



City of South Bend PLAN COMMISSION

City Hall
215 S. Martin Luther King, Jr. Blvd.
Suite 500
South Bend, IN 46601
(574) 235-7627
www.southbendin.gov/zoning

August 19, 2026

Honorable Committee Chair Oliver Davis
3rd Floor, City Hall
South Bend, IN 46601

Filed in Clerk's Office

Aug 20, 2026

RE: 20061 DICE STREET PC#0329-25

Bianca Tirado
City Clerk, South Bend, IN

Dear Committee Chair Dr. Davis:

Enclosed is an Ordinance for the proposed Annexation and Zone Map Amendment at the above referenced location. Please include the attached Ordinance on the Council agenda for first reading at your August 24, 2026 Council meeting and set it for second reading on October 26, 2026 and third reading on November 9, 2026 Council meetings. The petition is tentatively scheduled for public hearing at the September 21, South Bend Plan Commission meeting. The recommendation of the South Bend Plan Commission will be forwarded to the Office of the City Clerk by noon on the day following the public hearing.

The petitioner provided the following to describe the proposed project:

The Petitioners are requesting to annex and rezone the property including rights-of-way of Johnson Road and Dice Street to develop another building on this property for interior storage of excavating equipment and an office. The project will meet the landscaping standards to provide screening from the street and buffer to adjacent residential uses.

If you have any questions, please feel free to contact our office.

Sincerely,

Tim Staub
Zoning Specialist

CC: Bob Palmer

Tim Corcoran
Planning Director

Brian Killen
Zoning Administrator

Francisco Fotia
Commission President

Aug 19, 2026

BILL NO. 58-26

ORDINANCE NO. _____

Bianca Tirado
City Clerk, South Bend, IN

**AN ORDINANCE OF THE COMMON COUNCIL OF THE CITY OF SOUTH BEND,
INDIANA, ANNEXING TO AND BRINGING WITHIN THE CITY LIMITS OF SOUTH
BEND, INDIANA, AND AMENDING THE ZONING ORDINANCE FOR PROPERTY
LOCATED IN CENTRE TOWNSHIP, CONTIGUOUS THEREWITH;
COUNCILMANIC DISTRICT NO. 5, FOR 20061 DICE STREET & 60555 MAIN
STREET, SOUTH BEND, INDIANA**

STATEMENT OF PURPOSE AND INTENT

The Petitioner desires to annex two properties at the northwest corner of Dice Street and Main Street and annex and rezone one property at the southwest corner of Main Street and Johnson Road from R Single Family District in unincorporated St. Joseph County to I Industrial District in South Bend.

NOW, THEREFORE, BE IT ORDAINED by the Common Council of the City of South Bend, Indiana, as follows:

SECTION I. That the following described real estate is situated in St. Joseph County, Indiana, being contiguous by more than one-eighth (1/8) of its aggregate external boundaries with the present boundaries of the City of South Bend, Indiana, shall be and hereby is annexed to and brought within the City of South Bend:

A PART OF THE NORTHEAST AND SOUTHEAST QUARTERS OF SECTION 35, TOWNSHIP 37 NORTH, RANGE 2 EAST, CENTRE TOWNSHIP, ST. JOSEPH COUNTY, INDIANA WHICH DESCRIBED AS: BEGINNING AT A POINT 60 FEET NORTH AND 960 FEET EAST OF THE NORTHWEST COMER OF LOT NUMBERED 119 GILLMER'S SOUTH MICHIGAN ADDITION; THENCE NORTH 471.1 FEET; THENCE EAST 331.6 FEET TO MAIN STREET; THENCE SOUTH WITH MAIN STREET 474.9 FEET; THENCE WEST 323.6 FEET TO THE POINT OF BEGINNING, BEING LOTS 12 THROUGH 18 IN YODER'S PROPOSED SOUTH MAIN STREET ADDITION, EXCEPTING THEREFROM: A PART OF THE EAST HALF OF SECTION 35, TOWNSHIP 37 NORTH, RANGE 2 EAST, ST. JOSEPH COUNTY, INDIANA DESCRIBED AS FOLLOWS: COMMENCING AT A POINT 60' N AND 960" E OF THE NORTHWEST CORNER OF LOT NO. 119 GILLMER'S SOUTH MICHIGAN ADDITION (THE FORGOING PORTION OF THIS DESCRIPTION BEGINNING WITH THE WORDS "AT A POINT" IS QUOTED FROM DEED RECORDED 759, PAGE335) WHICH POINT IS ON THE NORTH BOUNDARY OF

DICE STREET AND SOUTHWEST CORNER OF THE GRANTORS LAND; THENCE SOUTH 88° 44 MIN. 56 SECONDS EAST 293.43 FEET ALONG THE BOUNDARY OF SAID DICE STREET TO THE POINT OF BEGINNING OF THIS DESCRIPTION, THENCE NORTH 4° 18 MINUTES 48 SECONDS EAST 91.84 FEET; THENCE SOUTH 87°17 MINUTES 41 SECONDS EAST 25.43 FEET TO THE WEST BOUNDARY OF MAIN STREET THENCE SOUTH 10 22 MINUTES 53 SECONDS WEST 91.06 FEET ALONG THE BOUNDARY OF SAID MAIN STREET TO THE NORTH BOUNDARY OF SAID DICE STREET; THENCE NORTH 88° 44 MINUTES 56 SECONDS WEST 30.12 FEET ALONG THE BOUNDARY OF SAID DICE STREET TO THE POINT OF BEGINNING. BEGINNING AT AN IRON PIPE AT THE NORTHWEST CORNER OF LOT I OF YODER'S PROPOSED SOUTH MAIN STREET ADDITION (DATED 1945 RALPH E. KELLER, ENGINEER); THENCE POINT BEING THE SOUTHWEST CORNER OF LOT I OF BRADBERRY MINOR SUBDIVISION, RECORDED OCTOBER 20TH, 1976, IN PLAT BOOK 31 , PAGE "B", IN THE OFFICE OF THE RECORDER OF ST. JOSEPH COUNTY, INDIANA; THENCE NORTHERLY A DISTANCE OF 459.50 TO AN IRON PIPE ON THE SOUTH RIGHT OF WAY LINE OF JOHNSON ROAD; THENCE EASTERLY ALONG SAID RIGHT OF WAY LINE A DISTANCE OF 1329.90 FEET TO THE WEST RIGHT OF WAY LINE OF MAIN STREET; THENCE SOUTHERLY ALONG SAID WEST RIGHT OF WAY LINE A DISTANCE OF 468.00 FEET TO THE NORTH BOUNDARY LINE OF SAID YODER'S PROPOSED SOUTH MAIN STREET ADDITION; THENCE WESTERLY ALONG SAID NORTH BOUNDARY LINE A DISTANCE OF 1321.60 FEET TO THE POINT OF BEGINNING; EXCEPTING THEREFROM LOT NUMBERED I AS SHOWN ON THE RECORDED PLAT OF BRADBERRY'S MINOR SUBDIVISION, RECORDED OCTOBER 20, 1976 IN PLAT BOOK 31, PAGE B, IN THE OFFICE OF THE RECORDER OF ST. JOSEPH COUNTY, INDIANA AND ALSO EXCEPTING A PART OF THE EAST HALF OF SECTION 35, TOWNSHIP 37 NORTH, RANGE 2 EAST, ST. JOSEPH COUNTY, INDIANA DESCRIBED AS FOLLOWS: COMMENCING AT AN IRON PIPE AT THE NORTHWEST CORNER OF LOT I OF YODER'S PROPOSED SOUTH MAIN STREET ADDITION (DATED 1945, RALPH E. KELLER, ENGINEER); SAID POINT BEING THE SOUTHWEST CORNER OF LOT I OF BRADBERRY'S MINOR SUBDIVISION, RECORDED OCTOBER 20, 1976 IN PLAT BOOK 31, PAGE "8", IN THE OFFICE OF THE RECORDER OF ST. JOSEPH COUNTY, INDIANA; THENCE NORTHERLY A DISTANCE OF 459.50 FEET TO AN IRON PIPE ON THE SOUTH RIGHT-OF-WAY LINE OF JOHNSON ROAD (THE FORGOING PORTION OF THIS DESCRIPTION BEGINNING WITH THE WORDS " AT AN IRON PIPE" IS QUOTED FROM INSTRUMENT NO. 8101612); THENCE NORTH 89° 36 MINUTES 40 SECONDS EAST 572.54 FEET ALONG THE BOUNDARY OF SAID JOHNSON ROAD TO THE POINT OF BEGINNING OF THIS DESCRIPTION, THENCE CONTINUING NORTH 89° 36 MINUTES 40 SECONDS EAST 757.36 FEET ALONG SAID BOUNDARY TO THE WEST BOUNDARY OF MAIN STREET; THENCE SOUTH 1° 22MINUTES 53 SECONDS WEST 39.48 FEET ALONG THE BOUNDARY OF SAID MAIN STREET; THENCE SOUTH 89° 50 MINUTES 17 SECONDS WEST 356.29 FEET; THENCE NORTH 88° 43 MINUTES 47 SECONDS WEST 400.13 FEET THENCE NORTH 0° 9 MINUTES 43 SECONDS WEST 26.47 FEET TO THE POINT OF BEGINNING. BEGINNING AT A POINT 60 FEET

NORTH AND 870 FEET EAST OF THE NORTHWEST CORNER OF LOT NUMBERED 119 AS SHOWN ON THE RECORDED PLAT OF GILLMER'S SOUTH MICHIGAN STREET ADDITION; THENCE RUNNING NORTH 470.00 FEET TO YODER'S NORTH LINE; THENCE EAST 90 FEET; THENCE SOUTH 471.1 FEET TO A POINT 90 FEET EAST OF THE PLACE OF BEGINNING; THENCE WEST 90 FEET TO THE PLACE OF BEGINNING, AND BEING KNOWN AS LOT NUMBERED 11 ON AN UNRECORDED PLAT OF YODER'S PROPOSED SOUTH MAIN STREET ADDITION IN CENTRE TOWNSHIP.

CONTAINING 18.61 ACRES MORE OR LESS.

SECTION II. That the boundaries of the City of South Bend, Indiana, shall be and are hereby declared to be extended so as to include the real estate of the above-described parcel as part of the City of South Bend, Indiana.

SECTION III. Ordinance No. 10689-19, as amended, which ordinance is commonly known as the Zoning Ordinance of the City of South Bend, Indiana, be and the same hereby amended in order that the zoning classification of the above described real estate, with the exception of all adjacent rights-of-way, in the City of South Bend, St. Joseph County, State of Indiana be and the same is hereby established as I Industrial District.

SECTION IV. This Ordinance shall be in full force and effect 30 days from and after its passage by the Common Council, approval by the Mayor, and legal publication.

Canneth J. Lee, Council President
South Bend Common Council

Attest:

Bianca L. Tirado, City Clerk
Office of the City Clerk

Presented by me, the undersigned Clerk of the City of South Bend, to the Mayor of the City of South Bend, Indiana on the ____ day of _____, 2026, at _____ o'clock .m.

Bianca L. Tirado, City Clerk
Office of the City Clerk

Approved and signed by me on the _____ day of _____, 2026, at ____ o'clock
____.m.

James Mueller, Mayor
City of South Bend, Indiana

Zoning Application

City of South Bend

What are you filing for?

Rezoning

Annexation

Who will need to approve?

Plan Commission

Property Owner and Property Information

Property owner name:

Hoosierland Excavating LLC

Phone number:

(574) 742-0212

Email:

AMartin@hoosierlandexcavating.com

Project address:

20061 DICE ST.
SOUTH BEND

Would you like to add additional property owners?

No

The legal description can be found by visiting this [map](#) and typing in the address for the property. In the "Parcel" layer, the legal description is categorized as "LEGALDESCR."

Legal description of the annexation area including any adjacent rights of way not already in the City (more information about legal descriptions can be found below):

Irr Tr S Pt Ne & N Pt Se Ex Pt Sold Sec 35 37 2e 11 Ac +/- 13/14 Split#7764 10-11-12

The legal description can be found by visiting this [map](#) and typing in the address for the property. In the "Parcel" layer, the legal description is categorized as "LEGALDESCR."

Tax key number (more information about tax key numbers can be found below):

001-1017-034013

The tax key(s)/parcel ID(s) can be found by visiting this [map](#) and typing in the address for the property. In the "Parcel" layer, the tax key/parcel ID is categorized as "PARCELID."

Will someone other than the property owner be the main point of contact and representative for this petition?

Yes; someone else will be representing this petition on my behalf

Representative name:

Travis McDaniel

Phone number:

(260) 267-7414

Email:

tamcdaniel@mssengineer.com

Mailing address:

414 W 5th St.
Auburn, IN, 46706

Terms and Conditions

Accepted

Variance

State statutes and the Zoning Ordinance require that certain standards must be met before a variance can be approved. Please address how the project meets the following criteria:

Special Exception

A Special Exception may only be granted upon making a written determination, based upon the evidence presented at a public hearing. Please address how the project meets the following criteria:

Rezoning

Project Summary:

The property Owner, Hoosierland Excavating would like to build another building on this property for interior storage of excavating equipment and an office. The area where the building will be placed, borders Hoosierlands existing business and drive. The property being rezoned is adjacent to an already zoned Industrial property. All areas that would still be bordered to residential properties would be screened with trees and evergreens.

Current District(s):

S1 Suburban Neighborhood 1

Proposed District(s):

I Industrial

Upload a site plan to scale indicating scale used (for example 1 in. on printer paper = 20ft. in real life or 1 square on graph paper = 5ft. in real life). Include property lines and all structures.



24.148.195 - Hoosierland Excavating -... .pdf

Subdivison

Annexation

Project Summary:

The property Owner, Hoosierland Excavating would like to build another building on this property for interior storage of excavating equipment and an office. The new office will have restrooms, and will need to tie into the sewer on the edge of this property just outside of the city limit line. The annexing of this property will allow the building to tie into city sewer.

Current District(s):

R Single Family District

Proposed District(s):

I Industrial

Upload a site plan to scale indicating scale used (for example 1 in. on printer paper = 20ft. in real life or 1 square on graph paper = 5ft. in real life). Include property lines and all structures.



24.148.195 - Hoosierland Excavating -... .pdf

Use Variance

A Use Variance may only be granted upon making a written determination, based upon the evidence presented at a public hearing. Please address how the project meets the following criteria:

Terms and Conditions

Terms and Conditions Accepted

Terms and Conditions Accepted

Terms and Conditions Accepted

By typing my name in the boxes below, I agree that I'm electronically signing this form. I affirm that the information that I've provided is accurate and true to the best of my knowledge. I understand that my electronic signature is legally binding and equivalent to my handwritten signature.

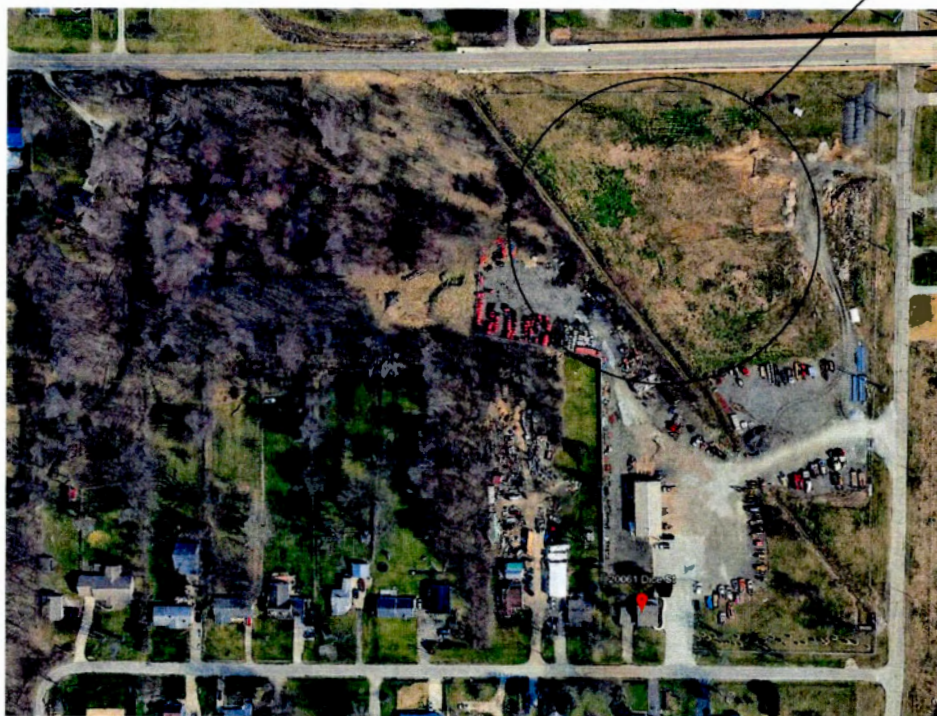
Name: Travis McDaniel

Date Monday, August 17, 2026

PARKING LOT EXPANSION, AND LEAN-TO PERMITTING FOR: HOOSIERLAND EXCAVATING

ST. JOSEPH TOWNSHIP, ST. JOSEPH COUNTY INDIANA

THIS DOCUMENT IS TO SERVE FOR "NEW" STRUCTURE DOCUMENTED
HERE-IN ONLY AT ADDRESS LISTED. ALL OTHER STRUCTURAL AND CIVIL
DESIGN OUTSIDE OF THE SCOPE OF THESE DRAWINGS BY OTHERS



SHEET LIST	
SHEET NUMBER	SHEET NAME
T01	COVER PAGE
C01	EXISTING CONDITIONS
C02	PROPOSED SURFACE
C03	DRAINAGE PLAN & UTILITIES
C04	CULVERT CROSS SECTION
C05	EROSION CONTROL
C06	LANDSCAPE PLAN
C07	EROSION CONTROL DETAILS
C08	DRAINAGE CALCS
C09	DRAINAGE CALCS (CONT.)
C10	UTILITY DETAILS
C11	UTILITY DETAILS (CONT.)
C12	CONSTRUCTION DETAILS
C13	DRAWING DETAILS

MSS Engineering, LLC
ENGINEERING CONSULTING & DESIGN
414 W 8th St. Auburn, IN 46706
Phone: (260) 267-7414
Email: lamodanis@mssengineers.com
Travis A. McDowell, PE

PROJECT LOCATION:
20061 DICE ST
SOUTH BEND, IN

PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
PERMITTING

DRAWING TITLE:
COVER PAGE

REVISIONS:

NO	DATE	DESCRIPTION	BY

JOB NUMBER:
24,148,195

DRAWN BY: GAC

ENGINEERED BY: MJG

START DATE: 08/01/24

PROGRESS DATE: 11/07/24

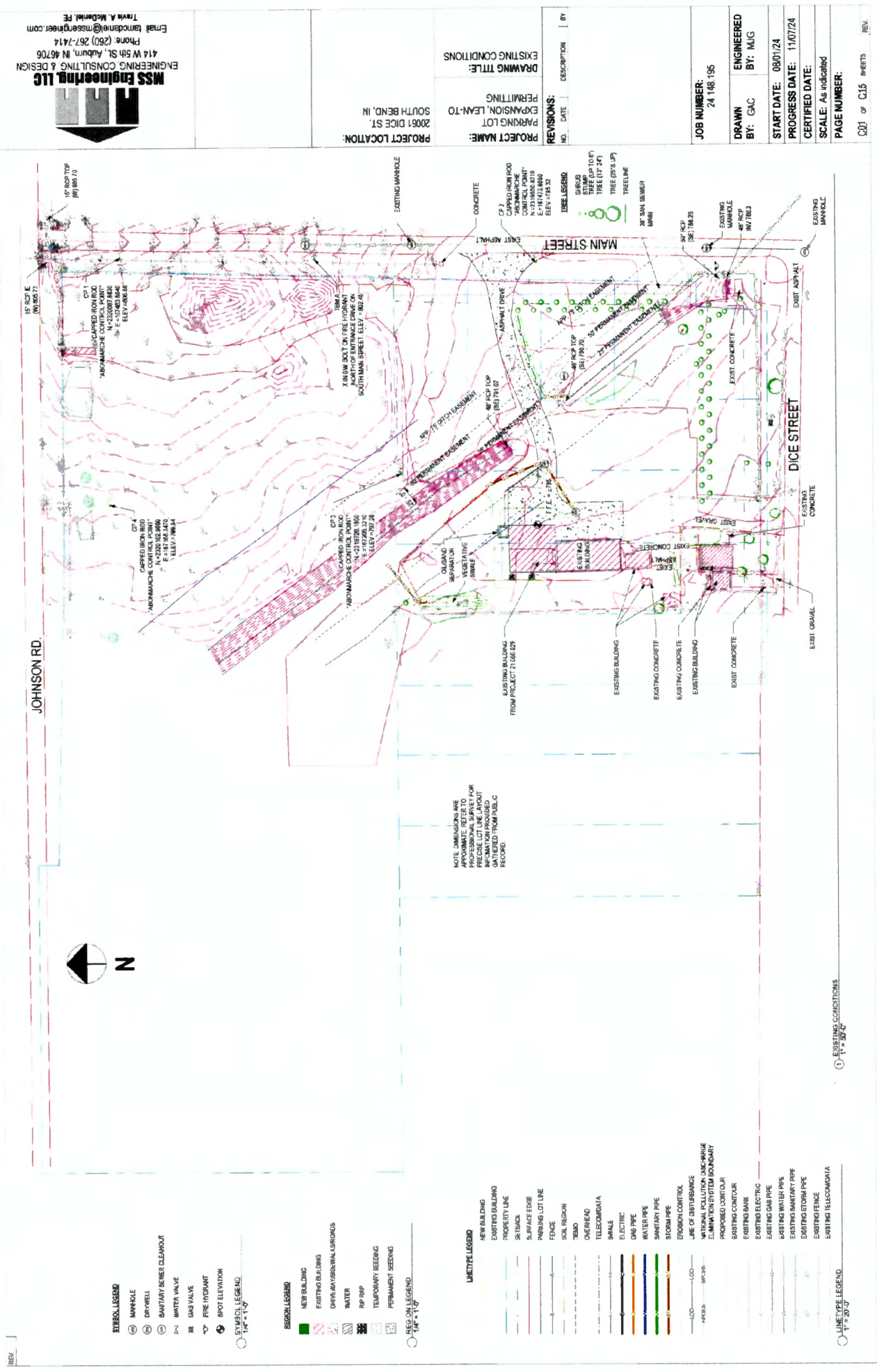
CERTIFIED DATE:

SCALE:

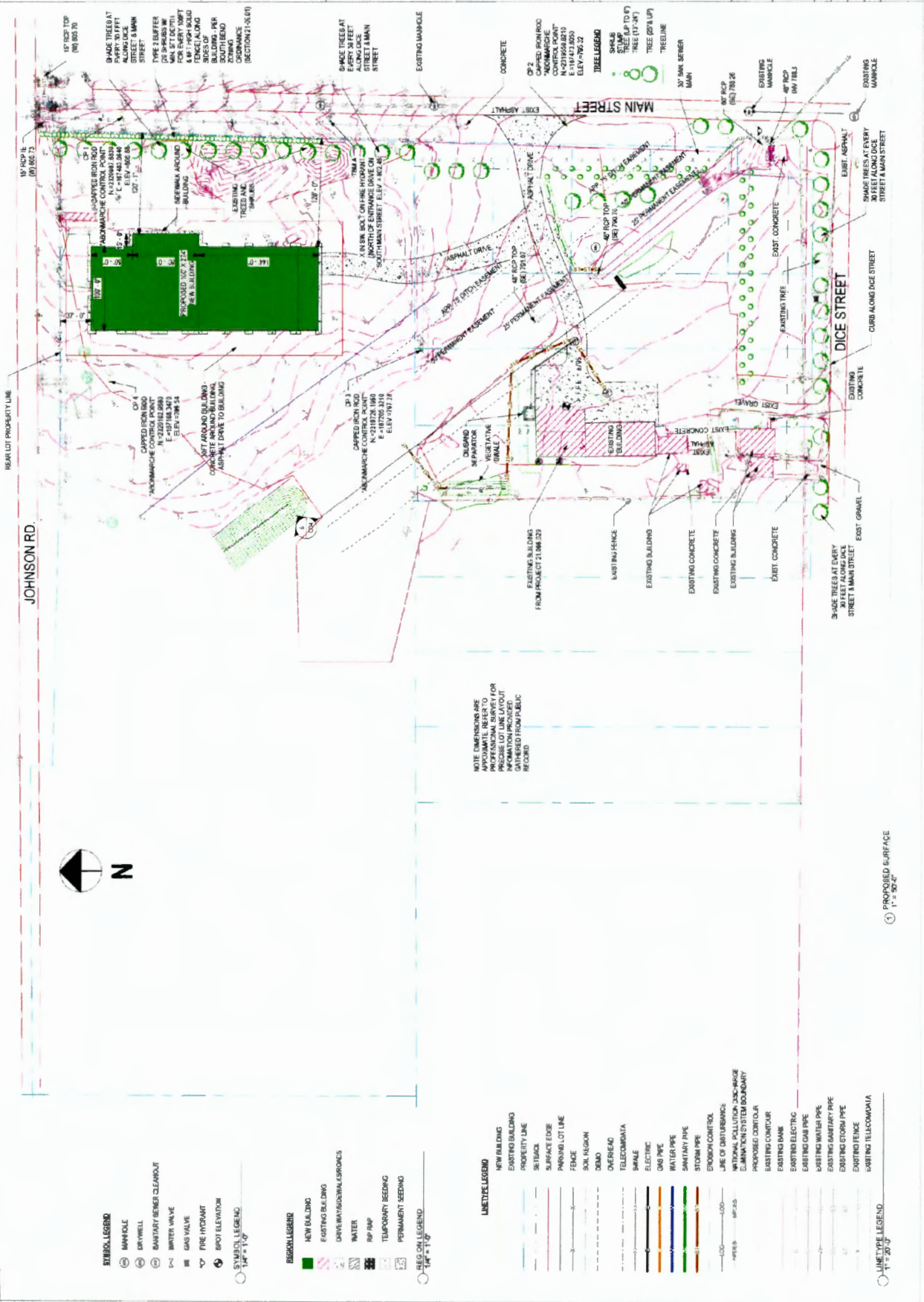
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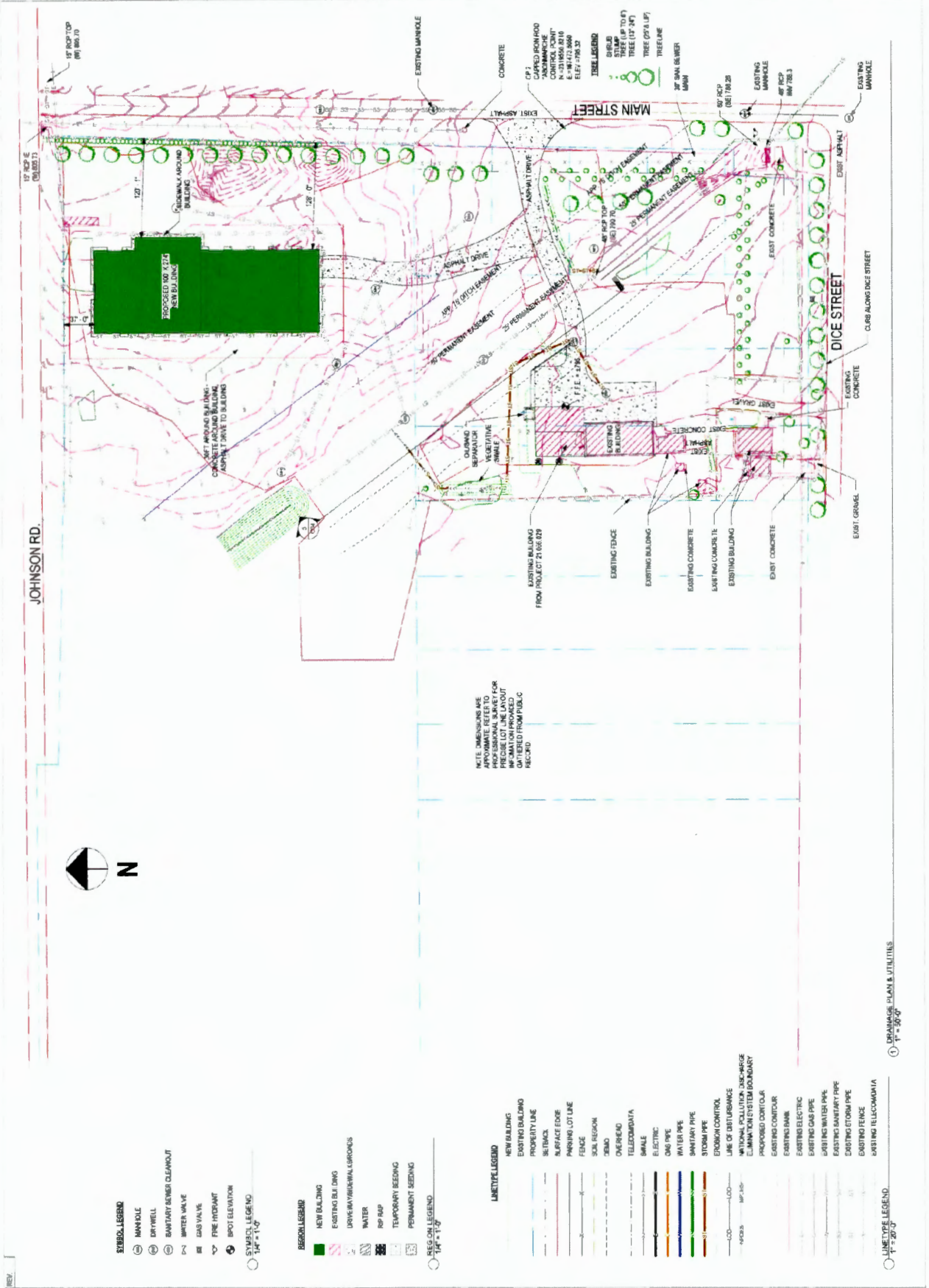
T01 OF T01 SHEETS .REV.

REV

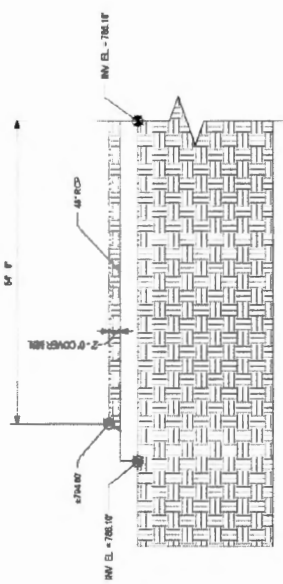


MSS Engineering, LLC
ENGINEERING CONSULTING & DESIGN
414 W 5th St., Auburn, IN 46706
Phone: (260) 267-7414
Email: landman@mssengineering.com
Tina A. McDonald, PE

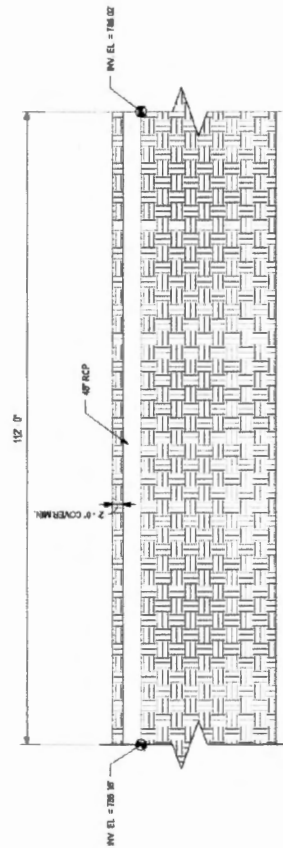




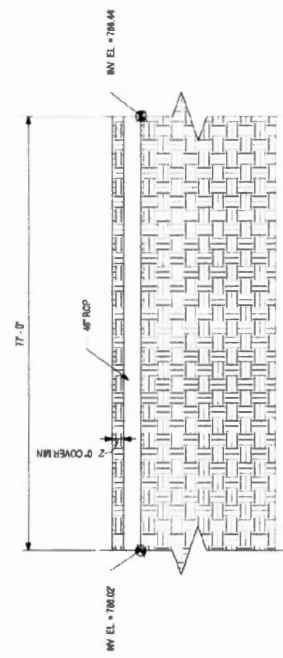
REV



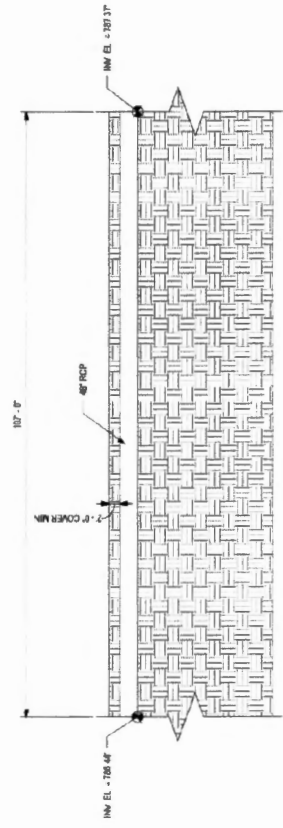
1) CULVERT PIPE - PROFILE VIEW - SHORT EXTENSION SECTION 1
1" = 10'-0"



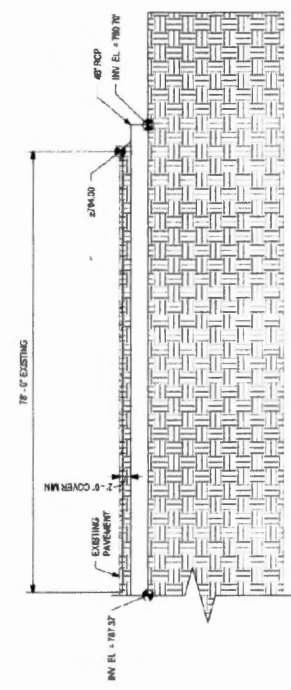
2) CULVERT PIPE - PROFILE VIEW - SHORT EXTENSION SECTION 2
1" = 10'-0"



3) CULVERT PIPE - PROFILE VIEW - SHORT EXTENSION SECTION 3
1" = 10'-0"



4) CULVERT PIPE - PROFILE VIEW - SHORT EXTENSION SECTION 4
1" = 10'-0"



5) CULVERT PIPE - PROFILE VIEW - EXISTING
1" = 10'-0"

MSS Engineering, LLC
ENGINEERING CONSULTING & DESIGN
414 W 5th St, Auburn, IN 46706
Phone (260) 267-7414
Email tmcoderne@mssengineering.com
Troy A. McDermott, PE

PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
SOUTH BEND, IN
PROJECT LOCATION:

DRAWING TITLE:
CULVERT CROSS
SECTION

REVISIONS:
NO. DATE DESCRIPTION BY

JOB NUMBER:
24 148 195

DRAWN BY: GAC
ENGINEERED BY: MUG

START DATE: 08/01/24
PROGRESS DATE: 11/07/24

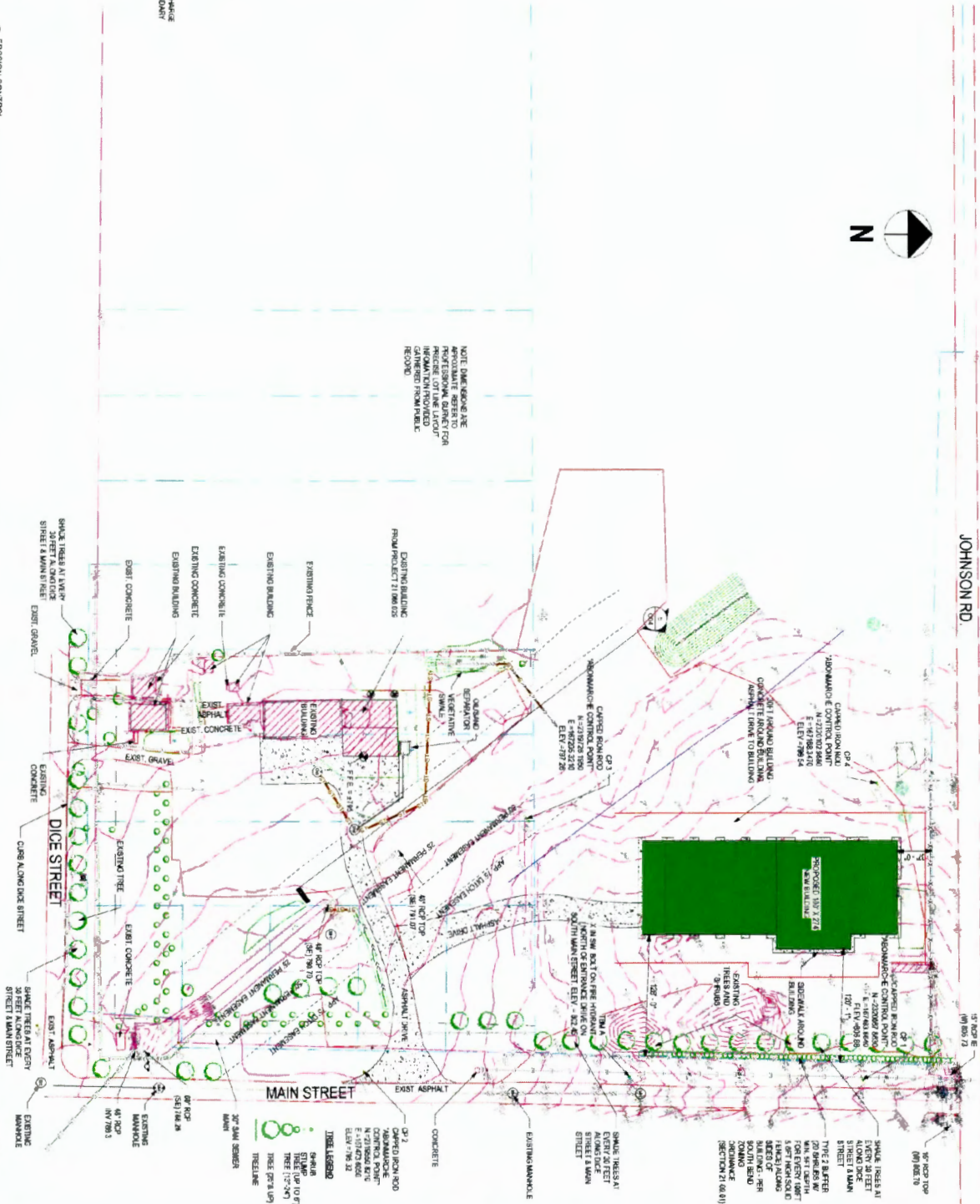
CERTIFIED DATE:
SCALE: 1" = 10'-0"

PAGE NUMBER:
004 OF 015 SHEETS REV.



- LEGEND**
- | | |
|---|------------------------|
|  | NEW BUILDING |
|  | FOOTING BATHING |
|  | DIVE/FAVORABLE/SPRINGS |
|  | WATER |
|  | AGE RAP |
|  | TEMPORARY SEEDING |
|  | PERMANENT SEEDING |
- REG ON LEGEND
14" = 1'0"

- LINE TYPE LEGEND**
- | | |
|--|----------------------------|
| | NEW BUILDING |
| | EXISTING BUILDING |
| | PROPERTY LINE |
| | SEWER |
| | SEWERAGE PIPE |
| | PRESSURIZED LINE |
| | FENCE |
| | OVERHEAD |
| | TELECOMMUNICATION |
| | RAIL |
| | ELECTRIC |
| | ONE PIPE |
| | WATER PIPE |
| | SEWAGE PIPE |
| | STORM PIPE |
| | ELECTRIC CONTROL |
| | LINE OF JURISDICTION |
| | NATURAL POLLUTION SOURCE |
| | COMMUNICATIONS |
| | PROPOSED CONTROL |
| | EXISTING CONTROL |
| | EXISTING BANK |
| | EXISTING ELECTRIC |
| | EXISTING GAS PIPE |
| | EXISTING WATER PIPE |
| | EXISTING SEWAGE PIPE |
| | EXISTING STORM PIPE |
| | EXISTING FENCE |
| | EXISTING TELECOMMUNICATION |
- LINE TYPE LEGEND**
- $\frac{1}{4}'' = 20' \pm$



NOTE: DIMENSIONS ARE
APPROXIMATE. REFER TO
PROFESSIONAL SURVEY FOR
PRECISE LOT LINE LAYOUT.
INFORMATION PROVIDED
GATHERED FROM PUBLIC
RECORD.

PROJECT LOCATION:
20061 DICE ST.
SOUTH BEND, IN

PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
PERMITTING

DRAWING TITLE:
EROSION CONTROL

NO.	DATE	DESCRIPTION	BY
-----	------	-------------	----

JOB NUMBER:
24.148.195

DRAWN
BY: GAC

ENGINEERED
BY: M/G

START DATE: 08/01/24
PROGRESS DATE: 11/07/24

CERTIFIED DATE:

SCALE: As indicated

C05 of C15 SHEETS



MSS Engineering, LLC
ENGINEERING CONSULTING & DESIGN
414 W 5th St., Auburn, IN 46706
Phone: (260) 267-7414
Email: tamcdaniel@mssengineer.com
Travis A. McDaniel, FE

REV

SYMBOL LEGEND

- MANHOLE
- DRYWELL
- BANITARY SEWER CLEANOUT
- WATER VALVE
- GAS VALVE
- FIRE HYDRANT
- SPOT ELEVATION

SYMBOL LEGEND
1/4" = 1'-0"

REGION LEGEND

- NEW BUILDING
- EXISTING BUILDING
- DRIVEWAYS/SIDEWALKS/ROADS
- WATER
- RIP RAP
- TEMPORARY SEEDING
- PERMANENT SEEDING

REGION LEGEND
1/4" = 1'-0"

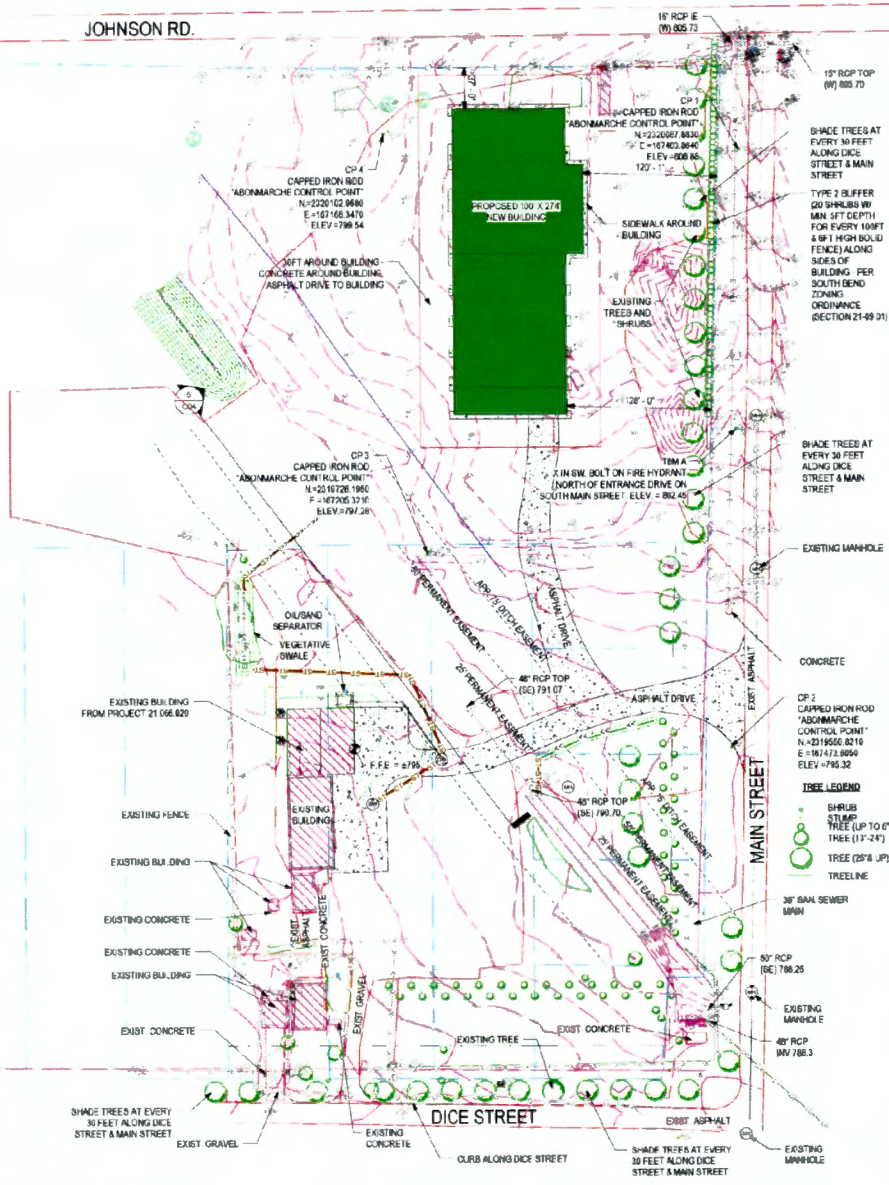
LINE TYPE LEGEND

- NEW BUILDING
- EXISTING BUILDING
- PROPERTY LINE
- SETBACK
- SURFACE EDGE
- PARKING LOT LINE
- FENCE
- SOIL REGION
- DEMIO
- OVERHEAD
- TELECOM DATA
- SWALE
- ELECTRIC
- GAS PIPE
- WATER PIPE
- BANITARY PIPE
- STORM PIPE
- EROSION CONTROL
- LINE OF DISTURBANCE
- NATIONAL POLLUTION DISCHARGE
- ELIMINATION SYSTEM BOUNDARY
- PROPOSED CONTOUR
- EXISTING CONTOUR
- EXISTING BANK
- EXISTING ELECTRIC
- EXISTING GAS PIPE
- EXISTING WATER PIPE
- EXISTING BANITARY PIPE
- EXISTING STORM PIPE
- EXISTING FENCE
- EXISTING TELECOM DATA

LINE TYPE LEGEND
1" = 20'-0"



JOHNSON RD.



NOTE: DIMENSIONS ARE APPROXIMATE. REFER TO PROFESSIONAL SURVEY FOR PRECISE LOT LINE LAYOUT. INFORMATION PROVIDED GATHERED FROM PUBLIC RECORD.

1. LANDSCAPE PLAN
1" = 20'-0"

MSS Engineering LLC
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414 W 5th St, Auburn, IN 46706
Phone: (260) 267-7414
Email: lamcdaniel@mssengineer.com
Trevi A. McDaniel, PE

PROJECT LOCATION:
20061 DICE ST.
SOUTH BEND, IN

PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
PERMITTING

DRAWING TITLE:
LANDSCAPE PLAN

REVISIONS:

NO.	DATE	DESCRIPTION	BY
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JOB NUMBER:
24 148 195

DRAWN BY: GAC

ENGINEERED BY: MJG

START DATE: 08/01/24

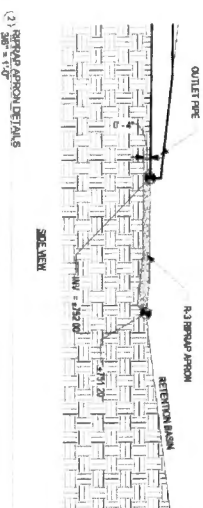
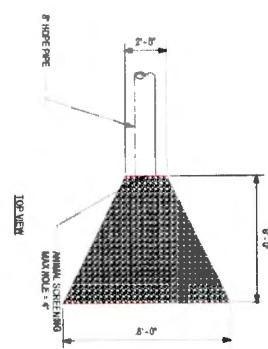
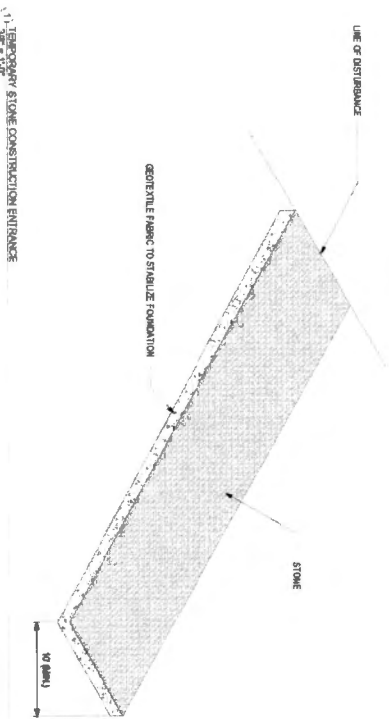
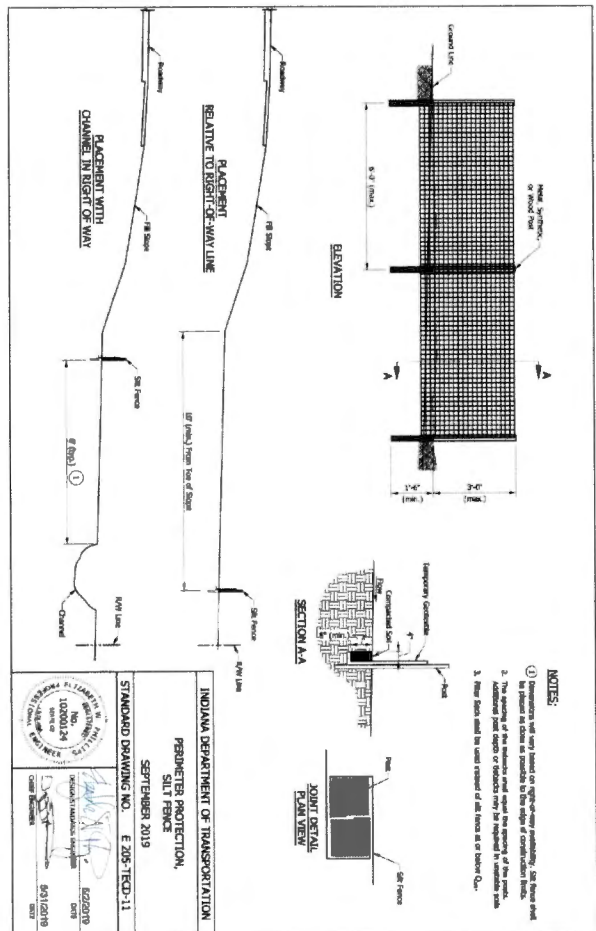
PROGRESS DATE: 11/07/24

CERTIFIED DATE:

SCALE: As indicated

PAGE NUMBER:

C06 OF C15 SHEETS REV



DRAINAGE CALCULATIONS**GOVERNING EQUATIONS****SCS CURVE NUMBER METHOD**

$$Q = (P - 0.2S)^2 / (P + 0.8S)$$

WHERE:

Q = RUNOFF (IN)

P = RAINFALL (IN)

S = POTENTIAL MAXIMUM

STORAGE AFTER RUNOFF

BEGINS (IN) (S=1000/CN - 10)

MANNING EQUATION

$$Q = (1.49/n)AR^{2/3}S^{1/2}$$

WHERE:

Q = PEAK DISCHARGE (CFS)

n = MANNING'S ROUGHNESS

COEFFICIENT

A = CROSS SECTIONAL AREA

OF FLOW (FT²)

R = HYDRAULIC RADIUS (FT)

S = SLOPE

$$V = (1.49/n)R^{2/3}S^{1/2}$$

WHERE:

V = DISCHARGE VELOCITY

(FPS)

n = MANNING'S ROUGHNESS

COEFFICIENT

A = CROSS SECTIONAL AREA

(FT²)

R = HYDRAULIC RADIUS (FT)

S = SLOPE

DRAINAGE CALCULATIONS

THE FOLLOWING DRAINAGE CALCULATIONS ARE FOR THE ESTIMATED DRAINAGE AREA LISTED BELOW FOR THE EXISTING RETENTION BASIN AND PROPOSED SITE IMPROVEMENTS SHOWN ON THE PLAN. THE EXISTING RETENTION BASIN SHALL ACCOMMODATE A 3-INCH STORM EVENT FOR THE DEVELOPED CONDITION USING THE CITY OF ELKHART.

ESTIMATED DRAINAGE AREA = 3.0 ± ACRES (130,000 SFT)

MODIFIED RUNOFF COEFFICIENT CALCULATIONS**ESTIMATED COVERAGE**

EXISTING BUILDING (C=0.90).....	0.35 AC
EXISTING HARD SURFACE(C=0.90).....	0.32 AC
PROPOSED BUILDING (C=0.90).....	0.12 AC
PROPOSED HARD SURFACES (C=0.90).....	0.13 AC
OPEN AREA (C=0.30).....	2.08 AC

$$C = (0.90 \times (0.35 + 0.32 + 0.12 + 0.13)) + (0.30 \times 2.08) / 3.0 \text{ AC} = 0.49$$

STORAGE VOLUME CALCULATIONS

STORAGE REQUIRED = C x RAINFALL INTENSITY x AREA

$$= 0.49 \times 0.25 \times 130,000 \text{ SFT}$$

$$= 15,313 \text{ CFT (0.35 ACRE-FT)}$$

STORAGE PROVIDED = 0.61 ACRE-FT (BELOW DESIGN HIGH WATER)

DESIGN OUTLET PIPE DISCHARGE
(ST-01, ST-02, ST-03, ST-04, ST-05)

DESIGNED AS FULL FLOW

$$n = 0.01$$

$$A = 0.35 \text{ FT}^2$$

$$R = 0.18 \text{ FT}$$

$$S = 0.01 = 1.0\%$$

$$Q_{\text{OUTLET}} = 1.68 \text{ CFS}$$

$$V_{\text{OUTLET}} = 4.77 \text{ FPS}$$

$$V_{\text{MINIMUM}} = 2.5 \text{ FPS}$$

$$V_{\text{OUTLET}} \geq V_{\text{MINIMUM}} \quad \text{OK}$$

DESIGN OUTLET PIPE DISCHARGE
(ST-06)

DESIGNED AS FULL FLOW

$$n = 0.01$$

$$A = 0.35 \text{ FT}^2$$

$$R = 0.18 \text{ FT}$$

$$S = 0.02 = 2.0\%$$

$$Q_{\text{OUTLET}} = 2.37 \text{ CFS}$$

$$V_{\text{OUTLET}} = 6.75 \text{ FPS}$$

$$V_{\text{MINIMUM}} = 2.5 \text{ FPS}$$

$$V_{\text{OUTLET}} \geq V_{\text{MINIMUM}} \quad \text{OK}$$

REQUIRED OUTLET PIPE DISCHARGE**TIME OF CONCENTRATION (TR55)****(POST-DEVELOPMENT)**

MANNING'S ROUGHNESS COEF., n = 0.011

FLOW LENGTH, L = 275 FT ≤ 300 FT

5-YR, 24-HR RAINFALL, P₂ = 3.36 in

LAND SLOPE, s = 0.017 FT/FT

TRAVEL TIME, T_t = 0.04 HR

$$T_t = (0.007 (nL)^{0.8}) / (P_2^{0.5} s^{0.4})$$

$$T_c = 0.04 \text{ HR} = 2.68 \text{ MIN}$$

USE 5 MIN

$$I = 6.20 \text{ IN/HR (FROM NOAA ATLAS 14, VOLUME 2, VERSION 3) - 5-YR, } T_c = 5 \text{ MIN}$$

ΣCA VALUES (POST-DEVELOPMENT)

- PROPOSED BUILDING: C = 0.9, A = 0.12 ACRES

- PROPOSED HARD SURFACE: C = 0.9, A = 0.13 ACRES

- OPEN AREA: C = 0.3, A = 0.11 ACRES

$$\Sigma CA = (0.90 \times (0.12 + 0.13)) + (0.30 \times 0.11)$$

$$\Sigma CA = 0.258$$

RATIONAL METHOD

$$Q = (0.258)(6.20)$$

$$Q = 1.60 \text{ CFS}$$

Q = 1.60 CFS, THIS WOULD REQUIRE 8" PIPE @ 2% SLOPE

OIL/WATER SEPARATOR SIZING**TREATMENT FLOW RATE REQUIRED (TFR)**

$$TFR = A \cdot R \cdot D \cdot 0.104$$

$$\text{AREA (A)} = 0.13 \text{ AC} = 5663 \text{ FT}^2$$

$$\text{RAINFALL (R)} = 1.96 \text{ IN}$$

(BASED ON A 10-YEAR STORM, 60 MIN DURATION PER NOAA ATLAS 14, VOLUME 2, VERSION 3)

$$TFR = (5663 \text{ FT}^2)(1.96 \text{ IN})(0.104) = 116 \text{ GPM}$$

200 GPM OIL/WATER SEPARATOR REQUIRED

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Phone: (260) 267-7414
Email: larradine@mssengineer.com
Terry A. McDaniel, PE

PROJECT LOCATION:
20061 DICE ST
SOUTH BEND, IN

PROJECT NAME:
PARKING LOT
EXPANSION LEAN-TO
PERMITTING

DRAWING TITLE:
DRAINAGE CALCS

REVISIONS:

NO	DATE	DESCRIPTION	BY

JOB NUMBER:
24 148 195

DRAWN
BY: GAC

ENGINEERED
BY: MJG

START DATE: 08/01/24

PROGRESS DATE: 11/07/24

CERTIFIED DATE:

SCALE:

PAGE NUMBER:

008 of 015 SHEETS REV.

EXISTING RETENTION POND VOLUME CALCULATION

AT EACH ELEVATION FOR THE EXISTING RETENTION POND, THE SQUARE FOOTAGE AREA WAS CALCULATED AND ASSUMED FOR A 1' DEPTH EXCEPT THE LOWEST ELEVATION POINT 750, WHICH WAS ASSUMED AT 0.5' DEPTH.

EL. 754: AREA = 17,802 FT² * (1 FT) = 17,802 FT³

EL. 753: AREA = 13,342 FT² * (1 FT) = 13,342 FT³

EL. 752: AREA = 10,187 FT² * (1 FT) = 10,187 FT³

EL. 751: AREA = 6,976 FT² * (1 FT) = 6,976 FT³

EL. 750: AREA = 3,084 FT² * (0.5 FT) = 1,542 FT³

THE TOTAL VOLUME SUM = 49,849 FT³

AT DESIGN HIGH WATER LEVEL 751.50, THE TOTAL VOLUME SUM = 26,572 FT³ = 0.61 ACRE-FT

WATER LINE SIZING CALCULATIONS

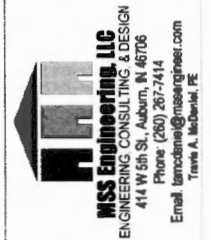
WATER SUPPLY FIXTURE DEMAND (IN WSFU) = 88

MINIMUM DAILY STATIC SERVICE PRESSURE AVAILABLE (ASSUMED) = 35 PSI

MAXIMUM DEVELOPED LENGTH OF PIPE: WATER MAIN TO FURTHEST FIXTURE = 455 FT

MINIMUM SERVICE PIPE SIZE = 1 1/2" Ø

MINIMUM DISTRIBUTION PIPE SIZE = 2" Ø



PROJECT LOCATION:
20051 DICE ST
SOUTH BEND, IN

PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
PERMITTING

DRAWING TITLE:
DRAINAGE CALCS
(CONT.)

REVISIONS:
NO. DATE DESCRIPTION BY

JOB NUMBER:
24 148 195

DRAWN BY: GAC ENGINEERED BY: MUG

START DATE: 09/01/24

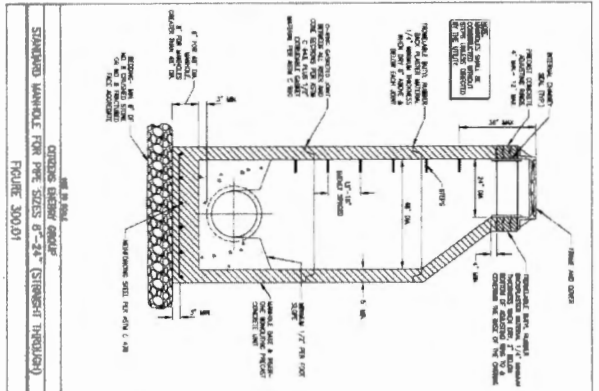
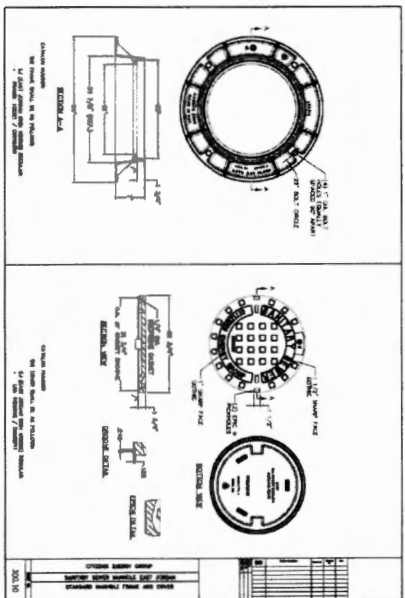
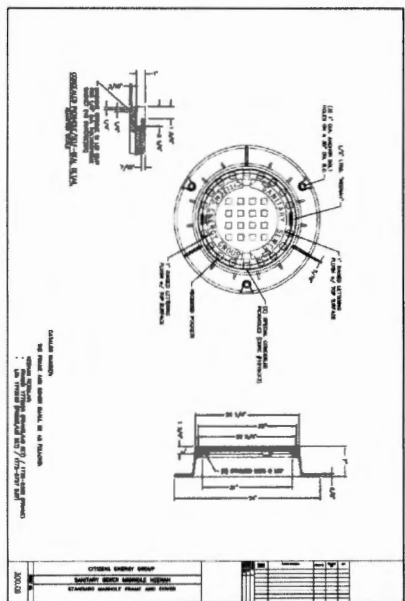
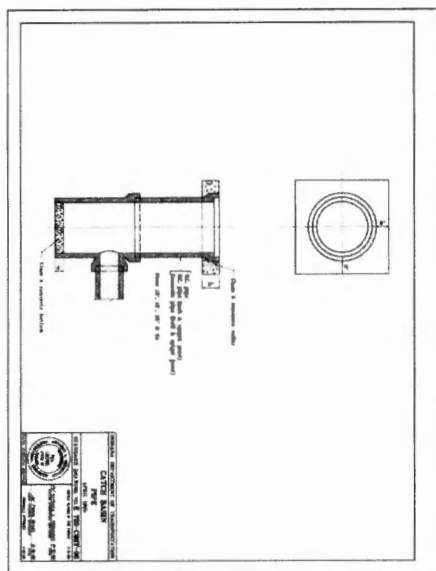
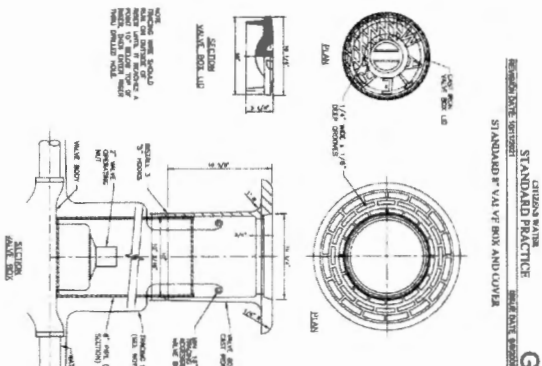
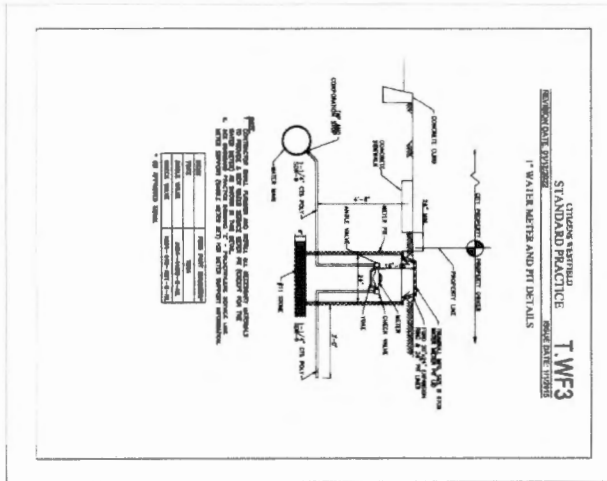
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C09 OF C15 SHEETS REV.



PROJECT NAME:
PARKING LOT
EXPANSION, LEAN-TO
PERMITTING

DRAWING TITLE:
UTILITY DETAILS

PROJECT LOCATION:
20081 DICE ST
SOUTH BEND, IN

CLIENT NAME:
MSS Engineering, LLC

REVISIONS:

NO.	DATE	DESCRIPTION	BY
1			

DATE: 11/07/24

BY: M.G.

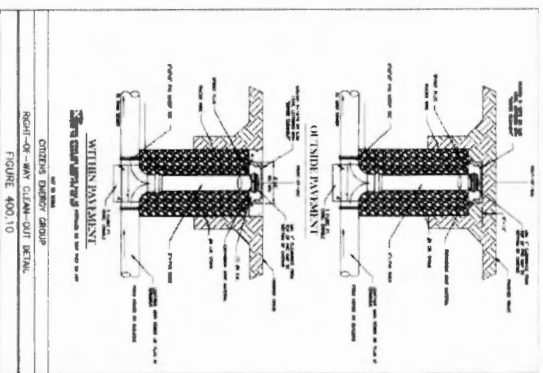
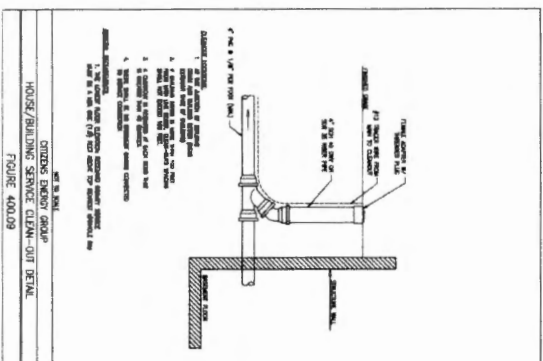
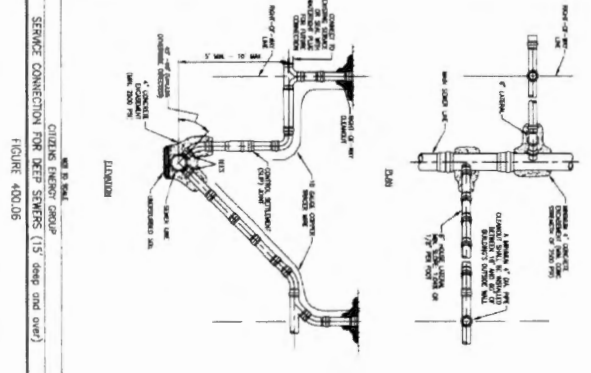
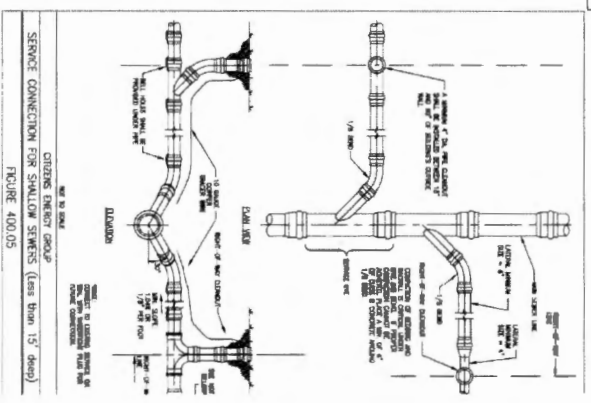
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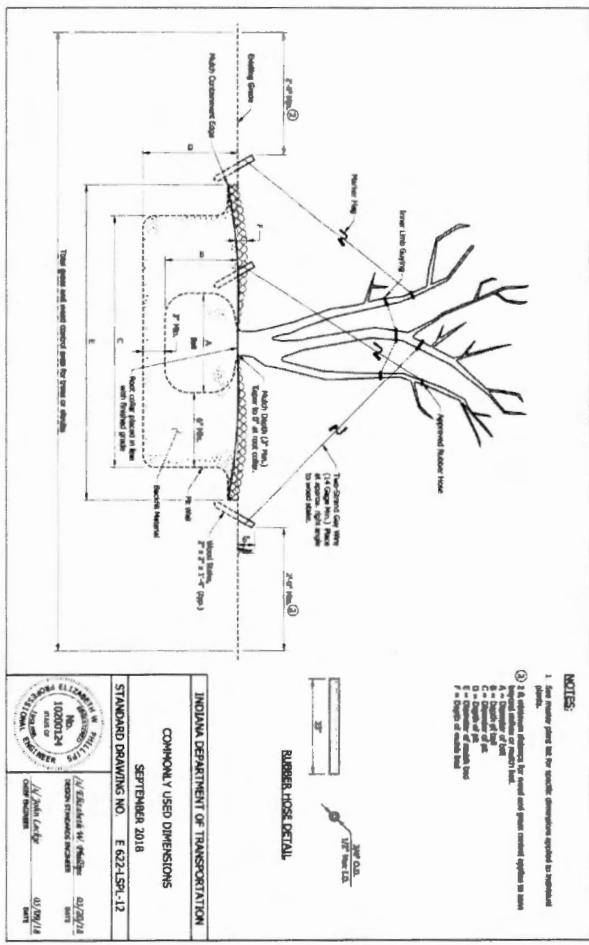
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JOB NUMBER: 24148.156		PROJECT NAME: PARKING LOT EXPANSION, LEAN-TO PERMITTING		PROJECT LOCATION: 20061 DICE ST. SOUTH BEND, IN									
DRAWN BY: GNC ENGINEERED BY: MJC		DRAWING TITLE: CONSTRUCTION DETAILS		 MSS Engineering, LLC ENGINEERING, CONSULTING & DESIGN 414 W 5th St., Auburn, IN 46706 Phone: (260) 267-7414 Email: tamcdaniel@mssengineer.com Travis A. McDaniel, PE									
START DATE: 08/01/24 PROGRESS DATE: 11/07/24		REVISIONS: <table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Description</th> <th>By</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				No.	Date	Description	By				
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PROJECT NAME: PARKING LOT EXPANSION, LEAN-TO PERMITTING		PROJECT LOCATION: 20061 DICE ST. SOUTH BEND, IN	
DRAWING TITLE: DRAWING DETAILS		REVISIONS: NO. DATE DESCRIPTION BY	
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