOSHUA S. CORWIN ★ REGISTERED ★ NO. PE10101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

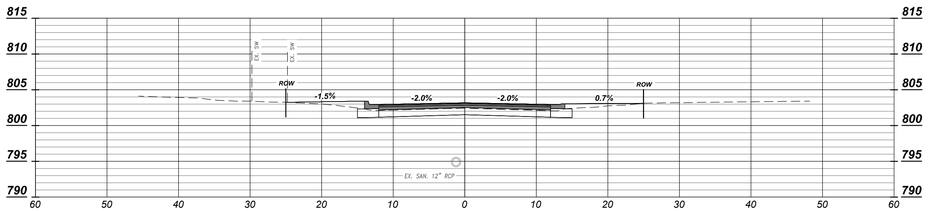
16TH STREET X-SECTIONS
STA. 33+89.00 TO STA. 35+50.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-32	



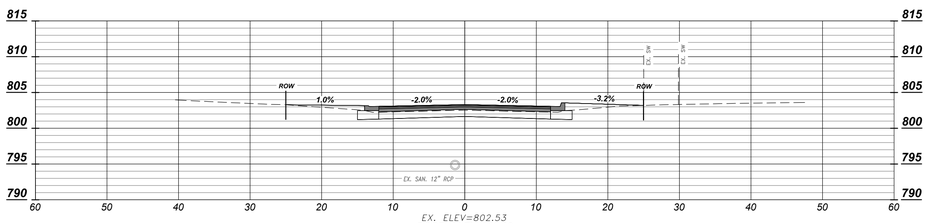
EX. ELEV=802.19
PROP. ELEV=803.06

Sta. 35+75.00



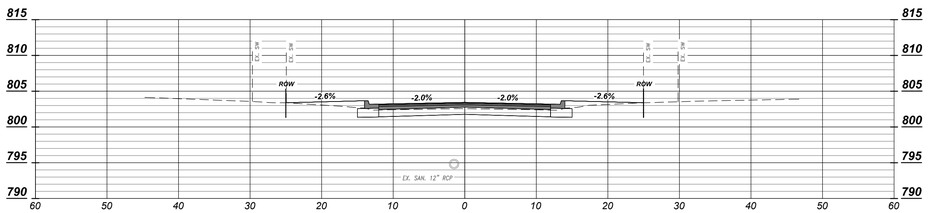
EX. ELEV=802.42
PROP. ELEV=803.19

Sta. 36+00.00



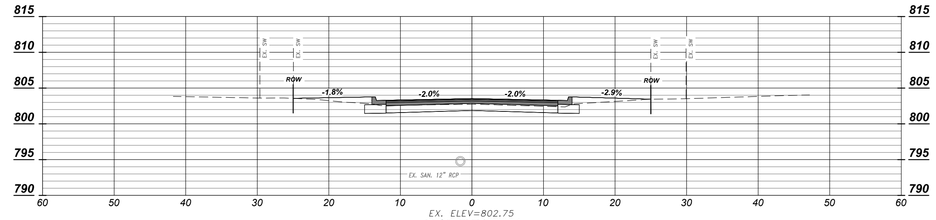
EX. ELEV=802.53
PROP. ELEV=803.32

Sta. 36+25.00



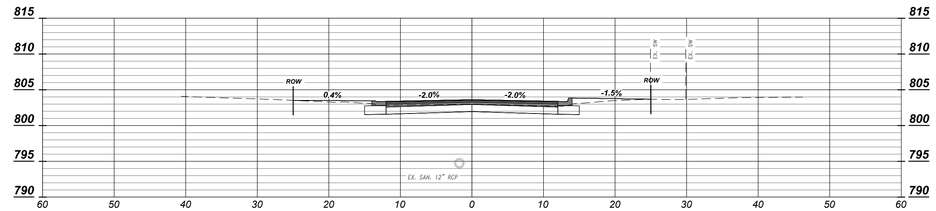
EX. ELEV=802.56
PROP. ELEV=803.44

Sta. 36+50.00



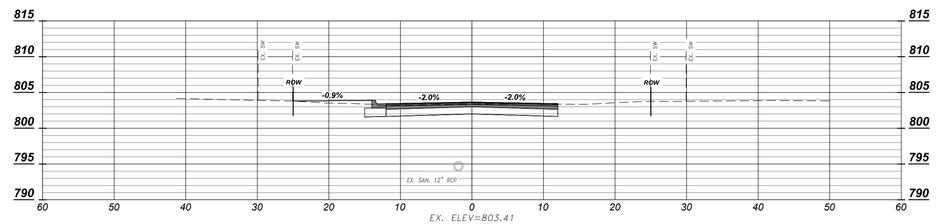
EX. ELEV=802.75
PROP. ELEV=803.54

Sta. 36+75.00



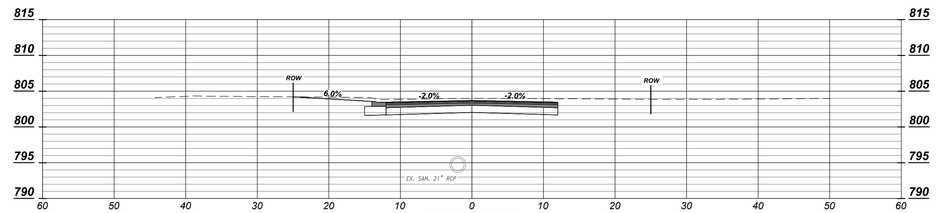
EX. ELEV=803.00
PROP. ELEV=803.62

Sta. 37+00.00



EX. ELEV=803.41
PROP. ELEV=803.67

Sta. 37+25.00



EX. ELEV=804.01
PROP. ELEV=803.71

Sta. 37+50.00

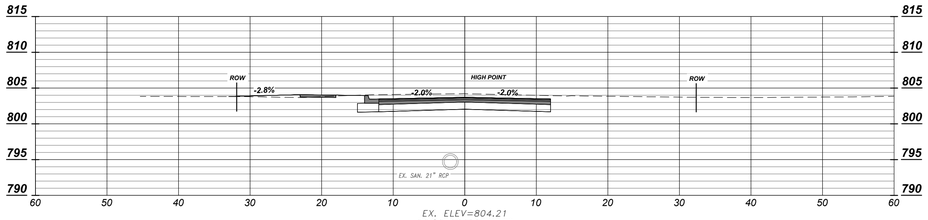
REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

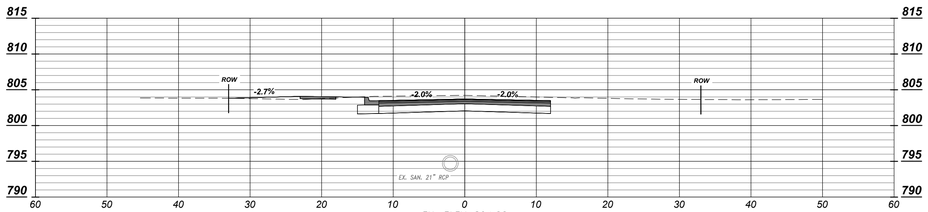
16TH STREET X-SECTIONS
STA. 35+75.00 TO STA. 37+50.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-33	



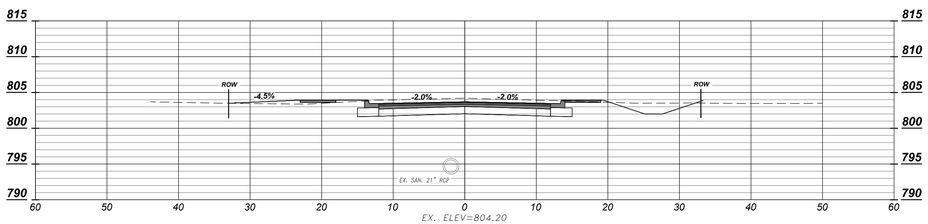
EX. ELEV=804.21
PROP. ELEV=803.72

Sta. 37+72.78



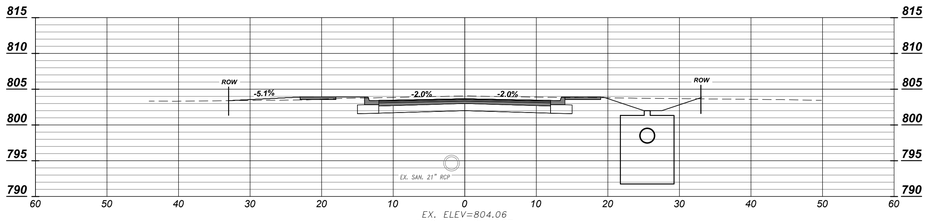
EX. ELEV=804.22
PROP. ELEV=803.72

Sta. 37+75.00



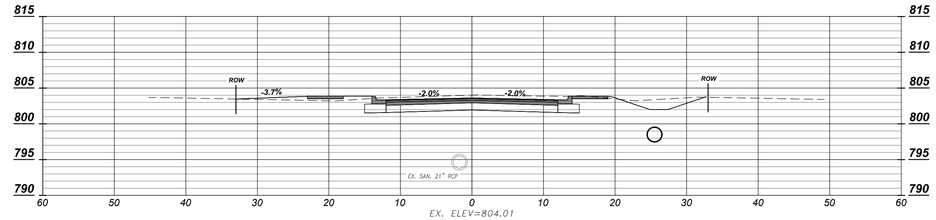
EX. ELEV=804.20
PROP. ELEV=803.70

Sta. 38+00.00



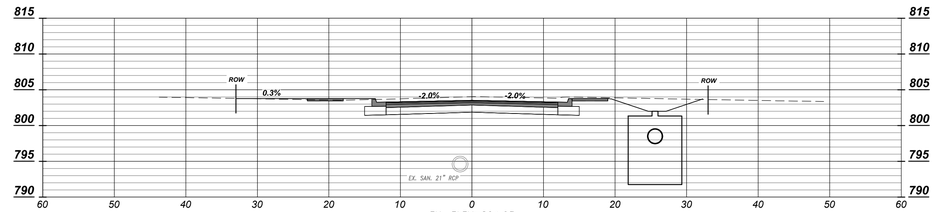
EX. ELEV=804.06
PROP. ELEV=803.67

Sta. 38+25.00



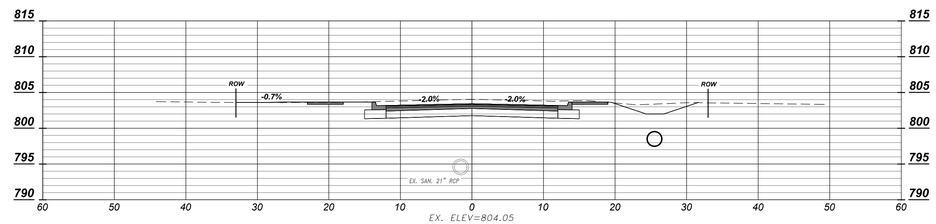
EX. ELEV=804.01
PROP. ELEV=803.61

Sta. 38+50.00



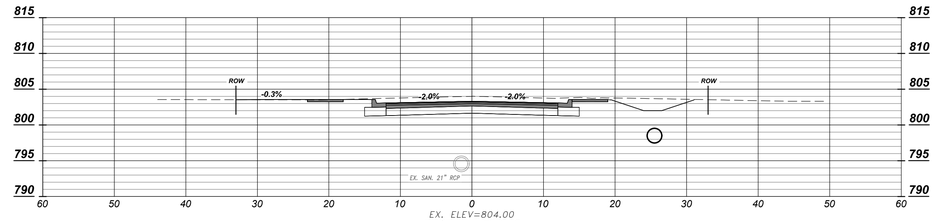
EX. ELEV=804.03
PROP. ELEV=803.52

Sta. 38+75.00



EX. ELEV=804.05
PROP. ELEV=803.42

Sta. 39+00.00



EX. ELEV=804.00
PROP. ELEV=803.32

Sta. 39+25.00

REV.	DESCRIPTION	BY	DATE

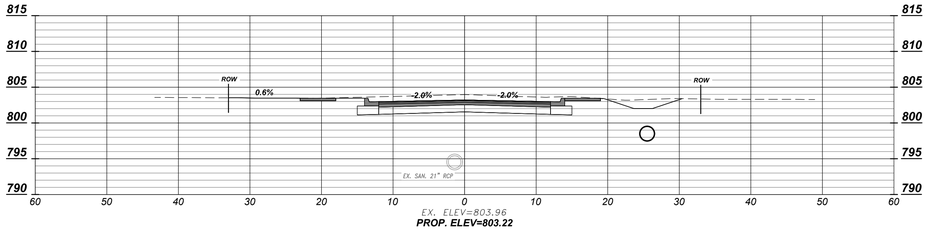
JOSHUA S. CORWIN ★ REGISTERED ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

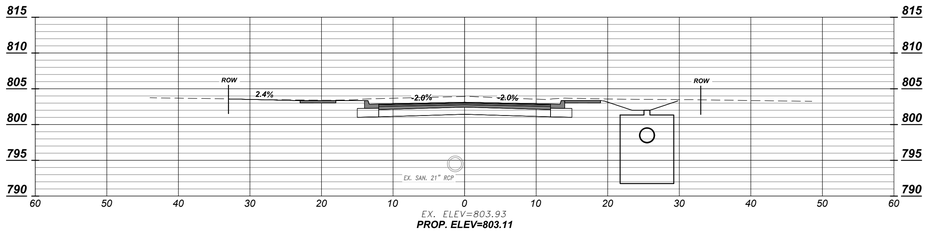
SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 37+72.78 TO STA. 39+25.00

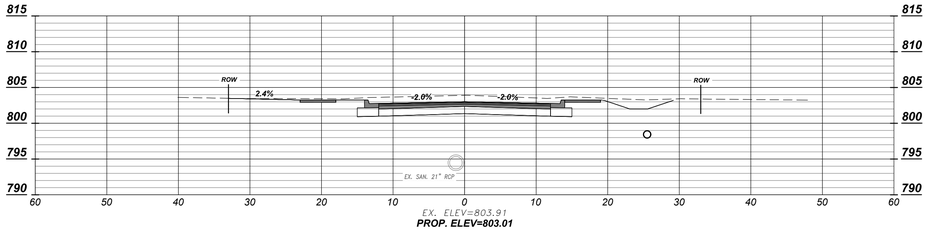
Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-34	



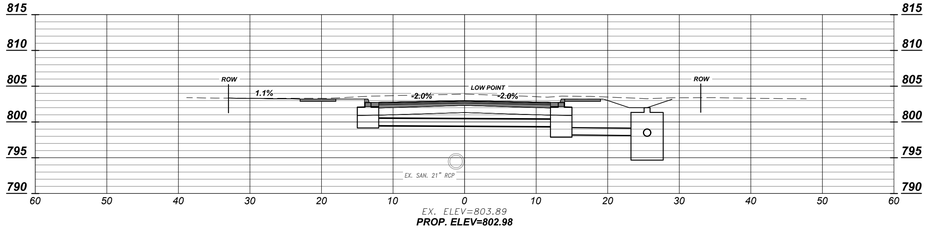
Sta. 39+50.00



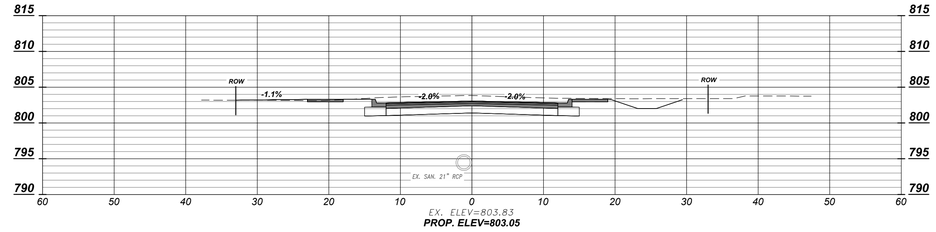
Sta. 39+75.00



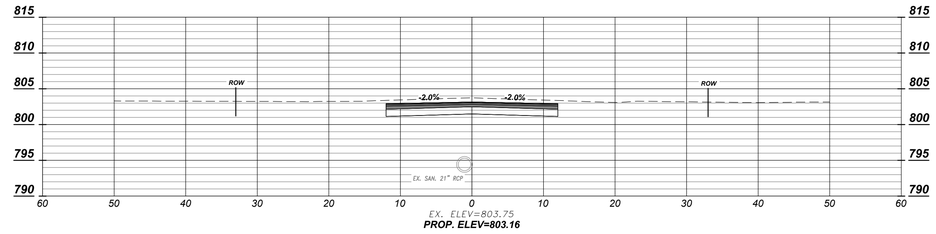
Sta. 40+00.00



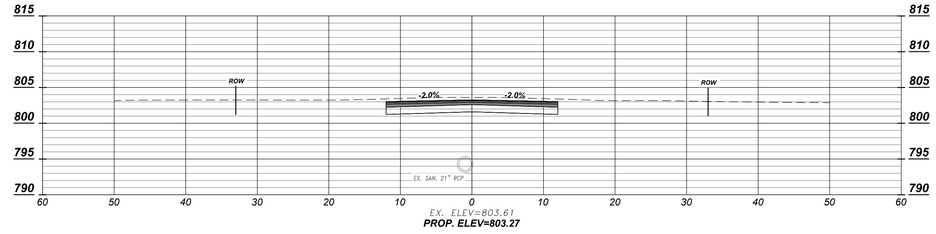
Sta. 40+07.63



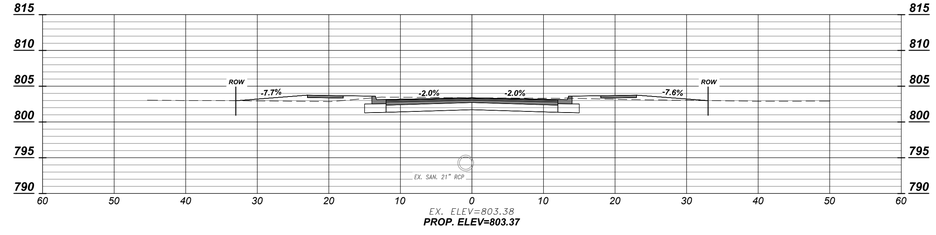
Sta. 40+25.00



Sta. 40+50.00



Sta. 40+75.00



Sta. 41+00.00

REV.	DESCRIPTION	BY	DATE

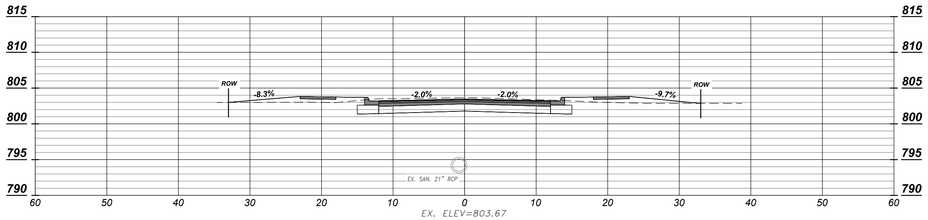
JOSHUA S. CORWIN ★ REGISTERED ★ NO. PE10101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

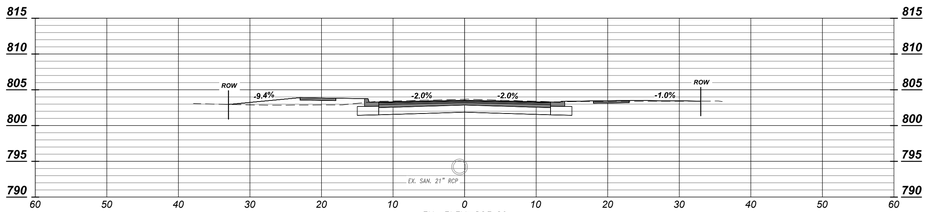
16TH STREET X-SECTIONS
STA. 39+50.00 TO STA. 41+00.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-35	



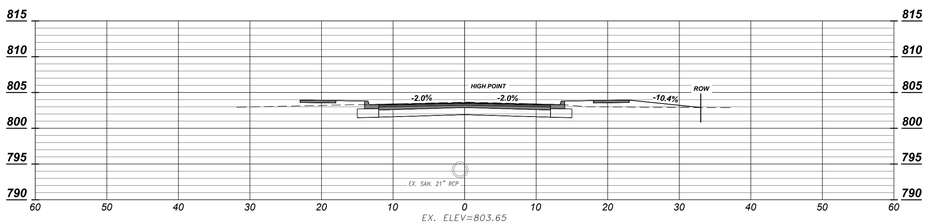
EX. ELEV=803.67
PROP. ELEV=803.47

Sta. 41+25.00



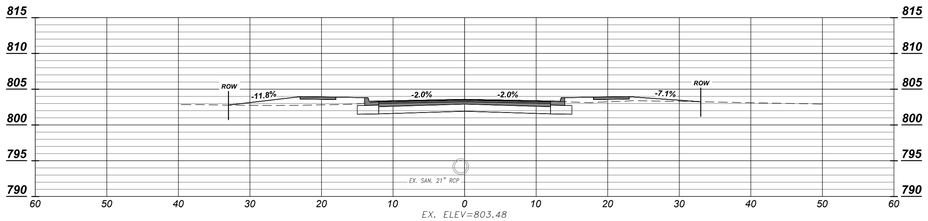
EX. ELEV=803.69
PROP. ELEV=803.53

Sta. 41+50.00



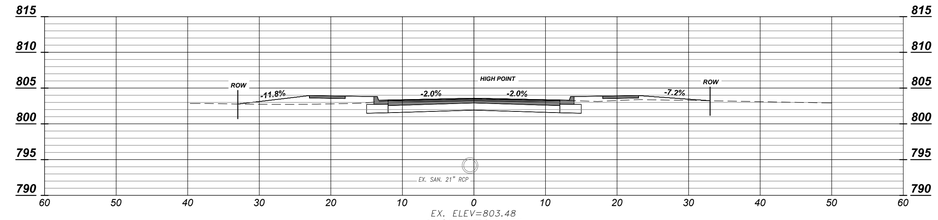
EX. ELEV=803.65
PROP. ELEV=803.57

Sta. 41+75.00



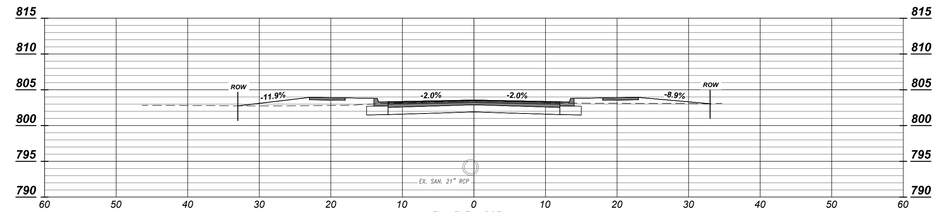
EX. ELEV=803.48
PROP. ELEV=803.59

Sta. 42+00.00



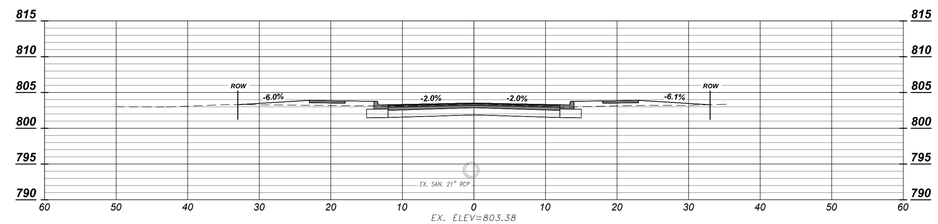
EX. ELEV=803.48
PROP. ELEV=803.59

Sta. 42+00.54



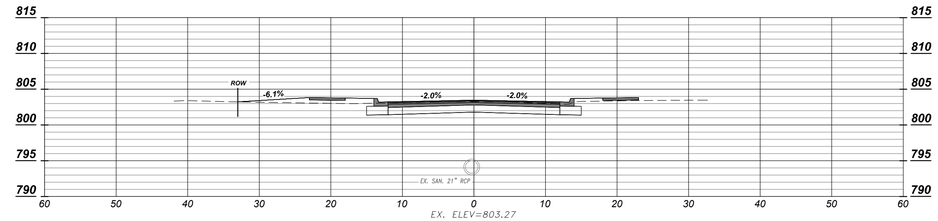
EX. ELEV=803.41
PROP. ELEV=803.58

Sta. 42+25.00



EX. ELEV=803.38
PROP. ELEV=803.54

Sta. 42+50.00



EX. ELEV=803.27
PROP. ELEV=803.47

Sta. 42+75.00

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN
REGISTERED
NO. PE11011684
STATE OF INDIANA
PROFESSIONAL ENGINEER

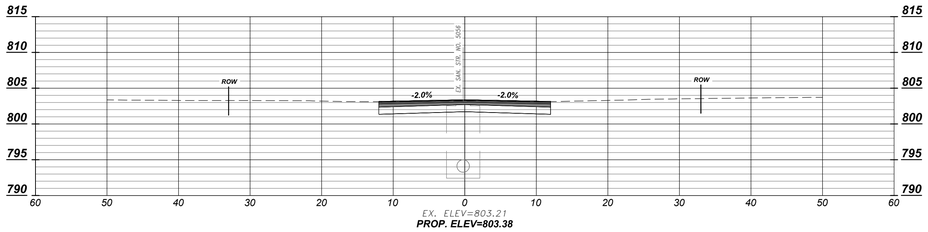
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

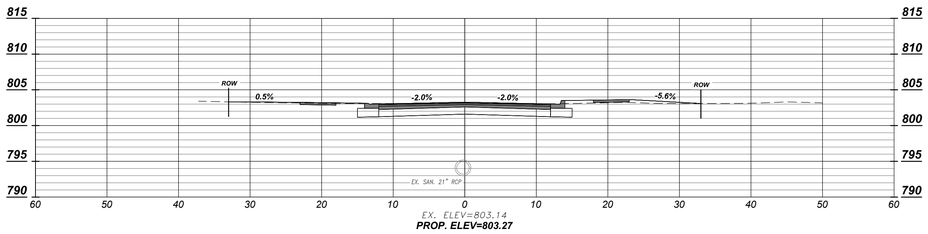
16TH STREET X-SECTIONS
STA. 41+25.00 TO STA. 42+75.00

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	

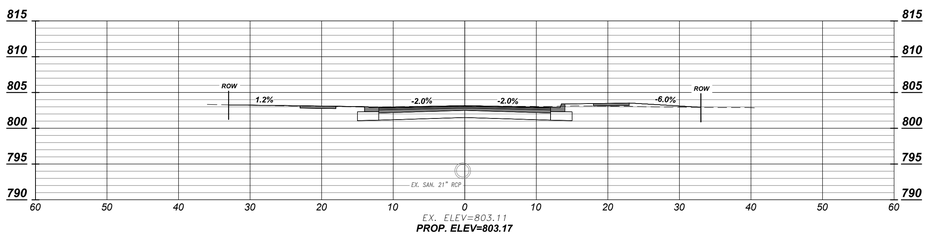
X-2525-36



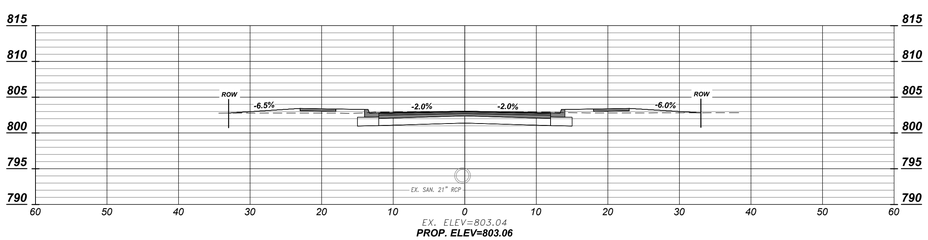
Sta. 43+00.00



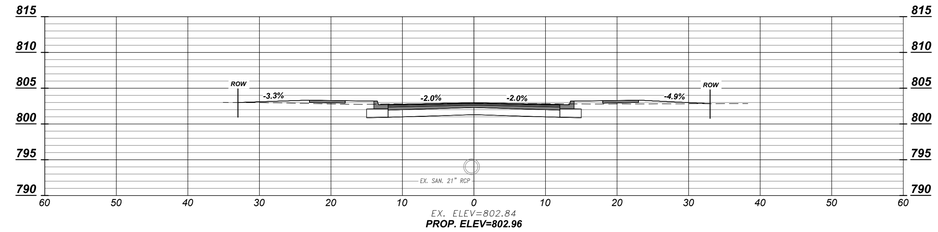
Sta. 43+25.00



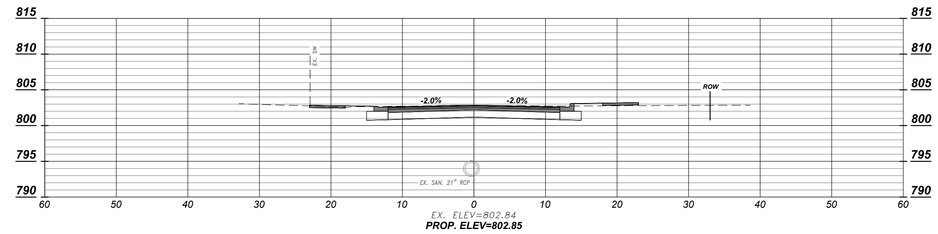
Sta. 43+50.00



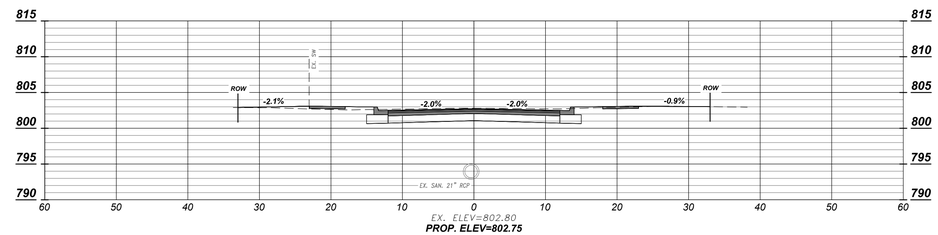
Sta. 43+75.00



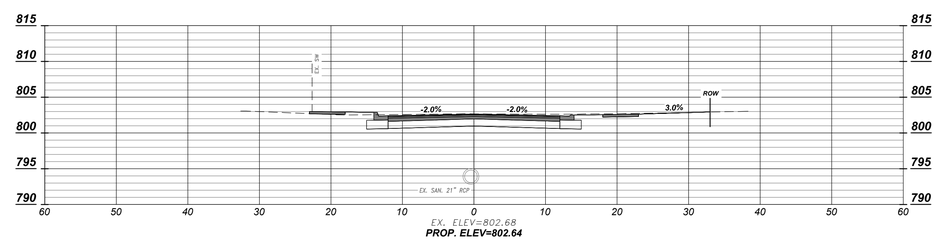
Sta. 44+00.00



Sta. 44+25.00



Sta. 44+50.00



Sta. 44+75.00

REV.	DESCRIPTION	BY	DATE

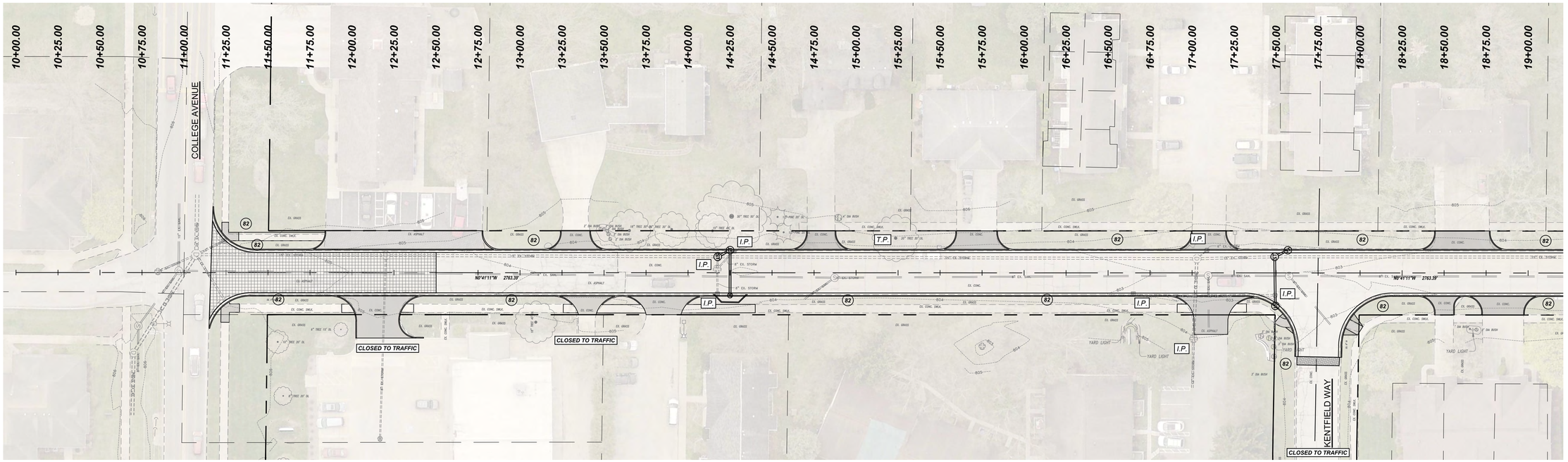
JOSHUA S. CORWIN ★ REGISTERED ★ NO. PE11011684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

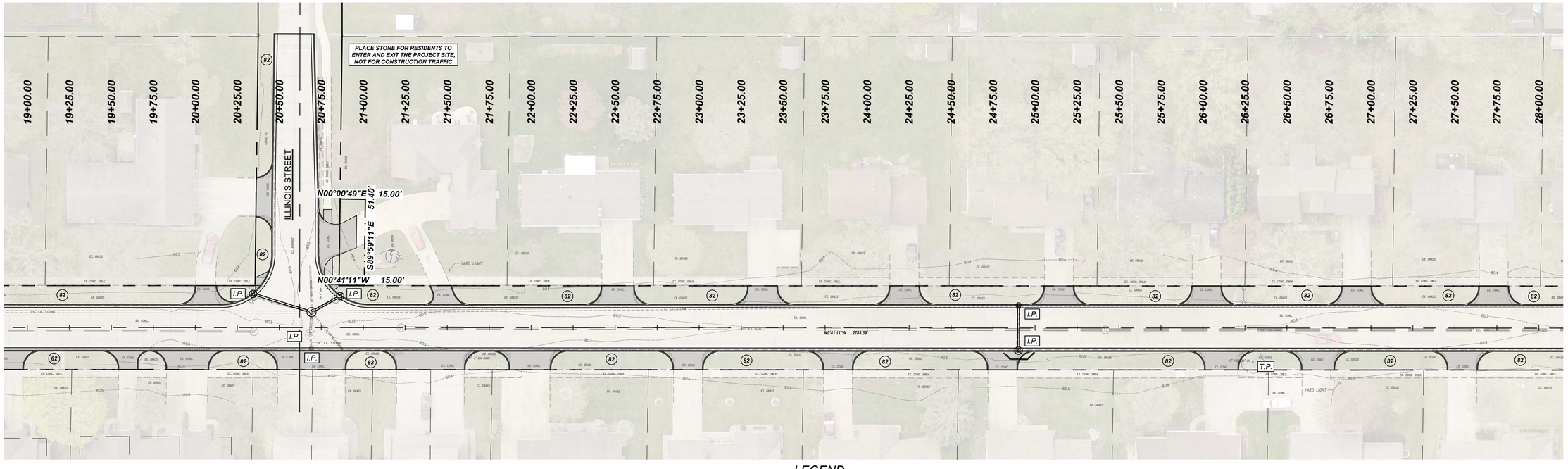
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

16TH STREET X-SECTIONS
STA. 43+00.00 TO STA. 44+75

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: 1" = 10' H, 5' V	
X-2525-37	





DISTURBANCE BOUNDARY AREA = 4.848 ACRES

LEGEND

I.P.	INLET PROTECTION, COIR FIBER MATS OR SEDIMENT BASKET INSERTS
STAGING AREA	STAGING AREA
CONCRETE WASHOUT	CONCRETE WASHOUT, BAGS OR VEHICLE RECOVERY SYSTEM
	TEMPORARY CONSTRUCTION ENTRANCE (MIN. 120' LONG)
	DISTURBANCE BOUNDARY
82	4" TOPSOIL, INDOT TYPE 'U' (NO CLOVER), STRAW WITH TACKIFIER
T.P.	TREE PROTECTION (ANY WORK WITHIN THE TREE CANOPY)

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 INCH = 30 FT

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. PE19101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

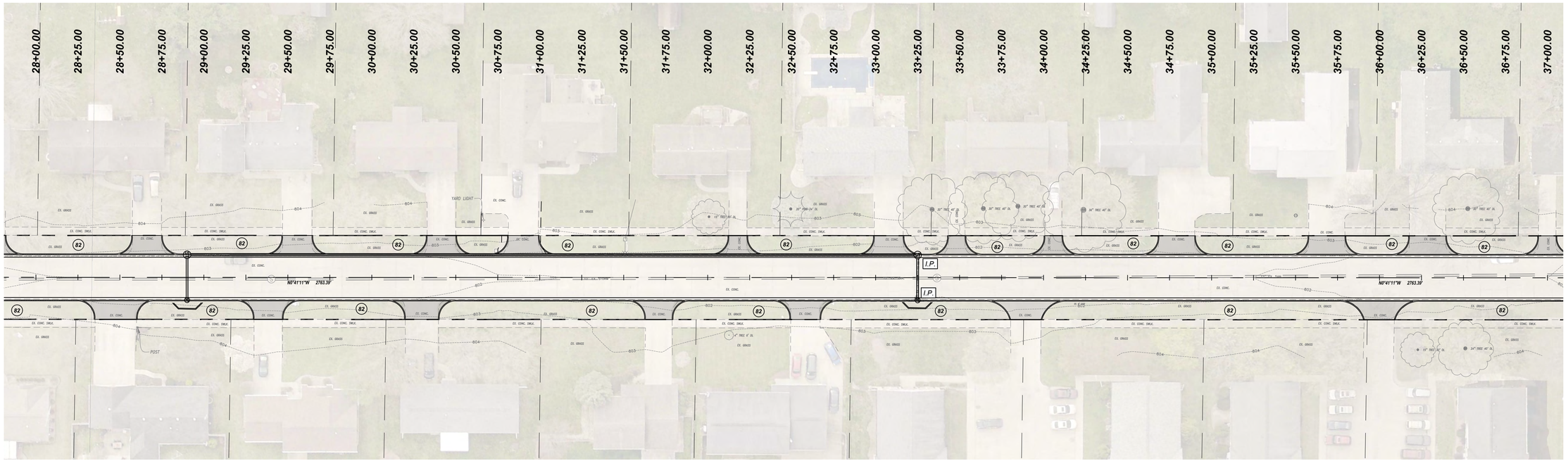
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

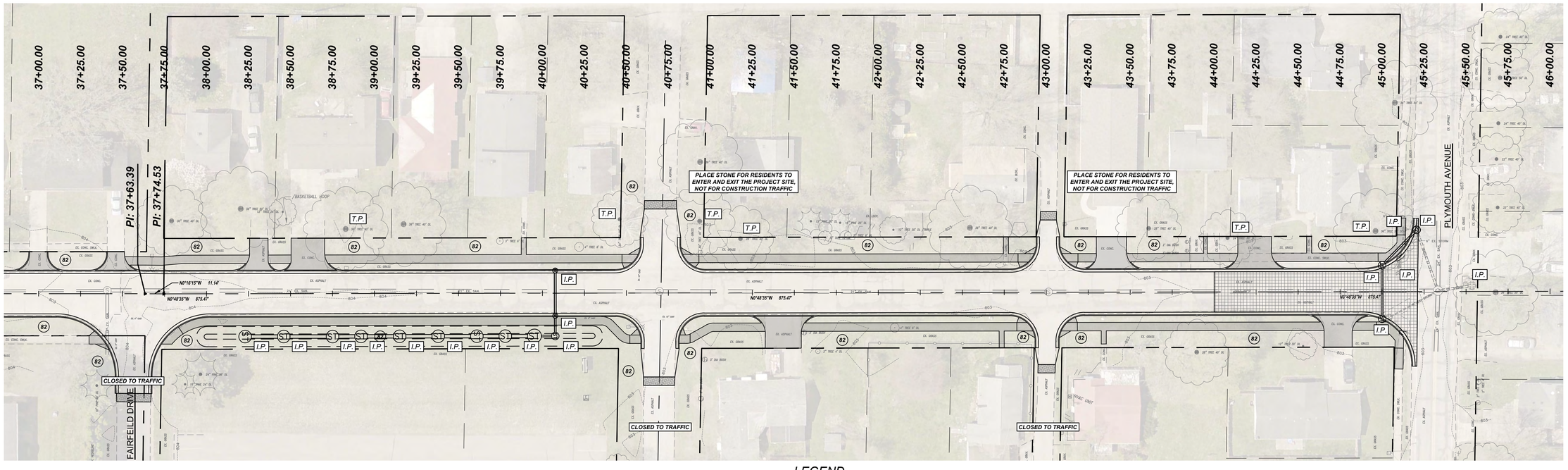
SIXTEENTH STREET RECONSTRUCTION

EROSION CONTROL MEASURES

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-38





DISTURBANCE BOUNDARY AREA = 4.848 ACRES

LEGEND

- I.P. — INLET PROTECTION, COIR FIBER MATS OR SEDIMENT BASKET INSERTS
- STAGING AREA — STAGING AREA
- CONCRETE WASHOUT — CONCRETE WASHOUT, BAGS OR VEHICLE RECOVERY SYSTEM
- TEMPORARY CONSTRUCTION ENTRANCE (MIN. 120' LONG)
- DISTURBANCE BOUNDARY
- 82 — 4" TOPSOIL, INDOT TYPE 'U' (NO CLOVER), STRAW WITH TACKIFIER
- T.P. — TREE PROTECTION (ANY WORK WITHIN THE TREE CANOPY)

GRAPHIC SCALE
0 15 30 60
(IN FEET)
1 INCH = 30 FT

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 10101684 ★ STATE OF INDIANA ★ REGISTERED PROFESSIONAL ENGINEER

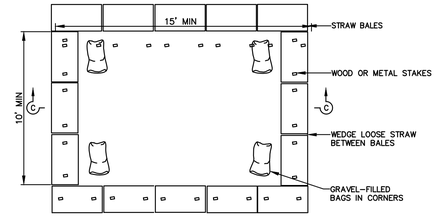
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

EORSION CONTROL MEASURES

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

X-2525-39



PLAN – TEMPORARY CONCRETE WASHOUT FACILITY (ON GRADE)

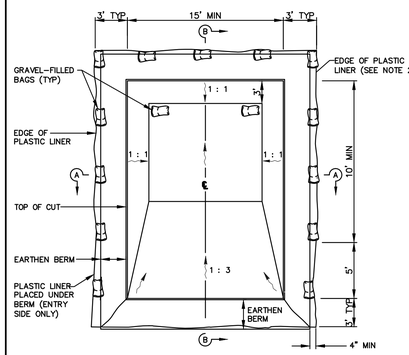
NOT TO SCALE

NOTES

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

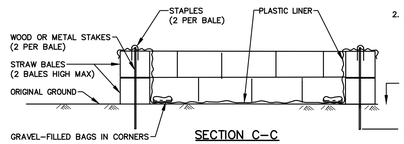
NOTE:

1. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 20 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL-FILLED BAGS FOR BELOW GRADE CONCRETE WASHOUT FACILITY.

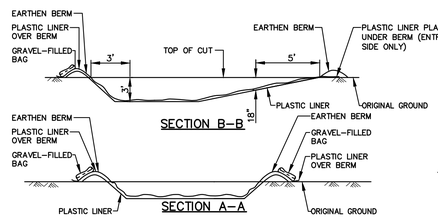


PLAN–TEMPORARY CONCRETE WASHOUT FACILITY (BELOW GRADE)

NOT TO SCALE

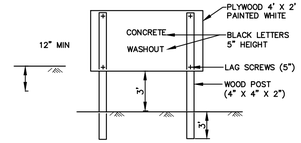


SECTION C–C

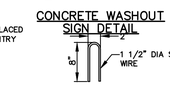


SECTION B–B

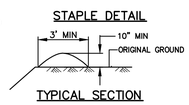
SECTION A–A



CONCRETE WASHOUT SIGN DETAIL



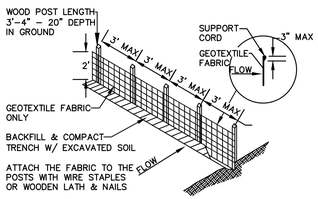
STAPLE DETAIL



TYPICAL SECTION EARTHEN BERM

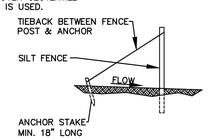
TEMPORARY CONCRETE WASHOUT FACILITY

NOT TO SCALE

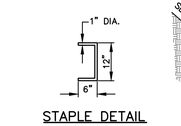


NOTE:
8' POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

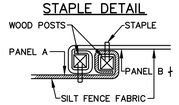
SILT FENCE



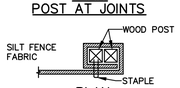
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



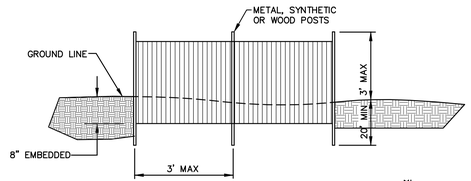
STAPLE DETAIL

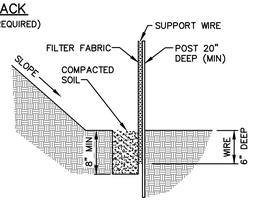


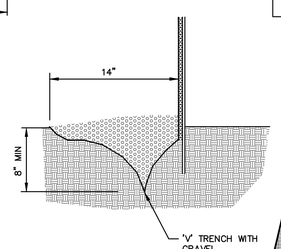
PLAN
POST AT JOINTS



PLAN
END POST DETAIL



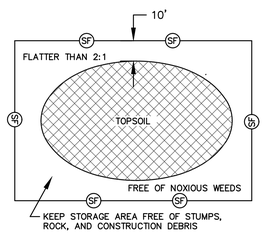




NOTES:
1. TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
2. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1/8" X 1/8" OF OAK OR HICKORY.
3. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS: AAT TWIST METHOD – OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEASE 180', OR BY HOOK METHOD – HOOK THE END OF EACH SILT FENCE LENGTH.

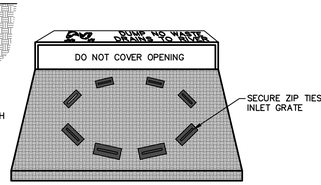
SILT FENCE – PERIMETER PROTECTION

NOT TO SCALE



TOPSOIL STOCKPILE

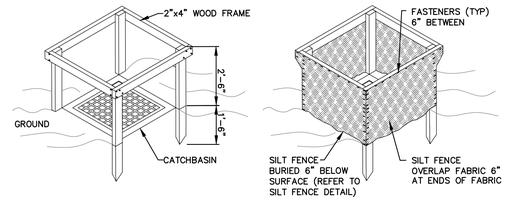
NOT TO SCALE



INLET FILTER MAINTENANCE:
INLET FILTER WILL COLLECT A LOT OF SEDIMENT. CLEAN INLET FILTER WHILE MOUNTED ON THE GRATE. EVEN IF PONDED WATER SURROUNDS THE INLET. THIS UNIQUE FEATURE ENSURES ALL WATER ENTERING THE GRATE IS FILTERED. SWEEP SIDES AND TOP OF INLET FILTER TO REMOVE SEDIMENT AND DEBRIS AFTER EACH RAIN EVENT.
1. REMOVE SEDIMENT FROM THE SIDES OF THE FILTER BY SWEEPING AWAY FROM INLET FILTER.
2. REMOVED SEDIMENT FROM THE TOP OF THE FILTER BY SWEEPING OFF OF INLET FILTER.
3. INLET FILTER IS READY FOR NEXT RAIN EVENT.

NATURAL FIBER INLET COVER

NOT TO SCALE



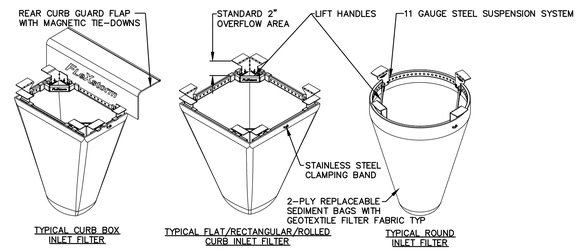
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%). WHERE THE INLET ACCEPTS SHEET OR OVERLAND FLOW (NOT GREATER THAN 1 CFS) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS.

INSPECTION SCHEDULE SHALL COMPLY WITH THE 2008 EPA CONSTRUCTION GENERAL PERMIT.

MAINTENANCE SHALL OCCUR WHEN NECESSARY. SILT FENCE SHALL BE REPLACE EVERY 6 MONTHS AND STACKS SHALL BE INSPECTED TO ENSURE STRUCTURAL INTEGRITY.

CATCH BASIN W/ SILT FENCE INLET PROTECTION

NOT TO SCALE

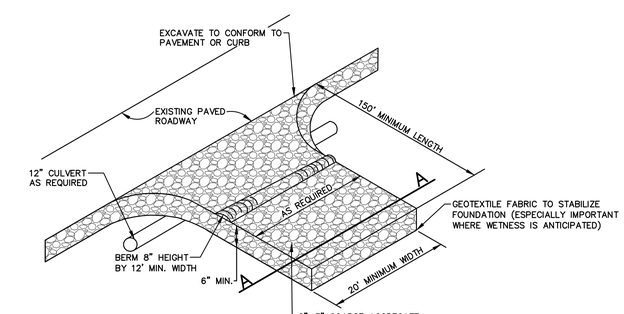


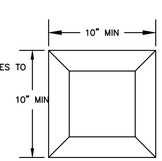
INSTALLATION:
1.) REMOVE GRATE
2.) DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3.) REPLACE GRATE

MANUFACTURER:
INLET & PIPE PROTECTION, INC.
24137 111TH ST
NAPERVILLE, IL
WWW.INLETFILTERS.COM
PHONE 630–355–3288

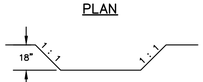
CATCH BASIN W/ SEDIMENT BASKET PROTECTION

NOT TO SCALE



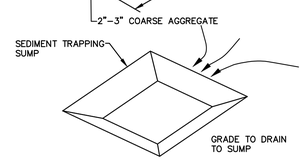


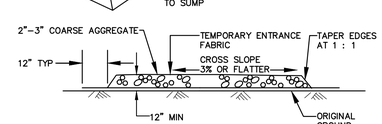
PLAN



ELEVATION

SEDIMENT TRAPPING SUMP





SECTION A–A

TEMPORARY GRAVEL ACCESS PAD

NOT TO SCALE

EROSION CONTROL SPECIFICATIONS

1. THE CONTRACTOR IS ADVISED THAT THE WORK MUST BE DONE IN COMPLIANCE WITH THE FOLLOWING SPECIFICATIONS,
2. CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL PRACTICES WEEKLY AND AFTER STORM EVENTS OF 1/2" OR MORE OF PRECIPITATION WITHIN ONE BUSINESS DAY OR AFTER HEAVY USE AND REPAIR IMMEDIATELY.
3. THE CONTRACTOR SHALL KEEP A LOG OF THE CONTRACTOR'S INSPECTION OF TEMPORARY EROSION CONTROL MEASURES. THE LOG SHALL BE AVAILABLE AT THE JOB SITE FIELD OFFICE DURING ALL WORK DAY HOURS FOR REVIEW BY VISITING IDEM INSPECTORS, SWCD INSPECTORS AND THE ENGINEER. THE LOG SHALL BE BRIEF, BUT SHALL INCLUDE THE NAME OF CONTRACTOR'S INSPECTOR, DATE OF INSPECTION, MAN HOURS OF CONTRACTOR'S INSPECTION TIME AND COMMENTS ON ANY AND ALL FAILED OR FAILING EROSION CONTROL FEATURES ALONG WITH THE MEASURES TAKEN FOR PROMPT CORRECTION.
4. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL PRACTICES UNTIL COMPLETION OF PROJECT AND ACCEPTANCE OF THE NOTICE OF TERMINATION APPLICATION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH UTILITIES WITH RESPECT TO AVOIDING CONFLICTS AND DISTURBANCE OF SERVICES.
6. THE CONTRACTOR SHALL HAVE ON FILE, AT THE SITE, THE "INDIANA STORMWATER QUALITY MANUAL." LINK: https://www.in.gov/idem/stormwater/2363.htm
7. CONTRACTOR SHALL STRIP AND STOCKPILE TOPSOIL AND REMOVE EXCESS FROM SITE AS APPROVED BY THE OWNER UPON SUBSTANTIAL COMPLETION OF THE WORK.
8. TOPSOIL STOCKPILES ARE TO BE PROTECTED FROM EROSION. TEMPORARY TOPSOIL STOCKPILES WILL ONLY BE PERMITTED IN AREAS APPROVED BY THE ENGINEER.
9. STOCKPILES OF EARTH MATERIAL SHALL BE SHAPED AS PER STATE STANDARDS. TOPSOIL MATERIALS SHALL BE STOCKPILED SEPARATELY FROM OTHER SOILS.
10. CONTRACTOR SHALL CONTROL DUST ON THE PROJECT SITE WHEN NECESSARY USING METHODS WHICH COMPLY WITH PAGE 239 OF THE "INDIANA STORMWATER QUALITY MANUAL."
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL AND CONTAINING OF LIQUID OR SOLUBLE CONSTRUCTION MATERIALS FOR THE PROTECTION OF THE GROUNDWATER RESOURCE. ANY ACCIDENTAL SPILLAGE SHALL BE CLEANED UP IMMEDIATELY BY ACCEPTABLE MEANS, REGARDLESS OF THE TIME OF DAY OR DAY OF WEEK.
12. THE CONTRACTOR'S BID SHALL INCLUDE THE USE OF TEMPORARY GRAVEL ENTRANCE PADS (INCIDENTAL TO THE CONTRACT) WHERE APPROVED HAULING ROUTES CONNECT TO ROADWAYS. THE WORK SHALL INCLUDE THE EVENTUAL REMOVAL OF SUCH GRAVEL PADS, AND THE INCIDENTAL GRADING, SEEDING, OR SODDING REQUIRED TO RETURN THE PAD AREAS TO ORIGINAL CONDITION. THE TEMPORARY GRAVEL PADS SHALL HAVE A MINIMUM 6–INCH THICK APPLICATION OF 2–INCH TO 3–INCH COARSE AGGREGATE AT A MINIMUM 20 FEET WIDE AND 150 FEET LONG, WITH SUFFICIENT RADII AT THE ROADWAY. GEOTEXTILE FOR STABILIZATION BELOW THE GRAVEL PADS SHALL BE INCLUDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROMPTLY CLEANING UP ANY MATERIALS FROM PUBLIC ROADWAYS, WHICH ARE THE RESULT OF WORK OPERATIONS.
13. THE ENTERING AND EXITING OF EQUIPMENT AND HAULING TRAFFIC FROM THE WORK SITE SHALL BE DONE IN A SAFE MANNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EQUIPMENT OPERATORS AND HAUL TRUCK DRIVERS, ETC., USE CAUTION AND ACCEPTABLE SPEEDS DURING THE WORK.
14. CONTRACTOR SHALL CONSTRUCT TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT PADS PRIOR TO OTHER SITE OPERATIONS. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA AND GRADE AND CROWN FOR POSITIVE DRAINAGE. CONSTRUCTION SHALL BE IN COMPLIANCE WITH PAGE 17 OF THE "INDIANA STORMWATER QUALITY MANUAL."
15. CONTRACTOR SHALL PERMANENTLY SEED, FERTILIZE, AND MULCH OR BLANKET ALL FINAL GRADE AREAS AS EACH IS COMPLETED. SEEDING, FERTILIZING, MULCHING AND BLANKETING SHALL BE IN COMPLIANCE WITH PAGE 35 OF THE "INDIANA STORMWATER QUALITY MANUAL."
16. TEMPORARY GRASS SEEDING SHALL BE PERFORMED ON ALL AREAS SCHEDULED, OR LIKELY, TO REMAIN INACTIVE FOR A PERIOD OF 15 DAYS OR MORE. TEMPORARY SEEDING SHALL BE INCIDENTAL TO THE CONTRACT AND SHALL INCLUDE THE FOLLOWING SPECIES AND RATES:

SPECIES	RATE/ACRE	OPTIMUM PLANTING
WHEAT OR RYE	150#	9/15 TO 10/30
SPRING OATS	100#	3/1 TO 4/15
ANNUAL RYE GRASS	40#	3/1 TO 5/1, 8/1 TO 9/1

A FERTILIZER APPLICATION OF 400# / ACRE OF 12–12–12 ANALYSES MATERIAL SHALL ACCOMPANY THE SEEDING APPLICATION. MULCHING OF TEMPORARY SEEDING SHALL BE 'AS NEEDED'.

17. PERMANENT SEEDING SHALL BE DONE PROMPTLY AND PROGRESSIVELY AS WORK IS COMPLETED IN ORDER TO ALLOW FOR THE EARLIEST POSSIBLE ESTABLISHMENT OF STABILIZED GRASS. MULTIPLE MOBILIZATIONS FOR THE SEEDING OF SPECIFIC SECTIONS SHALL BE INCLUDED IN THE WORK.
18. THE JOB WIDE SEQUENCE OF GENERAL WORK OPERATIONS RELATING TO EARTH DISTURBING ACTIVITIES SHALL BE SUCH AS TO PREVENT THE POTENTIAL FOR EROSION AND SEDIMENTATION. THE SEQUENCE SHALL BE GENERALLY AS FOLLOWS, WHILE ALSO CONSIDERING MAINTENANCE OF TRAFFIC.

A.PLACEMENT OF EROSION CONTROL PRODUCTS
B.SITE CLEARING
C.TEMPORARY SEEDING AS NEEDED – INCIDENTAL APPLICATIONS THROUGHOUT CONSTRUCTION
D.UNDERGROUND CONSTRUCTION
E.ROUGH GRADING / FINE GRADING
F.COMPLETION OF PERMANENT SEEDING & MULCH
G.INSTALLATION OF EROSION CONTROL BLANKETS ON SLOPES
H.MISCELLANEOUS CONSTRUCTION
I. FINAL CLEANUP

21. TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED AT THE TIME OF SITE CLEARING AS EARLY IN THE ABOVE SEQUENCE AS NEEDED, AND SHALL BE MAINTAINED THROUGHOUT THE SEQUENCE AS NEEDED. DURING THE COURSE OF WORK, CLEANUP SHALL BE DONE AS NEEDED AND AS DIRECTED TO AVOID EROSION AND SEDIMENTATION. ANY PLANNED RIPRAP SHALL BE INSTALLED AS SOON AS POSSIBLE FOR EROSION & SEDIMENTATION CONTROL.
22. THE EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN SHALL BE CONSIDERED A MINIMUM APPLICATION AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES AS NEEDED THROUGHOUT THE CONSTRUCTION.
23. CONTRACTOR SHALL LOCATE AND MAINTAIN A CONCRETE WASHOUT AREA FOR THE DURATION OF CONCRETE POURING ACTIVITIES. THE CONTRACTOR SHALL REMOVE ALL DRIED CONCRETE FROM THE WASHOUT AREA BY THE END OF THE PROJECT.
24. SEE PAGE XX OF THE PROJECT SPECIFICATIONS FOR DEWATERING REQUIREMENTS.

FIBER ROLL INSTALLATION:

WHEN INSTALLING RUNNING LENGTHS OF WATTLES, BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST, DO NOT OVERLAP THE ENDS. STAKE THE WATTLES AT EACH END AND FOUR FOOT ON CENTER. FOR EXAMPLE:

A 25 FOOT WATTLE USES 6 STAKES
A 20 FOOT WATTLE USES 5 STAKES
A 12 FOOT WATTLE USES 4 STAKES

STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE. LEAVING 2 – 3 INCHES OF THE STAKE PROTRUDING ABOVE THE WATTLE. A HEAVY SEDIMENT LOAD WILL TEND TO PICK THE WATTLE UP AND COULD PULL IT OFF THE STAKES IF THEY ARE DRIVEN DOWN TOO LOW. IT MAY BE NECESSARY TO MAKE A HOLE IN THE WATTLE WITH A PICK END OF YOUR MADDOX IN ORDER TO GET THE STAKE THROUGH THE STRAW. WHEN STRAW WATTLES ARE USED FOR FLAT GROUND APPLICATIONS, DRIVE THE STAKES STRAIGHT DOWN; WHEN INSTALLING WATTLES ON SLOPES, DRIVE THE STAKES PERPENDICULAR TO THE SLOPE.

DRIVE THE FIRST END STAKE OF THE SECOND WATTLE AT AN ANGLE TOWARD THE FIRST WATTLE IN ORDER TO HELP ABUT THEM TIGHTLY TOGETHER. IF YOU HAVE DIFFICULTY DRIVING THE STAKE INTO EXTREMELY HARD OR ROCKY SLOPES, A PILOT BAR MAY BE NEEDED TO BEGIN THE STAKE HOLE.

1. THE LOCATION AND LENGTH OF WATTLE IS DEPENDENT ON THE CONDITIONS OF EACH SITE.
2. WATTLES SHALL BE INSTALLED PRIOR TO ANY LAND–DISTURBING ACTIVITIES.
3. WATTLES SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE WATTLES SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF TWO (2) INCHES.
6. WATTLES SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
7. ON SLOPES, WATTLES SHOULD BE INSTALLED ON CONTOUR WTH A SLIGHT DOWNWARD ANGLE AT THE END OF THE ROW IN ORDER TO PREVENT PONDING AT THE MID SECTION.
8. RUNNING LENGTHS OF WATTLES SHOULD BE ABUTTED FIRMLY TO ENSURE NO LEAKAGE AT THE ABUTMENTS.
9. SPACING – DOWNSLOPE:
   VERTICAL SPACING FOR SLOPE INSTALLATIONS SHOULD BE DETERMINED BY SITE CONDITIONS. SLOPE GRADIENT AND SOIL TYPE ARE THE MAIN FACTORS. A GOOD RULE OF THUMB IS:

   1:1 SLOPES = 10 FEET APART
   2:1 SLOPES = 20 FEET APART
   3:1 SLOPES = 30 FEET APART
   4:1 SLOPES = 40 FEET APART, ETC.

   HOWEVER, ADJUSTMENTS MAY HAVE TO BE MADE FOR THE SOIL TYPE: FOR SOFT, LOAMY SOILS – ADJUST THE ROWS CLOSER TOGETHER; FOR HARD, ROCKY SOILS – ADJUST THE ROWS FURTHER APART. A SECONDARY WATTLE PLACED BEHIND THE ABUTMENT OF TWO WATTLES IS ENCOURAGED ON STEEP SLOPES OR WHERE JOINTS HAVE FAILED IN THE PAST.
10. STAKING: THE CITY RECOMMENDS USING WOOD STAKES TO SECURE THE WATTLES. BE SURE TO USE A STAKE THAT IS LONG ENOUGH TO PROTRUDE SEVERAL INCHES ABOVE THE WATTLE. 18" IS A GOOD LENGTH FOR HARD, ROCKY SOIL. FOR SOFT LOAMY SOIL USE A 24" STAKE.

REV.	DESCRIPTION	BY	DATE

JOSHUA S. CORWIN ★ NO. 19101684 ★ STATE OF INDIANA ★ PROFESSIONAL ENGINEER

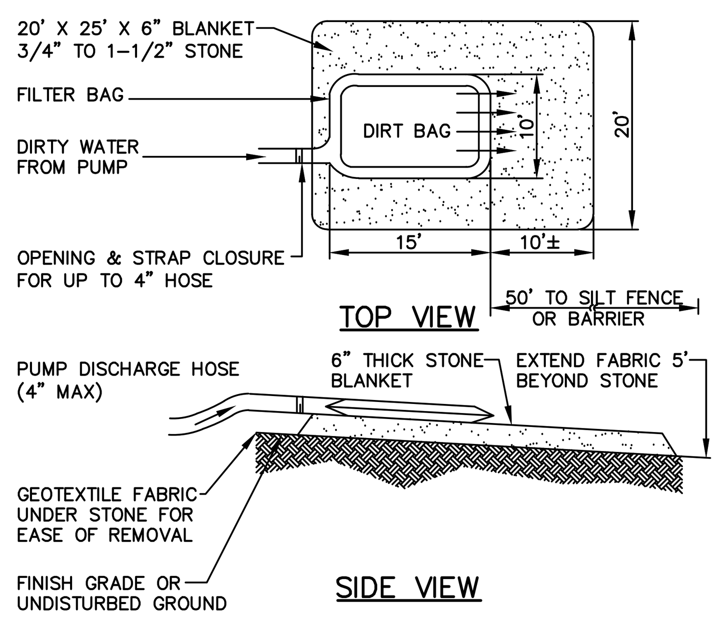
The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

EROSION CONTROL MEASURES

Project Number: 2020-0038	
Designed By: J. Hoffman	Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman	Date: 02/12/2021
Scale: AS SHOWN	

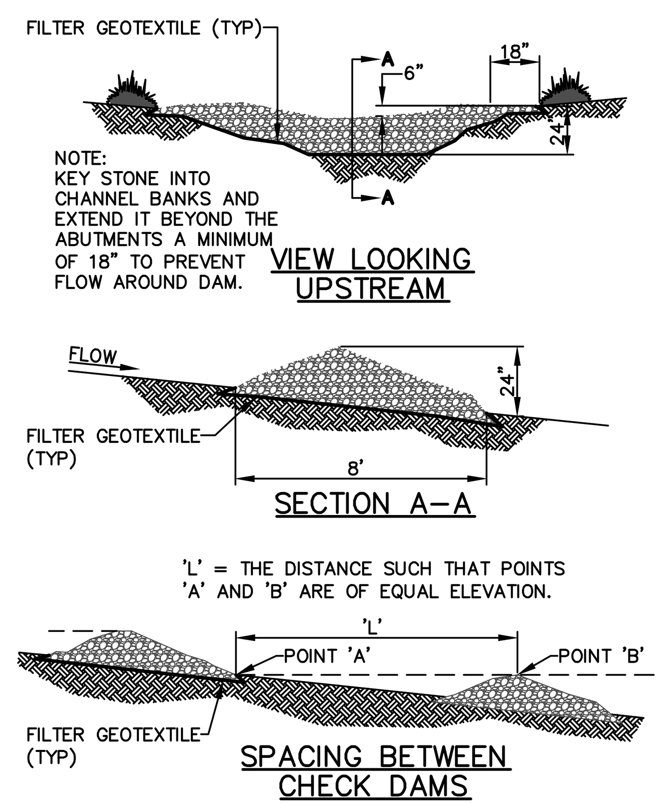
X-2525-40



NOTES:
1. SEDIMENT BAG MATERIAL BASED ON PARTICLE SIZE IN DIRTY WATER, I.E., FOR COARSE PARTICLES A WOVEN MATERIAL; FOR SILTS/CLAYS A NON-WOVEN MATERIAL.
2. DO NOT OVER PRESSURIZED DIRT BAG OR USE BEYOND CAPACITY.
3. LOCATE DISCHARGE SITE ON FLAT UPLAND AREAS AS FAR AWAY AS POSSIBLE FROM STREAMS, WETLANDS, OTHER RESOURCES AND POINTS OF CONCENTRATED FLOW.
4. DISCHARGE NOT PERMITTED WITHIN 25' OF A STREAM OR WETLAND. IF STRUCTURE MUST BE WITHIN 75' OF STREAM OR WATER BODY. SECONDARY CONTAINMENT MAY BE REQUIRED.

PUMPED DISCHARGE SEDIMENT CONTROL DEVICE

NOT TO SCALE

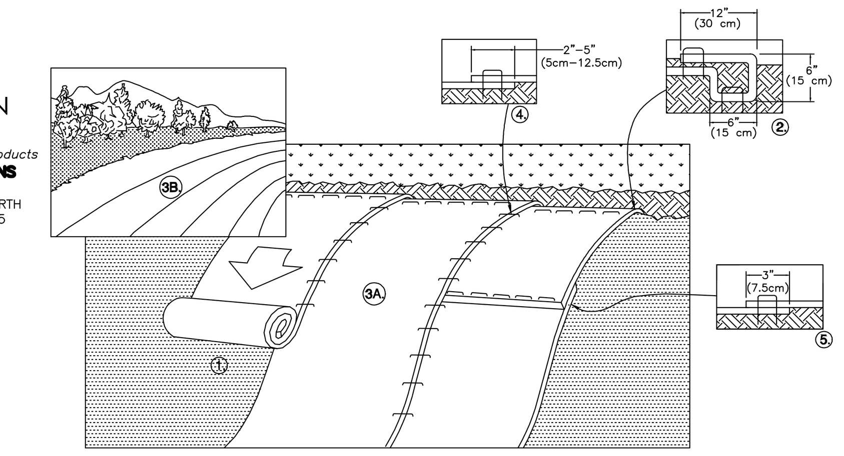


ROCK CHECK DAM

NOT TO SCALE

NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS
14649 HIGHWAY 41 NORTH
EVANSVILLE, IN 47725
800–772–2040
www.nagreen.com

SLOPE INSTALLATION



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

REV. 01/05

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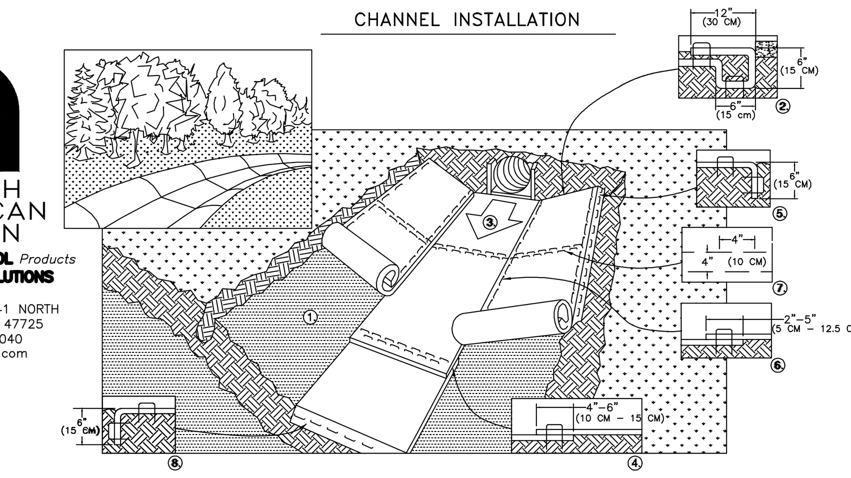
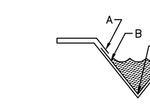
CHANNEL INSTALLATION



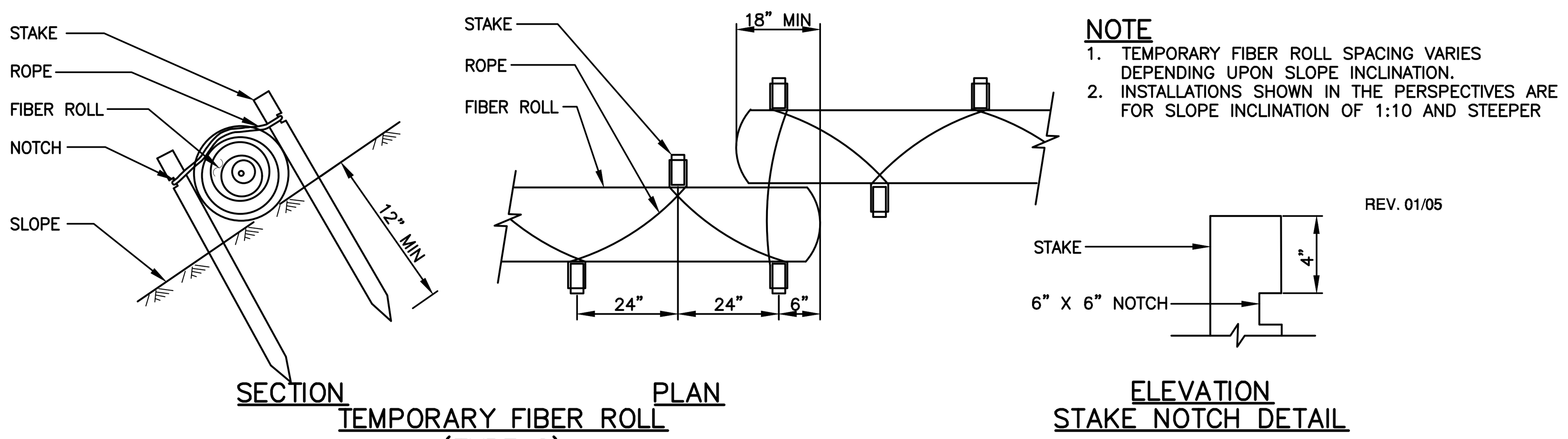
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4" – 6" (10 CM –15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2" – 5" (5 CM –12.5 CM) (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M – 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.

REV. 01/05

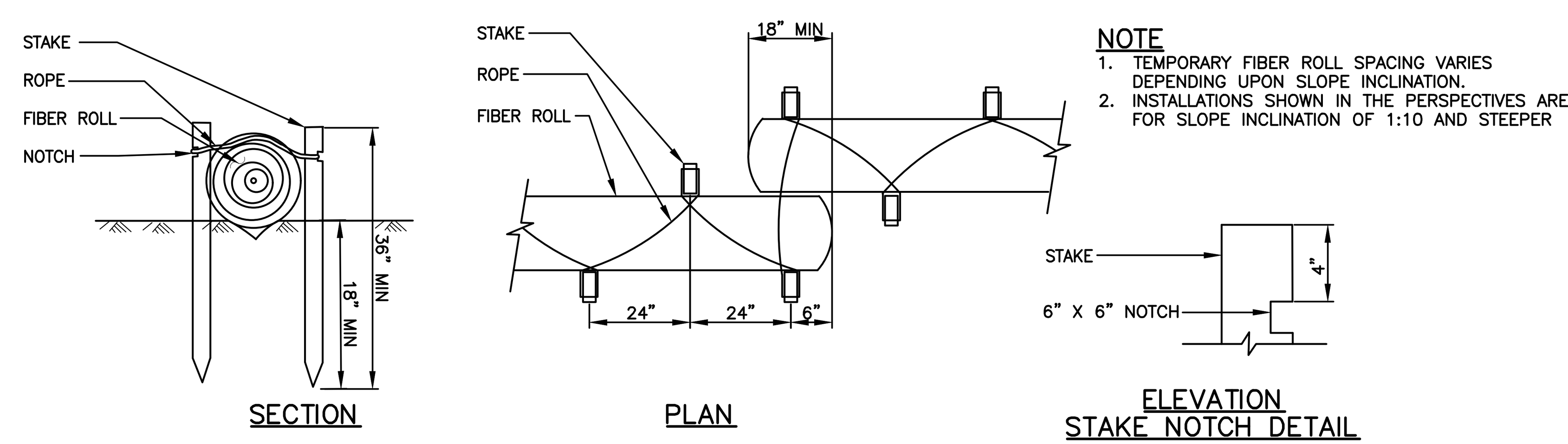


NOTE
1. TEMPORARY FIBER ROLL SPACING VARIES DEPENDING UPON SLOPE INCLINATION.
2. INSTALLATIONS SHOWN IN THE PERSPECTIVES ARE FOR SLOPE INCLINATION OF 1:10 AND STEEPER

REV. 01/05

ELEVATION
STAKE NOTCH DETAIL

TEMPORARY FIBER ROLL
(TYPE 2)



NOTE
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ELEVATION
STAKE NOTCH DETAIL

TEMPORARY FIBER ROLL
(TYPE 2)

WATTLE

NOT TO SCALE

NORTH AMERICAN GREEN
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EVANSVILLE, IN 47725
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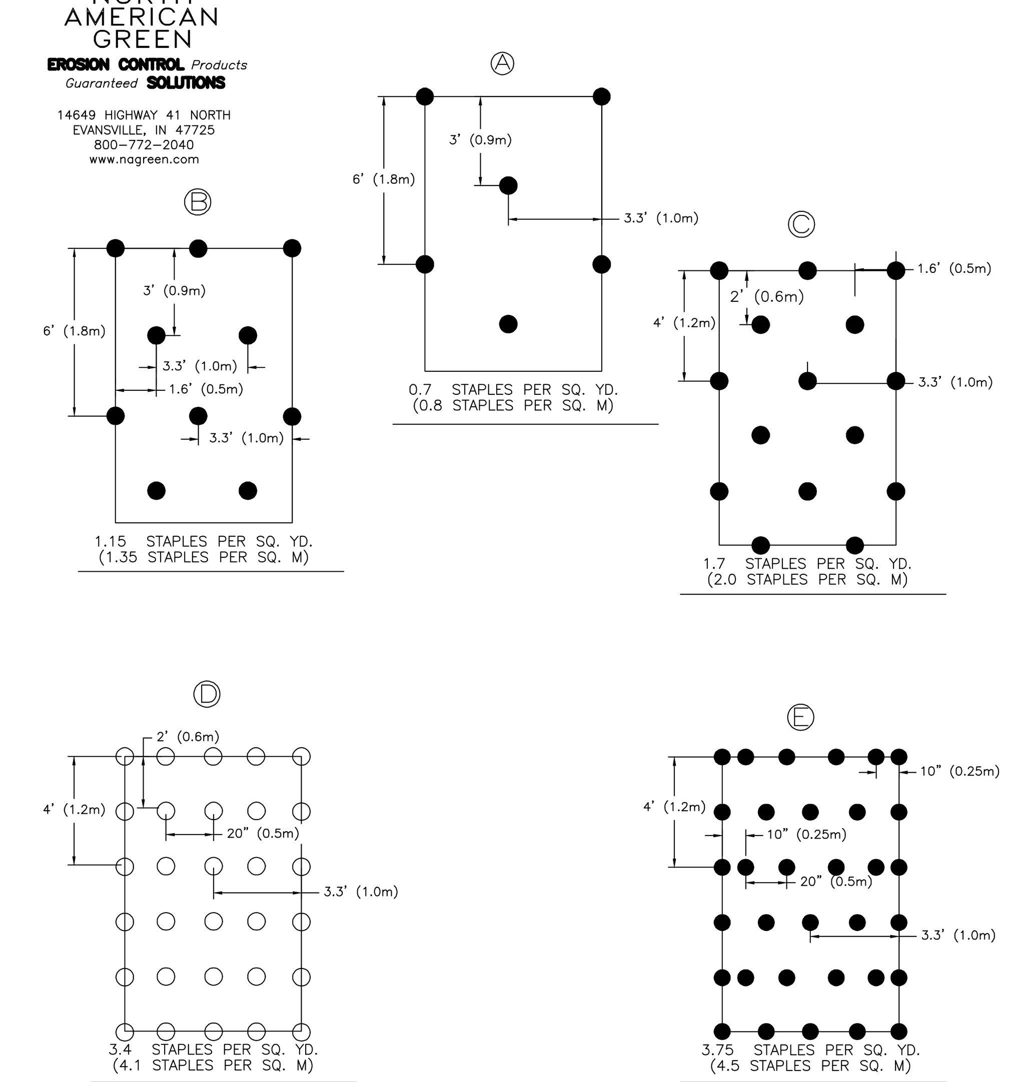
STAPLE PATTERN GUIDE
6.67' (2.03 M) WIDE ROLLS



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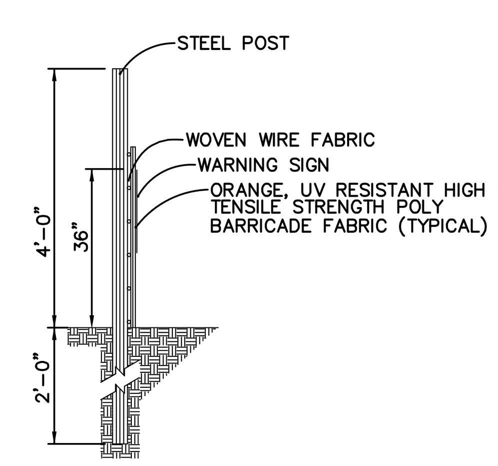
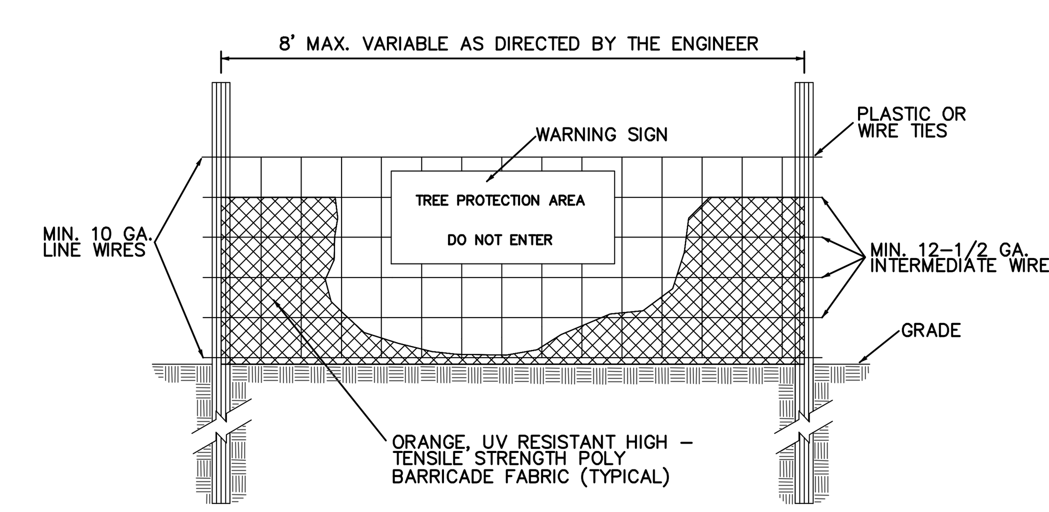


SIDE VIEW



FRONT VIEW

TREE PROTECTION DETAIL

NOT TO SCALE

REV.	DESCRIPTION	BY	DATE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering
204 East Jefferson Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626

SIXTEENTH STREET RECONSTRUCTION

EROSION CONTROL MEASURES

Project Number: 2020-0038
Designed By: J. Hoffman
Approved By: J. Corwin, P.E.
Drafted By: J. Hoffman
Date: 02/12/2021
Scale: AS SHOWN

X-2525-41