PLAN COMMISSION STAFF REPORT

To:	Members of the Board of Zoning Appeals
From:	Sergio Mendoza, Planning Director
Meeting Date:	December 10, 2024
Agenda Item:	PC 24-012
Application Type:	Development Plan
Hearing:	Public Hearing
Summary:	Tony Gierczyk with E. Anthony Inc., for ONSI (Orthopedic Specialists of Northwest Indiana) is requesting a Development Plan approval for the exterior renovation of a 10,000 SF church building into a medical office facility, including site improvements to the parking lot, landscaping, and stormwater detention. The proposed Development Plan is a scale back of the a previously approved Development Plan at 9900 Columbia Avenue. PC 23-029 - January 09, 2023).

Applicant:	Tony Gierczyk with E. Anthony Inc., for OSNI (Orthopedic Specialist of Northwest Indiana)
Property Address:	9900 Columbia Avenue
Current Zoning:	CD-4B General Urban-B Character District
Adjacent Zoning:	North: CD-4B General Urban-B Character District South: SD-PUD Planned Unit Development Special District East: CD-4B General Urban-B Character District West: CD-4B General Urban-B Character District
Action Requested:	Petitioner is seeking Approval of proposed Developmental Plan
Actions Required:	Review of Development Plan compliance and Approved BZA Variances

Attachments:

1. Application - page 8
2. Alta Survey - page 15
3. Architecture Plans - page 16
4. Landscape Plan – Page 20
5. Lighting Plan - page 21-22
6. Civil Plan - page 29
7. Signage Plan update - page 45
8. Lighting Plan update - page 46

PROJECT SITE

Image 1 Subject Property.

PROJECT BRIEFING

Tony Gierczyk with E. Anthony Inc., for ONSI (Orthopedic Specialists of Northwest Indiana) is. is representing OSNI (Orthopedic Specialist of Northwest Indiana) Dyer & Associates, LLC (Sunil Dedhia, MD). OSNI has interest in the renovation of 9900 Colombia Avenue, the current home of The Gate Church (see Image 1).

The proposed renovation and expansion are planned for in two phases. In phase 1 OSNI is proposing to renovate the existing 9,844 SF religious use structure into a medical and office facility, expand the existing parking facility to accommodate 63 parking spaces, including four ADA parking spaces; from the required 46 parking spaces, including 3 ADA parking spaces (Medical = 5.7 per 1,000SF floor area). Other site improvements include a half-acre off-site detention area to manage 58% lot coverage runoff (2.69 acres/ 1.57 acre impervious).

OSNI plans to accomplish the proposed renovation and site improvements through compliance with the character based zoning code and granted Developmental Standards Variances approvals for building setback, parking locations, screening, entrance location, and sidewalk requirement.

PROPOSED SITE PLAN

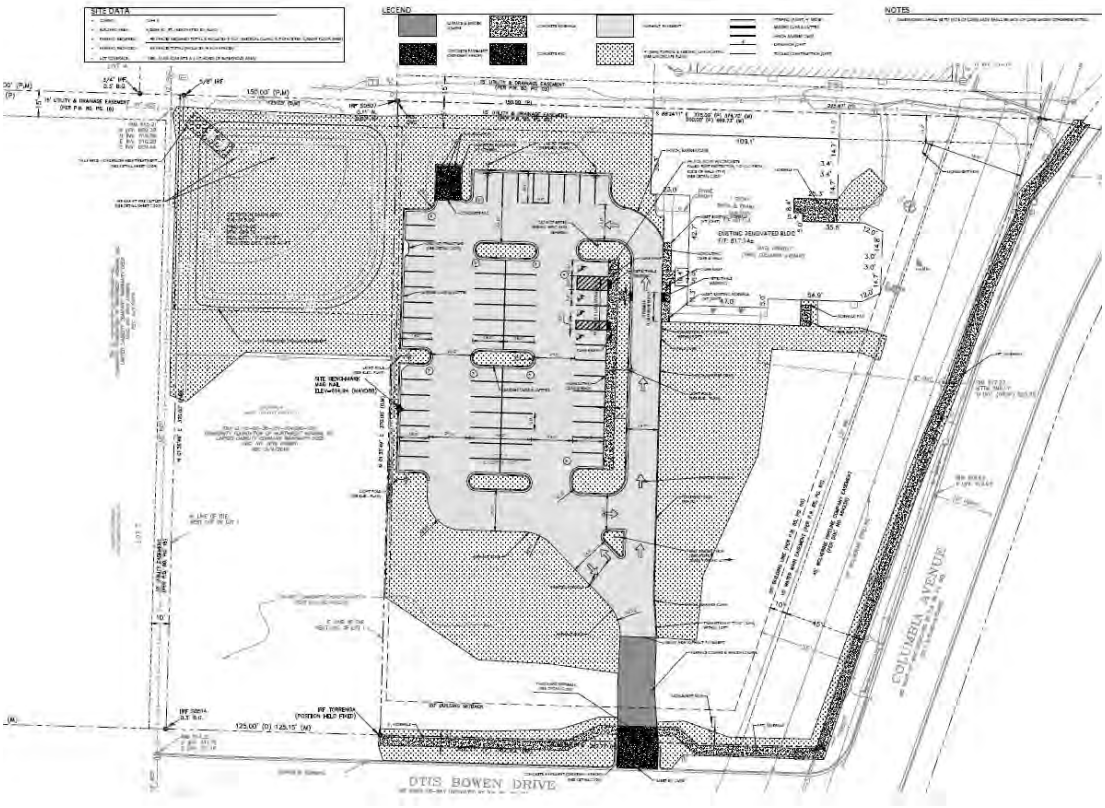


Image 2 Proposed Site Improvements.

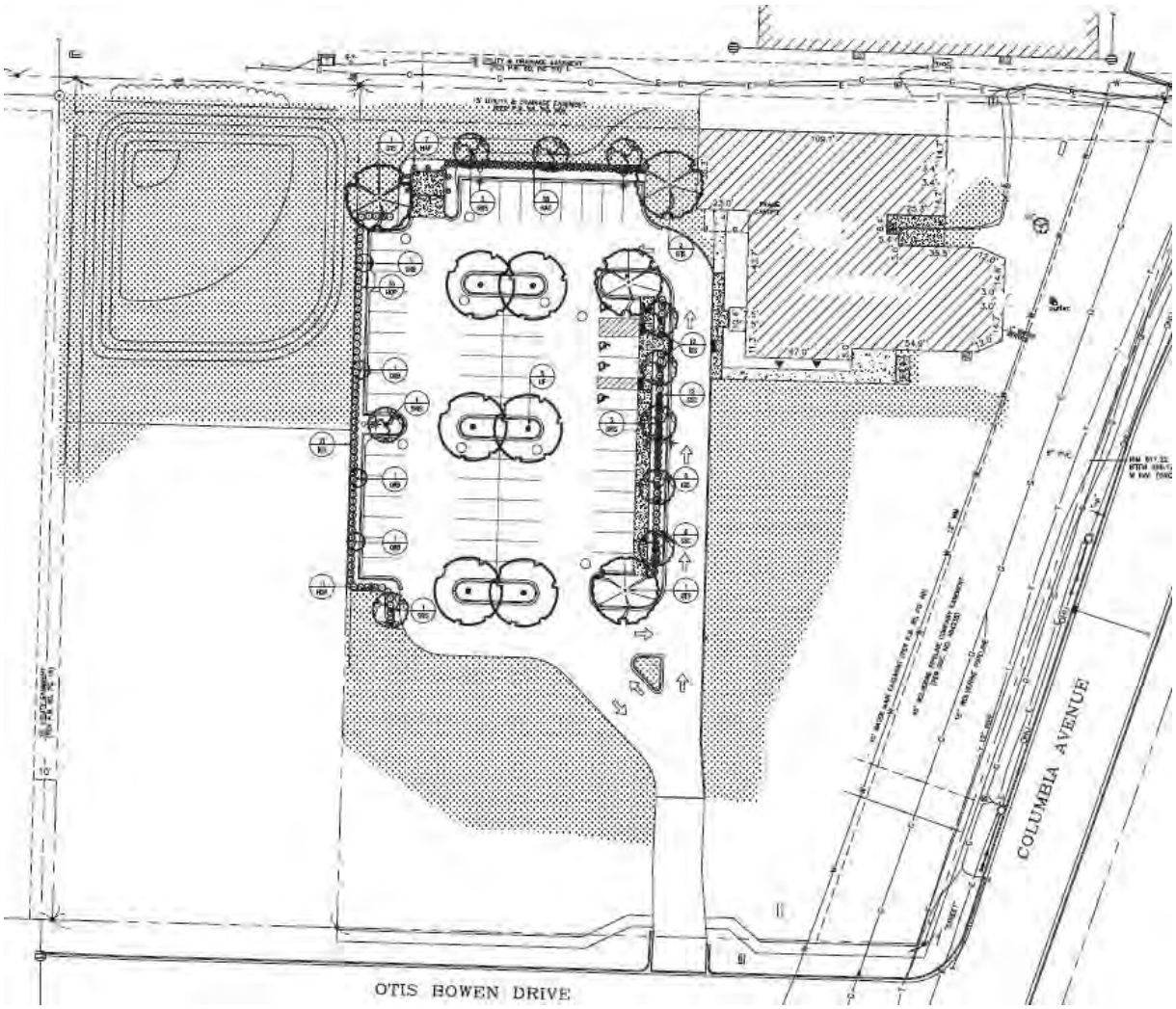


Image 2 Proposed Landscape.

The Munster Character Based Zoning codes from which the petition has received variances from are:

1.) 26-6.405. A-7 DISTRICT STANDARDS, Setbacks-Principal Building, Principal frontage and Secondary Frontage
2.) 26.6.405. A-7 DISTRICT STANDARDS, Building Standards (continued) Entrances
3.) 26-6.405. A-7 DISTRICT STANDARDS, Vehicular Parking Requirements, Off-street Parking Location
4.) 26.6.405. A-7 DISTRICT STANDARDS, Screens, Types of Screens (Enhanced Hedge), Specific Standards (Where Screen is Required and Permitted Screen Type)
5.) 26-6.405. S. 2. DISTRICT STANDARDS, Streetscape Repairs, Replacement & Improvements

DEVELOPMENT PLAN STANDARDS REQUIREMENTS.

SECTION 26-6.804. G. 5. Applicability; Types of Site Plans. *(MZC pg. 382)*

a. In all Zoning Districts other than Districts CD-3, CD-3.R1, CD-3.R2, and CD-3.R3, Site Plan approval from either the Plan Commission or the Zoning Administrator, as applicable under paragraph i or ii below, must be obtained:

i. from the Plan Commission prior to any of the following and for any plan or proposal pursuant to which any of the following is to be erected, Developed, re-Developed, Improved, Substantially Modified, or occur:

I. a Structure other than a Single-Family Detached Dwelling or Two-Family Detached Dwelling;

II. a Parking Area or Parking Lot;

V. any Use of vacant land;

VIII. a change in Use that will affect the characteristics or impact to the site or the Town with respect to traffic, access, drainage, utilities, or Town services, as determined by the Planning Director;

IX. Facade improvements for which a Building Permit is required and which affect greater than fifty percent (50%) of any street-facing Facade, excluding Ordinary Maintenance and Repair;

ii. from the Zoning Administrator prior to any of the following and for any plan or proposal pursuant to which any of the following is to be erected, Developed, re-Developed, Improved, modified, or occur:

I. any change of Use of any part of an existing Building other than a change of Use described in Section 26-6.804.G.5.a.i; or

II. any Alteration or modification to a parcel of land, such as changes to parking layout, Driveways, landscaped areas, Screening, Wall, or fences, or public walkways other than those described in Sections 26-6.804.G.5.a.i.; or

III. any modification to a Building or other Structure other than Ordinary Maintenance or Repair or a Substantial Modification.

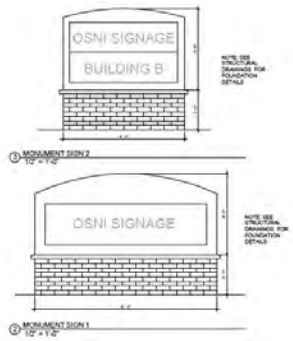
STAFF FINDINGS and RECOMMENDATION

In review of the Development Plan Application and supporting documents staff is requesting additional information regarding the lighting plan to include pole detail and head type. As well as proposed sign package. The applicant has submitted additional information regarding site lighting plan and monument signage.

Staff is unclear if the monument sign plan is current because the plans identify an expanded parking lot and future phase 2 of a building. The applicant should provide clarification on the monument plan submitted, one or two monument signs. The monument sign specs submitted appear to meet the zoning standards of 6’ H max and 18 SF sign area. Sign material has not been identified and may require a Developmental Standards Variance upon review of a submitted sign permit application.

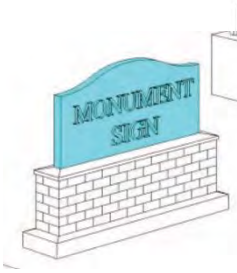
In addition, wall signage will need clarification regarding quantity, size, and material. Additional information may require a Developmental Standards Variance upon review of a submitted sign permit application. More particularly where internal lit logo over existing cross is referenced.

Proposed Monument Sign(s)



	PERMITTED	PROVIDED
QUANTITY	1 PER/FRONTAGE 2 TOTAL	2 PROVIDED
HEIGHT	6 FT MAX	6 FT
AREA	18 SF	18 SF

Monument Sign Code



Dimensions	
Quantity (max)	1 per Frontage
Area (max)	18 sf
Height (max)	6 ft, including the base
Letter Height	max 12 in.

Additional Standards

In addition to all other applicable standards, each Monument Sign allowed under this Article:

a. shall be located within the 1st Lot Layer and shall be set back at least 10 feet from the public right-of-way;

b. shall incorporate a supporting base that is at least 100% of the width of the Sign face at its widest point;

c. shall have a supporting base constructed of authentic brick or stone of the same type, color, and scale or that used in the associated Building;

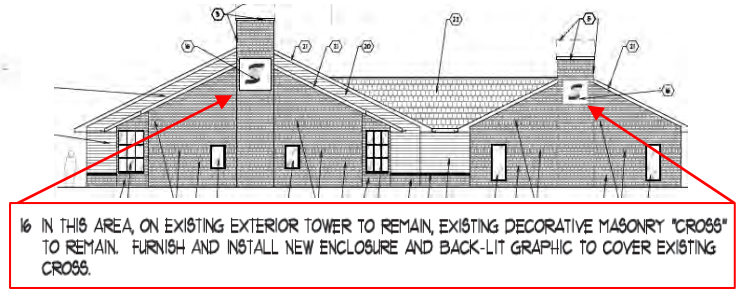
d. shall have a Sign face made of authentic brick, stone, or solid metal or wood, with lettering, logo or branding made of solid metal or channel lettering;

d. shall have a landscaped area composed of shrubs, flowers and planted groundcover that extends at least 3 feet beyond the supporting base of the Sign on all sides; and

e. shall not be allowed if there is a Post Sign on the Lot.

Proposed Wall Signs

	PERMITTED	PROVIDED
QUANTITY	1 PER/FACADE 4 TOTAL	3 PROVIDED
AREA	1.5 SF / LINEAL FT FACADE	
	NORTH FACADE: 164 SF	-
	WEST FACADE: 150 SF	32 SF
	SOUTH FACADE: 169 SF	48 SF
	EAST FACADE: 142 SF	37 SF



Wall Sign Code

Dimensions	
Quantity (max)	1 per Facade or 1 per first floor business Frontage if multi-tenant Building
Area	1.5 sf per linear ft of Facade or business Frontage
Width	max 100% width of Facade
Depth / Projection	max 7 in
Clearance	min 7 ft

Facade: the exterior Wall of a Building that is set along a Frontage Line, excluding any Garage or other parking accommodations. *See* "Elevation". *See* **Illustration 26-6.901.F-1 (Facade).**

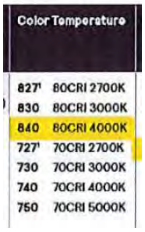
Frontage Line: the common line that separates the Private Frontage from the Public Frontage, typically at the Front Lot Line in cases where the entire Public Frontage is with the public right-of-way. *See* **Illustration 26-6.405.G-2 (Frontages and Lot Lines).** On a Corner Lot, there are two Frontage Lines.

Front Lot Line: the boundary at the front of a Lot along the Thoroughfare right-of-way or Drive Aisle, as applicable. *See* **Illustration 26-6.901.F-5 (Front Lot Line).**

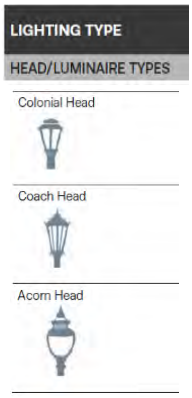
In addition, staff has noted that the proposed light head type, color temperature and overall height do not comply with the zoning code standards. The proposed light heads are cobra style and not colonial, coach, or acorn style. The overall height is 23' and the required height is 20'. The color temperature is 4000K and code requires 3000K. The applicant will need to seek approvals through Developmental Standards Variances or comply with the town zoning code.

Staff recommends compliance with the Munster Character Based Zoning Code or see approval from the Board of Zoning Appeals to vary from the proposed lighting code.

Proposed Lighting



Lighting Code



2. Lighting Standards or Poles.

a. Lighting standards shall comply with **Table 26-6.405.Q-1 (Private Lighting Types)**.

b. A lighting standard shall be of a height and design consistent with the surrounding area Buildings but in no event higher than twenty feet (20').

c. Standards shall be located at distances of four times their height.

3. Illumination.

a. Illumination of Parking Areas, Parking Lots, Parking Structures, and all pedestrian ways shall be provided at an average of 1.0-2.5 foot-candles and a minimum of 0.4 foot-candles.

b. Illumination at all Lot Lines shall meet the standard of **Table 26-6.405.Q-2 (Private Lighting Standards)**.

TABLE 26-6.405.Q-2 (PRIVATE LIGHTING STANDARDS)

District	Min/Max Lighting Level at Property and Frontage Lines (in foot-candles)
CD-3, CD-3.R1, CD-3.R2, CD-3.R3	0 fc @ property line Adjacent to CD-3, CD-3.R1, CD-3.R2, CD-3.R3 Otherwise, 0-1.0 fc
CD-4.R4, CD-4.A & CD-4.B, CD-5 & SD-M	0 fc @ property line Adjacent to CD-3, CD-3.R1, CD-3.R2, CD-3.R3 Otherwise, 1.0-2.0 fc
SD-PUD	Per PUD Approved Standards

c. Color temperature of lighting shall not exceed 3000K.

MOTION

The Plan Commission may consider the following motion:

Motion to APPROVE PC 24-012 Development Plan for 9900 Columbia Avenue with the condition that all lighting specs and signage comply with the character based zoning code, including all discussion and findings.

Petition PC 24 - 012
Date:
Application Fee: $
Sign Fee: $

Town of Munster *Plan Commission Petition Application*

OWNER INFORMATION:

Orthopaedic Specialists of Northwest Indiana LLC — 219-924-3300
Name of Owner — Phone Number

730 45th St. Munster, IN 46321 — lwerth@osni.org
Street address, City, ST, ZIP Code — Email address

APPLICANT OR PETITIONER INFORMATION (if different than above):

Edward A. Gierczyk — 708-802-8230
Name of Applicant/Petitioner — Phone Number

E. Anthony Inc. — cag@eanthonyinc.com
19521 Spring Creek Dr, Unit F
Tinley Park, IL 60477
Street address, City, ST, ZIP Code — Email address

PROPERTY INFORMATION:

Business or Development Name (if applicable)
Orthopaedic Specialists of Northwest Indiana — CD4-B
Address of Property or Legal Description — Current Zoning
9900 Columbia Ave.

APPLICATION INFORMATION:

Please select what this Application is for:

☐ **Subdivision** If yes, select one of the following: ☐ **Preliminary Plat** ☐ **Final Plat**

☑ **Development Plan Review**

☐ **Rezoning (including Planned Unit Development) – Proposed Zoning District**

Brief Description of Project:
Review of Revised Project Scope Previously Approved.
Scope of Development was Reduced to Current Requirements due to Owner's Revised Needs for the Facility at this Time. - Refer to Attached Site & Architectural Plans for Review.

Ridgeland Associates / Zenon Kurdziel — 708-435-0300
Name of Registered Engineer, Architect or Land Surveyor — Phone Number

1 Riverside Dr., Riverside, IL. — Zenon@Ridgelandassociates.com
Street address, City, ST, ZIP Code — Email address

Petition PC 24 - 012

Town of Munster *Plan Commission Application Signature Page*

I hereby authorize E. Anthony Inc. Edward Grenczyk to act on my behalf as my agent in this petition and to furnish, upon request, supplemental information in support of this petition application.

Signature of Owner — Date 8/30/24

Signature of Applicant — E. Anthony Inc. — Date 8/30/24

REQUIRED ATTACHMENTS

Required Attachments for Plan Commission Applications

To ensure that adequate information is provided to the Plan Commission, please check off each of these items and provide documentation to the Community Development Department at the time of submittal of the application.

ALL APPLICATIONS	Included	N/A
Narrative statement describing project	✓	
Property owner consent (Signature page)	✓	
Proof of Ownership (e.g. copy of tax bill)		✓
Current ALTA Survey		✓
Vicinity Plan (A dimensioned drawing to scale of the planned building(s)/improvements in the context of the surrounding properties, including existing buildings and driveways at least one block in every direction)		✓

The following pages list the additional attachments required for specific applications. Please refer to your type of petition request and provide the additional required attachments.

SUBDIVISION - PRELIMINARY PLAT	Included	N/A
Single-Family Residential Subdivision		✓
Preliminary Plat		✓
Engineering Plans		✓
Storm Water Report		✓
Commercial or Multi-Family Residential Subdivision		
Preliminary Plat		✓
Engineering Plans		✓
Storm Water Reports		✓
Preliminary Development Plan containing:		✓
Boundary identification		✓
Fire hydrant locations		✓
Accessory structures		✓
Parking lot design		✓
Utility location		✓
Building footprints		✓
Proposed curb cuts		✓
Drainage/detention plans		✓
Traffic circulation		✓
Ingress/egress locations		✓
Major topographic information		✓
Infrastructure improvements		✓

SUBDIVISION - FINAL PLAT	Included	N/A
Final Plat	✓	
Engineering Plans	✓	
Stormwater report	✓	
Special Studies as required – see Site Plan Review Committee minutes		✓

REZONING (including PLANNED UNIT DEVELOPMENT amendments)	Included	N/A
Preliminary Development Plan containing at a minimum:		✓
Boundary Identification		✓
Fire hydrant locations		✓
Accessory structures		✓
Parking lot design		✓
Utility location		✓
Building footprints		✓
Proposed curb cuts		✓
Drainage/detention plans		✓
Traffic circulation		✓
Ingress/egress locations		✓
Major topographic information		✓
Proposed Use table		✓
Stormwater report		✓
Special Studies as Required– see Site Plan Review Committee minutes		✓

DEVELOPMENT PLAN	Included	N/A
Detailed Site plan including:	✓	
Boundary identification	✓	
Fire hydrant locations	✓	
Accessory structures	✓	
Parking lot design	✓	
Utility location	✓	
Building footprints	✓	
Proposed curb cuts None Required	NA	✓
Drainage/detention plans	✓	
Traffic circulation	✓	
Ingress/egress locations	✓	
Major topographic information	✓	
Infrastructure improvements	✓	
Square footage of:	✓	
Lot or parcel	✓	
Existing impervious surface	✓	
Proposed total impervious (existing plus current proposal)	✓	
Existing building	✓	
Proposed total building (existing plus current proposal)	✓	

Existing parking and pavement	✓	
Proposed total parking and pavement (existing plus current proposal)	✓	
Relevant dimensions including:	✓	
Buildings	✓	
Parking stalls	✓	
Driveway widths	✓	
Setbacks to buildings and other improvements	✓	
Parking lot aisles, turnarounds, turning radii, etc.	✓	
Distance from driveway to street corner if less than 200'	✓	
Sidewalk, walkway and handicap ramp widths and locations	✓	
Widths of abutting R.O.W.'s, roadways, and terraces.	✓	
Full color architectural renderings of all building elevations with materials identified	✓	
Proposed lighting for site, including:	✓	
Photometric Plan	✓	
Location of all light fixtures	✓	
Pole height	✓	
Luminaire type and manufacturer's specifications for all exterior light fixtures	✓	
Landscaping plan drawn to scale including:	✓	
Common and Latin plant names	✓	
Planting specifications	✓	
Total number of trees provided	✓	
Total square footage of landscaped area on site and internal to the parking lot	✓	
Identification of area used to calculate internal parking lot landscaping	✓	
Fence detail drawing		✓
Dumpster enclosure detail drawing	✓	
Sign detail drawing	✓	
Special studies as required– see Site Plan Review Committee minutes		✓

NOTE: If you checked any exhibits "N/A", please explain:

ALL ITEMS N/A – SITE WORK PREVIOUSLY APPROVED
INSTALLATION AS PER APPROVED CIVIL ENGINEERING

Town of Munster

Legal Notice

PLAN COMMISSION PETITION NO. _____-_____

N/A

A petition to _____ [*rezone* or *subdivide*] property in conformance with the Town of Munster Zoning Ordinance, has been filed by _____. [*Name of Petitioner]*

Notice is hereby given that the Town of Munster, Lake County, Indiana, will hold a public hearing in the Munster Town Hall, 1005 Ridge Road, at 7:30 p.m. on _____, 20____, to consider the petition filed.

The petitioner is requesting [*a change in zoning from* _____ *[Current Zoning] to* _____, *(Proposed Zoning) in the area bounded by* or *to subvide property at*]

_____

Common Address and/or Description

_____

Name of Subdivision

consisting of _____acres, located and legally described as follows:

_____

_____

_____

_____

_____

Anyone interested in the Petition may appear in person or by agent at the public hearing. Written objections filed with the Plan Commission Executive Secretary, Sergio Mendoza, by 4pm of the day the public hearing is to be heard. The public hearing may be continued from time to time as may be found necessary. All information concerning such petition (application) is on file in the Community Development Office, 1005 Ridge Road, Munster, Indiana, 46321, for public examination.

Sergio Mendoza, Executive Secretary

E. ANTHONY, INC.
Complete Construction Services

18521 Spring Creek Drive, Unit F
Tinley Park, IL 60477
708.802.8230
eanthonyinc.com

LETTER of TRANSMITTAL

Date:	**09/03/2024**	**Project:**	Orthopedic Specialists of Northwest Indiana (OSNI) 9900 Columbia Avenue Munster, Indiana 46321
EAI #:	**224-002**		

To: Town of Munster
1005 Ridge Road
Munster, Indiana 46321

Attn: Denise Core

Re: Plan Commission Appearance Application – OSNI – Orthopedic Specialists of Northwest Indiana – 9900 Columbia Avenue

We Are Sending: ☑ Attached ☐ Via E-Mail: ☐ To E-Mail Address: ☐ Via Electronic Transfer ☐ Via Fax

The Following Items: ☐ Shop Drawings ☐ Submittals ☑ Prints / Plans ☐ As-Built Documents ☐ Samples ☐ Specifications ☐ Correspondence ☐ Guarantee ☐ Contract ☐ Change Order ☐ Invoice ☐ Other (see below)

Copies	Date	Rev./No.	Description
2	07/12/24		ALTA/NSPS LAND TITLE SURVEY
2	08/30/24		CIVIL ENGINEERING DRAWINGS
2	07/12/24		LANDSCAPE PLAN
2	08/13/24		FOR PERMIT ARCHITECTURAL DRAWINGS – A1.0, A2.0, A3.0, A4.0
2	08/05/24		SITE LIGHTING SITE PLAN ES101
2	08/05/24		PHOTOMETRIC SITE PLAN ES102
2	03/11/24		TRASH ENCLOSURE DETAILS

These are Transmitted (as checked below):

☑ For your use ☐ As Requested ☑ For Approval ☐ For Review & Comment
☐ For your ☐ Reviewed (no comments) ☐ Reviewed as Noted ☐ Revise & Resubmit

☐ FOR BIDS DUE: _____ ☐ RETURN PRINTS AFTER BID ☐ Other Sign & Return

Remarks:

Copies To: File

Signed: Marc W. Smith
Marc W. Smith

If enclosures are not as noted, please notify us upon receipt.

ALTA/NSPS LAND TITLE SURVEY

PARCEL DESCRIPTION (PER EXHIBIT "A" IN TITLE COMMITMENT REFERENCED HEREON):

LOT 1, EXCEPT THE WEST 125 FEET THEREOF, IN CALVARY COMMUNITY CHURCH ADDITION TO THE TOWN OF MUNSTER, AS PER PLAT THEREOF, RECORDED IN PLAT BOOK 85 PAGE 60, IN THE OFFICE OF THE RECORDER OF LAKE COUNTY, INDIANA.

SUBJECT PARCEL INFORMATION:

TAX ID. 45-06-36-276-003.000-027
OWNER: THE GATE CHURCH, INC.
QUIT CLAIM DEED
DOCUMENT NO. 2014 003540
REC. 1/17/2014

PARCEL AREA:

117,062 SQ. FT±
2.69 ACRES±

ALTA/NSPS OPTIONAL TABLE "A" SURVEY RESPONSIBILITIES AND SPECIFICATIONS ITEM NOTES:

ITEM 1: MONUMENTS SET OR FOUND ARE SHOWN HEREON.

ITEM 2: ADDRESS SHOWN HEREON IS PER THE LAKE COUNTY AUDITOR'S RECORDS AND SHOWN ON THE RECORDED SUBDIVISION PLAT.

ITEM 3: FLOOD ZONE DESIGNATION: THE ACCURACY OF ANY FLOOD HAZARD DATA SHOWN ON THIS PLAT IS SUBJECT TO MAP SCALE UNCERTAINTY AND TO ANY OTHER UNCERTAINTY IN LOCATION OR ELEVATION ON THE FLOOD INSURANCE RATE MAP, (FIRM). THE SUBJECT PARCEL DESCRIBED IN THE PARCEL DESCRIPTION SHOWN HEREON APPEARS TO LIE WITHIN THAT FLOOD HAZARD ZONE "X" (SHADED) AREAS DETERMINED TO BE INSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SAID SUBJECT PARCEL PLOTS BY SCALE ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF MUNSTER, LAKE COUNTY, INDIANA, COMMUNITY NUMBER 180139, PANEL NO. 18089C0117E. MAP EFFECTIVE DATE: JANUARY 18, 2012.

ITEM 4: LAND AREA IS SHOWN HEREON.

ITEM 5: VERTICAL RELIEF- ELEVATIONS AND THE RESULTING CONTOURS (1-FOOT INTERVAL UNLESS OTHERWISE SPECIFIED) SHOWN HEREON WERE MEASURED ON THE GROUND THIS SURVEY AND ARE REFERENCED TO A STATEWIDE GNSS REFERENCE STATION NETWORK KNOWN AS INCORS WHICH IS MAINTAINED BY THE INDIANA DEPARTMENT OF TRANSPORTATION USING THE NORTH AMERICAN VERTICAL DATUM OF 1988.

ITEM 7(a): EXTERIOR DIMENSIONS OF ALL BUILDINGS AT GROUND LEVEL ARE SHOWN HEREON.

ITEM 8: SUBSTANTIAL VISIBLE FEATURES SUCH AS PARKING LOTS, BILLBOARDS, SIGNS, SWIMMING POOLS, LANDSCAPED AREAS, AND SUBSTANTIAL AREAS OF REFUSE (IF ANY) ARE SHOWN HEREON.

ITEM 9: STRIPING OF CLEARLY IDENTIFIABLE PARKING SPACES ON SURFACE PARKING AREAS AND LOTS, PARKING TYPES, AND THE NUMBER OF SPACES ARE SHOWN HEREON.
60 REGULAR PARKING SPACES WERE OBSERVED.

ITEM 11(a): LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY WAS DETERMINED BY OBSERVED EVIDENCE AND EVIDENCE FROM PLANS REQUESTED BY THE UTILITY COMPANIES OBTAINED FROM UTILITY COMPANIES OR PROVIDED BY CLIENT TO DEVELOP A VIEW OF UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY, AND RELIABLY DEPICTED. LOCATIONS OF UNDERGROUND UTILITIES/STRUCTURES MAY VARY FROM VISIBLE LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS OR PROBINGS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES, DRAINAGE TILES, UNDERGROUND DITCHES, FEEDERS OR LATERALS. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS SURVEY TO OBTAIN DATA CONCERNING SIZE, DEPTH, CONDITION, CAPACITY OF ANY UTILITIES LOCATED WITHIN THE SITE SURVEYED OR SERVING THE SITE, UNLESS SHOWN HEREON. A UTILITY LOCATE REQUEST WAS MADE FOR THE SITE (INDIANA 811, TICKET NO. 2306086148). IF ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, EXCAVATION AND/OR A PRIVATE UTILITY LOCATE REQUEST MAY BE NECESSARY.

ITEM 13: NAMES OF ADJOINING OWNERS ACCORDING TO PUBLIC RECORDS ARE SHOWN HEREON. PARCELS IDENTIFIED BY TITLE DESCRIPTION OR RECORD REFERENCES AS PER 865 IAC 1-12-13-(11) ARE OBTAINED FROM COUNTY AUDITOR'S OFFICE AND OR RECORDER'S OFFICE AND ARE NOT CERTIFIED. THE INFORMATION MAY OR MAY NOT REFERENCE THE MOST CURRENT DEED OF RECORD OR THE MOST CURRENT STATUS OR TITLE FOR THAT PARCEL.

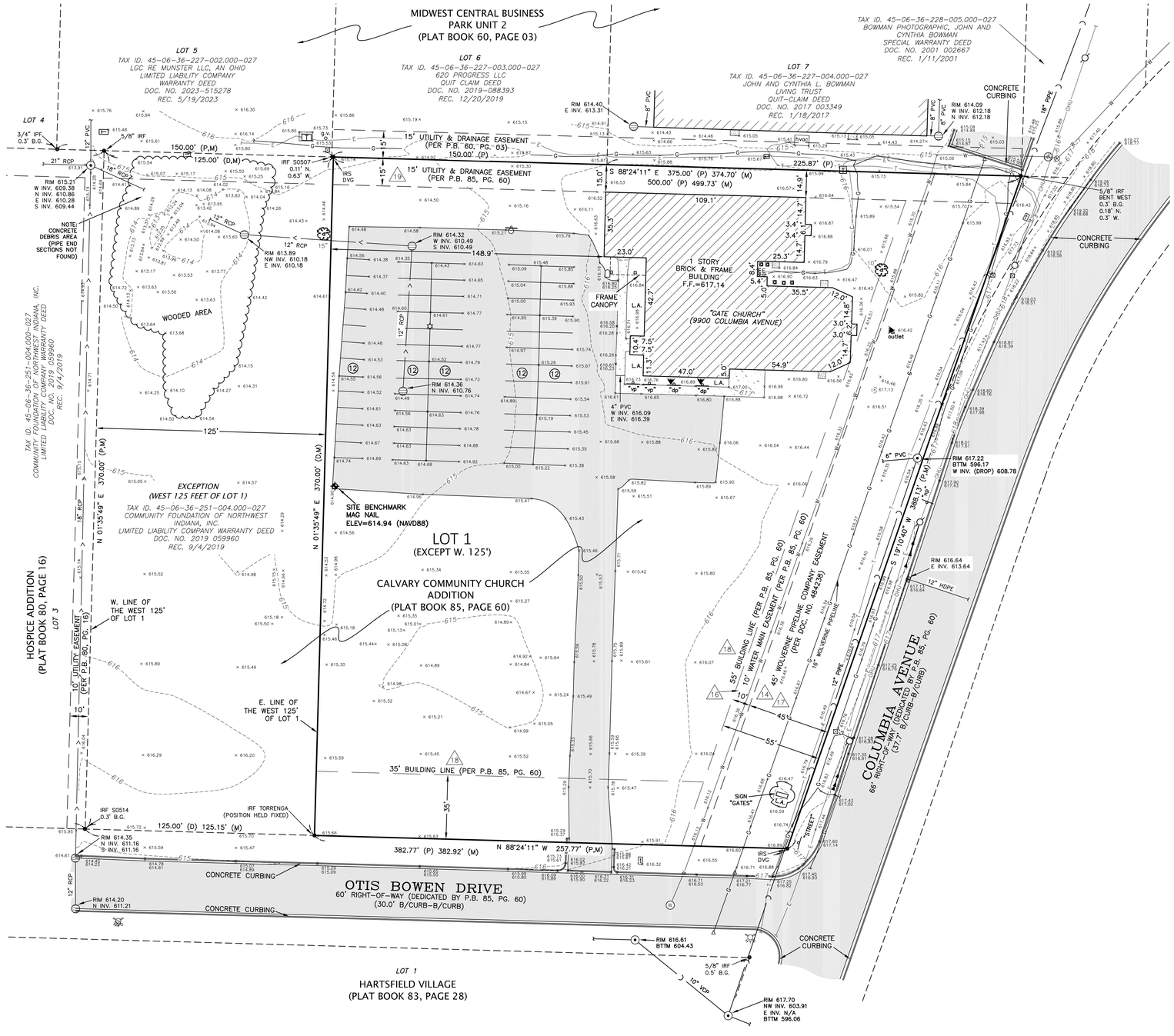
GENERAL NOTES:

1.) EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS PLAT, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE:
A) EASEMENTS, OTHER THAN THE POSSIBILITY OF EASEMENTS WHICH WERE VISIBLE BY PHYSICAL EVIDENCE AT THE TIME OF THIS SURVEY OR SHOWN BY DOCUMENT PROVIDED AND RECORD PLAT.
B) BUILDING SETBACK LINES, RESTRICTIVE COVENANTS, SUBDIVISION RESTRICTIONS, ZONING OR OTHER LAND-USE REGULATIONS, OTHER THAN THAT SHOWN ON THE RECORD PLAT.
C) OWNERSHIP OR TITLE.

2.) THIS SURVEY DOES NOT ADDRESS THE EXISTENCE, IF ANY, OF ITEMS THAT WOULD REQUIRE AN INTERPRETATION BY THE SURVEYOR, (I.E. COMPLIANCE WITH ALL ZONING REQUIREMENTS) EXISTENCE OF ITEMS BEYOND THE QUALIFICATION OF SURVEYOR (I.E. WETLANDS, HAZARDOUS MATERIAL) AND ITEMS NOT READILY VISIBLE DURING A REASONABLE INSPECTION OF SITE (PAST CEMETERIES, LANDFILLS, AND MINERAL RIGHTS).

3.) THIS SURVEY MAY NOT REFLECT ALL UTILITIES OR IMPROVEMENTS IF SUCH ITEMS ARE HIDDEN BY LANDSCAPING OR ARE OBSCURED BY SUCH ITEMS AS DUMPSTERS, TRAILERS, CARS, DIRT, PAVING OR SNOW. AT THE TIME OF THIS SURVEY, SNOW DID NOT COVER THE SITE. LAWN SPRINKLERS SYSTEMS, IF ANY, ARE NOT SHOWN ON THIS SURVEY.

4.) BASIS OF BEARINGS: THE MONUMENTED SOUTH LINE OF LOT 1 BEING N 88°24'11" W, PER THE RECORDED PLAT OF CALVARY COMMUNITY CHURCH ADDITION (SURVEY REFERENCE NUMBER 2 HEREON).



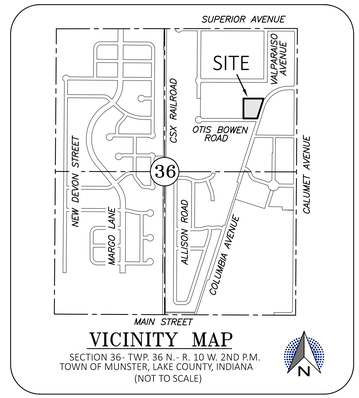
LEGEND

- LIGHT POLE
- BASKETBALL POLE
- TELEPHONE PEDESTAL
- MANHOLE
- CATCH BASIN
- CURB INLET
- ELECTRIC TRANSFORMER
- A/C UNIT
- SIGN
- CABLE TUB
- FIRE HYDRANT
- WATER VALVE
- WATER MANHOLE
- SITE BENCHMARK
- UTILITY POLE
- MAILBOX
- BLOCK COLUMN
- AREA LIGHT
- WOLVERINE PIPELINE MARKER
- NUMBER OF REGULAR PARKING SPACES
- GAS VALVE
- ELECTRIC OUTLET
- LANDSCAPE AREA
- GUY WIRES
- SCHEDULE B, PART 2 EXCEPTION ITEM PER TITLE COMMITMENT
- SUBJECT PARCEL BOUNDARY LINE
- PLATTED BUILDING SETBACK LINE
- PARCEL BOUNDARY LINE
- EASEMENT LINE
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND WATER
- UNDERGROUND TELECOMMUNICATIONS
- STORM SEWER WITH FLOW DIRECTION
- SANITARY SEWER WITH FLOW DIRECTION
- OVERHEAD UTILITY WIRES
- APPROXIMATE TREE LINE
- TREE WITH APPROXIMATE DIAMETER
- SPOT ELEVATION
- 1-FOOT CONTOUR
- ELECTRIC METER
- GAS METER
- ASPHALT AREA
- CONCRETE AREA

dp- DISABLED PARKING
np- NO PARKING
vp- VISITOR PARKING

F.F.- FINISHED FLOOR ELEVATION
A.G.- ABOVE GRADE
B.G.- BELOW GRADE
HDPE- HIGH DENSITY POLY-ETHYLENE
PVC- POLY-VINYL CHLORIDE PIPE
RCP- REINFORCED CONCRETE PIPE
VCP- VITRIFIED CLAY PIPE
BTTM- BOTTOM OF STRUCTURE
N/A- NOT ACCESSIBLE
INV.- INVERT
R/W- RIGHT OF WAY
P.B.- PLAT BOOK
PG.- PAGE
C- DIMENSION CALCULATED
M- DIMENSION MEASURED BETWEEN MONUMENTS
D- DIMENSION PER DEED DESCRIPTION

IRS DVG 5/8" REBAR SET WITH BLUE CAP STAMPED "DVG TEAM INC. FIRM NO. 0120"
IRF TORRENGA 5/8" REBAR FOUND WITH CAP STAMPED "TORRENGA" TORRENGA SURVEYING
IRF S0507 5/8" REBAR FOUND WITH CAP STAMPED "S0507" RICHARD HARDESTY, P.L.S.
IRF S0514 5/8" REBAR FOUND WITH CAP STAMPED "S0514" GARY TORRENGA, P.L.S.
IPF IRON PIPE FOUND
IRF IRON ROD FOUND



VICINITY MAP

SECTION 36- TWP. 36 N. - R. 10 W. 2ND P.M.
TOWN OF MUNSTER, LAKE COUNTY, INDIANA
(NOT TO SCALE)

TITLE COMMITMENT NOTES:

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS AND OTHER DOCUMENTS WHICH MIGHT AFFECT THE QUALITY OF TITLE TO PARCEL SHOWN HEREON WAS GAINED FROM AN ALTA COMMITMENT FOR TITLE INSURANCE, COMMITMENT NUMBER FNW2301358 ISSUED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, ON 5/25/2023. THE FOLLOWING SURVEY RELATED MATTERS CORRESPOND TO THE ITEMS NUMBERED IN SCHEDULE B, PART 2, EXCEPTIONS IN SAID COMMITMENT AND ARE ADDRESSED HEREON IN THE FOLLOWING MANNER:

ITEM 14 EASEMENT FOR PIPE LINE IN FAVOR OF WOLVERINE PIPE LINE COMPANY, DATED OCTOBER 7, 1969, RECORDED OCTOBER 9, 1969, AS DOCUMENT NO. 34699, AND RE-RECORDED AUGUST 10, 1978, AS DOCUMENT NO. 484238- AFFECTS SUBJECT PARCEL AND SHOWN HEREON.

ITEM 15 COVENANTS, CONDITIONS, AND RESTRICTIONS CONTAINED IN TRUSTEE'S DEED FROM MERCANTILE BANK OF INDIANA, AS TRUSTEE, UNDER THE PROVISIONS OF A TRUST AGREEMENT DATED OCTOBER 27, 1986, AND KNOWN AS TRUST NUMBER 4893, TO CALVARY ASSEMBLY OF GOD CHURCH OF MUNSTER, INDIANA, DATED MARCH 22, 1993, AND RECORDED APRIL 16, 1993, AS DOCUMENT NO. 93024189- AFFECTS SUBJECT PARCEL- NOT PLOTTABLE.

ITEM 16 10 FEET WATER MAIN EASEMENT OVER THE WEST 10 FEET OF THE EAST 55 FEET OF THE LAND AS SHOWN ON RECORDED PLAT OF SAID SUBDIVISION- AFFECTS SUBJECT PARCEL AND SHOWN HEREON.

ITEM 17 45 FEET WOLVERINE PIPELINE CO. EASEMENT OVER THE EAST 45 FEET OF THE LAND AS SHOWN ON RECORDED PLAT OF SAID SUBDIVISION- AFFECTS SUBJECT PARCEL AND SHOWN HEREON.

ITEM 18 BUILDING LINES OVER THE EAST 55 FEET AND THE SOUTH 35 FEET OF THE LAND AS SHOWN ON RECORDED PLAT OF SAID SUBDIVISION- AFFECTS SUBJECT PARCEL AND SHOWN HEREON.

ITEM 19 EASEMENT FOR UTILITIES AND DRAINAGE OVER THE NORTH 15 FEET OF THE LAND AS SHOWN ON RECORDED PLAT OF SAID SUBDIVISION- AFFECTS SUBJECT PARCEL AND SHOWN HEREON.

SURVEY REFERENCES:

1.) RECORD DEEDS REFERENCED HEREON.
2.) RECORDED SUBDIVISION PLAT OF "CALVARY COMMUNITY CHURCH ADDITION", RECORDED NOVEMBER 9, 1998 IN PLAT BOOK 85, PAGE 60 AS DOCUMENT NUMBER 98088805.
3.) RECORDED SUBDIVISION PLAT OF "HOSPICE ADDITION", RECORDED FEBRUARY 22, 1996 IN PLAT BOOK 80, PAGE 16 AS DOCUMENT NUMBER 96011549.
4.) RECORDED SUBDIVISION PLAT OF "MIDWEST CENTRAL BUSINESS PARK UNIT 2", RECORDED SEPTEMBER 5, 1985 IN PLAT BOOK 60, PAGE 03 AS DOCUMENT NUMBER 818689.
5.) RECORDED ALTA/NSPS LAND TITLE SURVEY OF THE WEST 125 FEET OF LOT 1 IN CALVARY COMMUNITY CHURCH ADDITION AND LOTS 2 AND 3 IN HOSPICE ADDITION BY TORRENGA SURVEYING, LLC, RECORDED JULY 22, 2019 IN SURVEY BOOK 33, PAGE 61 AS DOCUMENT NUMBER 2019 045220.
6.) RECORDED GRANT OF EASEMENT AND PLAT OF VACATION OF THAT PART OF COLUMBIA AVENUE IN BLOCK 6 IN MIDWEST CENTRAL BUSINESS PARK TO THE TOWN OF MUNSTER, RECORDED IN PLAT BOOK 68, PAGE 37.

SURVEYOR'S REPORT:

IN ACCORDANCE WITH TITLE 865, ARTICLE 1.0, CHAPTER 12 OF THE INDIANA ADMINISTRATIVE CODE, THE FOLLOWING OBSERVATIONS AND OPINIONS ARE SUBMITTED REGARDING THE VARIOUS UNCERTAINTIES IN THE LOCATION OF THE LINES AND CORNERS ESTABLISHED OR REESTABLISHED ON THIS SURVEY. THIS PLAT REPRESENTS A RETRACEMENT SURVEY OF A LOT LESS EXCEPTION IN A PLATTED SUBDIVISION.

THEORY OF LOCATION: A SEARCH FOR MONUMENTS AROUND THE SUBJECT PARCEL WAS PERFORMED THIS SURVEY. A REBAR WITH A TORRENGA CAP WAS FOUND AT THE SOUTHWEST CORNER OF THE SUBJECT PARCEL AND ITS' POSITION WAS HELD FIXED FOR THIS SURVEY. A REBAR WITH "S0514" CAP WAS FOUND AT THE SOUTHWEST CORNER OF LOT 3 IN HOSPICE ADDITION (MONUMENT NOT SHOWN HEREON) AND HELD FIXED FOR LINE. ADDITIONAL MONUMENTS WERE FOUND AND SHOWN HEREON. PLATTED DISTANCES AND BEARINGS WERE USED TO CALCULATE THE POSITIONS OF THE REMAINING SUBJECT PARCEL CORNERS AND WERE MONUMENTED THIS SURVEY

A.) CONDITION OF FOUND REFERENCE MONUMENTS: UNLESS OTHERWISE STATED ON THIS PLAT, REFERENCE MONUMENTS WERE FOUND UNDISTURBED, AT OR NEAR GRADE AND OF UNKNOWN ORIGIN. UNCERTAINTY IN LOCATION OF FOUND MONUMENTS MEASURED 0.3 FEET EAST-WEST AND 0.2 FEET NORTH-SOUTH.

B.) NO APPARENT UNCERTAINTIES DUE TO SUBSTANTIAL OBSERVED OCCUPATION OR POSSESSION EXCEPT FOR AS FOLLOWS: THERE WAS VISIBLE EVIDENCE OF STORM WATER PIPE THAT EXITS THE SUBJECT PARCEL TO THE WEST INTO WHAT WAS POSSIBLY A FORMER STORM WATER DETENTION AREA NOW LOCATED ON THE WEST 125 FEET OF LOT 1 IN THE SUBJECT SUBDIVISION (ALL AS SHOWN HEREON). AN AREA LIGHT WAS LOCATED IN THE WOLVERINE PIPELINE EASEMENT ON THE EAST SIDE OF THE SUBJECT BUILDING AND SHOWN HEREON. THE SIGN FOR THE CHURCH WAS LOCATED IN THE WOLVERINE PIPELINE EASEMENT NEAR THE SOUTHEAST CORNER OF THE SUBJECT PARCEL AND SHOWN HEREON.

C.) NO APPARENT UNCERTAINTIES DUE TO RECORD DESCRIPTIONS.

D.) THE RELATIVE POSITIONAL ACCURACY (DUE TO RANDOM ERRORS IN MEASUREMENTS) FOR THIS SURVEY, BASED ON EQUIPMENT AND PROCEDURES USED, WAS WITHIN THE ALLOWABLE (0.07 FEET PLUS 50 PARTS PER MILLION) FOR AN URBAN SURVEY, PER 865 IAC 1-12-7.

TO: BRADLEY COMPANY, LLC
OSNI DYER AND ASSOCIATES, LLC;
THE GATE CHURCH, INC.;
FIDELITY NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 7, 8, 9, 11(a) AND 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON JUNE 29, 2023. I FURTHER STATE THAT SURVEY WAS PERFORMED IN ACCORDANCE WITH THE GUIDELINES SET IN TITLE 865 IAC 1-12 (RULE 12).

DATE OF PLAT: JULY 12, 2023

PROFESSIONAL LAND SURVEYOR: GLEN E. BOREN
INDIANA REGISTRATION NUMBER: LS20000006
gboren@dvgteam.com

GLEN E. BOREN REGISTERED No. LS20000006 STATE OF INDIANA LAND SURVEYOR

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

DATE:	REVISIONS AND NOTES:

ALTA/NSPS LAND TITLE SURVEY

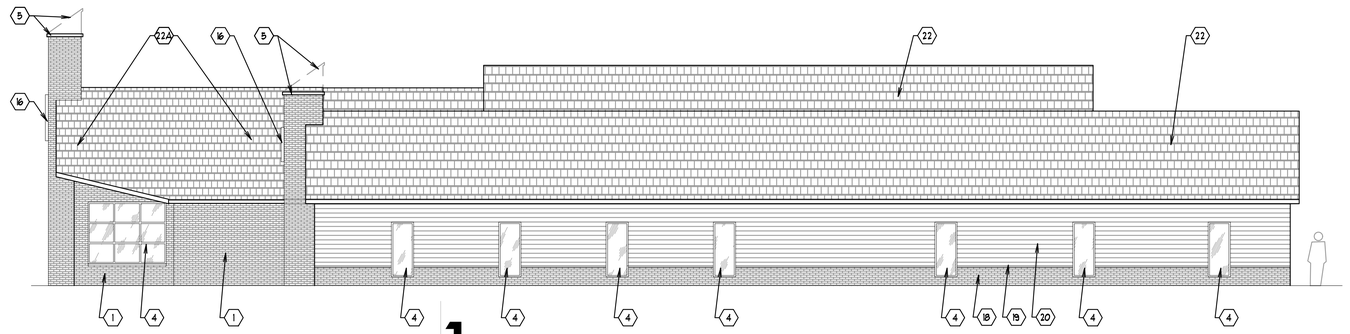
9900 COLUMBIA AVENUE
MUNSTER, INDIANA 46321

LOT 1, EXCEPT THE WEST 125 FEET THEREOF, CALVARY COMMUNITY CHURCH ADDITION

N
0' 10' 30'
SCALE: 1" = 30'

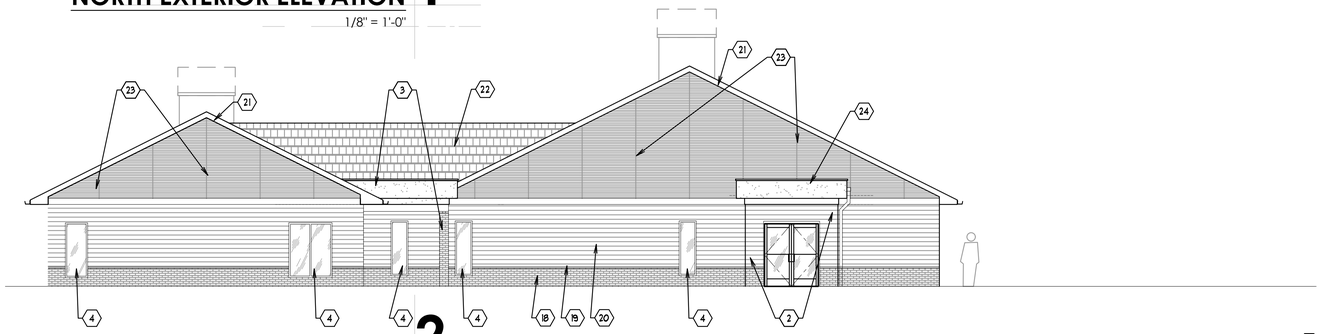
GATE CHURCH

\23-0720\23-0720.DWG	
FB/PG	FILE NO.
DRAWN BY: M.S.	DATE: 7/12/23
SECTION: 36-36-10	COUNTY, STATE: LAKE, IN
JOB NO.: 23-0720	



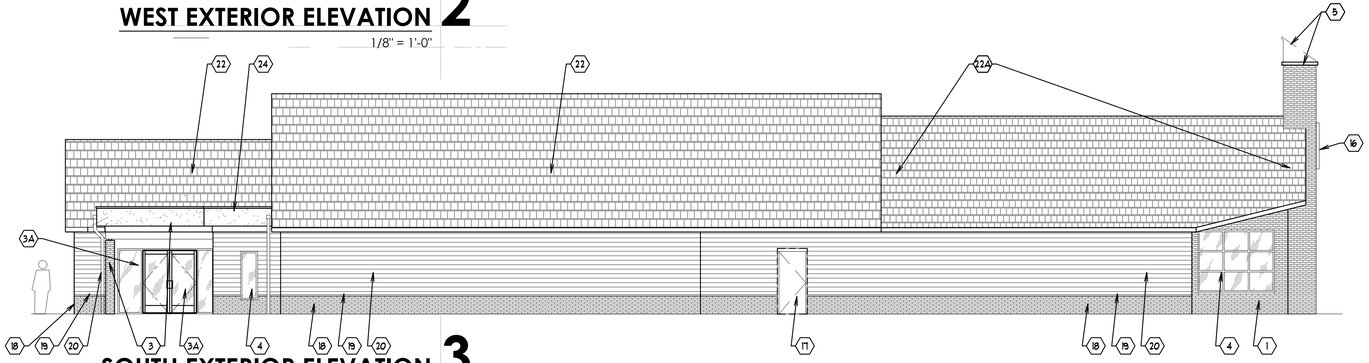
NORTH EXTERIOR ELEVATION 1

1/8" = 1'-0"



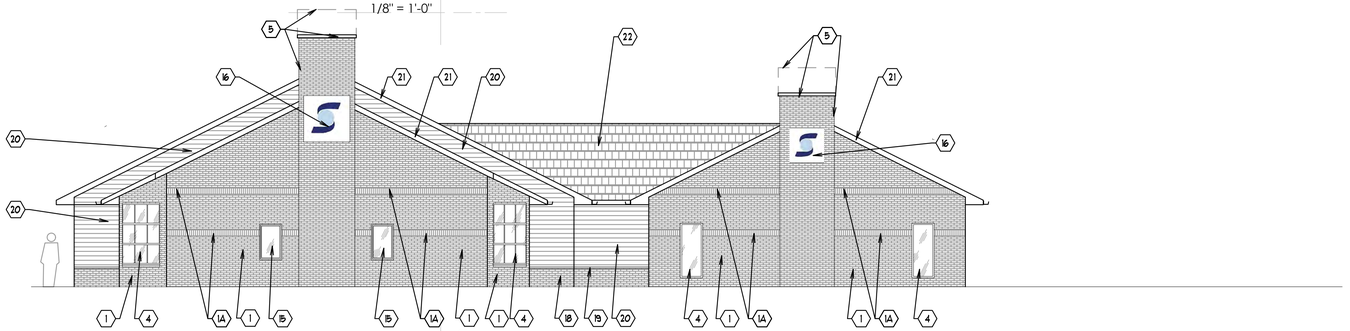
WEST EXTERIOR ELEVATION 2

1/8" = 1'-0"



SOUTH EXTERIOR ELEVATION 3

1/8" = 1'-0"



EAST EXTERIOR ELEVATION 4

1/8" = 1'-0"

0 4' 8' 16' 32' 48'
1/16" = 1'-0"

0 2' 4' 8' 16' 24'
1/8" = 1'-0"

0 3' 6' 12' 18'
3/16" = 1'-0"

0 1' 2' 4' 8' 12'
1/4" = 1'-0"

0 6" 1' 2' 4' 6'
1/2" = 1'-0"

0 4" 8" 16" 32" 4'
3/4" = 1'-0"

0 3" 6" 1' 2' 3'
1" = 1'-0"

0 2" 4" 8" 16" 2'
1 1/2" = 1'-0"

0 1" 2" 4" 8" 1'
3" = 1'-0"

NOTES

1 EXISTING FACE BRICK TO REMAIN, TO BE CLEANED AND TUCKPOINTED.

1A EXISTING DECORATIVE MASONRY SOLDIER COURSE TO REMAIN.

2 EXISTING ENTRY VESTIBULE TO REMAIN TO BE MODIFIED. EXISTING COLUMNS, FLOOR, WALLS, WINDOWS, DOORS TO REMAIN. EXISTING SLOPED ROOF TO BE CAREFULLY REMOVED, TO BE REPLACED WITH NEW FLAT ROOF CONSTRUCTION. FURNISH AND INSTALL NEW FLAT ROOF CONSTRUCTION, TO HAVE VERTICAL ENCLOSURE WITH PANELS TO MATCH EXISTING. PROVIDE NEW FLAT CEILING WITH NEW LIGHTING. SEE MECHANICAL.

3 EXISTING EXTERIOR ENTRANCE CANOPY TO REMAIN TO BE MODIFIED. EXISTING COLUMNS TO REMAIN. EXISTING SLOPED ROOF STRUCTURE TO BE CAREFULLY REMOVED AND REPLACED WITH NEW FLAT ROOF STRUCTURE. FURNISH AND INSTALL NE FLAT ROOF CONSTRUCTION, TO HAVE VERTICAL ENCLOSURE WITH PANELS TO MATCH EXISTING. FOR NEW FLAT ROOF, PROVIDE NEW DOWNSPOUT.

3A EXISTING GLAZED ENTRY DOORS AND SIDELIGHTS TO REMAIN.

4 EXISTING WINDOW TO REMAIN.

5 IN THIS AREA, EXISTING EXTERIOR TOWER TO REMAIN TO BE MODIFIED. EXISTING SLOPED TOP TO BE REMOVED DOWN TO LOWER LEVEL OF SLOPE. FURNISH AND INSTALL NEW FLAT ROOF WITH METAL COPING TO MATCH EXISTING.

15 NEW WINDOW, WITH NEW LINTEL

16 IN THIS AREA, ON EXISTING EXTERIOR TOWER TO REMAIN, EXISTING DECORATIVE MASONRY "CROSS" TO REMAIN. FURNISH AND INSTALL NEW ENCLOSURE AND BACK-LIT GRAPHIC TO COVER EXISTING CROSS.

17 NEW EXTERIOR DOOR, TO BE PAINTED TO MATCH ADJACENT.

18 NEW CULTURED STONE WAINSCOT.

19 NEW PRECAST CAP.

20 NEW HORIZONTAL LONGBOARD SIDING.

21 ALUMINUM FASCIA.

22 EXISTING ASPHALT SHINGLES TO REMAIN.

22A NEW ASPHALT SHINGLES.

23 NEW LONGBOARD METAL PANELS.

24 ON EXISTING WEST ENTRY, EXISTING SLOPED GABLE ROOF STRUCTURE TO BE REMOVED. FURNISH AND INSTALL NEW FLAT ROOF CONSTRUCTION, TO HAVE VERTICAL ENCLOSURE WITH PANELS TO MATCH EXISTING. FOR NEW FLAT ROOF, PROVIDE NEW DOWNSPOUT.

EXTERIOR FINISH NOTES

ASPHALT SHINGLES
OWENS CORNING, DURATION SHINGLES
ESTATE GRAY

SIDING
LOUNGBOARD ARCHITECTURAL PRODUCTS TONGUE AND GROOVE PLANK CLADDING, 8"
DARK CHERRY

METAL PANELS
LONGBOARD ARCHITECTURAL PRODUCTS, PANEL BOARD SYSTEM WITH U-REVEALS, SEE ELEVATIONS FOR REVEAL LOCATIONS.

PAINTED BRICK
BENJAMIN MOORE

WAINSCOT
BRICK CULTURED STONE
TENLEY BRICK WILDON

CANOPY
COLOR SELECTED FROM MANUFACTURER'S STANDARD.

RIDGELAND ASSOCIATES INC.
ARCHITECTS DESIGNERS PLANNERS
1 Riverside Rd. Riverside, Illinois 60546
708.435.0300 708.435.0305 fax
www.ridgelandassociates.com

STATE OF INDIANA
ZENON KURDZIEL
AR 19800045
REGISTERED ARCHITECT
EXPIRATION DATE: 12/31/2025

EAI
DESIGN/BUILD
E.ANTHONY,INC.
Complete Construction Services
708-802-8230

OSNI
BUILDING RENOVATION AND SITE WORK
9900 COLUMBIA AVENUE, MUNSTER, INDIANA 46321

Revisions
FOR PERMIT 08-13-2024

Drawing Date

Project Number 24038

Sheet Name
PROPOSED EXTERIOR ELEVATIONS

Sheet Number
A3.0

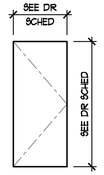
Recyclable

HARDWARE SCHEDULE

HARDWARE GROUP NO.	LOCATION	ITEM	QUANTITY / DESCRIPTION
1	TOILET ROOM DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (PRIVACY)	1 -
		WALL STOP	1 -
3	MECHANICAL ROOM DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (STOREROOM)	1 -
		WALL STOP	1 -
5	EXTERIOR EXIT DOOR	HINGES	1.5 PAIR-4.5 X 4.5 NON REMOVABLE PINS
		PANIC DEVICE	1 -
		CYLINDER	1 -
		CLOSER	1 - CLOSER HEAVY DUTY
		WEATHERSTRIPPING	1 -
		KICK PLATE	1 - 7 X 34
		THRESHOLD	1 - ADA ACCESSIBLE
		WEAHTERSTRIPPING	1 -
7	CLOSET DOOR	BIFOLD DOOR HARDWARE INCLUDING - HINGES, GLIDES, PULLS, LOCK	

HARDWARE GROUP NO.	LOCATION	ITEM	QUANTITY / DESCRIPTION
2	SINGLE EXAM ROOM DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (PASSAGE)	1 -
		WALL STOP	1 -
4	CORRIDOR (PASSAGE) DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (ENTRANCE)	1 -
		WALL STOP	1 -
6	OFFICE / CASTING ROOM DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (OFFICE)	1 -
		WALL STOP	1 -
8	LAUNDRY / JANITOR CLOSET DOOR	HINGES	2 PAIR-4.5 X 4.5
		LOCKET (STOREROOM)	1 -
		WALL STOP	1 -

DOOR TYPES



TYPE "1"

DOOR SCHEDULE

DOOR NUMBER	HARDWARE GROUP	FUNCTION GROUP	DOOR EXISTING	DOOR NEW	DOOR TYPE	DOOR PAIR (PR)	DOOR DIMENSION WIDTH	DOOR DIMENSION HEIGHT	DOOR DIMENSION THICK	DOOR MATERIAL	DOOR FINISH	FRAME EXISTING	FRAME NEW	FRAME MATERIAL	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME FINISH	ASSEMBLY RATING	REMARKS
100X	EX		●		EX	●	EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-
100AX	EX		●		EX	●	EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-
101	4			●	1		4'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
103	2			●	1		3'-6"	7'-0"	VIF	STAIN	STAIN		●	HM	-	-	PT	-	LEAD SHIELDED
105	2			●	1		3'-6"	7'-0"	VIF	SCW	STAIN		●	HM	-	-	PT	-	LEAD SHIELDED
106	3			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
107	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
108	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
109	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
110	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
111	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
112	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
113	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
114	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
115	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
116	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
117	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
118	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
119	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
120	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
121	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
122	4			●	1		4'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
124	5			●	1		3'-0"	7'-0"	1 3/4"	HM	PT		●	HM	-	-	PT	-	EXTERIOR INSULATED DOOR
125	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
126	1			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
127	3			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
129	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
130	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
131	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
132	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
133	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
134	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
135	1			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
136	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
140X	EX		●		EX		EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-
141X	EX		●		EX		EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-
142	1			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
143	3			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
144	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
145	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
146X	EX		●		EX	●	EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-
147	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
147A	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
148	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
149	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
150	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
151	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
152	6			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
153	2			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
154	3			●	1		3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
155	8			●	1	●	3'-0"	7'-0"	1 3/4"	SCW	STAIN		●	HM	-	-	PT	-	-
157X	EX		●		EX		EX	EX	EX	EX	EX	●		EX	EX	EX	EX	-	-

GENERAL NOTES

A. ALL NEW DOOR HARDWARE TO MEET ADA ACCESSIBILITY GUIDELINES

B. GC TO VERIFY ALL DOOR QUANTITIES AND VERIFY DIMENSIONS IN FIELD PRIOR TO PURCHASING UNITS

C. CONTRACTOR TO SUBMIT CATALOG CUT SHEETS FOR ALL DOORS AND HARDWARE PRIOR TO INSTALLATION

D. ALL EXIT HOLLOW METAL DOORS TO BE INSULATED AND ARRIVE AT SITE W/ MFR APPLIED LABELS STATING SUCH

E. ALL DOORS USED AS MEANS OF EGRESS SHALL PROVIDE LOCKING HARDWARE NOT REQUIRING A KEY OR SPECIAL KNOWLEDGE OR EFFORT AT ALL TIMES FROM THE EGRESS SIDE OF THE DOOR AND IN COMPLIANCE W/ SECTION 1003.3.1.8

F. EGRESS DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER DEVICES SHALL BE AT A MINIMUM HEIGHT OF 34 INCHES AND A MAXIMUM HEIGHT OF 48 INCHES ABOVE THE FINISHED FLOOR

G. DOOR HARDWARE MUST BE INSTALLED NO HIGHER THAN 48 INCHES. THE OPERATING DEVICES SHALL BE CAPABLE OF OPERATION W/ ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. THUMB-TURN DEVICES ARE NOT PERMITTED

H. ALL RATED DOORS TO HAVE RATED HARDWARE

I. PAINT ALL HOLLOW METAL DOORS AND FRAMES TO MATCH ADJACENT WALLS SURFACES, UNO

J. ALL EXTERIOR DOORS SHALL BE PROVIDED W/ NON-FERROUS NON-REMOVABLE HINGES, WEATHER STRIPPING AND INSULATION

K. DOOR AND HARDWARE SHALL BE COMMERCIAL GRADE 2 HARDWARE AS LISTED PER DR SCHEDULE BELOW

L. ALL HARDWARE TO HAVE SATIN CHROMIUM FINISH, UNO

M. NO KNOCK DOWN DOOR FRAMES ARE PERMITTED

N. ALL METAL FRAMES TO HAVE WELDED CORNERS 14 GA GALVANIZED STEEL TYP

O. PROVIDE DETECTABLE WARNINGS (KNURLED HARDWARE) AT ALL DOORS TO HAZARDOUS AREAS INCLUDING, BUT NOT LIMITED TO JANITOR'S CLOSET, MECHANICAL ROOMS, SPRINKLER ROOMS, IN ACCORDANCE WITH ANSI 4.27.3.

P PROVIDE SIGNAGE INDICATING ACCESSIBILITY TO TOILET FACILITIES IN ACCORDANCE TO ANSI 4.28.5.

Q. PROVIDE SIGNAGE INDICATING INTERNATIONAL SYMBOL FOR ACCESSIBILITY AT ACCESSIBLE ENTRANCES IN ACCORDANCE WITH 4.28.5.

R VERIFY ALL DOOR HARDWARE AND FINISHES WITH OWNER PRIOR TO CONSTRUCTION.

S DOOR HARDWARE FOR X-RAY ROOM LEAD LINED DOORS TO BE VERIFIED AND COORDINATED WITH REQUIREMENTS AND WEIGHTS OF LEAD LINED DOORS. SEE X-RAY EQUIPMENT VENDOR DRAWINGS. COORDINATE WITH PHYSICIST REQUIREMENTS FOR LEAD SHIELDING.

ACCESSIBILITY NOTES

1. PROVIDE DR CLOSERS ON ALL ENTRANCE DRS, AND AS NOTED ON THE PLAN, IN ACCORDANCE W/ ADAAG 4.13.10-4.13.11 & ICC/ANSI A117.1-2003 CH 4, SEC 404.2.8

2. DR CLOSERS SHALL BE ADJUSTED SO THAT IT TAKES AT LEAST 5 SECONDS FOR A DOOR OPENED 90° TO MOVE TO A POSITION OF 12" FROM THE LATCH

3. DR SPRING HINGES SHALL BE ADJUSTED SO THAT IT TAKES 3 SECONDS FOR A DOOR OPENED 70° TO MOVE TO A POSITION 3 INCHES FROM THE LATCH

4. DR OPENING FORCE SHALL BE IN ACCORDANCE W/ THE FOLLOWING:
   - INTERIOR HINGED DRS SHALL HAVE A MAXIMUM OPENING FORCE OF 5.0LBF
   - SLIDING OR FOLDING DRS SHALL HAVE A MAXIMUM OPENING FORCE OF 5.0LBF
   - EXTERIOR HINGED DRS SHALL HAVE A MAXIMUM OPENING FORCE OF 8.5LBF

5. PROVIDE THRESHOLDS AS REQUIRED, IN ACCORDANCE WITH ADA SECTION 4.13.8 (BEVELED SLOPE OF NO GREATER THAN 1:2 AND 1/2" MAXIMUM HEIGHT)

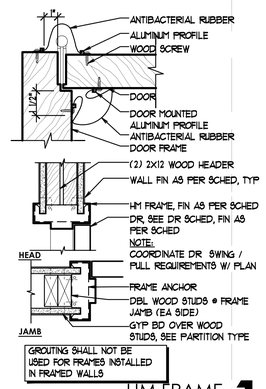
6. ALL EXIT DEVICES SHALL BE OF TOUCH BAR DESIGN WITH SMOOTH OPERATION AND BE OPERATIVE OVER 2/3 OF THE DRS CLR OPENING WIDTH

7. ALL EXIT DEVICES MUST BE LISTED UNDER "PANIC HARDWARE" IN THE ACCIDENT EQUIPMENT LIST OF UNDERWRITERS' LABORATORIES, INC. WHERE LABELED DRS ARE USED AS EXITS, THEY MUST BE EQUIPPED W/ LABELED FIRE EXIT HARDWARE AND UL10C, UBC-7-2-1997 CODES

8. ALL SPRINGS SHALL BE OF STAINLESS STEEL THROUGHOUT

9. ALL EXIT DEVICES SHALL BE OF CHASSIS MOUNTED UNIT CONSTRUCTION

10. ALL EXIT DEVICES SHALL BE ANSI A156.3, GRADE 1



HM FRAME **HEAD/JAMB DETAIL** 1

3" = 1'-0"

0 4' 8' 16' 32' 48' — 1/16" = 1'-0"

0 2' 4' 8' 16' 24' — 1/8" = 1'-0"

0 3' 6' 12' 18' — 3/16" = 1'-0"

0 1' 2' 4' 8' 12' — 1/4" = 1'-0"

0 6" 1' 2' 4' 6' — 1/2" = 1'-0"

0 4" 8" 16" 32" 4' — 3/4" = 1'-0"

0 3" 6" 1' 2' 3' — 1" = 1'-0"

0 2" 4" 8" 16" 2' — 1 1/2" = 1'-0"

0 1" 2" 4" 8" 1' — 3" = 1'-0"

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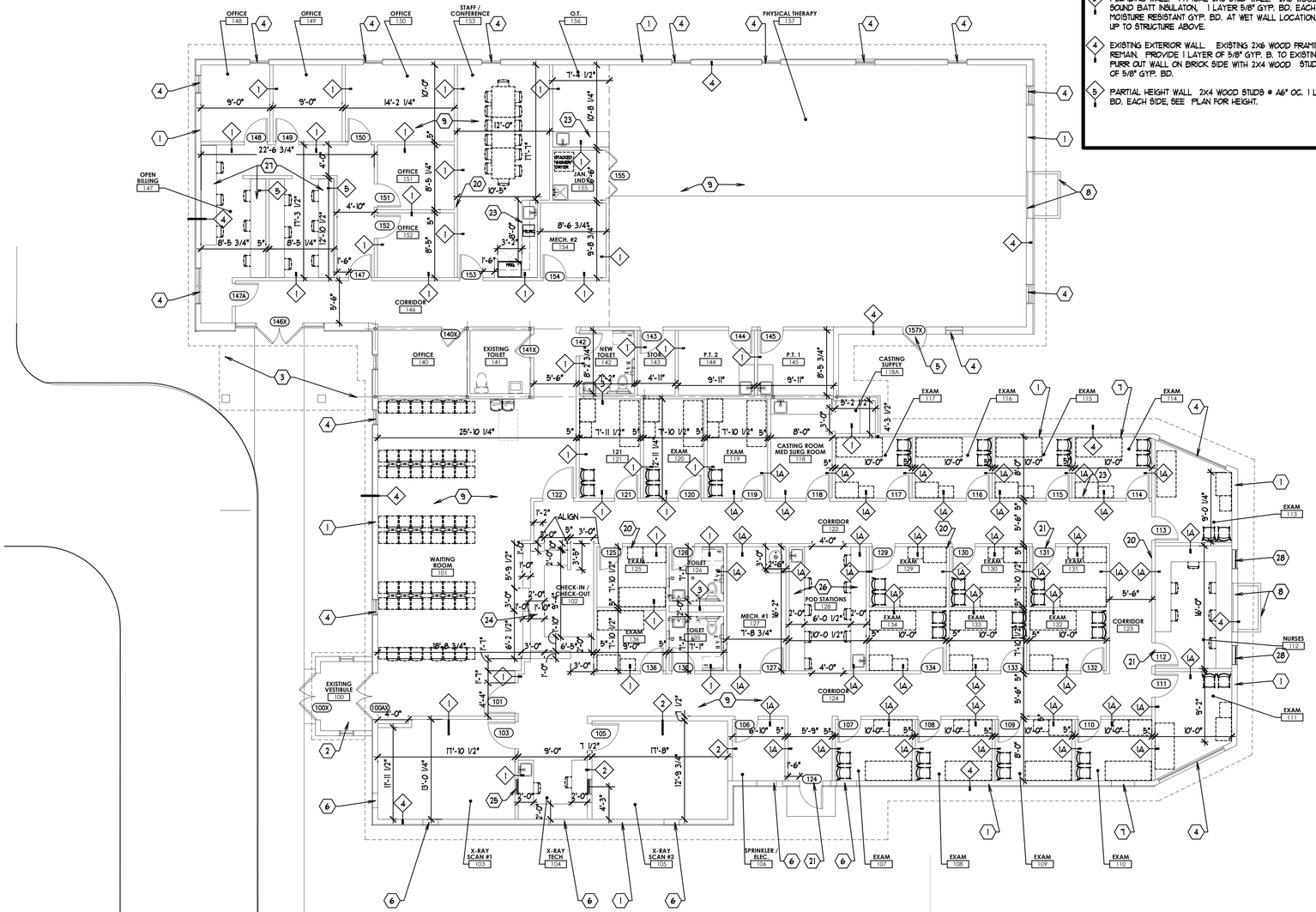
Project Number 24038

Sheet Name
DOOR SCHEDULE AND DETAILS

Sheet Number
A4.0

Recyclable



PROPOSED FLOOR PLAN

1/8" = 1'-0" A1.0

PARTITION NOTES

PARTITION TYPE NOTES

1. TYPICAL 2X4 WOOD STUD WALL, 2X4 WOOD STUDS, @16" O.C., SOUND BATT INSULATION, 1 LAYER 5/8" GYP. BD. EACH SIDE. EXTEND WALL TO STRUCTURE ABOVE.
14. SAME AS TYPE 1, BUT EXTEND WALL TO 12'-0" AFF.
2. XRAY ROOM WALLS TYPICAL 2X6 WOOD STUD WALL, 2X6 WOOD STUDS, @16" O.C., SOUND BATT INSULATION, 1 LAYER 5/8" GYP. BD. EACH SIDE. EXTEND WALL TO STRUCTURE ABOVE. WITH ADDED LEAD LINING TO 7'-0" AFF. SEE XRAY MANUFACTURER REQUIREMENTS.
3. PLUMBING WALL TYPICAL 2X6 STUD WALL. 2X6 WOOD STUDS, @16" OC., SOUND BATT INSULATON, 1 LAYER 5/8" GYP. BD. EACH SIDE. USE MOISTURE RESISTANT GYP. BD. AT WET WALL LOCATION. EXTEND WALL UP TO STRUCTURE ABOVE.
4. EXISTING EXTERIOR WALL. EXISTING 2X6 WOOD FRAMING AND BRICK TO REMAIN. PROVIDE 1 LAYER OF 5/8" GYP. B. TO EXISTING FRAMING. FURR OUT WALL ON BRICK SIDE WITH 2X4 WOOD STUDS AND 1 LAYER OF 5/8" GYP. BD.
5. PARTIAL HEIGHT WALL 2X4 WOOD STUDS @ 48" OC. 1 LAYER 5/8" GYP BD. EACH SIDE, SEE PLAN FOR HEIGHT.

GENERAL NOTES

A. CONTRACTOR/S SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IN FIELD BEFORE PROCEEDING WITH ANY WORK.

B. ALL DOOR HARDWARE TO MEET ADA ACCESSIBILITY GUIDELINES, SEE DR SCHEDULE.

C. COORDINATE GYPSUM BOARD APPLICATION W/ PARTITION TYPE DRAWINGS AND REFLECTED CEILING PLAN.

D. ALL GYPSUM BOARD PARTITION DIMENSIONS ARE FROM THE FINISHED FACE OF THE GYPSUM WALL BOARD, UNO. DO NOT SCALE DRAWINGS, DIMENSIONS SHALL GOVERN. THE CONTRACTORS SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE PROCEEDING WITH SUBSEQUENT WORK. THE OWNER/TENANT AND/OR ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES, WITH ALL DUE EXPEDIENCY, FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.

E. ALL WOOD BLOCKING SHALL BE FIRE RESISTANCE IN ACCORDANCE WITH ALL APPLICABLE CODES AND GOVERNING AUTHORITIES.

F. THE CONTRACTOR SHALL SCHEDULE & COORDINATE THE LOCATION & INSTALLATION OF ALL WOOD BLOCKING & ELECTRICAL DEVICES PRIOR TO THE INSTALLATION OF THE GYPSUM WALL BOARDS & MILLWORK, AFTER CONSULTING THE OWNER FOR ELECTRICAL LOCATIONS.

KEY NOTES

1 EXISTING PERIMETER BEARING STUD WALLS TO REMAIN, TYPICAL.

2 EXISTING ENTRY VESTIBULE TO REMAIN, TO BE MODIFIED. EXISTING WALLS, WINDOW, DOORS AND FLOOR TO REMAIN. EXISTING SLOPED ROOF TO BE REMOVED AND REPLACED WITH NEW FLAT ROOF CONSTRUCTION. PROVIDE NEW FLAT CEILING AND NEW LIGHTING. SEE MECHANICAL..

3 EXISTING EXTERIOR ENTRANCE CANOPY TO BE MODIFIED. EXISTING COLUMNS TO REMAIN. EXISTING SLOPED ROOF TO BE REPLACED WITH NEW FLAT ROOF CONSTRUCTION. PROVIDE NEW EXTERIOR CEILING, ROOFING AND RECESSED LIGHTS.

4 EXISTING EXTERIOR WINDOW TO REMAIN.

5 EXISTING EXTERIOR DOOR TO REMAIN.

6 WHERE EXISTING EXTERIOR WINDOW WAS REMOVED, WALL TO BE INFILLED FLUSH TO MATCH EXISTING ADJACENT, INCLUDING INTERIOR DRYWALL AND EXTERIOR CLADDING.

7 WHERE EXISTING EXTERIOR DOOR WAS REMOVED, WALL TO BE INFILLED FLUSH TO MATCH EXISTING ADJACENT, INCLUDING INTERIOR DRYWALL AND EXTERIOR CLADDING.

8 EXISTING EXTERIOR TOWER TO REMAIN. EXISTING INTERIOR FIREPLACE AND CHIMNEY TO BE REMOVED. ON INTERIOR, FURNISH AND INSTALL NEW STUD/DRYWALL INFILL TO BE FLUSH WITH EXISTING ADJACENT.

9 EXISTING CONCRETE FLOOR SLAB TO REMAIN, TYPICAL.

20 NEW STUD WALL, TYPICAL.

21 NEW DOOR, SEE DOOR SCHEDULE, TYPICAL.

22 EXAM ROOMS - NEW COUNTER, BASE CABINETS, TO BE ADA ACCESSIBLE, TYPICAL.

23 STAFF ROOM - NEW COUNTER, BASE CABINETS, UPPER CABINETS, SINK. TO BE ADA ACCESSIBLE.

24 CHECK-IN / CHECK-OUT - NEW WORK COUNTER AND NEW UPPER COUNTER.

25 NEW X-RAY VISION WINDOW, SEE X-RAY VENDOR REQUIREMENTS.

26 #128 POD STATION TO HAVE NEW COUNTERS, TO BE ADA COMPLIANT.

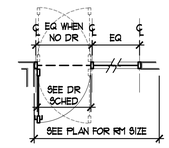
27 #147 OPEN BILLING, TO HAVE 3'-6" TALL PARTIAL HEIGHT WALLS, WITH COUNTERS, TO BE ADA ACCESSIBLE.

28 NEW EXTERIOR WINDOW AND NEW LINTEL.

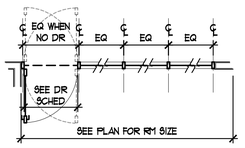
TYPICAL DOOR & WINDOW OPENINGS

ALUMINUM FRAMES — SEE PLAN FOR SWING DIRECTION

SINGLE DOOR W/ SINGLE GLASS OR DBL FRAMED GLASS

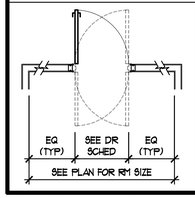


SINGLE DOOR W/ MULTIPLE FRAMED GLASS

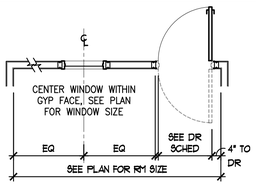


HOLLOW METAL FRAMES — SEE PLAN FOR SWING DIRECTION

CENTER DOOR OR WINDOW *UNLESS DIMENSIONED OTHERWISE*



SIDE DR & SINGLE WINDOW *UNLESS DIMENSIONED OTHERWISE*



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Sheet Name
PROPOSED FLOOR PLAN

Sheet Number
A1.0

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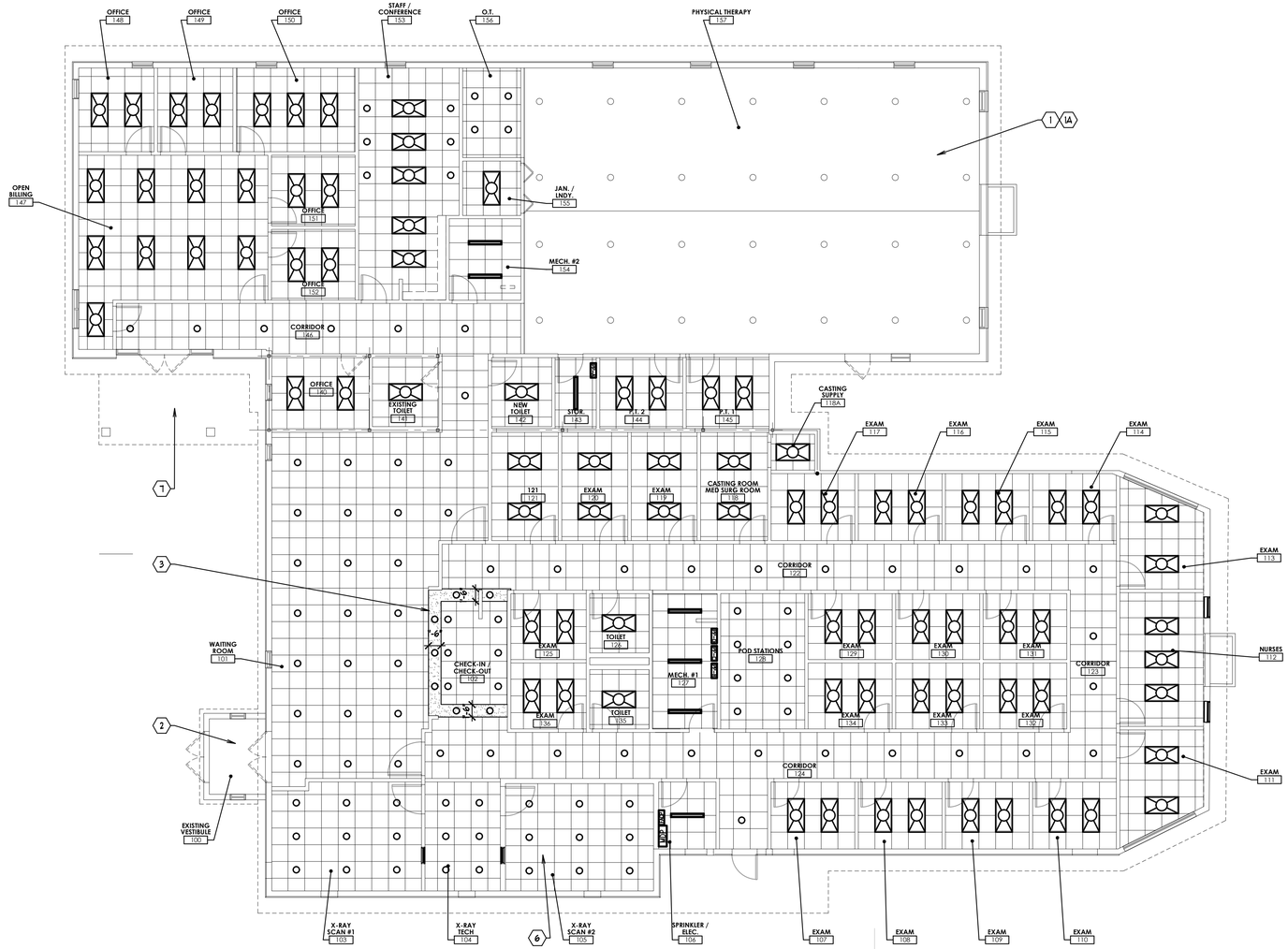
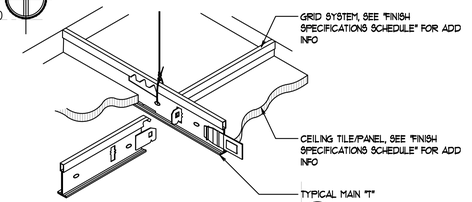


PROPOSED REFLECTED CEILING PLAN

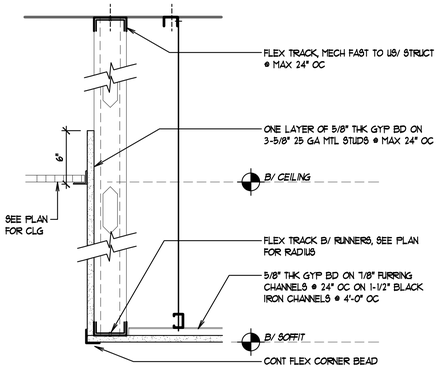
NORTH

1/8" = 1'-0" A2.0



ACOUSTICAL CEILING TILE SUSPENSION DETAIL **2**

NTS



SOFFIT SECTION **1**

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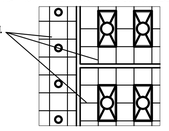
0 1" 2" 4" 8" 1' — 3" = 1'-0"

GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING LIGHT FIXTURE SPECIFICATIONS
2. REFER TO MECHANICAL DRAWINGS FOR INFORMATION RELATED TO MECHANICAL WORK.
3. ANY SUPPORT WIRES FOR ACOUSTICAL CEILING GRID MUST NOT BE CONNECTED TO ANY OF THE LANDLORD'S MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION PIPING OR EQUIPMENT, DO NOT CONNECT SUPPORT WIRES TO HORIZ. MTL BRIDGING MEMBERS; WHERE THEY MAY EXIST
4. CEILING GRIDS/TILES TO BE CENTERED IN ALL ROOMS UNLESS NOTED OTHERWISE. PARTIAL TILES AT ROOM PERIMETERS SHALL NOT BE LESS THAN 6" IN EITHER DIMENSION
5. PAINT EDGES OF CUT CEILING TILES REMAINING EXPOSED AFTER INSTALLATION. MATCH COLOR OF FACTORY FINISHED PANEL SURFACES USING COATING RECOMMENDED IN WRITING FOR THIS PURPOSE BY THE ACOUSTICAL PANEL MANUFACTURER.
6. LIGHT FIXTURES ARE SHOWN FOR POSITIONING IN FINISH CEILING SYSTEM. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR FIXTURE TYPES, MECHANICAL DIFFUSERS, WALL MOUNTED FIXTURES AND INSTALLATION OF FIXTURES IN SPACES WITHOUT CEILINGS. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR SPECIFIC INFORMATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES
7. ALL SINGLE LIGHT FIXTURES SHALL BE CENTERED IN THE CEILING WITHIN THEY OCCUR
8. CENTER LIGHTS, DIFFUSERS, EXIT SIGNS, SMOKE DETECTORS, SPEAKERS, GENERAL ALARM SPEAKERS/STROBES & MISC. DEVICES IN CEILING TILES WHERE THEY ARE LOCATED
9. REFER TO ELECTRICAL DRAWINGS FOR EXIT SIGNS AND EMERGENCY LIGHTING LOCATIONS AND SPECIFICATIONS
11. ALL EXIT SIGNS ARE TO BE LOCATED IN THE CENTER OF A CEILING TILE (U.N.O.)
12. INSTALL ACCESS PANELS IN GWB CEILINGS AT DUCT DAMPER CONTROLS, DUCT MOUNTED SMOKE DETECTORS, MANUAL DUCT CONTROLS, ETC
13. ALL CEILING FINISHES FLAME SPREAD RATINGS SHALL COMPLY WITH LOCAL FIRE PROTECTION CODE AND/OR LOCAL BUILDING CODES

KEY NOTES

1. IN "B1 PHYSICAL THERAPY SPACE, EXISTING SLOPED DRYWALL CEILING TO REMAIN. EXISTING RECESSED LIGHT FIXTURES TO REMAIN.
1A. IN "B1 PHYSICAL THERAPY SPACE, FOR WORK RELATED TO EXISTING CEILING MOUNTED MECHANICAL REGISTERS, SEE MECHANICAL DRAWINGS.
2. "100 EXISTING VESTIBULE TO REMAIN TO BE MODIFIED. EXISTING FLOOR WALLS, DOORS, WINDOWS TO REMAIN. EXISTING SLOPED ROOF CONSTRUCTION TO BE REMOVED AND BE REPLACED WITH NEW FLAT ROOF CONSTRUCTION. PROVIDE NEW ROOFING, NEW FLAT GYP. BD. CEILING, NEW RECESSED LIGHTS. SEE MECHANICAL.
3. IN "102 CHECK-IN / CHECK-OUT, FURNISH AND INSTALL NEW DRYWALL SOFFIT ABOVE WORK COUNTERS. SOFFIT TO BE 8'-6" AFF.
4. NEW 2' X 2' SUSPENDED CEILING SYSTEM, USG - ASTRO WITH STANDARD GRID. SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE INFORMATION.



5. ALL NEW SUSPENDED CEILINGS TO BE AT 9'-6". G.C. TO VERIFY AND COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.
6. IN "105 X-RAY ROOM, COORDINATE CEILING HEIGHT WITH STEEL SUPPORTS FOR CEILING MOUNTED X-RAY AND X-RAY MANUFACTURER RECOMMENDATIONS.
7. EXISTING EXTERIOR ENTRY CANOPY TO TO BE MODIFIED. EXISTING COLUMNS TO REMAIN. EXISTING SLOPED ROOF CONSTRUCTION TO BE REMOVED AND BE REPLACED WITH NEW FLAT ROOF CONSTRUCTION. PROVIDE NEW ROOFING, NEW FLAT EXTERIOR GYP. BD. CEILING, NEW RECESSED LIGHTS.

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Drawing Date

Project Number 24038

Sheet Name **PROPOSED REFLECTED CEILING PLAN**

Sheet Number **A2.0**

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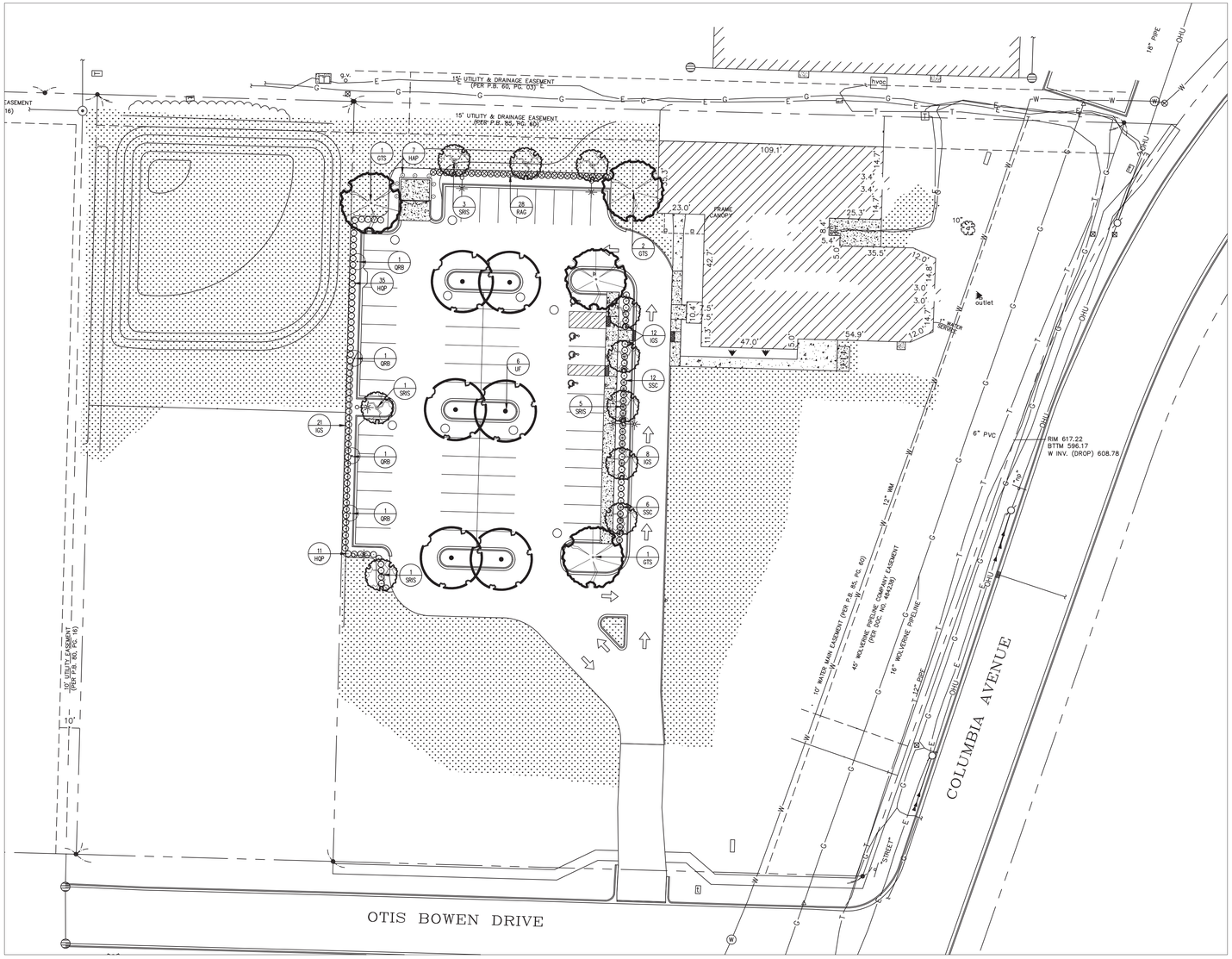


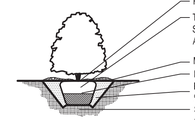
PLANT LIST			
Symbol	**Botanical Name**	**Common Name**	**Size**
Trees			
GTS	Gleditsia triacanthos var. inermis 'Skycole'	Skyline Locust	2.5"
QRB	Quercus x 'Nadler'	Kindred Spirit Oak	2.5"
SRIS	Syringa reticulata 'Ivory Silk'	Ivory Silk Lilac	2.5"
UF	Ulmus 'Frontier'	Frontier Elm	2.5"
Shrubs			
HQP	Hydrangea quercifolia 'PeeWee'	PeeWee Hydrangea	#3
IGS	Ilex glabra 'Strongbox'	Strongbox Inkberry	#3
RAG	Ribes alpinum 'Green Mound'	Green Mound Alpine Currant	#3
Vine			
HAP	Hydrangea anomala ssp. petiolaris	Climbing Hydrangea	#3
Perennials			
SSC	Schizachyrium scoparium 'Carousel'	Carousel Little Blue Stem Grass	#2

LANDSCAPE REQUIREMENTS					
Calculations	**Total Linear Feet (LF) or Square Feet (SF)**	**Trees Required**	**Trees Provided**	**Shrubs Required**	**Shrubs Provided**
Parking Planting					
Continuous Screening Hedge 7' Wide Required	Provided				
1 Tree / 125 SF Internal Landscaping	2530 SF	20	20		
All Masonry Dumpster Walls to Have Climbing Vines	Provided				

The undersigned landscape architect, registed in the State of Indiana, acknowledges that the landscape planting plan and construction details shown on the attached landscape plan for the property at 9900 Columbia Ave., Town of Munster, Indiana has been designed in accoradance with the requirements of the Town of Munster Municipal Code, the landscaping standards of the Town of Munster Zoning Ordinance, and the Guide to the Town of Munster Landscape Ordinances.

David R Hubinger

LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. SHRUB PIT WIDTH TO BE TWO TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET SHRUB HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLY HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE SHRUB PLUMB. STRAIGHTEN SHRUB IF SETTLING OCCURS. MULCH LIMITS FOR SHRUBS TO EXTEND TO ALL EDGES OF PLANTING BEDS, SEE PLANS FOR BED LAYOUTS.

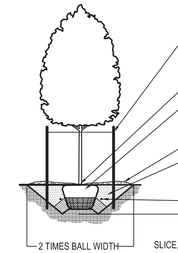


KEEP MULCH OFF OF THE ROOT FLARE.
TREATED OR NYLON TWINE AROUND TRUNK SHALL BE REMOVED. ANY PLASTIC WRAP AROUND THE ROOTBALL REMOVED.
MULCH 3" DEEP. TYPE PER SPECIFICATIONS.
ROOT BALL
PREPARED BACKFILL OF 85% EXISTING SOIL & 15 % PEAT OR COMPOST
SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

SLICE, CUT, OR SEPARATE EXTERIOR ROOTS ON ROOT-BOUND CONTAINER PLANTS TO PROMOTE ROOT GROWTH.

1 SHRUB PLANTING DETAIL
NOT TO SCALE

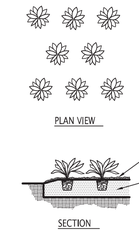
LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. TREE PIT WIDTH TO BE Two TIMES THE WIDTH OF THE ROOT BALL. PRUNE OFF ALL DEAD, BROKEN OR SCARRED BRANCHES, AND SHAPE PRUNE AS DIRECTED BY THE LANDSCAPE ARCHITECT. LOCATE ROOT FLARE IN ROOT BALL AND SET TREE HEIGHT SO THAT ROOT FLARE IS FLUSH OR SLIGHTLYI HIGHER THAN FINISH GRADE DEPENDING ON EXISTING SOIL CONDITIONS. WATER IN THE PLANTING MIX THOROUGHLY, WHILE KEEPING THE TREE PLUMB. STRAIGHTEN TREE IF SETTLING OCCURS.



NOTE: STAKING OF DECIDUOUS TREES NOT REQUIRED UNLESS TREE WILL NOT STAY PLUMB
3 METAL STAKES INSERTED DOWN INTO EXISTING SOIL. TREE TO BE TIED WITH TREE TIE WEBBING (GREEN).
KEEP MULCH OFF OF THE ROOT FLARE OF TREE.
TREATED OR NYLON TWINE AROUND TRUNK SHALL BE REMOVED. ANY PLASTIC WRAP AROUND THE ROOTBALL REMOVED.
MULCH 3" DEEP. TYPE PER SPECIFICATIONS.
PREPARED BACKFILL OF 85% EXISTING SOIL & 15 % PEAT OR COMPOST
FERTILIZER PELLETS – 2 YEAR RELEASE
SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.
2 TIMES BALL WIDTH
SLICE, CUT, OR SEPARATE EXTERIOR ROOTS ON ROOT-BOUND CONTAINER PLANTS TO PROMOTE ROOT GROWTH.

2 DECIDUOUS & EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. AMEND PLANTING BED SOIL WITH COMPOST PRIOR TO PLANT INSTALLATION. BED HEIGHT IS TO BE 2" ABOVE FINISH GRADE AND WELL DRAINED. MULCH LIMITS FOR PERENNIAL AND GROUNDCOVER BEDS TO EXTEND TO ALL EDGES OF THE BEDS, SEE PLANS FOR BED LAYOUTS.



ALL BED PLANTINGS SHALL BE INSTALLED WITH PLANTS OFFSET IN A TRIANGULAR FASHION.
TYPICAL SPACING, AS SPECIFIED IN THE PLANT LIST. PERENNIALS SHALL BE PLACED WITH THEIR CENTERS NO CLOSER THAN 12" FROM EDGE OF BED. GROUNDCOVERS SHALL BE PLACED WITH THEIR CENTERS NO CLOSER THAN 6" FROM EDGE OF BED.
PLAN VIEW
MULCH, 2" DEPTH AROUND PERENNIALS, GRASSES, AND GROUNDCOVERS.
MIN. 3" COMPOST ROTOTILLED INTO SOIL TO A MIN. DEPTH OF 6". DO NOT COMPACT UNNECESSARILY AFTER PLANTING.
SECTION
SLICE, CUT, OR SEPARATE EXTERIOR ROOTS ON ROOT-BOUND CONTAINER PLANTS TO PROMOTE ROOT GROWTH.

3 PERENNIAL, GROUNDCOVER, AND ANNUAL PLANTING DETAIL
NOT TO SCALE

NORTH

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

HOLEY MOLEY SAYS
"DIG SAFELY"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IC8-1-26, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

Notes:

Stand alone trees and Landscape Areas to have Shredded Hardwood Bark Mulch 3" Deep w/ Pre-emergent herbicide and have spade dug edge.

All disturbed lawn areas to be restored w/ 4" of topsoil, Seed w/ HLC Sunny Mix or approved equal w/ DS-75 Erosion Control Blanket.

Starter fertilizer to be applied at installation and post fertilizer application applied 30-45 days later with a minimum of 1# of Nitrogen per 1000 SF and 50% being slow release.

	SITE CHANGES	7-12-24
	SITE CHANGES	3-1-24
	Revisions:	Date

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Landscaping
Corp.
210 East 113th Avenue
Crown Point, Indiana
Phone: 219-662-9911
www.hubingers.com

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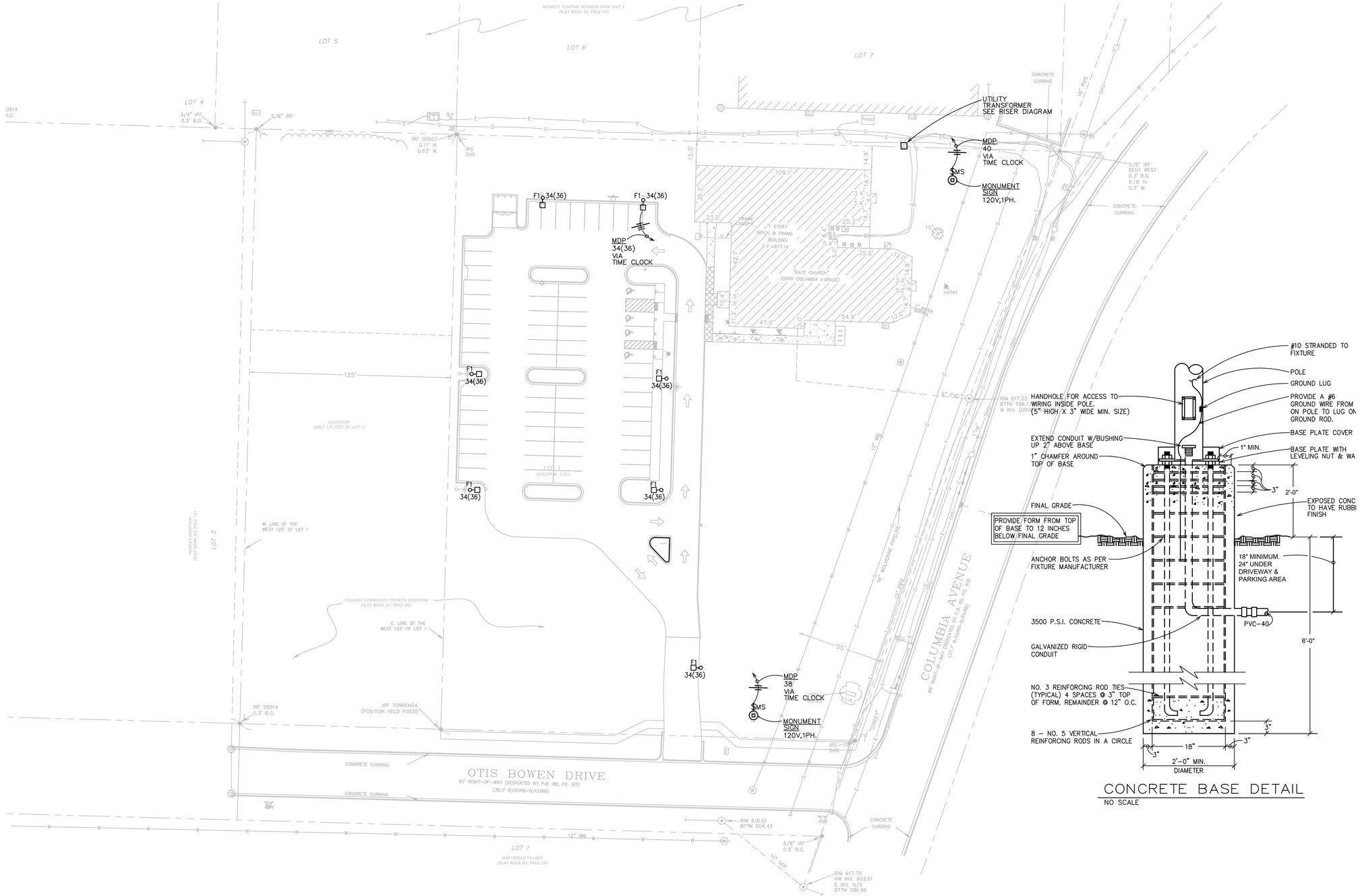
9900 COLUMBIA AVE.
MUNSTER, IN

Drawn By:	LBK/SAS
Date:	10/11/23
Scale:	1: 30

L1.0



CONCRETE BASE DETAIL

NO SCALE

LIGHTING SITE PLAN

1" = 30'-0"

NORTH

0 4' 8' 16' 32' 48' — 1/16" = 1'-0"
0 2' 4' 8' 16' 24' — 1/8" = 1'-0"
0 3' 6' 12' 18' — 3/16" = 1'-0"
0 1' 2' 4' 8' 12' — 1/4" = 1'-0"
0 6" 1' 2' 4' 6' — 1/2" = 1'-0"
0 4" 8" 16" 32" 4' — 3/4" = 1'-0"
0 3" 6" 1' 2' 3' — 1" = 1'-0"
0 2" 4" 8" 16" 2' — 1 1/2" = 1'-0"
0 1" 2" 4" 8" 1' — 3" = 1'-0"

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555 S. Perryville Road
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e-mail legacy@legacydesigns.net
web site www.legacydesigns.net

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STATE OF INDIANA
ZENON KURDZIEL
AR 19800045
REGISTERED ARCHITECT
EXPIRATION DATE: 12/31/2025

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OSNI
BUILDING RENOVATION AND SITE WORK

9900 COLUMBIA AVENUE, MUNSTER, INDIANA 46321

Revisions

Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA
JOHN P. STELLE
PROFESSIONAL ENGINEER
7-31-26

Sheet Name
SITE LIGHTING
SITE PLAN

Sheet Number
ES101

Schedule

Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot
▭	F1		7	Lithonia Lighting	DSX0 LED P4 30K T4M MVOLT HS G1	DSX0 LED P4 30K T4M MVOLT with houseside shield	1	7445	1	92	

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
4	F1	960.50	434.50	25.00	25.00	181.65	0.00	960.47	433.42	0.00
5	F1	1023.70	432.80	25.00	25.00	181.65	0.00	1023.67	431.72	0.00
6	F1	917.89	324.79	25.00	25.00	90.90	0.00	918.97	324.77	0.00
7	F1	917.09	252.99	25.00	25.00	90.90	0.00	918.17	252.97	0.00
8	F1	1039.20	321.80	25.00	25.00	270.00	0.00	1038.12	321.80	0.00
9	F1	1036.30	252.50	25.00	25.00	270.00	0.00	1035.22	252.50	0.00
3	F1	1058.92	141.65	25.00	25.00	273.60	0.00	1057.84	141.71	0.00

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Stat Zone # 1	✳	1.2 fc	2.3 fc	0.1 fc	23.0:1	12.0:1
Calc Zone #1	+	0.4 fc	2.3 fc	0.0 fc	N/A	N/A

PHOTOMETRIC SITE PLAN

1" = 30'-0"

NORTH

0 4' 8' 16' 32' 48'
1/16" = 1'-0"

0 2' 4' 8' 16' 24'
1/8" = 1'-0"

0 3' 6' 12' 18'
3/16" = 1'-0"

0 1' 2' 4' 8' 12'
1/4" = 1'-0"

0 6" 1' 2' 4' 6'
1/2" = 1'-0"

0 4" 8" 16" 32" 4'
3/4" = 1'-0"

0 3" 6" 1' 2' 3'
1" = 1'-0"

0 2" 4" 8" 16" 2'
1 1/2" = 1'-0"

0 1" 2" 4" 8" 1'
3" = 1'-0"

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Revisions

Drawing Date	8-5-2024
Project Number	24038

Sheet Name
PHOTOMETRIC SITE PLAN

Sheet Number
ES102

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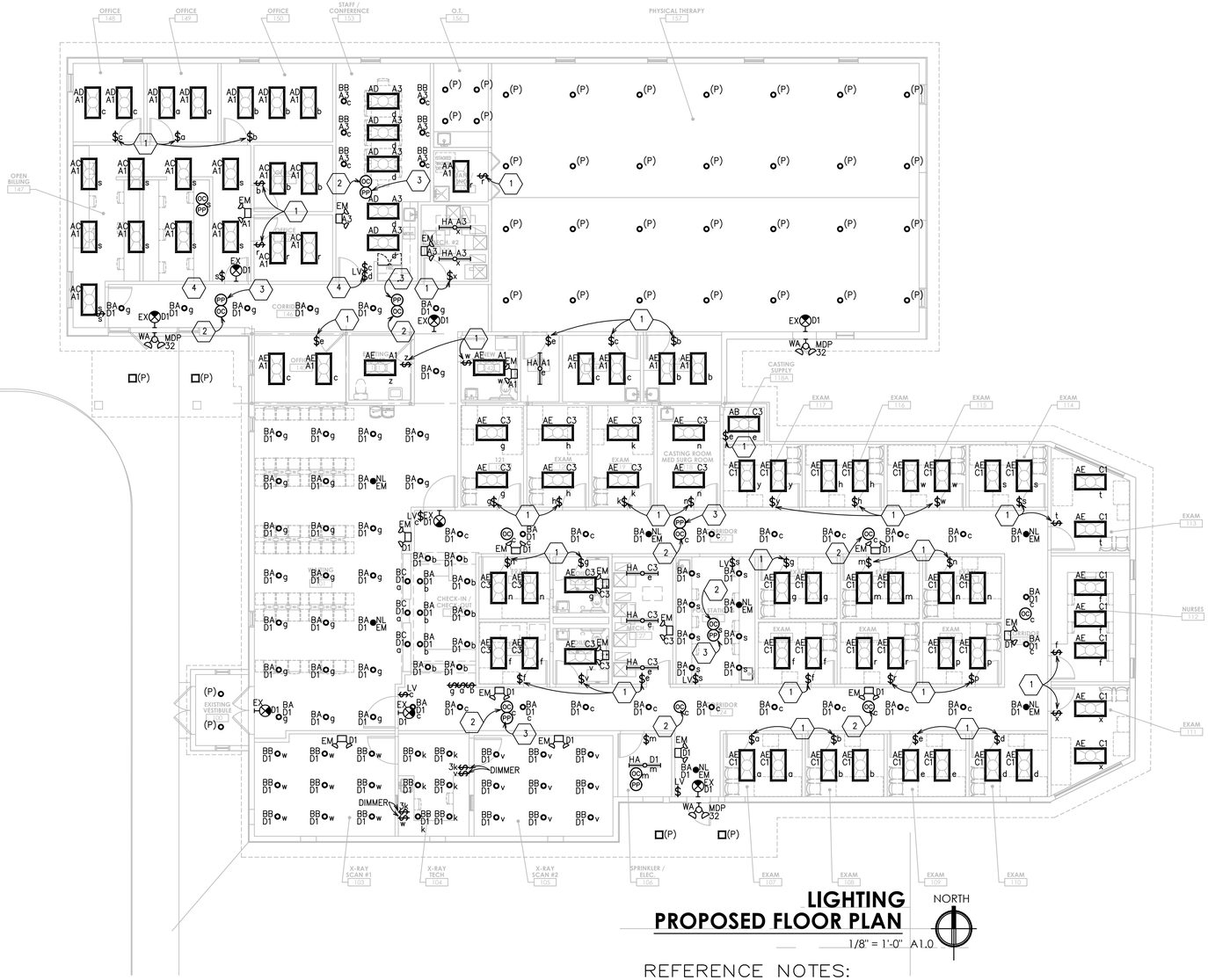

LIGHTING PROPOSED FLOOR PLAN

NORTH

1/8" = 1'-0" A1.0

REFERENCE NOTES:

1. PROVIDE DSW-301 DUAL TECH WALL SWITCH OCCUPANCY SENSOR – 120/277V – WHITE IN COLOR.
2. PROVIDE LMDC-100 DIGITAL DUAL TECH CEILING MOUNTED MOTION SENSOR
3. PROVIDE POWER PACK BZ-150 120-277V 50-60HZ 24V DC, 225 MA WITH AUTO-ON/MAN
4. PROVIDE LVSW-101 LOW VOLTAGE SWITCH – 1 BUTTON WITH LED – WHITE IN COLOR.

0 4' 8' 16' 32' 48' 1/16" = 1'-0"
0 2' 4' 8' 16' 24' 1/8" = 1'-0"
0 3' 6' 12' 18' 3/16" = 1'-0"
0 1' 2' 4' 8' 12' 1/4" = 1'-0"
0 6" 1' 2' 4' 6' 1/2" = 1'-0"
0 4" 8" 16" 32" 4' 3/4" = 1'-0"
0 3" 6" 1' 2' 3' 1" = 1'-0"
0 2" 4" 8" 16" 2' 1 1/2" = 1'-0"
0 1" 2" 4" 8" 1' 3" = 1'-0"

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Revisions

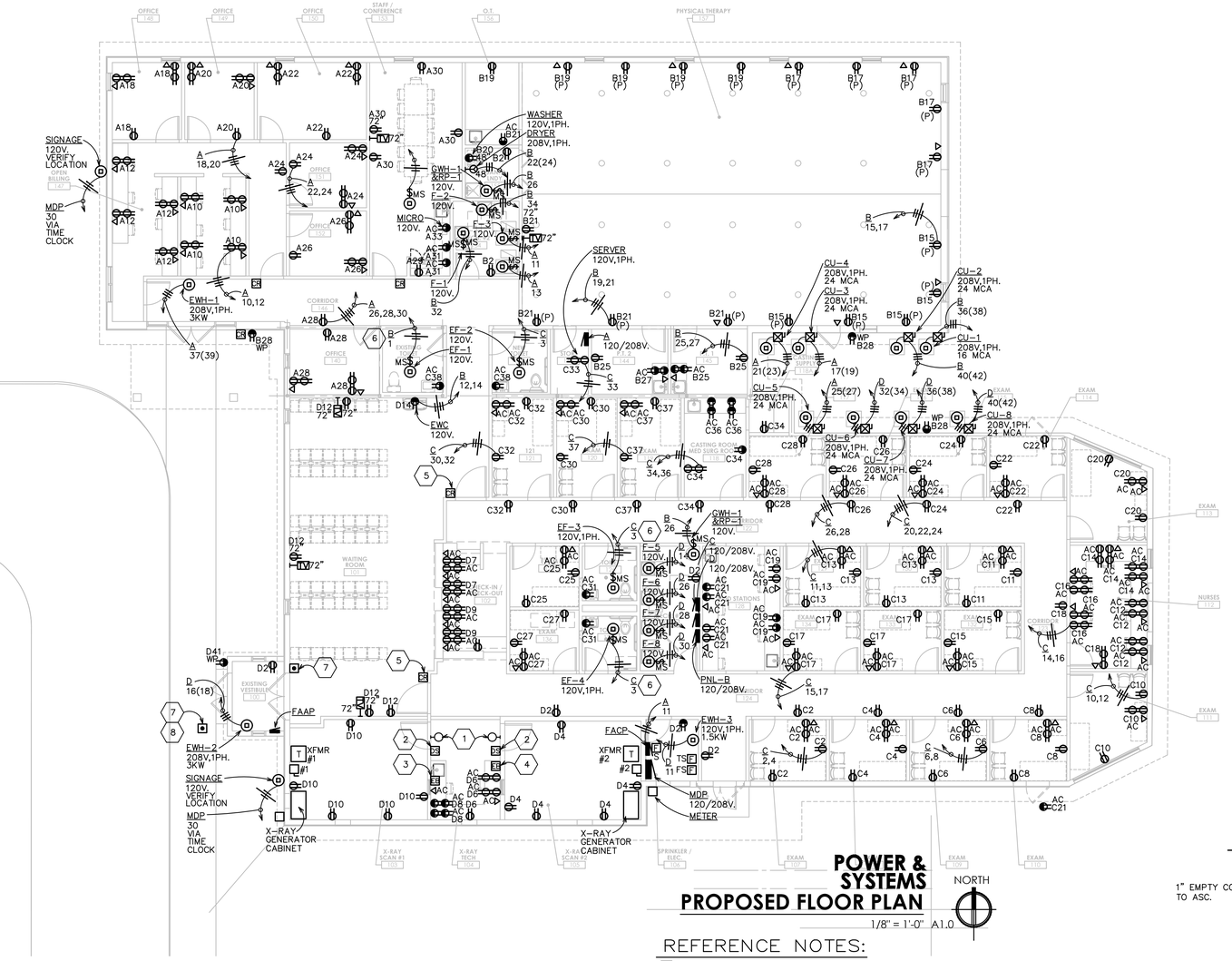
Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA
Thomas R. Miller
REGISTERED ARCHITECT
PE10700151

Sheet Name
LIGHTING FLOOR PLAN

Sheet Number
E101



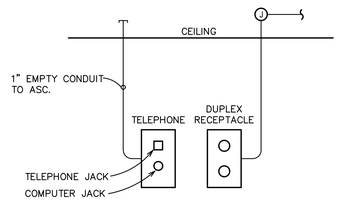
POWER & SYSTEMS PROPOSED FLOOR PLAN

NORTH

1/8" = 1'-0" A1.0

REFERENCE NOTES:

1. PROVIDE X-RAY IN USE LIGHT WARNING LIGHT TO BE CONTROLLED PER X-RAY EQUIPMENT REQUIREMENTS..
2. PROVIDE AND INSTALL DOOR SWITCH. VERIFY EXACT LOCATION AND ALL REQUIREMENTS WITH X-RAY MANUFACTURER PRIOR TO ROUGH-IN.
3. PROVIDE EMERGENCY STOP BUTTON FOR DISCONNECT SWITCH #1. VERIFY EXACT LOCATION AND ALL REQUIREMENTS WITH X-RAY MANUFACTURER.
4. PROVIDE EMERGENCY STOP BUTTON FOR DISCONNECT SWITCH #2. VERIFY EXACT LOCATION AND ALL REQUIREMENTS WITH X-RAY MANUFACTURER.
5. PROVIDE CARD READER. VERIFY ELECTRICAL REQUIREMENTS WITH MANUFACTURER. CONNECT TO DOOR SYSTEM CONTROL PANEL IN THE "IT/ MECH ROOM 127".
6. EXHAUST FAN TO BE CONNECTED TO LIGHTING CIRCUIT AND CONTROLLED BY ROOM LIGHT SWITCH. VERIFY PRIOR TO INSTALLING WITH HVAC CONTRACTOR.
7. DOOR OPERATED PUSH PAD CONTROL STATION.
8. MOUNT TO POST – SEE ARCHITECTURAL DRAWINGS FOR ELEVATIONS AND REQUIREMENTS.



TYPICAL TELEPHONE/ COMPUTER MOUNTING

NO SCALE

1/16" = 1'-0" | 1/8" = 1'-0" | 3/16" = 1'-0" | 1/4" = 1'-0" | 1/2" = 1'-0" | 3/4" = 1'-0" | 1" = 1'-0" | 1 1/2" = 1'-0" | 3" = 1'-0"

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Revisions

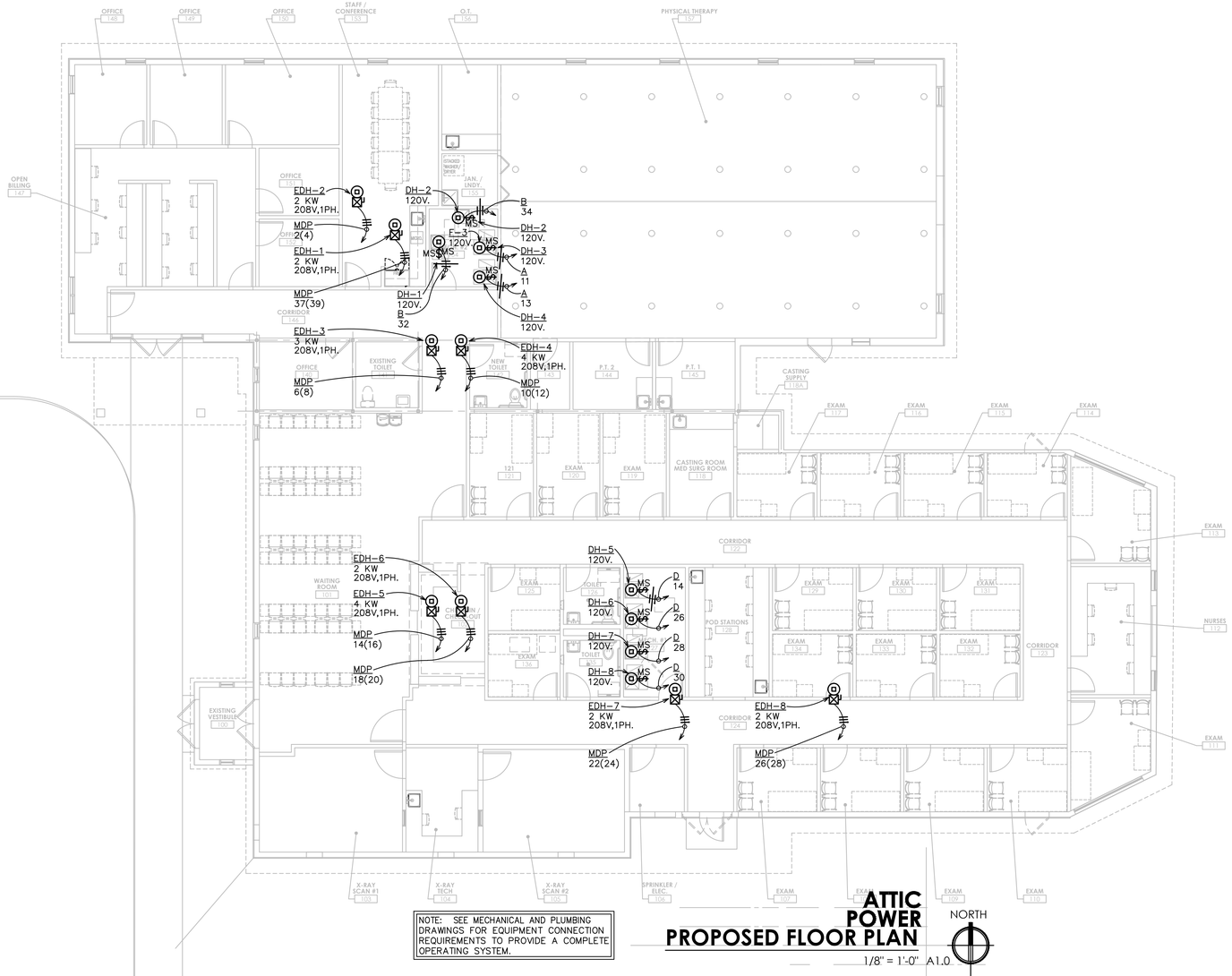
Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA — REGISTERED PROFESSIONAL ENGINEER — 7-31-26

Sheet Name
ELECTRICAL POWER PLAN

Sheet Number
E102



NOTE: SEE MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT CONNECTION REQUIREMENTS TO PROVIDE A COMPLETE OPERATING SYSTEM.

ATTIC POWER PROPOSED FLOOR PLAN

NORTH

1/8" = 1'-0" A1.0

0 4' 8' 16' 32' 48' — 1/16" = 1'-0"

0 2' 4' 8' 16' 24' — 1/8" = 1'-0"

0 3' 6' 12' 18' — 3/16" = 1'-0"

0 1' 2' 4' 8' 12' — 1/4" = 1'-0"

0 6" 1' 2' 4' 6' — 1/2" = 1'-0"

0 4" 8" 16" 32" 4' — 3/4" = 1'-0"

0 3" 6" 1' 2' 3' — 1" = 1'-0"

0 2" 4" 8" 16" 2' — 1 1/2" = 1'-0"

0 1" 2" 4" 8" 1' — 3" = 1'-0"

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Revisions

Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA — Thomas P. Ellis — REGISTERED PROFESSIONAL ENGINEER — 7-31-24

Sheet Name
POWER - HVAC FLOOR PLAN

Sheet Number
E103

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555 S. Perryville Road
ROCKFORD, ILLINOIS 61108
Professional Design Firm No. 184-003483
815-484-4708 Phone 815-484-4710 Fax
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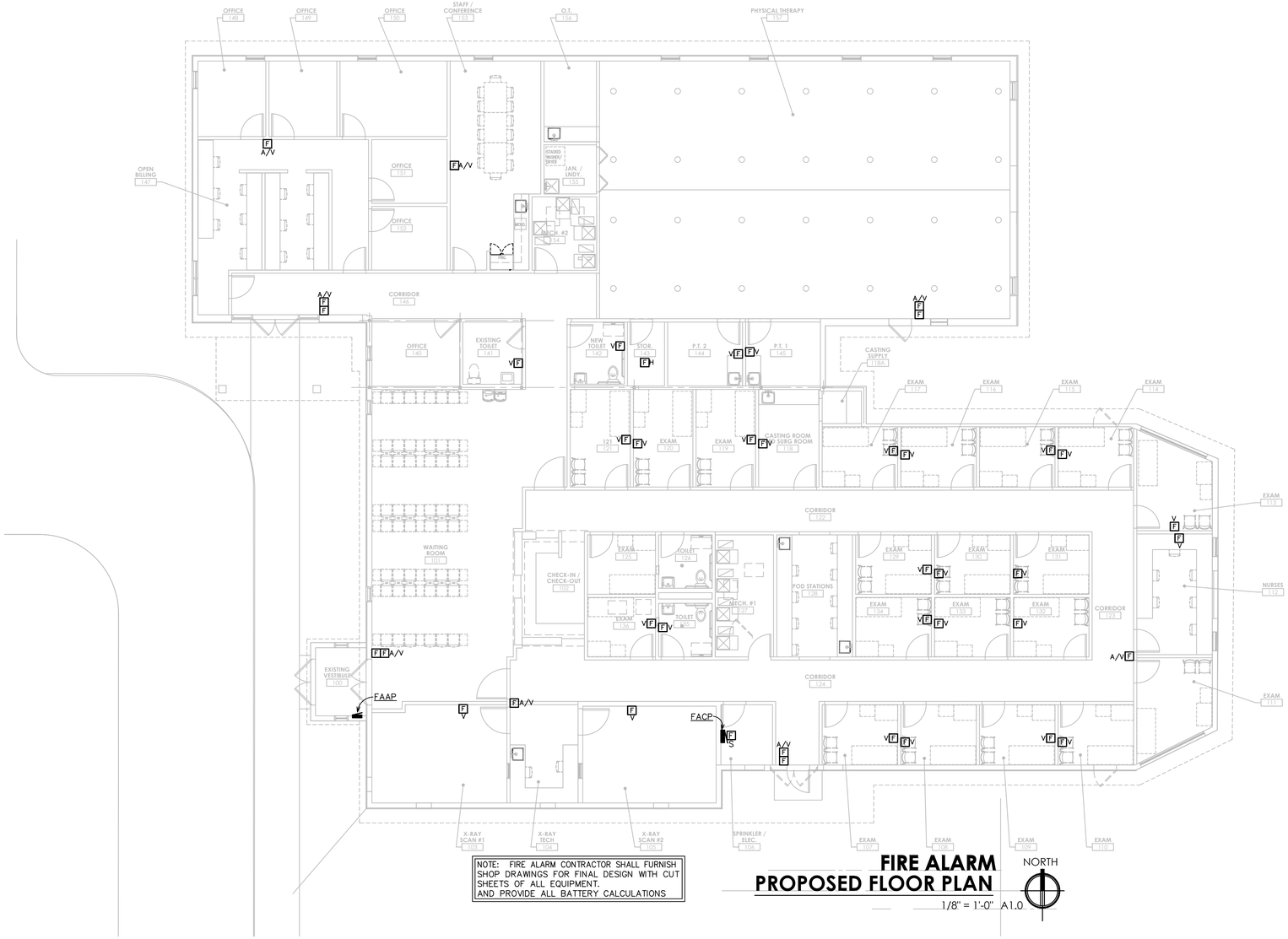
web site www.legacydesigns.net



NOTE: FIRE ALARM CONTRACTOR SHALL FURNISH SHOP DRAWINGS FOR FINAL DESIGN WITH CUT SHEETS OF ALL EQUIPMENT. AND PROVIDE ALL BATTERY CALCULATIONS

FIRE ALARM PROPOSED FLOOR PLAN

NORTH

1/8" = 1'-0" A1.0

0 4' 8' 16' 32' 48' 1/16" = 1'-0"
0 2' 4' 8' 16' 24' 1/8" = 1'-0"
0 3' 6' 12' 18' 3/16" = 1'-0"
0 1' 2' 4' 8' 12' 1/4" = 1'-0"
0 6" 1' 2' 4' 6' 1/2" = 1'-0"
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Revisions

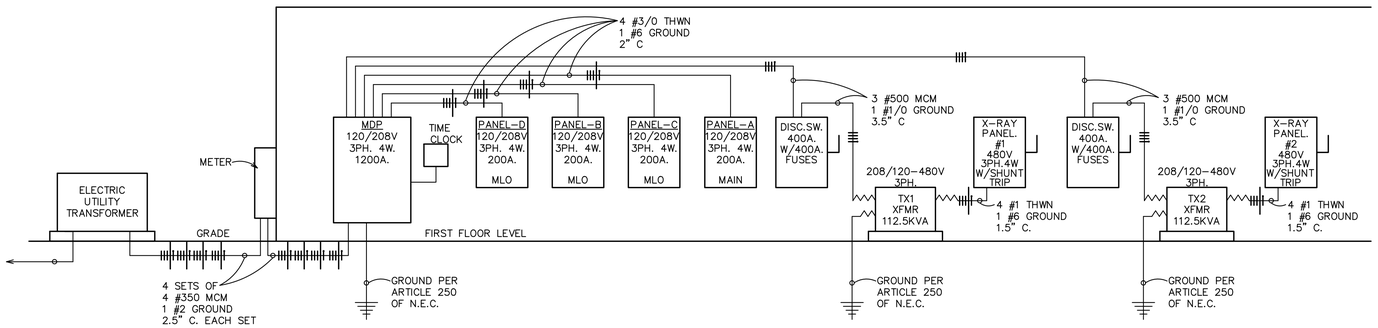
Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA
Thomas Scott Hollis
REGISTERED ARCHITECT
7-31-25

Sheet Name
FIRE ALARM FLOOR PLAN

Sheet Number
E104



ELECTRICAL RISER DIAGRAM

NO SCALE PURELY DIAGRAMMATIC

PANEL DESIGNATION	MDP	PROJECT NO.
120 / 208 VOLT	LOCATION/ROOM:	
3 PHASE 1200 AMP MAIN BREAKER	SURFACE MOUNTED	
4 WIRE	FAULT CURRENT RATING	AIC.

CKT	AMP/ POLE	REMARKS	W A TTS LEFT	W A TTS RIGHT	REMARKS	AMP/ POLE	CKT PH
1	A1 200/ 3	PANEL-A	15436	1000	EDI-2 25W	25 / 1	A 1
3	B1	"	15436	1000	"	/ 2	4 B
5	C1 / 3	"	15436	1500	EDI-3 35W	30 / 1	6 C
7	A1 200/ 3	PANEL-B	12536	1500	"	/ 2	8 A
9	B1	"	12951	2000	EDI-4 45W	60 / 1	10 B
11	C1 / 3	"	12780	2000	"	/ 2	12 C
13	A1 200/ 3	PANEL-C	11420	2000	EDI-5 45W	60 / 1	14 A
15	B1	"	11420	1000	"	/ 2	16 B
17	C1 / 3	"	10240	1000	EDI-6 25W	25 / 1	18 C
19	A1 200/ 3	PANEL-D	13972	1000	"	/ 2	20 A
21	B1	"	11796	1000	EDI-7 25W	25 / 1	22 B
23	C1 / 3	"	12576	1000	"	/ 2	24 C
25	A1 400/ 3	TRANSFORMER TX1	26646	1000	EDI-8 25W	25 / 1	26 A
27	B1	"	26646	1000	"	/ 2	28 B
29	C1 / 3	"	26646	1200	SIGNAGE *	20/1	30 C
31	A1 400/ 3	TRANSFORMER TX2	26646	1200	WELL LIGHTS*	20/1	32 A
33	B1	"	26646	1500	SITE LTG *	20 / 1	34 B
35	C1 / 3	"	26646	1500	"	/ 2	36 C
37	A1 60 / 1	EMD-1 20W	1500	1200	SIGNAGE *	20/1	38 A
39	B1 / 2	"	1500	1200	SIGNAGE *	20/1	40 B
41	C1 20/1	SPARE	0	0	SPARE	20/1	42 C

PHASE A =	118218	TOTAL CONNECTED	
PHASE B =	116435	LOAD (WATTS) =	
PHASE C =	112594	347275	

*PROVIDE HANDLE LOCK ON BREAKER

PANEL DESIGNATION	PNL-A	PROJECT NO.
120 / 208 VOLT	LOCATION/ROOM:	
3 PHASE 200 AMP BREAKER	SURFACE MOUNTED	
4 WIRE	FAULT CURRENT RATING	AIC.

CKT	AMP/ POLE	REMARKS	W A TTS LEFT	W A TTS RIGHT	REMARKS	AMP/ POLE	CKT PH
1	A1 20/1	LIGHTING,EP-1	1000	720	RECEPTACLES	20/1	2 A
3	B1 20/1	LIGHTING	1200	900	RECEPTACLES	20/1	4 B
5	C1 20/1	FACP *	0	720	RECEPTACLES	20/1	6 C
7	A1 20/1	SPARE	0	0	SPARE	20/1	8 A
9	B1 20/1	SPARE	0	0	SPARE	20/1	10 B
11	C1 20/1	RECEPTACLES	1080	0	SPARE	20/1	12 C
13	A1 20/1	RECEPTACLES	1080	0	SPARE	20/1	14 A
15	B1 20/1	RECEPTACLES	720	0	SPARE	20/1	16 B
17	C1 20/1	RECEPTACLES	900	0	SPARE	20/1	18 C
19	A1 20/1	RECEPTACLES	900	1100	WASHER	20/1	20 A
21	B1 20/1	RECEPTACLES	1080	1600	DRYER	30 / 2	22 B
23	C1 20/1	RECEPTACLES	1080	1600	"	/ 2	24 C
25	A1 40 / 2	C95 24A	2880	720	RECEPTACLES	20/1	26 A
27	B1 / 2	"	2880	900	RECEPTACLES	20/1	28 B
29	C1 20/1	REFRIGERATOR	900	900	RECEPTACLES	20/1	30 C
31	A1 20/1	RECEPTACLES	1080	720	RECEPTACLES	20/1	32 A
33	B1 20/1	MICROWAVE	720	720	RECEPTACLES	20/1	34 B
35	C1 20/1	RECEPTACLES	720	1080	RECEPTACLES	20/1	36 C
37	A1 40 / 2	EMD-1 20W	1500	0	SPARE	/	
39	B1 / 2	"	1500	0	SPARE	20/1	40 B
41	C1 20/1	SPARE	0	0	SPARE	20/1	42 C

PHASE A =	16384	TOTAL CONNECTED	
PHASE B =	15694	LOAD (WATTS) =	
PHASE C =	15434	47528	

*PROVIDE HANDLE LOCK ON BREAKER

PANEL DESIGNATION	PNL-B	PROJECT NO.
120 / 208 VOLT	LOCATION/ROOM:	
3 PHASE 200 AMP MLO BREAKER	SURFACE MOUNTED	
4 WIRE	FAULT CURRENT RATING	AIC.

CKT	AMP/ POLE	REMARKS	W A TTS LEFT	W A TTS RIGHT	REMARKS	AMP/ POLE	CKT PH
1	A1 20/1	RECEPTACLES	1080	1600	DRYER	30 / 2	22 B
23	C1 20/1	RECEPTACLES	1080	1600	"	/ 2	24 C
25	A1 20/1	RECEPTACLES	1080	1100	DW-1.5P1	20/1	26 A
27	B1 20/1	RECEPTACLES	900	1248	WP RECEP	20/1	28 B
29	C1 20/1	SPARE	900	0	SPARE	20/1	30 C
31	A1 20/1	RECEPTACLES	1080	1656	P1	30/1	32 A
33	B1 20/1	RECEPTACLES	720	1651	P2	30/1	34 B
35	C1 20/1	SPARE	0	2880	CO-1 24A.	40 / 3	36 C
37	A1 20/1	SPARE	0	2880	"	/	
39	B1 20/1	SPARE	0	2880	CO-2 24A.	40 / 3	40 B
41	C1 20/1	SPARE	0	2880	"	/ 2	42 C

PHASE A =	12594	TOTAL CONNECTED	
PHASE B =	12951	LOAD (WATTS) =	
PHASE C =	12780	38367	

PANEL DESIGNATION	PNL-C	PROJECT NO.
120 / 208 VOLT	LOCATION/ROOM:	
3 PHASE 200 AMP MLO BREAKER	SURFACE MOUNTED	
4 WIRE	FAULT CURRENT RATING	AIC.

CKT	AMP/ POLE	REMARKS	W A TTS LEFT	W A TTS RIGHT	REMARKS	AMP/ POLE	CKT PH
1	A1 20/1	LIGHTING	1000	720	RECEPTACLES	20/1	2 A
3	B1 20/1	LTG, RF2,3,4	1200	900	RECEPTACLES	20/1	4 B
5	C1 20/1	SPARE	0	720	RECEPTACLES	20/1	6 C
7	A1 20/1	SPARE	0	540	RECEPTACLES	20/1	8 A
9	B1 20/1	SPARE	0	900	RECEPTACLES	20/1	10 B
11	C1 20/1	RECEPTACLES	720	900	RECEPTACLES	20/1	12 C
13	A1 20/1	RECEPTACLES	720	1080	RECEPTACLES	20/1	14 A
15	B1 20/1	RECEPTACLES	720	900	RECEPTACLES	20/1	16 B
17	C1 20/1	RECEPTACLES	900	1080	RECEPTACLES	20/1	18 C
19	A1 20/1	RECEPTACLES	900	900	RECEPTACLES	20/1	20 A
21	B1 20/1	RECEPTACLES	1080	900	RECEPTACLES	20/1	22 B
23	C1 20/1	RECEPTACLES	1080	900	RECEPTACLES	20/1	24 C
25	A1 20/1	RECEPTACLES	1080	900	RECEPTACLES	20/1	26 A
27	B1 20/1	RECEPTACLES	900	1260	RECEPTACLES	20/1	28 B
29	C1 20/1	RECEPTACLES	900	900	RECEPTACLES	20/1	30 C
31	A1 20/1	RECEPTACLES	1080	900	RECEPTACLES	20/1	32 A
33	B1 20/1	RECEPTACLES	720	900	RECEPTACLES	20/1	34 B
35	C1 20/1	RECEPTACLES	720	900	RECEPTACLES	20/1	36 C
37	A1 20/1	RECEPTACLES	900	900	RECEPTACLES	20/1	38 A
39	B1 20/1	SPARE	0	900	RECEPTACLES	20/1	40 B
41	C1 20/1	WP RECEPTACLES	540	0	SPARE	20/1	42 C

PHASE A =	11620	TOTAL CONNECTED	
PHASE B =	11469	LOAD (WATTS) =	
PHASE C =	10260	33349	

PANEL DESIGNATION	PNL-D	PROJECT NO.
120 / 208 VOLT	LOCATION/ROOM:	
3 PHASE 200 AMP MLO BREAKER	SURFACE MOUNTED	
4 WIRE	FAULT CURRENT RATING	AIC.

CKT	AMP/ POLE	REMARKS	W A TTS LEFT	W A TTS RIGHT	REMARKS	AMP/ POLE	CKT PH
1	A1 20/1	LIGHTING	1200	720	RECEPTACLES	20/1	2 A
3	B1 20/1	SPARE	0	900	RECEPTACLES	20/1	4 B
5	C1 20/1	SPARE	0	720	RECEPTACLES	20/1	6 C
7	A1 20/1	RECEPTACLES	1080	540	RECEPTACLES	20/1	8 A
9	B1 20/1	RECEPTACLES	1080	900	RECEPTACLES	20/1	10 B
11	C1 20/1	EMD-1 1.5KW	1500	900	RECEPTACLES	20/1	12 C
13	A1 20/1	RECEPTACLES	1260	1656	P-5 3/4HP	30/1	14 A
15	B1 20/1	SPARE	0	1500	EMD-2 35W	/	16 B
17	C1 20/1	SPARE	0	1500	" "	/ 2	18 C
19	A1 20/1	SPARE	0	0	SPARE	20/1	20 A
21	B1 20/1	SPARE	0	0	SPARE	20/1	22 B
23	C1 20/1	SPARE	0	0	SPARE	20/1	24 C
25	A1 20/1	SPARE	0	1656	P-6 3/4HP	30/1	26 A
27	B1 20/1	SPARE	0	1656	P-7 3/4HP	30/1	28 B
29	C1 20/1	SPARE	0	1656	P-8 3/4HP	30/1	30 C
31	A1 20/1	SPARE	0	2880	CO-6 24A.	40 / 3	32 A
33	B1 20/1	SPARE	0	2880	" "	/ 2	34 B
35	C1 20/1	SPARE	0	2880	CO-7 24A.	40 / 3	36 C
37	A1 20/1	SPARE	0	2880	" "	/ 2	38 A
39	B1 20/1	SPARE	0	2880	CO-8 24A.	40 / 3	40 B
41	C1 20/1	WP RECEPTACLES	540	2880	" "	/ 2	42 C

PHASE A =	13872	TOTAL CONNECTED	
PHASE B =	11796	LOAD (WATTS) =	
PHASE C =	12576	38244	

FIXTURE NUMBER	LAMP SIZE AND TYPE	MOUNTING	MANUFACTURERS NUMBER	REMARKS
AA	LED 40K 36.7 WATTS 4775 LUMENS	RECESSED LAY-IN GRID CEILING	LITHONIA NO. CPX2X44000LM- A12-MIN10 120V ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	2'X4' FLAT PANEL WHITE TRIM
AB	LED 40K 24.6 WATTS 80 CRI 3258 LUMENS	RECESSED LAY-IN GRID CEILING	LITHONIA NO. CPX2X43000LM- A12-MIN10 120V ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	2'X4' FLAT PANEL WHITE TRIM
AC	LED 40K 40.0 WATTS 80 CRI 5024 LUMENS	RECESSED LAY-IN GRID CEILING	LITHONIA NO. CPX2X45000LM- A12-MIN10 120V ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	2'X4' FLAT PANEL WHITE TRIM
AD	LED 40K 41.8 WATTS 80 CRI 5892 LUMENS	RECESSED LAY-IN GRID CEILING	LITHONIA NO. CPX2X46000LM- A12-MIN10 120V ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	2'X4' FLAT PANEL WHITE TRIM
AE	LED 40K 30.5 WATTS 4312 LUMENS	RECESSED LAY-IN GRID CEILING	LITHONIA NO. 2BLT4-40L- ADP-120V-EZ1 LP840 ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	2'X4' LAY-IN BASKET WHITE TRIM
BA	LED 40K 18.4 WATTS 950 LUMENS	RECESSED	LITHONIA NO. LDN6-40/10- L04ARLSSTRW- 120V-GZ1 ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	6" APERATURE RECESSED DOWNLIGHT IC RATED
BB	LED 40K 17.5 WATTS 1514 LUMENS	RECESSED	LITHONIA NO. LDN6-40/15- L04ARLSSTRW- 120V-GZ1 ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	6" APERATURE RECESSED DOWNLIGHT IC RATED
BC	LED 40K 6 WATTS 523 LUMENS	RECESSED	LITHONIA NO. LDN4-40/05- L04ARLSSTRW- 120V-GZ1 ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	4" APERATURE RECESSED DOWNLIGHT IC RATED
EX	LED LAMPS D.C. LAMPS WITH FIXTURE	UNIVERSAL MOUNT. SEE PLANS FOR MOUNTING TYPE AND LOCATION.	LITHONIA NO. LQM53R-120-EL SD ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	SINGLE FACE EXIT LIGHT POLYCARBONATE HOUSING WHITE FINISH RED LETTERS NICKEL CADMIU BATTERY 120V SELF CONTAINE INSIDE FIXTUR ARROWS AS INDICATED ON PLANS
EM	LED LAMPS FURNISHED W/ FIXTURE	SURFACE CENTER OF FIXTURE TO BE MOUNTE AT 7'-0" AFF MOUNTING TYPE AND LOCATION.	LITHONIA NO. ELM4L120VLTP SDRT-R ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	BATTERY 6 VOL EMERGENCY LIGHT WITH 2 HEADS. WHITE HOUSING LEAD CALCIUM BATTERY HOUSING WHITE FINISH RED LETTERS NICKEL CADMIU BATTERY 120V SELF CONTAINE INSIDE FIXTUR ARROWS AS INDICATED ON PLANS
WA	LED 15.0 WATTS 2023 LUMENS	SURFACE	LITHONIA NO. WDGE2-120V VPE20MC-DB ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	EGRESS LIGHT WITH BATTERY BACK-UP DARK BRONZE VERIFY COLOR PRIOR TO ORDERING
F1	LED 92 WATTS 7445 LUMENS	SURFACE CONCRETE BASE	LITHONIA NO. DSX0-LED-P4 30K70-M-208V HS01-23'-0" SQUARE POLE ACCEPTABLE MANUFACTURER OR APPROVED EQUAL	SINGLE POLE DARK BRONZE 23'-0" POLE HOUSE SIDE SHIELD

0 4' 8' 16' 32' 48'
1/16" = 1'-0"

0 2' 4' 8' 16' 24'
1/8" = 1'-0"

0 3' 6' 12' 18'
3/16" = 1'-0"

0 1' 2' 4' 8' 12'
1/4" = 1'-0"

0 6" 1' 2' 4' 6'
1/2" = 1'-0"

0 4" 8" 16" 32" 4'
3/4" = 1'-0"

0 3" 6" 1' 2' 3'
1" = 1'-0"

0 2" 4" 8" 16" 2'
1 1/2" = 1'-0"

0 1" 2" 4" 8" 1'
3" = 1'-0"

Legacy Designs, Inc.
555 S. Perryville Road
ROCKFORD, ILLINOIS 61108
Professional Design Firm No. 184-003463
815-484-4708 Phone 815-484-4710 Fax
e-mail: legacydesigns@comcast.net
web site www.legacydesigns.net

RIDGELAND ASSOCIATES INC.
ARCHITECTS DESIGNERS PLANNERS
1 Riverside Rd. Riverside, Illinois 60546
708.435.0300 708.435.0305 fax
www.ridgelandassociates.com

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Revisions

Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA
Joseph Anthony Scalise
PROFESSIONAL ENGINEER
7-31-26

Sheet Name
SCHEDULES
RISER DIAGRAM

Sheet Number
E105

224193

Recyclable

ELECTRICAL SPECIFICATIONS:

1.01. WORK INCLUDES

A. Raceways.
B. Wires and cables.
C. Boxes.
D. Supporting devices.

1.02. REGULATORY REQUIREMENTS

A. Chicago Building Code
1. Comply for construction and installation of basic materials.
2. Wiring Methods; Spread of Fire or Products of Combustion.
3. Building code for the City of Munster
B. Underwriter's Laboratories, UL:
1. All basic materials listed and labeled by UL.
C. National Electric Code – NEC 2008

1.03. REFERENCED

A. American National Standards Institute, ANSI:
1. C80.3: Specification for Electrical Metallic Tubing, Zinc Coated.
B. National Electrical Manufacturer's Association, NEMA:
1. Enclosures: Publication 250.
a. Type 1: Indoor use, atmospheric conditions normal.
C. Underwriter's Laboratories, UL

1.04. PROJECT RECORD DOCUMENTS

A. Accurately record on mylar sepia copy of actual locations and wiring methods and "As-built" record documents.
B. Submit for Architect's review.

1.05. DRAWINGS AND SPECIFICATIONS

A. With the exception of systems and equipment furnished by Owner, it is intended that work covered by Specifications and Drawings includes systems complete and operative, irrespective of whether or not every item is specifically shown on plans and/or specified. Any omission of direct reference herein to any essential item shall not excuse contractor from complying with above intent.
B. In case of error or inconsistency, between Specifications and Drawings or within either document itself the item or arrangement of better quality, greater quantity or highest cost shall take precedence over drawings as directed by Owner. Figured dimensions supersede scaled dimensions. Contractor shall take no advantage of, and shall promptly call Owner's attention to any error, omission or inconsistency in Specifications and Drawings prior to submitting bid.
C. Material shall be new. Seconds or damaged materials will be rejected by Owner, who reserves the right to disapprove and reject any materials, proposed or installed which, in their opinion, fail to meet quality standards specified. Contractor shall, at his expense, remove any rejected materials and replace with approved materials.

2. PRODUCTS

2.01. RACEWAYS

A. Conduit Materials, Components:
1. Conduit:
a. Electrical Metallic Tubing: ANSI C80.3.
2. Couplings:
a. EMT Conduit: Set screw.

2.02. WIRES AND CABLES

A. Building Wiring: 98% conductivity copper, 600 volt insulation, THWN or THHN.
B. Branch Circuit Wiring: Conductors smaller than #12 AWG not permitted.
C. Provide permanent plastic name tag indicating load fed.

2.03. WIRING SYSTEM IDENTIFICATION

A. Wire Insulation Color:
120/208 v., 3 phase, 4 wire
1. Phase A Black
2. Phase B Red
3. Phase C Blue
4. Neutral White
5. Ground Green

2.04. BOXES

A. Outlet Boxes: Hot dipped galvanized, 1.25 oz./sq. ft. or cadmium plated.
1. Interior Boxes: Pressed sheet steel, with knockouts for conduit; attached lugs for locating.
2. Ceiling Boxes: 4 inch octagon boxes for 1 fixture; including fixture studs and maximum 2 connecting conduits.
3. Flush Mounted in Walls:
a. Boxes with matching plaster cover for single or two gang outlets.
b. Two gang box or larger for conductors, conductor joints, conduit terminations and wiring devices.
B. Pull Boxes and Junction Boxes: NEC metal construction; with screw-on or hinged cover.
1. Flush Mounted Pull Boxes: Overlapping covers with flush-head cover retaining screws; prime coated.

2.05. WIRING DEVICES

A. Wiring Devices shall be Hubbell, Leviton, or Approved equal to those listed Underwriter's approved and N.E.C. rated. Furnish shop drawings. Refer to symbol list for scheduled wiring devices.
B. All receptacles must be grounded type with separate green ground wire from ground terminal on all grounded receptacle to backbox(and from backbox to ground bar in panelboard). Self-grounding, clip is not acceptable.
C. All duplex receptacles installed within 6 feet of a sink shall have ground fault circuit-interrupter protection.
D. Install wiring devices where indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products served the intended function.
E. All wiring devices in finished areas shall be flush mounted in recessed outlet boxes unless specifically noted otherwise. Wiring devices in unfinished spaces, mechanical, and utility areas may be either flush mounted or surface mounted as conditions dictate and as practical unless otherwise noted on plans; coordinate
F. All duplex receptacle mounted in a vertical position shall be mounted with the ground opening down. Verify acceptance with Architect, Owner and local code authorities having jurisdiction before installing.
I. Install receptacles and switches only in electrical boxes which are clean; free from excess building materials, debris, etc.
J. Elevations indicated in Symbol Schedule and plans are nominal. Install to nearest block coursing, to clear equipment, or as noted.
K. Switches and operating devices shall not be installed higher than 48" – in compliance with handicap code requirement – where applicable. Receptacles, telephone outlets and other power and communication output devices shall not be installed lower than 18" – in compliance with handicap code requirements – where applicable.
L. Coodinate with Mechanical Contractor and be responsible for assuring that wiring devices clear heating baseboard, wall, fin, cabinet units, ductwork, registers, and other HVAC equipment and appurtenances.
M Coodination with Plumbing Contractor and be responsible for assuring that wiring devices clear sinks, cabinets, piping and other plumbing equipment and appurtenances.
N. Coodination with General and Cabinert Contractor and be responsible for assuring that wiring wiring devices clear cabinet work, counters, sheiving, etc.
O. Coodination with General and Cabinert Contractor and be responsible for assuring that wiring frame – latch side – with exceptions for adjacent glass light panels, etc. Contractor shall be responsible for achieving same.

2.06. SUPPORTING DEVICES

A. Conduit Supports:
1. Single Runs: Galvanized conduit straps or ring bolt type hangers with specialty spring clips
2. Vertical Runs: Channel support with conduit fittings.
B. Anchors
1. Hollow Masonry: Toggle bolts or spider type expansion anchors.
2. Solid Masonry: Lead expansion anchors or preset inserts
3. Metal Surfaces: Machine screws, bolts, or welded studs.
4. Wood Surfaces: Wood screws.
5. Concrete Surfaces: Self-drilling anchors or power-driven studs.

2.07. FIRE AND SMOKE PENETRATION SEALANT

A. NEC 300-21; UL rated flexible sealant.

2.08. CORROSION PREVENTION

A. Protect all metallic materials against corrosion.
1. All equipment enclosures given rust-inhibiting treatment and standard finish by manufacturer.
2. Ferrous Metal Parts: Hot dip galvanized, ASTM A123 or ASTM A153.
a. Includes anchors, bolts, braces, boxes, bodies, clamps, fittings, guards, nuts, pins, rods, shims, thimbles, washers and miscellaneous parts; other than stainless steel or non-ferrous steel or non-ferrous materials.
B. Isolation of Dissimilar Metals: Separate dissimilar metals with NEC approved material.

3. EXECUTION

3.01. INSTALLATION

A. Drawings are diagrammatic and are intended to convey scope of work and indicate general arrangement of conduit, boxes, equipment, fixtures and other work included in contract.

3.02. RACEWAYS

A. Locations:
1. Above-Grade Interior Locations: Electrical metallic tubing.
2. Install liquid-tight flexible conduit where subjected to one or more of the following conditions.
a. Moist or humid atmosphere where condensate can be expected or accumulate.
b. Corrosive atmosphere.
c. Subjected to water spray.
d. Subjected to dripping oil, grease, or water.
3. Size raceways in accordance with NEC for TW wire regardless of wire type used.

B. Installation of Conduit:
1. Install conduit and tubing products indicated, in accordance with manufacturer's written instructions and requirements of NEC and NECA, Standard of Installation.
2. Conceal conduit in all areas excluding mechanical, electrical and other unfinished rooms, connections to motors, and connections to surface cabinets.
3. Attach conduit with clamps.
4. Coordinate installation of conduit in partition work.
5. Install conduit free from dents and bruises.
6. Plug conduit ends to prevent entry of dirt or moisture.
7. Clean out conduit before installation of conductor(s).
8. Alter conduit routing to avoid obstructions, minimize cross-overs; and where possible, install raceways above water and steam piping.
9. Allow minimum 6 inch clearance at flues, steam pipes, and heat sources.
10. Route all exposed conduits parallel or perpendicular to building lines.
11. Fire rated walls, partitions, floors, ceiling penetrations: Sealed in accordance with NEC 300-21.
a. Flexible sufficient length to avoid vibration transmission.
12. Building Expansion Joints: Install UL listed expansion fittings complete with grounding jumpers where conduits cross building expansion joints.
a. Provide bends or offsets in conduit adjacent to building expansion joints where conduit is installed above suspended ceiling.

3.03. RACEWAY SYSTEM IDENTIFICATION

A. Identify all exposed conduits and boxes as follows:
1. Boxes, on face of coverplate.
a. Power – Show panel, voltage and circuit number, painted stenciled letters. (Black letters, yellow background).
b. Systems – Indicate system, such as sound, clock, telephone, etc., (black letters, yellow background).
B. Identify all conduit and boxes above accessible ceilings.
1. Follow steps A.1. above.
C. Lettering to be as large as possible for each conduit size.

3.04. WIRE AND CABLES

A. Installation:
1. Make conductor length for parallel feeders identical.
2. Lace or clip groups of feeder conductors at distribution center, pull boxes and wireways.
3. Conductor size indicated on drawings indicates ampacity requirements using copper conductors.

3.05. BOXES

A. Installation:
1. Provide knockout closures to cap unused knockout holes where blanks have been removed.
2. Support all boxes independently of conduit.
3. Outlet Boxes:
a. Flush mount outlet boxes in areas other than mechanical rooms, electrical rooms, and above removable ceilings.
b. Masonry Walls:
1) Adjust position of outlets in finished masonry walls to suit masonry course lines.
2) Coordinate cutting of masonry walls to achieve neat openings for boxes.
3) Locate boxes in masonry walls so that only corner need be cut from masonry units.
c. Do not use sectional boxes unless approved by Architect/Engineer.
d. Adjust outlet mounting height to grade with specified location for equipment served.
4. Pull Boxes and Junction Boxes: Locate pull boxes and junction boxes above removable ceilings or in electrical rooms, utility rooms, or storage areas.

3.06. SUPPORTING DEVICES

A. Installation:
1. Maintain headroom, neat mechanical appearance, and support equipment loads specified.

3.07. PRESENT EQUIPMENT AND CONSTRUCTION

A. Examination

1. Before submitting his bid, Contractor shall visit the present site, building, areas being remodeled and adjacent areas not being remodeled.
2. Contractor shall contact the Owner to carefully verify all present external and internal exposed, concealed, buried points of connections as to location, size, type, depth, operating characteristics, etc., including, but not limited to the following:
a. Present building construction and conditions.
b. Present interior electrical distribution system.
c. Present electrical operating characteristics.
d. New connections to present equipment and/or services.
e. All areas/locations of demolition and adjoining spaces.
f. All areas/locations for relocated/reinstalled equipment.
3. Verify that abandoned wiring, equipment, piping, boxes, etc. serve only abandoned facilities and remove.
4. If contractor finds that any present point of points of connection to present facilities/equipment are incorrectly shown on plans or incorrectly specified, he shall notify the Owner, in writing, at least 10 (ten) working days before bids are due to be submitted.
5. Owner will issue an addendum to all contractors, calling their attention to revised point or points of connection, as required.
6. If electrical contractors fail to notify the Owner, in writing, as outlined above, it will be expected that their bid includes everything required to provide proper connections to all present points of connection as they actually exist or as they will be provided.
7. All modifications, relocations, replacements, additional runs and extensions, etc. will be provided by electrical contractors without increase in contract price.

B. Following removed present equipment and materials which are in good condition (or are placed in good condition), suitable, meet requirements of these specifications, and are approved in writing by engineer, or called for, may be reused (PXR–PN).
1. Lighting fixtures.
C. Removed conduit and wire must not be reused.
D. Any of above equipment which is not reused and following removed present equipment shall become property of contractor, and shall be removed from premises by him (PX).
1. Equipment so designated on drawings.
E. Following present equipment shall be carefully removed, intact, match, marked, in-so-far as is practical, shall remain property of Owner, and shall be delivered to Owner outside of building where directed by the engineer (PX–DO).
1. Equipment so designated on drawings.
F. Contractor shall:
1. Provide new floors under removed present equipment and where called for.
2. Repair floors under and walls adjacent to removed equipment, to match adjacent construction.
3. Fill in present chases which are no longer required and neatly patch to match adjacent construction.
4. Cut openings required for:
a. His work.
b. Admission of new equipment.
c. Removal of present equipment.
d. New connection to present construction.
5. Patch and repair unused present holes and openings, and those left by the removal of present equipment and admission of new equipment.
6. Patch and repair present equipment, and building construction which has been cut, removed, disturbed or marred as required to restore it to original condition before being disturbed.
G. Unused openings in enclosures in conduits, boxes, cabinets, and panels shall be filled.
H. Present painted construction which is marred shall be repaired same as new construction.
I. Certain abbreviations or symbols, when applied to present (or existing) line, device or equipment, shall have the following meanings.

NC New connections to present piping, device, wiring, equipment, etc. Install, test, cover, paint, etc., same as new work.

P To remain unchanged. If change cannot be avoided, change "P" to "PXR", at no increase in contract price. Verify location.

PX To be completely removed, including unneeded connections, piping, ducts, wiring, boxes, etc., of every kind. Unused openings plugged or capped, tested, covered, painted same as new work. Other disturbed work of every kind restored, patched, tested, covered, painted, etc., to equal original condition. Removed materials must not be reused unless otherwise specified or directed by engineer.

PX–DO Fixtures, equipment, devices, etc., removed intact, as far as practical, identified as required, and delivered to owner outside of building as directed by architect/engineer. Associated boxes, wiring, conduits, etc., to be "PX".

PXR Removed, cleaned and restored to good operating condition and reinstalled, same as new, in original position. If reconditioning is impractical, provide new device/equipment, as approved by engineer, at no increase to contract price. If adjacent walls, floors, ceiling, etc., are damaged, they shall be repaired by electrical contractor as directed by architect.

PXN Removed, cleaned and restored to good operating condition and reinstalled at point/location marked "PN". Boxes, wiring conduit, etc., to be "PX".

PN Completely reinstall device, line, equipment, etc., removed, at new location, same as new work. Reconnect to present circuit/switch leg/systems wiring, etc., unless noted otherwise on drawings.
Re-lamp light fixtures for (PN) fixtures as required.

J. Work of every division shall be coordinated with all other work and with present conditions, so that:
1. Electrical services to be present buildings or portions of buildings will not be interrupted during periods when those services are needed.
K. New conduit serving new and/or present electrical devices in finished rooms or spaces shall be concealed in finished rooms, where possible, or shall be run in adjoining unfinished rooms, shafts, chambers, cloak rooms, etc., where exposed conduit is permitted in finished present rooms by Architect in writing, it shall be wiremold, with matching boxes, run as inconspicuously as possible, in straight lines, parallel to walls and ceilings, with neat bends. Unneeded boxes, switches and wiring shall be completely removed and openings patched. In present rooms or locations where new lighting equipment is shown, present fixtures, boxes, wiring, switches, etc., shall be removed as per note "PX", unless another symbol is shown on drawings. Where specifically approved by Architect in writing, boxes may be permitted to remain and be provided with new flush covers, extending over entire wall opening.
L. Lighting fixtures which are reused shall have lens and reflectors cleaned. All fixtures shall be provided with new lamps.
M. Work shall be coordinated so that heating, plumbing, electrical and telephone services to the present building will not be interrupted, except as approved by the Architect.

3.09. CLEANING

A. Clean systems internally before placing in operation. Clean externally and restore damaged surfaces.
B. Lubricate equipment per manufacturer's instructions. Where – lubricating points are not easily accessible, provide extensions.

4. FIRE ALARM AND DETECTION SYSTEM

A. Electrical Contractor provide a zone, none-coded, continuous sounding, U.L. listed, electrically supervised system, fully installed and tested.
B. Requirements of regulatory agencies:
1. National Fire Protection Association (NFPA):
a. NFPA-70 National Electrical Code (NEC)
b. NFPA-101 Life Safety Code
c. Local codes and ordinances
d. Underwriters Laboratories, Inc. (UL)
C. Reference Standards:
1. National Fire Protection Association (NFPA)
a. NFPA-72A Local Protection Signaling Systems
b. NFPA-72B Auxiliary Signaling Systems
c. Remote Station System
d. NFPA-72D Proprietary Signaling System
e. NFPA-72E automatic Fire Detectors
2. National Electrical Manufacturer's Association (NEMA).
3. All equipment specified shall be U.L. listed and cross listed for use with the main fire alarm control panel and shall bear the same manufacturer's name on the main control panel as well as all the remote devices. Systems having equipment with various manufacturer's names will not be acceptable.
4. The Fire Alarm System specified is manufactured by the Simplex Time Recorder Co. Catalog and model numbers are intended to establish the type and quality of equipment and system design as well as exact operating features required. The manufacturer's specification sheets of each item so listed shall be considered to be part of the specification and binding therein.
5. Acceptable as equal:
a. Pyratronics
b. Gamewell
c. Edwards
d. Fire-Lite
6. System Operation
a. Actuation of any alarm initiating device shall cause all alarm devices to sound continuously. Alarm initiating device shall be grouped in zones. A zone in alarm conditions shall be indicated by a red LED on the proper zone module.
b. Actuation of any alarm initiating device shall automatically cause the following operations when furnished as a part of this system.
(1) Sound or audio-visual devices continuously (NOTE: A one (1) minute inhibit shall not allow the audible signals to be prematurely silenced until one (1) minute after the alarm has sounded.
(2) Indicate on the control panel the zone initiating the alarm and/or trouble condition.
(3) Indicate the zone of the reporting device on the remote annunciator.
(4) Be arranged to transmit a signal to the local fire department (via leased telephone lines).

ELECTRICAL SYMBOLS

TYPICAL: ALL MOUNTING HEIGHTS ARE TO DEVICE CENTERLINE U.N.O.

LIGHTING

- RECESSED CEILING FIXTURE
- SURFACE OR PENDANT CEILING FIXTURE
- WALL MOUNTED FIXTURE
- RECESSED FLUORESCENT FIXTURE (SHADING INDICATES EMER.)
- SURFACE OR PENDANT FLUORESCENT FIXTURE
- EXIT LIGHT WALL MOUNTED (SHADING INDICATES FACE)
- EXIT LIGHT CEILING MOUNTED (SHADING INDICATES FACE)
- LIGHT TRACK
- BATTERY EMERGENCY FIXTURE

NUMBER=CIRCUIT
LETTER = SWITCH
F1,F2,F3 = FIXTURE
SEE SPECIFICATIONS AND FIXTURE SCHEDULE

SWITCHES

- SINGLE POLE SWITCH
- 3 THREE WAY SWITCH

4'-0" A.F.F. UNLESS NOTED OTHERWISE

RECEPTACLES

- DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE, GROUND FAULT TYPE
- SPECIAL RECEPTACLE, SIZE AND TYPE AS NOTED

18" AFF UNLESS NOTED OTHERWISE

MISCELLANEOUS

- MOTOR OUTLET BOX (* HP, KW OR KVA). VERIFY EXACT LOCATION AND HEIGHT OF ALL MOTORS BEFORE ROUGH-IN.
- OUTLET WITH FINAL CONNECTIONS TO EQUIPMENT. WHICH IS FBO. VERIFY EXACT LOCATION AND HEIGHT BEFORE ROUGH-IN.
- MOTOR STARTER
- COMBINATION MOTOR STARTER/DISCONNECT SWITCH
- TELE-POWER POLE
- CEILING SURFACE JUNCTION BOX
- WALL SURFACE JUNCTION BOX MOUNTING HEIGHT AS NOTED
- SAFETY SWITCH (F = FUSED) 4'-6" AFF
- TRANSFORMER
- SURFACE ELECTRICAL PANEL 36" AFF TO BOTTOM UNO
- RECESSED ELECTRICAL PANEL 36" AFF TO BOTTOM UNO
- WIRING IN CONDUIT CONCEALED, ABOVE CEILINGS OR IN WALLS
- WIRING IN CONDUIT CONCEALED IN OR UNDER FLOORS (UNO)
- WIRING HOMERUN TO PANEL
- GROUND CONDUCTOR
- REFERENCE NOTE

CHARACTER MARKS= NUMBER OF WIRES, IF NONE ARE SHOWN PROVIDE TWO EXCEPT IF A GROUND CONDUCTOR IS REQUIRED PROVIDE THREE

TELEPHONE SYSTEM

- TELEPHONE CONDUIT CONCEALED ABOVE CEILINGS OR IN WALLS
- TELEPHONE CONDUIT CONCEALED IN OR UNDER FLOORS
- WALL TELEPHONE / DATA OUTLET BOX 18" AFF "W" = 4'-6" AFF

FIRE ALARM SYSTEM

NOTE: NUMBER BY SYMBOL INDICATES ZONE TO WHICH DEVICES ARE WIRED IN FIRE ALARM CONTROL PANEL. UNLESS NOTED OTHERWISE

- F — FIRE ALARM SYSTEM WIRING,IN CONDUIT,CONCEALED
- —X—F— FIRE ALARM SYSTEM WIRING,IN CONDUIT,EXPOSED
- F — WALL FIRE ALARM MANUAL STATION – UP 4'-0" AFF
- V F — WALL FIRE ALARM VISUAL DEVICE ONLY – UP 6'-8" AFF
- AV F — WALL FIRE ALARM AUDIO/VISUAL DEVICE – UP 6'-8" AFF
- AV F F — WALL FIRE ALARM MANUAL STATION & AUDIO/VISUAL DEVICE ALIGNED VERTICALLY
- H F — HEAT DETECTOR (135°) CEILING TYPE.
- S F — SMOKE DETECTOR – CEILING MOUNTED TYPE
- FIRE ALARM SYSTEM CONTROL PANEL (FACP)
- FIRE ALARM SYSTEM REMOTE ANNUNCIATOR PANEL (FAAP)
- FS F — SPRINKLER SYSTEM WATER FLOW SWITCH
- TS F — SPRINKLER SYSTEM TAMPER SWITCH

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER	NEC	NATIONAL ELECTRICAL CODE
AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AM	AMMETER	NL	NIGHT LIGHT
A	AMPERES	PH	PHASE (ø)
AMP	AMPLIFIER	PNL	PANEL
ASC	ABOVE SUSPENDED CEILING	SS	STAINLESS STEEL
C	CONDUIT	SW	SWITCH
EC	ELECTRICAL CONTRACTOR	SWBD	SWITCHBOARD
E	EMERGENCY	XFMR	TRANSFORMER
EWC	ELECTRIC WATER COOLER	TFA	TO FLOOR ABOVE
EWH	ELECTRIC WATER HEATER	TFB	TO FLOOR BELOW
FBO	FURNISHED BY OTHER THAT ELECTRICAL CONTRACTOR. COMPLETELY WIRED, WITH FINAL CONNECTIONS TO EQUIPMENT AND DEVICES, BY ELECTRICAL CONTRACTOR.	TS	TIME SWITCH
		TTB	TELEPHONE TERMINAL BOARD
		TTC	TELEPHONE TERMINAL CABINET
		UNO	UNLESS NOTED OTHERWISE
FLA	FULL LOAD AMPS	UPS	UNINTERUPTABLE POWER SUPPLY
FWU	FURNISHED WITH UNIT	V	VOLT
GFI	GROUND FAULT INTERRUPTER	VM	VOLTMETER
HP	HORSEPOWER	W	WIRE
HT	HEIGHT	WBEC	WIRED BY EC
IBEC	INSTALLED BY EC	WP	WEATHERPROOF
IWS	IN WALL SPACE		
JB	JUNCTION BOX		
KW	KILOWATTS		
KWHR	KILOWATT-HOUR		
LTG	LIGHTING		
LV	LOW VOLTAGE		
MAG	MAGNETIC		
MAX	MAXIMUM		
MDP	MAIN DISTRIBUTION PANEL		
MFR	MANUFACTURER		
MIN	MINIMUM		
MTD	MOUNTED		
MTG	MOUNTING		

0 4' 8' 16' 32' 48' — 1/16" = 1'-0"
0 2' 4' 8' 16' 24' — 1/8" = 1'-0"
0 3' 6' 12' 18' — 3/16" = 1'-0"
0 1' 2' 4' 8' 12' — 1/4" = 1'-0"
0 6" 1' 2' 4' 6' — 1/2" = 1'-0"
0 4" 8" 16" 32" 4' — 3/4" = 1'-0"
0 3" 6" 1' 2' 3' — 1" = 1'-0"
0 2" 4" 8" 16" 2' — 1 1/2" = 1'-0"
0 1" 2" 4" 8" 1' — 3" = 1'-0"

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555 S. Perryville Road
ROCKFORD, ILLINOIS 61108
Professional Design Firm No. 184-003463
815-484-4708 Phone 815-484-4710 Fax
e-mail legacydesigns@comcast.net
web site www.legacydesigns.net

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www.ridgelandassociates.com

STATE OF INDIANA — ZENON KURDZIEL — AR. 19800045 — REGISTERED ARCHITECT
EXPIRATION DATE: 12/31/2025

EAI DESIGN/BUILD
E.ANTHONY.INC.
Complete Construction Services
708-802-8230

OSNI
BUILDING RENOVATION AND SITE WORK
9900 COLUMBIA AVENUE, MUNSTER, INDIANA 46321

Revisions
Drawing Date 8-5-2024
Project Number 24038

STATE OF INDIANA — Thomas Joseph Shelley — Registered Professional Engineer — 7-31-25

Sheet Name
ELECTRICAL SPECIFICATIONS AND SYMBOLS

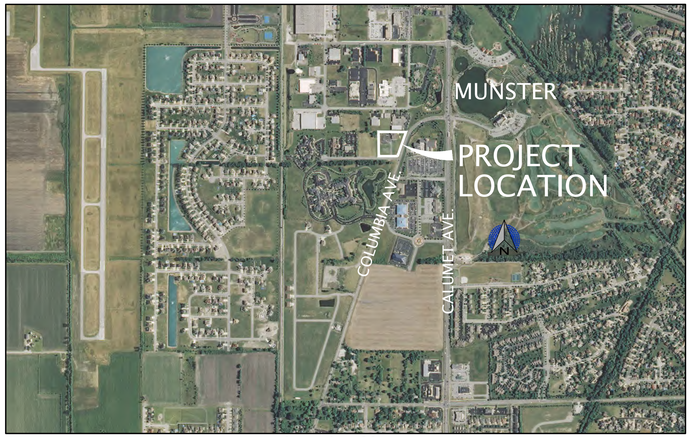
Sheet Number
E106

224193

OSNI MEDICAL OFFICE

9900 COLUMBIA AVENUE MUNSTER, IN

ISSUED FOR CONSTRUCTION - 08/30/2024



Location Map
(No Scale)

BENCHMARK

MAG NAIL IN SOUTHWEST CORNER OF EXISTING PARKING LOT
ELEVATION = 614.94 (NAVD88)

Indiana811 Know what's **below.Call** before you dig.

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INDEX OF SHEETS

LEGEND

- EXISTING DRAINAGE STRUCTURE
- EXISTING END SECTION
- EXISTING SANITARY STRUCTURE
- EXISTING FIRE HYDRANT
- EXISTING VALVE & BOX
- EXISTING B-BOX
- EXISTING STREET LIGHT
- POWER POLE
- SBC PEDESTAL
- MAIL BOX
- PROPOSED DRAINAGE STRUCTURE
- PROPOSED END SECTION
- PROPOSED SANITARY STRUCTURE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE & VAULT
- PROPOSED VALVE & BOX
- PROPOSED B-BOX
- PROPOSED STREET LIGHT
- DIRECTION OF FLOW
- OVERLAND FLOOD ROUTE
- 000.00 T/W / 000.00 B/W — PROPOSED TOP RETAINING WALL ELEVATION / PROPOSED BOTTOM OF RETAINING ELEVATION
- 000.00 / 000.00 — PROPOSED TOP OF CURB ELEVATION / PROPOSED GUTTER FLOWLINE ELEVATION
- 000.00 — PROPOSED SURFACE ELEVATION

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BOUNDARY LINES
- RIGHT-OF-WAY LINES
- PROPOSED LOT LINES
- UNDERLYING LOT LINE
- EASEMENT LINES
- BUILDING LINES
- CHAINLINK FENCE
- ORNAMENTAL FENCE
- OVERHEAD POWER LINES
- TELEPHONE ROUTE
- ELECTRIC ROUTE
- GAS ROUTE
- EXISTING WATER
- EXISTING STORM
- EXISTING SANITARY
- PROPOSED WATER
- PROPOSED STORM
- PROPOSED SANITARY

PROPOSED

STORM SEWER — CB #1 /48"Ø — 1022Z1, 1020M1 — R: 100.00 — I: 95.00 (W) — I: 94.00 (E)
TYPE & LABEL/DIAMETER
TYPE OF FRAME & COVER
RIM ELEVATION
PIPE INVERT AND DIRECTION
PIPE INVERT AND DIRECTION

SANITARY SEWER — SAN MH A /48"Ø — 1022Z1, 1020AGS — R: 100.00 — I: 94.00 (W) — I: 93.90 (E)
TYPE & LABEL/DIAMETER
TYPE OF FRAME & COVER
RIM ELEVATION
PIPE INVERT AND DIRECTION
PIPE INVERT AND DIRECTION

WATER — FH #1 — G: 100.0
FIRE HYDRANT & NUMBER LABEL
GROUND ELEVATION

V.B #1 — W/ 6" GATE VALVE — G: 100.0 — T/P: 95.0
V.B FOR VALVE BOX AND V.V FOR VALVE IN VAULT
SIZE OF GATE VALVE OR TAPPING SLEEVE
GROUND ELEVATION
TOP OF PIPE ELEVATION

SCHOOL DISTRICT
SCHOOL TOWN OF MUNSTER
8616 COLUMBIA AVENUE
MUNSTER, IN 46321
(219) 836-9111

WATER UTILITY
TOWN OF MUNSTER
WATER DEPARTMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6970

ELECTRIC & GAS UTILITY
NIPSCO
801 E. 86th AVENUE
MERRILLVILLE, IN 46410
(800) 464-7726

OWNER
OSNI
730 45TH AVENU
MUNSTER, IN 46321
LWERTH@OSNI.ORG
(219)-924-3300

MUNICIPAL
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COMMUNITY DEVELOPMENT
1005 RIDGE ROAD
MUNSTER, IN 46321
(219) 836-6995

SANITARY SEWER UTILITY
TOWN OF MUNSTER
SEWER DEPARTMENT
1005 RIDGE ROAD
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CABLE UTILITY
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(219) 738-2780

TELECOM UTILITY
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INDIANAPOLIS, IN 46220
(317) 252-4007

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB RYZEN REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER
08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Cover Sheet

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

C001

DATE OF SURVEY

1. TOPOGRAPHIC SURVEY COMPLETED 07/12/2023.

LOT 4

3/4" IPF
0.3' B.G.

5/8" IRF

150.00' (P,M)
125.00' (D)

UTILITY & DRAINAGE EASEMENT
(PER P.B. 80, PG. 16)

21" RCP

18" RCP

RIM 615.21
W INV. 609.38
N INV. 610.86
E INV. 610.28
S INV. 609.44

NOTE: CONCRETE DEBRIS AREA (PIPE END SECTIONS NOT FOUND)

12" RCP

RIM 613.89
NW INV. 610.18
E INV. 610.18

WOODED AREA

TAX ID. 45-06-36-251-004.000-027
COMMUNITY FOUNDATION OF NORTHWEST INDIANA, INC.
LIMITED LIABILITY COMPANY WARRANTY DEED
DOC. NO. 2019 059960
REC. 9/4/2019

125'

SITE BENCHMARK
MAG NAIL
ELEV=614.94 (NAVD88)

EXCEPTION
(WEST 125 FEET OF LOT 1)

TAX ID. 45-06-36-251-004.000-027
COMMUNITY FOUNDATION OF NORTHWEST INDIANA, INC.
LIMITED LIABILITY COMPANY WARRANTY DEED
DOC. NO. 2019 059960
REC. 9/4/2019

N 01°35'49" E 370.00' (P,M)

IRF S0507
0.11' N.
0.63' W.

IRS
DVG

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 60, PG. 03)

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 85, PG. 60)

S 88°24'11" E 375.00' (P) 374.70' (M)
500.00' (P) 499.73' (M)

RIM 614.40
E INV. 613.31

REC. 1/18/2017

RIM 614.09
W INV. 612.18
N INV. 612.18

8" PVC

hvac

225.87' (P)

RIM 615.48
615.22

18"

RIM 614.32
W INV. 610.49
S INV. 610.49

148.9'

12" RCP

15"

RIM 614.36
N INV. 610.76

109.1'

35.3'

23.0'

FRAME CANOPY

1 STORY
BRICK & FRAME
BUILDING
F.F.=617.14

"GATE CHURCH"
(9900 COLUMBIA AVENUE)

42.7'

25.3'

35.5'

54.9'

47.0'

L.A.

"vp"

"dp"

4" PVC
W INV. 616.09
E INV. 616.39

616.42
outlet

1" WATER SERVICE

RIM 617.22
BTTM 596.17
W INV. (DROP) 608.78

6" PVC

5/8" IRF
BENT WEST
0.3' B.G.
0.18' N.
0.3' W.

CONCRETE CURBING

SITE BENCHMARK
MAG NAIL
ELEV=614.94 (NAVD88)

N 01°35'49" E 370.00' (P,M)

LOT 1
(EXCEPT W. 125')

18" RCP

HOSPICE ADDITION
(PLAT BOOK 80, PAGE 16)

LOT 3

W. LINE OF THE
WEST 125' OF LOT 1

10' UTILITY EASEMENT
(PER P.B. 80, PG. 16)

10'

CALVARY COMMUNITY CHURCH ADDITION
(PLAT BOOK 85, PAGE 60)

E. LINE OF THE
WEST 125' OF LOT 1

20' BUILDING SETBACK

IRF S0514
0.3' B.G.

IRF TORRENGA
(POSITION HELD FIXED)

125.00' (D) 125.15' (M)

RIM 614.35
N INV. 611.16
S INV. 611.16

382.77' (P) 382.92' (M)

N 88°24'11" W 257.77' (P&M)

CONCRETE CURBING

OTIS BOWEN DRIVE
60' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)
(30.0' B/CURB-B/CURB)

RIM 614.20
N INV. 611.21

CONCRETE CURBING

55' BUILDING LINE (PER P.B. 85, PG. 60)

10' WATER MAIN EASEMENT (PER P.B. 85, PG. 60)

45' WOLVERINE PIPELINE COMPANY EASEMENT
(PER DOC. NO. 484236)

16" WOLVERINE PIPELINE

12" PIPE

10'

45'

55'

COLUMBIA AVENUE
66' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)
(37.7' B/CURB-B/CURB)

SIGN
"GATES"

"STREET"

IRS
DVG

RIM 616.64
E INV. 613.64

12" HDPE

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
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REGISTERED
RUSSELL JACOB PLEAK
NO. PE10010067
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Existing Conditions

N

0' 10' 20'
SCALE: 1" = 20'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C101

LEGEND

- REMOVE BITUMINOUS PAVEMENT AND SUB-BASE MATERIAL
- CONTRACTOR TO STRIP AND REMOVE SOD FROM ALL AREAS TO BE REGRADED AND PROPERLY DISPOSE. REMOVE SUBGRADE MATERIAL OR TOPSOIL AS NEEDED
- ITEM TO BE REMOVED
- LINEAR REMOVAL ITEM
- REMOVE CONCRETE AND SUB-BASE MATERIAL
- REMOVE BITUMINOUS SURFACE COURSE & BINDER COURSE (AGG. BASE TO REMAIN) (SEE NOTE 7)
- REMOVE SEWER

NOTES

1. NO DEMOLITION SHALL TAKE PLACE UNTIL ALL PERMITS HAVE BEEN ACQUIRED.
2. THE CONTRACTOR SHALL FIELD-VERIFY SITE CONDITIONS AND INFORMATION ON DRAWINGS. PROMPTLY REPORT ANY CONCEALED CONDITIONS, MISTAKES, DISCREPANCIES, OR DEVIATIONS FROM THE INFORMATION SHOWN IN THE CONTRACT DOCUMENTS. THE OWNER IS NOT RESPONSIBLE FOR UNAUTHORIZED CHANGES OR EXTRA WORK REQUIRED TO CORRECT UNREPORTED DISCREPANCIES.
3. "REMOVAL" MEANS REMOVAL OF AN ITEM ABOVE GRADE AND REMOVAL OF ALL ELEMENTS BELOW GRADE INCLUDING, BUT NOT LIMITED TO, FOOTINGS, WIRINGS, AND PIPING THAT ARE IMMEDIATELY ADJACENT TO ITEM BEING REMOVED.
4. THE CONTRACTOR SHALL SAW CUT PAVEMENT FULL DEPTH AT LIMITS OF ASPHALT REMOVAL.
5. FOR ALL CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE CONCRETE TO NEAREST JOINT, UNLESS NOTED OTHERWISE.
6. EXISTING MATERIALS TO REMAIN AROUND THE CONSTRUCTION AREA SHALL NOT BE DAMAGED DURING CONSTRUCTION. IF ANY DAMAGE IS MADE, THE CONTRACTOR IS RESPONSIBLE TO REPAIR OR RESTORE TO THE ORIGINAL CONDITION AT CONTRACTOR'S OWN EXPENSE.
7. CONTRACTOR SHALL REMOVE BITUMINOUS SURFACE COURSE & BINDERCOURSE. SUB-BASE TO BE USED FOR NEW PAVEMENT LAYER. NEW AGGREGATE TO BE ADDED TO MEET PROPOSED GRADES. NEW AND OLD AGGREGATE SHALL BE COMPACTED TO MEET COMPACTION REQUIREMENTS.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

REGISTERED
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NO. PE10010067
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:
REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Demolition Plan

N
0' 10' 20'
SCALE: 1" = 20'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C102

SITE DATA

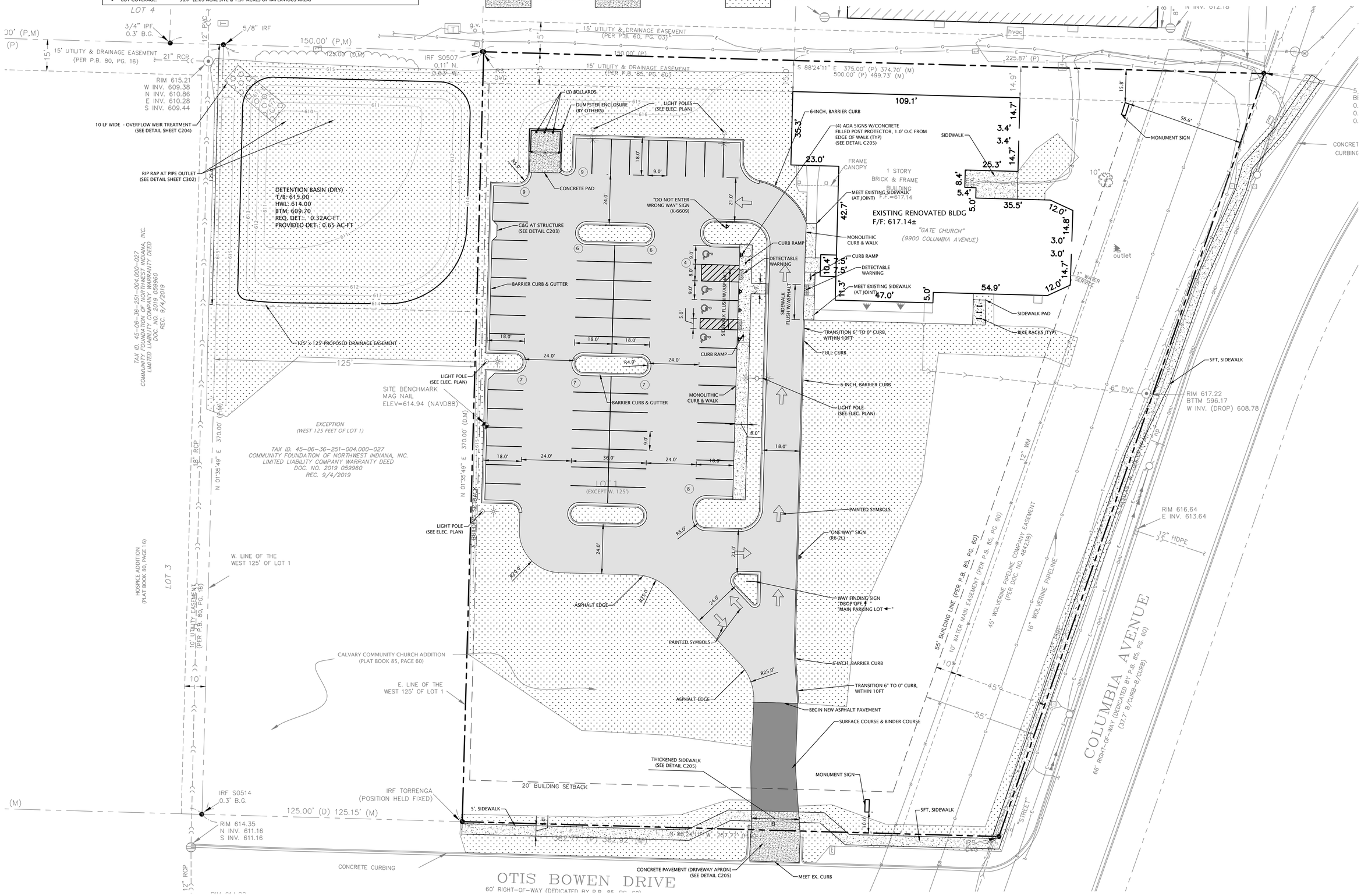
- ZONING: CD-4.B
- BUILDING AREA: 8,000± SQ. FT. (RENOVATED EX. BLDG)
- PARKING REQUIRED: 46 SPACES REQUIRED TOTAL & INCLUDES 3 ADA (MEDICAL CLINIC: 5.7 SPACE PER 1,000SF FLOOR AREA)
- PARKING PROVIDED: 63 SPACES TOTAL (INCLUDES 4 ADA SPACES)
- LOT COVERAGE: 58% (2.69 ACRE SITE & 1.57 ACRES OF IMPERVIOUS AREA)

LEGEND

- SURFACE & BINDER COURSE
- CONCRETE SIDEWALK
- ASPHALT PAVEMENT
- STRIPING (PAINT, 4" WIDE)
- BARRIER CURB & GUTTER
- 6-INCH BARRIER CURB
- EXPANSION JOINT
- TOOLED CONSTRUCTION JOINT
- CONCRETE PAVEMENT (DRIVEWAY APRON)
- CONCRETE PAD
- 4" (MIN) TOPSOIL & SEEDING/LANDSCAPING (SEE LANDSCAPE PLAN)

NOTES

1. DIMENSIONING SHALL BE TO FACE OF CURB; RADII SHALL BE BACK OF CURB UNLESS OTHERWISE NOTED.



DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

REGISTERED RUSSELL JACOB PETERS NO. PE10010067 STATE OF INDIANA PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Site Plan

SCALE: 1" = 20'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C103

DETENTION BASIN (DRY)
T/B: 615.00
HWL: 614.00
BTM: 609.70
REQ. DET.: 0.32AC-FT
PROVIDED DET.: 0.65 AC-FT

EXISTING RENOVATED BLDG
F/F: 617.14±
"GATE CHURCH"
(9900 COLUMBIA AVENUE)

1 STORY
BRICK & FRAME
BUILDING
F.F.=617.14

FRAME
CANOPY

CONCRETE
CURBING

CURB RAMP

SITE BENCHMARK
MAG NAIL
ELEV=614.94 (NAVD88)

LOT 4

3/4" IPF
0.3' B.G.

5/8" IRF

IRF S0507
0.11' N.
0.63' W.

RIM 615.21
W INV. 609.38
N INV. 610.86
E INV. 610.28
S INV. 609.44

RIM 614.40
E INV. 613.31

RIM 614.09
W INV. 612.18
N INV. 612.18

RIM 617.22
BTTM 596.17
W INV. (DROP) 608.78

RIM 616.64
E INV. 613.64

RIM 614.35
N INV. 611.16
S INV. 611.16

RIM 614.20
N INV. 611.21

IRF S0514
0.3' B.G.

IRF TORRENGA
(POSITION HELD FIXED)

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 80, PG. 16)

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 60, PG. 03)

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 85, PG. 60)

55' BUILDING LINE (PER P.B. 85, PG. 60)
10' WATER MAIN EASEMENT (PER P.B. 85, PG. 60)
45' WOLVERINE PIPELINE COMPANY EASEMENT
(PER DOC. NO. 8842.38)
16" WOLVERINE PIPELINE

20' BUILDING SETBACK

10' UTILITY EASEMENT
(PER P.B. 80, PG. 16)

W. LINE OF THE
WEST 125' OF LOT 1

E. LINE OF THE
WEST 125' OF LOT 1

LOT 1
(EXCEPT W. 125')

EXCEPTION
(WEST 125 FEET OF LOT 1)

LOT 3

HOSPICE ADDITION
(PLAT BOOK 80, PAGE 16)

CALVARY COMMUNITY CHURCH ADDITION
(PLAT BOOK 85, PAGE 60)

TAX ID. 45-06-36-251-004.000-027
COMMUNITY FOUNDATION OF NORTHWEST INDIANA, INC.
LIMITED LIABILITY COMPANY WARRANTY DEED
DOC. NO. 2019 059960
REC. 9/4/2019

DOC. NO. 2017 003349
REC. 1/18/2017

OTIS BOWEN DRIVE
60' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)
(30.0' B/CURB-B/CURB)

COLUMBIA AVENUE
66' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)
(37.7' B/CURB-B/CURB)

"STREET"

MEET EX. CURB

CONCRETE CURBING

outlet

hvac

IRS

125.00' (D) 125.15' (M)

382.77' (P) 382.92' (M)

N 88°24'11" W 257.77' (P&C)

S 88°24'11" E 375.00' (P) 374.70' (M)
500.00' (P) 499.73' (M)

225.87' (P)

150.00' (P,M)

125.00' (P,M)

370.00' (P,M)

N 01°35'49" E 370.00' (P,M)

109.1'

54.9'

47.0'

35.5'

35.3'

25.3'

23.0'

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

REGISTERED
RUSSELL JACOB PISERA
NO. PE10010067
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Grading Plan

SCALE: 1" = 20'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C104

NOTES

1. ALL DRAIN TILES THAT ACTIVELY SERVICE OFF-SITE AREAS SHOULD BE TIED INTO THE PROPOSED STORMWATER MANAGEMENT SYSTEM. ALL DRAIN TILES DEEMED TO BE NON-FUNCTIONING OR ONLY SERVICE THE SUBJECT PROPERTY SHOULD BE REMOVED IN THEIR ENTIRETY. NO DRAIN TILES SHALL BE ABANDONED IN-PLACE.
2. FINAL LOCATION OF WATER SERVICE AND SANITARY SEWER STUBS TO BE LOCATED BY OWNER.
3. CONTRACTOR SHALL COORDINATE WITH MUNSTER PUBLIC WORKS PRIOR TO WATERMAIN CUT FOR TEE. CONTRACTOR TO SHUT OFF UPSTREAM & DOWNSTREAM VALVES PRIOR TO TEE INSTALL.

CORE DRILL EX. MH
PROP. INV: 609.50
(FILL IN EX. HOLE WITH BRICK & NON-SHRINK GROUT)

CB #13 /48"Ø
102221, 1020A
R: 615.00
I: 609.63 W/ 5-INCH RESTRICTOR
(SEE DETAIL C204)

CB #1A/ 48"Ø
102221, 1020M1
R: 614.50
I: 610.05 (S,E)

HYDRODYNAMIC SEPARATOR #1B
102221, TYPE A SOLID LID
R: 614.80
I: 610.19 (S,W)
(SEE DETAIL C204)

LOT 4

3/4" IPF
0.3' B.G.

5/8" IRF

33 LF - 12" HDPE
AT 0.39%

19 LF - 12" HDPE
AT 0.37%

71 LF - 24" HDPE AT
0.20%

150.00' (P,M)

125.00' (D,M)

IRF S0507
0.11' N.
0.3' W.

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 80, PG. 16)

21" RCP

RIM 615.21
W INV. 609.38
N INV. 610.86
E INV. 610.28
S INV. 609.44

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 60, PG. 03)

15' UTILITY & DRAINAGE EASEMENT
(PER P.B. 85, PG. 60)

74 LF - 18" HDPE AT
0.40%

14 LF - 24" HDPE AT
0.35%

FS #12 /12"Ø
W/TRASH RACK
INV: 609.70

FS #1 /24"Ø
W/TRASH RACK
INV: 610.00

DETENTION BASIN (DRY)
T/B: 615.00
HWL: 614.00
BTM: 609.70
REQ. DET.: 0.32AC-FT
PROVIDED DET.: 0.65 AC-FT

89 LF - 18" HDPE AT
0.29%

CB #4 /48"Ø
102221, 1020M1
R: 615.00
I: 610.75

CB #2 /60"Ø
102221, 1020M1
R: 614.25
I: 611.22 (S)
I: 610.49 (E/N)

69 LF - 12" HDPE
AT 0.40%

44 LF - 15" HDPE AT
0.57%

CB #5 /48"Ø
102221, 1020M1
R: 615.10
I: 611.00

60 LF - 15" HDPE AT
0.50%

CB #6 /48"Ø
102221, 1020M1
R: 615.00
I: 611.66 (E)
I: 611.30 (N/S)

95 LF - 12" HDPE
AT 0.35%

INL #8 /24"Ø
102221, 1020M1
R: 615.00
I: 612.00

96 LF - 15" HDPE AT
0.31%

CB #7 /48"Ø
10372, 1020M1
R: 614.30
I: 611.60

INL #3 /24"Ø
102221, 1020M1
R: 614.55
I: 611.50

SITE BENCHMARK
MAG NAIL
ELEV=614.94 (NAVD88)

EXCEPTION
(WEST 125 FEET OF LOT 1)

TAX ID. 45-06-36-251-004.000-027
COMMUNITY FOUNDATION OF NORTHWEST INDIANA, INC.
LIMITED LIABILITY COMPANY WARRANTY DEED
DOC. NO. 2019 059960
REC. 9/4/2019

LOT 1
(EXCEPT W. 125')

N 01°35'49" E 370.00' (D,M)

3' BUILDING SETBACK

W. LINE OF THE
WEST 125' OF LOT 1

E. LINE OF THE
WEST 125' OF LOT 1

10' UTILITY EASEMENT
(PER P.B. 80, PG. 16)

HOSPICE ADDITION
(PLAT BOOK 80, PAGE 16)

LOT 3

CALVARY COMMUNITY CHURCH ADDITION
(PLAT BOOK 85, PAGE 60)

10'

125'

20' BUILDING SETBACK

IRF S0514
0.3' B.G.

IRF TORRENGA
(POSITION HELD FIXED)

125.00' (D) 125.15' (M)

RIM 614.35
N INV. 611.16
S INV. 611.16

N 88°24'11" W 257.77' (P,M)

382.77' (P) 382.92' (M)

12" RCP

CONCRETE CURBING

OTIS BOWEN DRIVE
60' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)

RIM 614.40
E INV. 613.31

DOC. NO. 2017 003349
REC. 1/18/2017

RIM 614.09
W INV. 612.18
N INV. 612.18

S 88°24'11" E 375.00' (P) 374.70' (M)
500.00' (P) 499.73' (M)

225.87' (P)

109.1'

35.3'

23.0'

FRAME
CANOPY

1 STORY
BRICK & FRAME
BUILDING
F.F.=617.14

EXISTING RENOVATED BLDG
F/F: 617.14±

"GATE CHURCH"
(9900 COLUMBIA AVENUE)

42.7'

42.0'

35.5'

54.9'

25.3'

FIRE PROTECTION
(COORDINATE W/PLUMBING DWGS)

FDC

EXISTING SANITARY SERVICE
(TO REMAIN)

EXISTING 1" WATER SERVICE
(TO REMAIN)

22.5° MJ BEND, 8"Ø
T/P: 611.00

V.B.#2
W/ 8" GATE VALVE
C: 616.40
T/P: 611.00±

12"x12"x8" D.I. TEE
T/P: 611.0± (MEET EX.)
(SEE NOTE 3)

4 LF -
6"Ø D.I.WM

18 LF - 4"Ø, D.I. WM
(FIRE)

WM T/P: 610.8±

EX. SAN B/P: 612.3±
WM T/P: 610.80

145 LF - 8"Ø, D.I. WM

8"x6" REDUCER
T/P: 610.50

8"x8"x4" D.I. TEE
T/P: 610.70

FH #1
C: 616.20

RIM 617.22
BTTM 596.17
W INV. (DROP) 608.78

RIM 616.64
E INV. 613.64

12" HDPE

55' BUILDING LINE (PER P.B. 85, PG. 60)
10' WATER MAIN EASEMENT (PER P.B. 85, PG. 60)
45' WOLVERINE PIPELINE COMPANY EASEMENT
(PER DOC. NO. 484238)

16" WOLVERINE PIPELINE

12" DIP

COLUMBIA AVENUE
66' RIGHT-OF-WAY (DEDICATED BY P.B. 85, PG. 60)
(37.7' B/CURB-B/CURB)

"STREET"

IRS
DVG

10'

45'

55'

CONCRET
CURBING

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PALEN
REGISTERED
NO. PE10910067
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Utility Plan

N
0' 10' 20'
SCALE: 1" = 20'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C105

TOTAL DISTURBANCE AREA = 2.00 ac

LEGEND

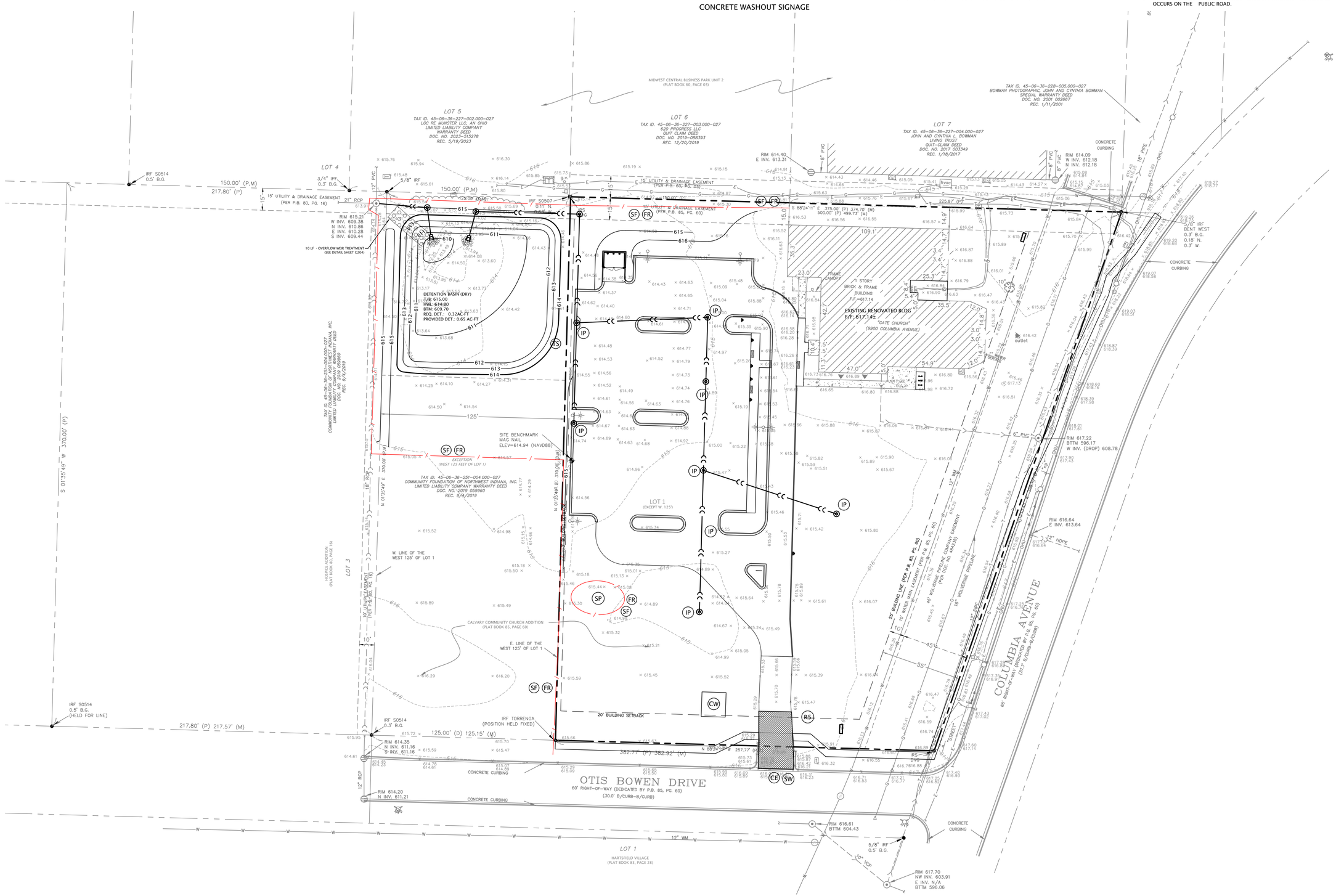
- (CE) TEMPORARY CONSTRUCTION ENTRANCE
- (IP) INLET BARRIER PROTECTION
- (TS) TEMPORARY/PERMANENT SEEDING
- (SF) (FR) SILT FENCE/FIBER ROLLS (MAY BE USED INTERCHANGABLY WHERE REQUIRED)
- (SW) STREET SWEEPING
- (CW) CONCRETE WASHOUT
- (R5) BUILDING & STORMWATER PERMITS
- (SP) STOCKPILE

CONCRETE WASHOUT ONLY

CONCRETE WASHOUT SIGNAGE

NOTES

1. THE SITE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES. MEASURES MUST BE IMPLEMENTED PRIOR TO BEGINNING CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE AND/OR CLEANING TO THE STRUCTURE OR FEATURE. CORRECTIVE WORK INCURRED BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE S.W.P.P.P. ANY FINES OR PUNITIVE MEASURES INCURRED BY THE PROJECT DUE TO FAILURE TO COMPLY WITH THE S.W.P.P.P. ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE COSTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND SHALL NOT BE CONSIDERED AN EXTRA.
4. DURING THE COURSE OF CONSTRUCTION, THE LOCAL ENFORCEMENT OF THE S.W.P.P.P. MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES TO BE INSTALLED TO ADDRESS SITE-SPECIFIC ITEMS NOT ANTICIPATED BY THIS PLAN. THESE ITEMS ARE CONSIDERED AN EXTRA TO THE CONTRACT, BUT ONLY TO THE EXTENT OF INITIAL INSTALLATION. CORRECTIVE WORK AND MAINTENANCE SHALL BE CONSIDERED INCIDENTAL AND SHALL NOT BE CONSIDERED AN EXTRA.
5. THE SITE CONTRACTOR SHALL INSTALL THE CONSTRUCTION ENTRANCE AND PLACE PERIMETER SILT FENCING/FIBER ROLLS PRIOR TO COMMENCING ANY SOIL DISTURBANCE. SEE SITE PLAN FOR LOCATIONS. THE CONSTRUCTION ENTRANCE SHALL SERVE AS SITE ACCESS FOR ALL CONSTRUCTION TRAFFIC INGRESS AND EGRESS TO THE PROJECT SITE.
6. THE SOIL STOCKPILE SHALL BE PROTECTED BY SILT FENCE/FIBER ROLLS SURROUNDING THE PILE AND THE PILE SHALL BE TEMPORARILY SEEDED IF THE STOCKPILE REMAINS DORMANT FOR GREATER THAN 7 DAYS. THE PILE SHALL BE STABILIZED WITHIN 14 DAYS.
7. DURING SOIL-DISTURBING ACTIVITIES, THE CONTRACTOR SHALL CREATE DIVERSION SWALES AND INSTALL DITCH CHECKS SO THAT ALL SITE RUNOFF PASSES THROUGH AN EROSION CONTROL MEASURE PRIOR TO BEING DISCHARGED OFF-SITE.
8. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SIDE SLOPES AS SHOWN ON THE PLANS.
9. CONTRACTOR SHALL PERFORM STREET SWEEPING WHENEVER TRACKING OF MUD, DIRT, AND CONSTRUCTION DEBRIS OCCURS ON THE PUBLIC ROAD.



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Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
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RUSSELL JACOB PALEN
REGISTERED
NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Storm Water Pollution Prevention Plan

N

0' 15' 30'

SCALE: 1" = 30'

DESIGN BY	DATE
RJP	10/12/23
PROJECT NO.	
23-0031	

C106

SITE DEVELOPMENT
COMMON EXCAVATION AND EARTHWORK
GENERAL SPECIFICATIONS

1.0 Quality Assurance:
1. Contractor shall notify the Construction Manager, Architect, Engineer and testing laboratory inspector when common excavation and earthwork is scheduled. Earthwork operations which require inspecting and testing by testing laboratory inspector shall not be performed unless testing laboratory inspector is present.
2. Contractor shall provide a 1-year warranty against settlement and damage caused by settlement for common excavation and earthwork.
3. If settlement occurs within 1 year after the date of Substantial Completion, the Contractor shall remove the affected surface feature, provide additional suitable fill, thoroughly compact and restore the surface feature to its original undisturbed condition.

2.0 Testing:
1. An inspector from the Owner's soils testing laboratory shall, during the common excavation work operations, provide the following services:
   a. Test & Classify on-site excavated soils for reuse as topsoil, common site fill, embankment fill and structural fill.
   b. Test materials furnished from any off-site sources to verify compliance with specified requirements.
   c. Observe proofing rolling of exposed subsoil in areas where grades will be raised and provide recommendations for soil correction to ensure that unstable materials have been removed.
   d. Inspect placement and compaction of common site fill, embankment fill and structural fill to ensure the material being compacted is in accordance with specified requirements. For each lift, a minimum of 1 density test for every 10,000 square feet of lawn surface area, and 5,000 square feet of paved surface area, and 500 square feet of proposed building area is required.
   e. Density tests are required for all subgrade/subsoil in areas that have been cut to rough grade elevations, after soils have been compacted to ensure soil compaction density is in accordance with the specified requirements. Test frequency shall be as described above in sub-paragraph 1.d..
2. Tests and analysis of fill materials shall be performed in the laboratory in accordance with ASTM D1557.
3. Testing shall be performed as directed by the Soils Report Engineer. Compaction Testing shall be performed in accordance with ASTM D2922 and D3017.

3.0 Special Weather Protection:
1. Construction shall be limited during cold weather to prevent the formation of frost and snow accumulation to occur in materials used for site fill or in soils where site excavation is taking place. All areas that are scheduled for excavation activity shall be protected from freezing and snow accumulation. Any frozen material shall be removed and disposed of off site.

4.0 Clearing & Grubbing:
1. Contractor shall provide all clearing, grubbing, removal and disposal of all vegetation and debris related to the existing site conditions.
2. Vegetation debris shall be removed from site and transported to a local and state authorized disposal sites.

5.0 Top Soil Stripping:
1. The project has a depth of topsoil variation throughout the site. The geotechnical report shows the topsoil depths at several locations throughout the project site. The Contractor shall strip and stockpile all topsoil at the location designated in the Site Development Drawings or as directed by the owner.
2. Topsoil removal material shall consist of fertile, friable, organic surface soil stripped from the site and shall be free of subsoil, brush, turf grasses, weeds, roots, stumps, stones larger than 1-inch in diameter and other contaminated matter."
3. Topsoil shall be stockpiled so that it may be reused and re-spread on site over Lawn and Landscaped areas.
4. The topsoil stockpile area shall be properly protected against soil erosion into the adjacent drainage system.

6.0 Borrow Material/Embankment & Structural Fill Material:
1. Borrow material for structural fill shall be first excavated from on site source locations as defined by the Soils Report Engineer.
2. Structural fill material shall be placed under all utility trench corridors, building pad locations, paved parking, driveway, sidewalk and roadway areas.
3. Common site and embankment fill shall be placed under lawn, landscape and detention pond areas.
4. Maintain moisture content of structural fill within plus or minus 3 percent of the optimum moisture content as determined by the Modified Proctor Test.
5. Contractor shall provide subgrade conditions meeting the design grades for pavements, exterior walks, curbs and building pads.
6. Contractor shall only place approved fill material under proposed building pads and parking areas
7. Contractor shall undercut any areas that do not meet the requirements for structural fill and shall replace with structural fill.

7.0 Excavation:
1. Protect all existing natural features on site.
2. Install soil erosion prevention measures in accordance with local and state ordinances and in accordance with the soil erosion control project drawings.
3. All proposed contours shown on this set of plans are proposed surface elevation. All fill shall be placed as structural fill for buildings and parking lots.
4. Prior to excavation an on-site Pre-construction Meeting shall be held between the Engineer, Owner/Owner's Representative and General Contractor to discuss earthwork protocol.
5. During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if ordinarily encountered at the site, the party discovering such conditions shall promptly notify the Owner/Owner's Representative/General Contractor and the Engineer in writing of the specific differing conditions. Upon written notification, the Engineer and Owner/Owner's Representative/General Contractor will investigate the conditions, and determine if adjustments to the Construction Documents and/or to the Contract are warranted. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice of a changed condition.

8.0 Compaction:
1. Exercise care when compacting exposed soils relative to water table, rain or other moisture conditions.
2. Maintain moisture content of embankment material and structural fill material near optimum as recommended by the soils testing laboratory and Soil Boring Engineer. Maintain optimum moisture content of backfill and fill material to attain the required compaction density.
3. Backfill common site fill, embankment fill, structural fill and utility trenches to contours and elevations defined on the project site development plans.
4. Systematically backfill to allow maximum time for optimum compaction and do not backfill over porous, wet or spongy subgrade surfaces.
5. Employ a soils placement and compaction method that does not disturb or damage work performed and that maximizes soil compaction.
6. All common site, embankment and structural fill shall be place and compacted in continuous layers/lifts not exceeding 8-inches loose depth.
7. Compact subsoil for structural fill to 95% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all building pad locations.
8. Compact subsoil for structural fill to 95% of Modified Proctor Maximum Dry Density (ASTM D1557) beneath all pavement areas and utility corridor trenches.
9. Compact subsoil for common site fill and embankment fill to 90% of the Modified Proctor Maximum Dry Density (ASTM D1557) beneath all lawn, landscape and detention pond areas.
10. Compact subsoil under building pad area to achieve soil-bearing capacities of 3,000 psf at a distance of 4-feet below the proposed finish floor elevations of all building ads.
11. If tests indicated work does not meet specified requirements, all sub-standard work shall be immediately removed, replaced and retested at no expense to the Owner.

GENERAL NOTES

1. Town of Munster, DVG Team, Inc. (Engineer) and any Utility Company affected must be notified at least two working days prior to commencement of work. Prior to construction the contractor is to call INDIANA 811.

2. Elevation Datum is U.S.G.S.

4. The locations of existing underground utilities, such as water mains, sewer, gas lines, etc., as shown on the plans have been determined from the best available information and is given for the convenience of the contractor. However, the engineer and the owner do not assume responsibility for the accuracy of the locations shown. It shall be the responsibility of the contractor to contact all utility companies and their facilities shall be located prior to commencement of any work.

5. Wherever obstructions not shown on the plans are encountered during the progress of the work and interfere to such an extent that alteration in the plans is required, the engineer shall be notified prior to any changes and any changes shall only be as approved via written instruction by the Engineer and the local Municipal Engineer.

6. As-built drawings shall be prepared by the contractor and submitted to the engineer as soon as the project is completed. Any change in the length, location or alignment shall be shown in red. "AS BUILT" drawings shall be forwarded to the appropriate utility organizations. Four (4) copies shall be submitted to the Municipal Engineer.

7. All proposed sanitary sewer, storm sewer, water main and service lines under and within 2' of pavement, curbs, and sidewalk shall be backfilled with crushed limestone (INDOT #53) or material consistent with Class I or II material as described in ASTM D2321 placed in 8" maximum layers and mechanically compacted to 95% modified proctor density. Slag is not permitted.

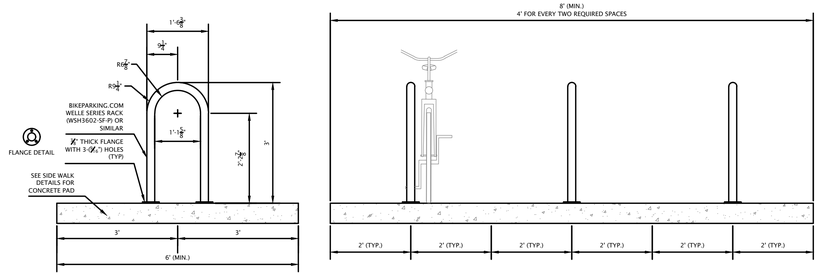
8. Materials used for water, sanitary sewer, storm sewer and streets shall conform to the Town of Munster standards and specifications.

9. Any existing public improvements (sidewalks, curb and gutter, etc.), disturbed during construction shall be replaced in kind, or per current of Town of Munster specifications as directed by the Municipal Engineer.

10. All public street construction shall meet performance standards of the current edition of the Indiana Department of Transportation Standard Specifications.

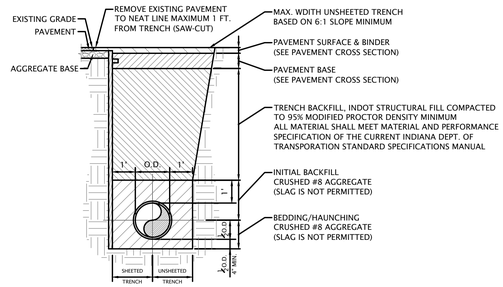
11. Street signage shall be included in accordance with the MUTCD requirements applicable at the time of construction.

12. The Owner/General Contractor shall be responsible for any and all utility new customer form submissions. Utility company review typically cannot begin until all new customer forms have been submitted.



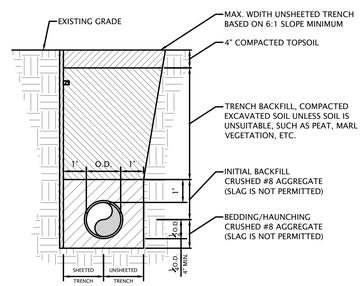
Location and Design Elements
1. The racks shall be of the inverted U-structure design.
2. The racks shall accommodate U-locks/ chains and support bicycles at two location on the rack.
3. The racks shall have a thermoplastic powder coating and must be anchored securely to ground per the manufacturer's specifications.
4. Bicycle parking should be reasonably and safely separated from vehicle parking (e.g. grade differences, landscaping, poles, etc.)
5. Rack spaces shall be two feet by six feet per bicycle with a five foot wide access aisle from behind. Sidewalks adjacent to bike racks may serve as access aisle.

BICYCLE RACK
(NOT TO SCALE)



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN PAVEMENT AREAS



PIPE BEDDING/TRENCH BACKFILL
(NOT TO SCALE)

FOR TRENCH IN GRASS/LANDSCAPED AREAS

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PETERS
REGISTERED
NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Construction Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

C201

SANITARY SEWER GENERAL NOTES

1. All Floor Drains shall discharge to the sanitary sewer.

2. Sanitary sewer pipe shall be PVC (SDR 26) ASTM D-3034 with push-on rubber gasket joints and shall be in accordance with ASTM C-3212, unless otherwise noted on the plans for portions to be PVC (SDR 21).

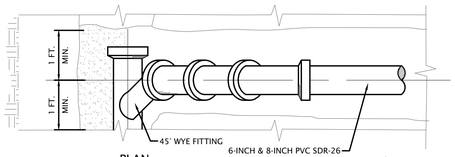
3. All sanitary sewer manholes shall be air tested for leaks in accordance with ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.

4. Where ductile iron pipe is used for sanitary sewer, the pipe shall be in accordance with ANSI A-21.51 and the joints in accordance with ANSI A-21.11.

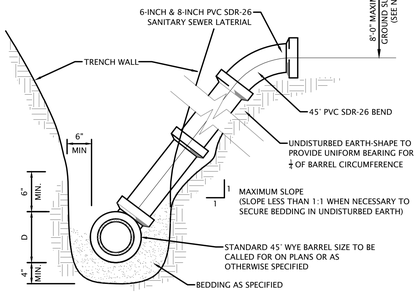
5. A deflection test shall be performed on each flexible pipe following the elapse of thirty (30) days after the placement of the final backfill. No pipe shall exceed a deflection of five percent (5%) or greater. The diameter of the rigid ball or mandrel used for a deflection test shall be no less than ninety-five percent (95%) of the base inside diameter of the pipe to be tested dependent on what is specified in the corresponding ASTM standard. The test shall not be performed with the aid of a mechanical pulling device.

6. A leakage test shall be performed using one of the following leakage test types.
   a.) A hydrostatic test shall be performed with a minimum of two (2) feet of positive head. The rate of exfiltration or infiltration shall not exceed two hundred (200) gallons per inch of pipe diameter per linear mile per day.
   b.) An air test shall conform to ASTM F1417-92, Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air, for plastic pipe.

7. All sanitary sewer shall be inspected by Town of Munster.



PLAN



CROSS SECTION

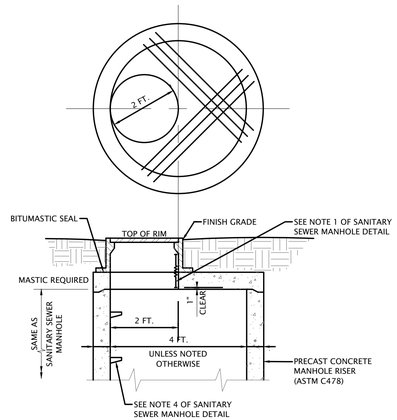
NOTES:

1. RISERS TO BE CONSTRUCTED IN LIEU OF WYES WHERE SEWER DEPTH EXCEEDS 10 FEET. FOR PIPE MATERIAL AND CONCRETE, SEE SPECIFICATIONS.

2. ALL SANITARY SEWER SERVICE LATERALS SHALL BE PLUGGED WITH A WATERTIGHT CAP AND SHALL BE LOCATED WITH 4-INCH x 4-INCH WOOD MARKERS TO IDENTIFY LATERAL END.

SANITARY SEWER SERVICE

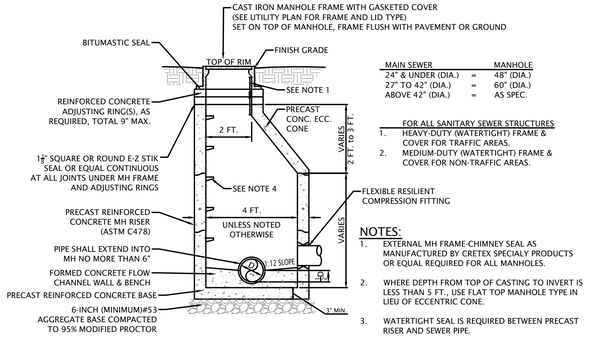
(NOT TO SCALE)



MANHOLE TOP (FLAT TOP)

(NOT TO SCALE)

USED WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS
SEE SANITARY MANHOLE NOTES



MAIN SEWER		MANHOLE
24" & UNDER (DIA.)	=	48" (DIA.)
27" TO 42" (DIA.)	=	60" (DIA.)
ABOVE 42" (DIA.)	=	AS SPEC.

FOR ALL SANITARY SEWER STRUCTURES
1. HEAVY-DUTY (WATERTIGHT) FRAME & COVER FOR TRAFFIC AREAS.
2. MEDIUM-DUTY (WATERTIGHT) FRAME & COVER FOR NON-TRAFFIC AREAS.

NOTES:
1. EXTERNAL MH FRAME-CHIMNEY SEAL AS MANUFACTURED BY CRETEX SPECIALTY PRODUCTS OR EQUAL REQUIRED FOR ALL MANHOLES.
2. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FT., USE FLAT TOP MANHOLE TYPE IN LIEU OF ECCENTRIC CONE.
3. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
4. CO-POLYMER/STEEL MH STEPS AS BY M.A. INDUSTRIES OR EQUAL, AT 16" O.C. (MAX.)
5. CONTRACT UNIT PRICE FOR STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFED.

** FOR PIPE SIZES RANGING FROM 8" TO 30" IN DIAMETER

* MANHOLE WALL THICKNESS TABLE

MH I.D.	WALL THICKNESS
48"	5"
60"	6"
72"	7"

SANITARY SEWER MANHOLE

(NOT TO SCALE)

WATERMAIN GENERAL NOTES

1. All water mains, fittings, and valves shall be ductile iron cement lined pressure class 350 with rubber gasket push-on joints in accordance with ANSI A-21.51 & AWWA C 151 and be Polyethylene Encased per IAC 8-3.2-8. Polyethylene encasement shall be AWWA C105 Low Density, 8 mil thickness and is required on all ductile iron watermain. Water main joints shall conform to the requirements of AWWA C 111. Mechanical joints shall be restrained and shall use Meg-A-Lug as manufactured by EBAA Iron Sales (or equal). Watermain may be PVC C900, DR 18 only if noted on the plans.

2. Water mains shall be laid at least 10' horizontally from any existing or proposed sanitary sewer, storm sewer, sewer manhole, drain or service connection as measured from outside edge of the water main to outside edge of the sewers or manhole. If local conditions prevent horizontal separation of 10 feet, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).

3. When water mains cross any existing or proposed sanitary or storm sewers (sewers), there shall be at least 18 inches vertical separation between the outside edge of the water main and the outside edge of the sewer. This shall be the case where water mains cross above or below sewers. This crossing must be at a minimum angle of forty-five (45) degrees measured from the centerline of each. All these conditions specified shall be maintained for a minimum distance of ten (10) feet from either side of the water main. If vertical separation specified herein cannot be met, then the SEWER SHALL BE CONSTRUCTED OF WATER MAIN QUALITY REQUIREMENTS as specified in the IAC 8-3.2 Sections 8, 9 and 17(a).

4. For additional separation requirements between water mains and sewers, the Contractor shall refer to the Indiana Administrative Code 327 IAC 8 and IAC 3.

5. All water main shall be installed in accordance with IAC 8-3.2-17. The contractor shall provide pressure and leak testing results conforming to IAC 8-3.2-17(a).

6. All water main shall be disinfected in accordance with IAC 8-3.2-18.

RESTRAINED PIPE LENGTH
(FEET)

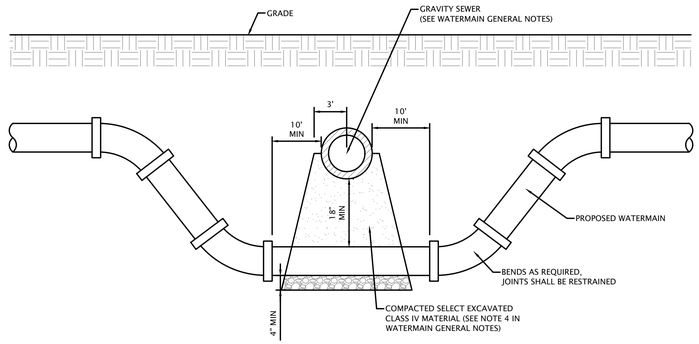
PIPE SIZE (INCHES)	TEE* BRANCH	90° ELBOW	45° ELBOW	22 1/2° ELBOW	11 1/4° ELBOW	DEAD ENDS
4	0	15	6	3	2	20
6	9	22	9	4	2	28
8	18	27	11	5	3	37
10	25	33	14	7	3	44
12	33	39	16	8	4	52
14	41	44	18	9	4	60
16	48	50	21	10	5	68
18	56	55	23	11	5	75
20	63	61	25	12	6	82
24	77	71	29	14	7	96
30	97	86	36	17	8	116
36	116	100	41	20	10	135

* ONE FULL LENGTH (18') OF PIPE ON BOTH SIDES OF BRANCH TO BE RESTRAINED.

INCREASE ALL LENGTHS IN TABLE BY 75% FOR USE ON POLYETHYLENE WRAPPED DUCTILE IRON PIPE OR PVC PIPE.

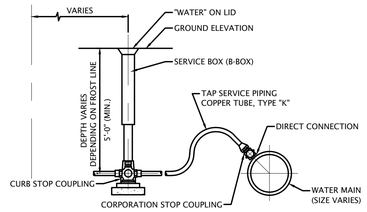
TEST PRESSURE BASED ON 150 PSI.

RESTRAINED PIPE LENGTH TABLE



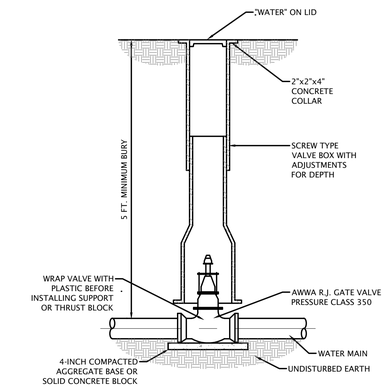
SANITARY/STORM SEWER & WATERMAIN CROSSING

(NOT TO SCALE)



TYPICAL B-BOX & TAP SERVICE PIPING

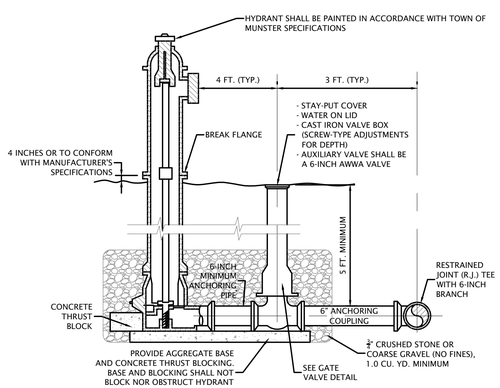
(NOT TO SCALE)



GATE VALVE & BOX (12-INCH OR SMALLER)

(NOT TO SCALE)

USE IF DUCTILE IRON IS USED FOR WATER SERVICE



FIRE HYDRANT ASSEMBLY (TYPE "A")

(NOT TO SCALE)

NOTES:
1. HYDRANT TYPE SHALL BE MUELLER SUPER CENTURION 250, 3-NOZZLE WITH 5" STORZ PUMPER NOZZLE CONNECTION.
2. NEAREST PART OF HYDRANT NOT LESS THAT 1.5 FT. FROM BACK OF CURB.
3. ALL JOINTS SHALL BE RESTRAINED BY RETAINER GLANDS OR RODDING, AS APPROVED BY THE ENGINEER.

DVG TEAM INC
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RUSSELL JACOB PIZEN REGISTERED NO. PE10910867 STATE OF INDIANA PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Construction Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23

PROJECT NO.
23-0031

C202

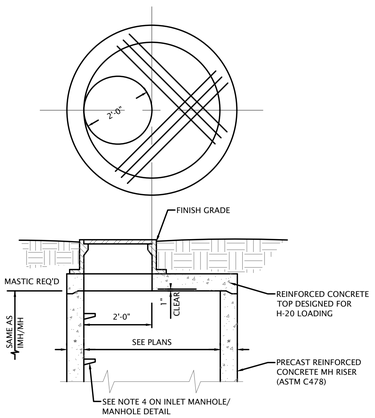
STORM SEWER GENERAL NOTES

1. Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.

2. The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.

3. Storm sewers shall be as noted on the plans. If approved by the Engineer, an alternative storm sewer pipe 12 inches and larger can be reinforced concrete minimum Class III, wall B conforming to ASTM C-76; Corrugated High-Density Polyethylene Pipe with smooth interior (ADS N-12) conforming to AASHTO M-294; Corrugated Polypropylene Pipe with smooth interior conforming to AASHTO M-330 (ADS HP STORM); Corrugated High-Density Polyethylene Pipe with smooth interior (PRINSCO, GOLDFLO) conforming to AASHTO M-294 or other INDOT, Type 2 storm sewers as approved by the Engineer.

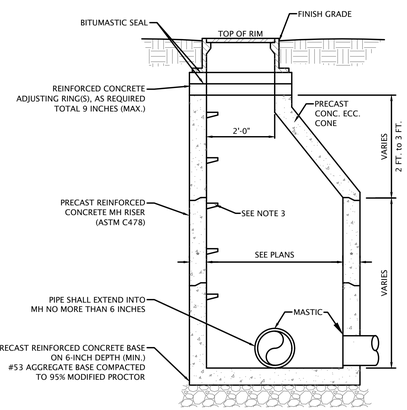
4. All HDPE storm sewer pipe shall be tested with a mandrel. Maximum deflection shall meet ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes 30 days after backfill, and should be performed without the aid of a mechanical pulling device. The deflection testing shall meet all requirements of IDEM section 327 IAC 3-6-19(a) (b) (c).



MANHOLE TOP (FLAT TOP)

(NOT TO SCALE)

USE WHERE RESTRICTED HEAD ROOM WILL NOT ALLOW FOR TAPERED WALLS



* STRUCTURE WALL THICKNESS TABLE

MH I.D.	WALL THICKNESS
36"	4"
48"	5"
60"	6"
72"	7"

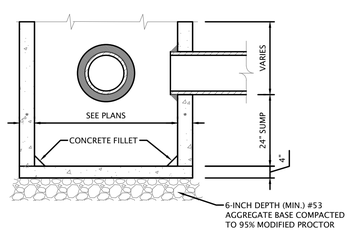
NOTES:

1. WHERE DEPTH FROM TOP OF CASTING TO INVERT IS LESS THAN 5 FEET, USE FLAT TOP MANHOLE TYPE "C" IN LIEU OF ECCENTRIC CONE.
2. WATERTIGHT SEAL IS REQUIRED BETWEEN PRECAST RISER AND SEWER PIPE.
3. CO-POLYMER/STEEL MH STEPS AS MANUFACTURED BY M.A. INDUSTRIES OR EQUAL, AT 16 INCHES O.C. (MAX.).
4. CONTRACT UNIT PRICE FOR ALL STRUCTURES SHALL INCLUDE THE FRAME AND GRATE SPECIFIED.

INLET MANHOLE/MANHOLE

(NOT TO SCALE)

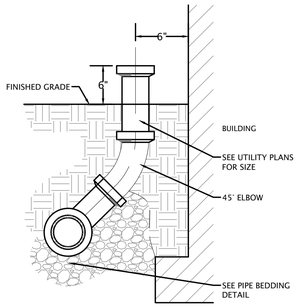
INLET MANHOLE (IMH) USES AN OPED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE
MANHOLE (MH) USES A CLOSED LID - SEE STORM CALLOUT FOR FRAME & LID TYPE.



CATCH BASIN

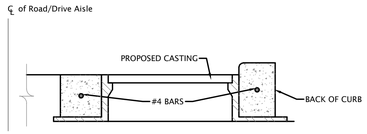
(NOT TO SCALE)

SEE INLET MANHOLE/MANHOLE DETAIL
CATCH BASIN USES EITHER CLOSED OR OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.

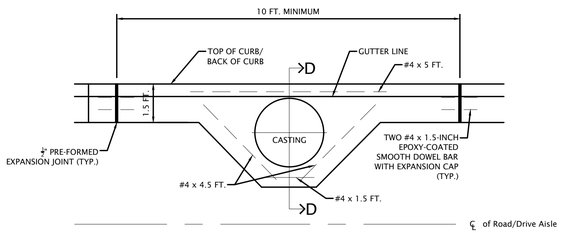


DOWNSPOUT CONNECTION

(NOT TO SCALE)

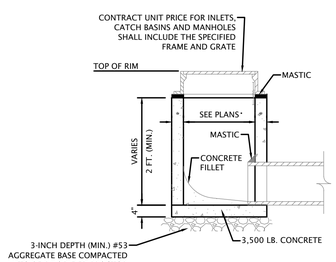


SECTION D-D



CURB & GUTTER AT STRUCTURE

(NOT TO SCALE)



INLET

(NOT TO SCALE)

INLET USES OPEN LIDS - SEE UTILITY PLAN FOR FRAME & LID TYPE.

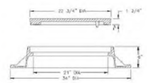
Access Covers, Grates, and Frames — Manhole Frames and Covers

1020 FRAME & COVER

Heavy duty
Machined bearing surfaces

Options
Solid, vented or custom logo covers
Special lettered covers
Waterlite assembly
Adjusting risers
Gasket seal covers
Stackable frames

Type A solid cover illustrated



Type N Oval Grate
Approx. 135 sq. in. open area
2 1/2" height above frame

Type M1 Radial Flat Grate 140 SQ. IN.
Approx. open area
"DUMP NO WASTE!!" lettering and trout image

Type P Concave Grate
Approx. 150 sq. in. open area
5/8" depth of concave

Type M2 Flat Bar Grate
Approx. 150 sq. in. open area

Type M8 ADA Grate
Approx. 120 sq. in. open area
"DUMP NO WASTE!!" lettering

Type 01 Beehive Grate
Approx. 115 sq. in. open area
Height above frame 4"

Type 02 Beehive Grate
7" height above frame

Available Frames for 1020 Covers and Grates

Catalog Number	Base Range Diameter	Frame Height
1037	34	4
1850*	32 1/2	4
1077	36	4
2995	34	4
2990***	34TF	4 1/2
1020	34	6
1022-1	34	7
1022-2	34	7
1022-3	36	7
1076**	36	7
1550	34	8
1051	34	9
1050Z1	34	9
1050	36	9

Note: All dimensions are in inches.
*Special lock bar and must ring is required!
**Special non-rocking feature
***Frame is reversible, can be installed as tab flange.

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08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Construction Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

C203

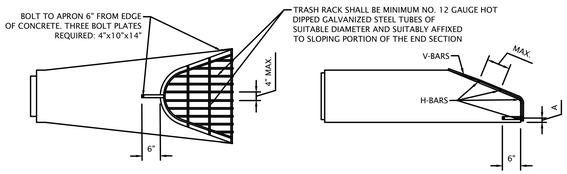
STORM SEWER GENERAL NOTES

1. Footing drains, sump pump drains and outside drains shall discharge to the storm sewer where storm sewer is provided.

2. The maximum allowable rate of infiltration or exfiltration shall not exceed 100 gallons, per 24 hours per inch-diameter per mile of sewer pipe.

3. Storm sewers shall be as noted on the plans. If approved by the Engineer, an alternative storm sewer pipe 12 inches and larger can be reinforced concrete minimum Class III, wall B conforming to ASTM C-76; Corrugated High-Density Polyethylene Pipe with smooth interior (ADS N-12) conforming to AASHTO M-294; Corrugated Polypropylene Pipe with smooth interior conforming to AASHTO M-330 (ADS HP STORM); Corrugated High-Density Polyethylene Pipe with smooth interior (PRINSCO, GOLDFLO) conforming to AASHTO M-294 or other INDOT, Type 2 storm sewers as approved by the Engineer.

4. All HDPE storm sewer pipe shall be tested with a mandrel. Maximum deflection shall meet ASTM C1244-93 and Standard Test Method for Concrete Sewer Manholes 30 days after backfill, and should be performed without the aid of a mechanical pulling device. The deflection testing shall meet all requirements of IDEM section 327 IAC 3-6-19(a) (b) (c).

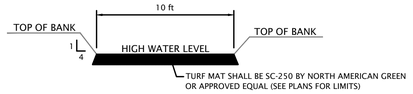


NOTES:
1. BARS AND PLATES ARE HOT-ROLLED STEEL.
2. BARS, PLATES AND PIPES ARE FINISHED WITH TWO (2) COATS OF ALUMINUM PAINT.
3. BOLTS ARE GALVANIZED.

APRON SIZE	V-BAR SIZE (DIA.)	H-BAR SIZE (DIA.)	NO. OF H-BARS	BOLT DIA.	"A" DIM
12	1/2	5/8	3	1/2	4
15	1/2	5/8	3	1/2	4 1/2
18	1/2	5/8	4	1/2	4 1/2
21	1/2	5/8	4	1/2	3
24	5/8	3/4	4	1/2	3
21	5/8	3/4	4	1/2	5 1/2
30	5/8	3/4	4	1/2	5 1/2
36	3/4	3	4	3/4	6
42	3/4	3	4	3/4	6
48	3/4	3	3	3/4	8
24	3/4	1 1/2	3	3/4	6
30	3/4	1 1/2	3	3/4	6
66	3/4	1 1/2	3	3/4	6
12	3/4	1 1/2	3	3/4	3
84	3/4	1 1/2	3	3/4	10
30	3/4	1 1/2	3	3/4	10

TRASH RACK

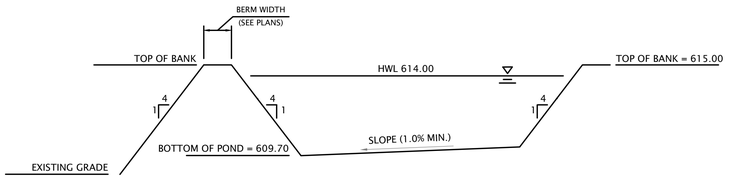
IF PVC/CPP PIPE IS USED, CONTRACTOR SHALL USE CONTECH TRASH RACKS IN LIEU OF CONCRETE TRASH RACK SPECIFIED ABOVE.



WEIR CROSS SECTION

POND OVERFLOW WEIR TREATMENT

(NOT TO SCALE)



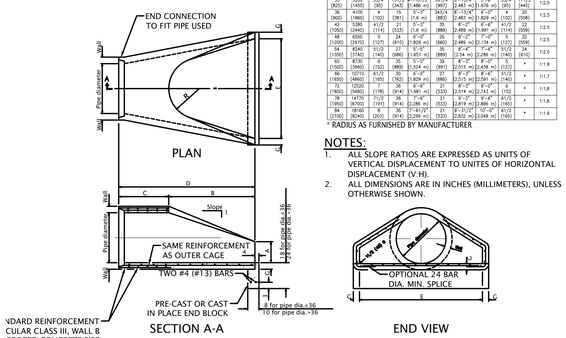
DRY DETENTION POND TYPICAL CROSS SECTION

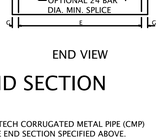
(NOT TO SCALE)

WEIR CROSS SECTION

POND OVERFLOW WEIR

(NOT TO SCALE)





PIPE DIA.	APPROX. QTY. lbs. (kg)	WALL	A	B	C	D	E	G	R	APPROX. SLOPE
12	530	2	12	24	6'-10 3/4"	6'-10 3/4"	24	9	9	1:2.4
(305)	(240)	(51)	(305)	(610)	(2,091 m)	(2,091 m)	(610)	(229)	(229)	
15	740	2 1/4	15	30	8'-5"	8'-5"	30	10 1/4	10 1/2	1:2.4
(375)	(335)	(57)	(381)	(762)	(2,565 m)	(2,565 m)	(762)	(257)	(267)	
18	990	2 1/2	9	27	9'-11"	9'-11"	36	11 1/2	12	1:2.4
(450)	(450)	(64)	(229)	(686)	(3,023 m)	(3,023 m)	(914)	(292)	(305)	
21	1280	2 3/4	9	30	11'-4"	11'-4"	42	12 1/4	13	1:2.4
(525)	(580)	(70)	(229)	(762)	(3,454 m)	(3,454 m)	(1,067 m)	(311)	(330)	
24	1600	3	9 1/2	31 1/2	12'-10"	12'-10"	48	13 1/4	14	1:2.5
(600)	(725)	(76)	(241)	(800)	(3,912 m)	(3,912 m)	(1,219 m)	(337)	(356)	
27	1930	3 1/4	10 1/2	4'-0"	29'2"	6'-11 1/2"	6'-4"	15 1/4	14 1/2	1:2.4
(675)	(875)	(83)	(267)	(1,219 m)	(445)	(2,867 m)	(1,372 m)	(387)	(368)	
30	2190	3 1/2	12	4'-4"	182/3	6'-13/4"	5'-0"	17 1/2	15	1:2.5
(750)	(995)	(89)	(305)	(1,375 m)	(502)	(1,874 m)	(1,524 m)	(96)	(381)	
33	3200	3 3/4	13 1/2	4'-10 1/2"	39 1/4	8'-13/4"	5'-4"	18 3/4	17 1/2	1:2.5
(825)	(1450)	(95)	(343)	(1,486 m)	(997)	(2,483 m)	(1,676 m)	(95)	(445)	
36	4100	4	15	5'-3"	343/4	8'-13/4"	6'-0"	20	20	1:2.5
(900)	(1860)	(102)	(381)	(1,600 m)	(883)	(2,483 m)	(1,829 m)	(508)	(508)	
42	5380	4 1/2	18	6'-0"	40	8'-3"	7'-0"	21 1/2	20	1:2.5
(1050)	(2440)	(114)	(533)	(1.6 m)	(880)	(2,489 m)	(1,981 m)	(114)	(508)	
48	6550	5	24	8'-0"	26	8'-0"	7'-0"	6	23	1:2.5
(1200)	(2970)	(127)	(610)	(2,820 m)	(660)	(2,489 m)	(2,134 m)	(127)	(550)	
54	8240	5 1/2	27	9'-5"	30	8'-4"	7'-3"	23 1/2	24	1:2.0
(1350)	(3740)	(140)	(686)	(1,451 m)	(880)	(2,54 m)	(2,286 m)	(140)	(610)	
60	8150	6	30	9'-4"	30	8'-4"	7'-3"	8 1/2	*	1:1.9
(1500)	(3690)	(152)	(800)	(1,422 m)	(991)	(2,489 m)	(2,208 m)	(127)		
66	10910	6 1/2	33	10'-3"	33	8'-3"	8'-4"	25 1/2	*	1:1.7
(1650)	(4860)	(165)	(762)	(1,829 m)	(686)	(2,515 m)	(2,591 m)	(140)		
72	12520	7	36	6'-6"	21	8'-3"	8'-3"	6	*	1:1.8
(1800)	(5680)	(178)	(914)	(1,981 m)	(533)	(2,514 m)	(2,743 m)	(152)		
78	14770	7 1/2	36	7'-6"	21	8'-3"	8'-4"	61/2	*	1:1.8
(1950)	(6700)	(191)	(914)	(2,286 m)	(533)	(2,819 m)	(2,896 m)	(165)		
84	18160	8	36	7'-41/2"	21	9'-11/2"	10'-0"	61/2	*	1:1.6
(2100)	(8240)	(203)	(914)	(2,286 m)	(533)	(2,820 m)	(3,048 m)	(165)		

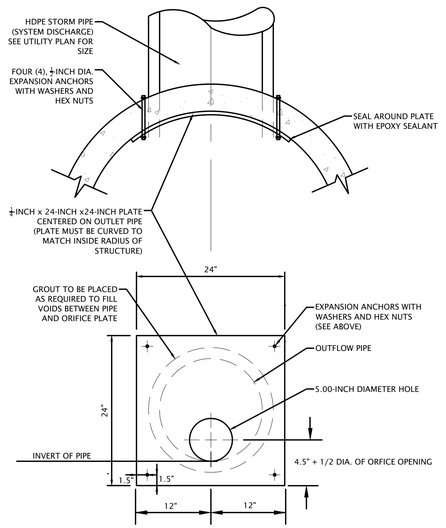
* RADIUS AS FURNISHED BY MANUFACTURER

NOTES:
1. ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITES OF HORIZONTAL DISPLACEMENT (V:H).
2. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS), UNLESS OTHERWISE SHOWN.

CONCRETE PIPE END SECTION

(NOT TO SCALE)

IF PVC/CPP PIPE IS USED, CONTRACTOR SHALL USE CONTECH CORRUGATED METAL PIPE (CMP) END SECTION WITH BANDING IN LIEU OF CONCRETE END SECTION SPECIFIED ABOVE.



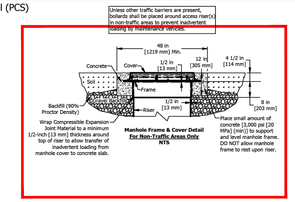
RESTRICTOR-ORIFICE PLATE

(NOT TO SCALE)

STRINGENT MAINTENANCE OF RESTRICTOR SHALL BE NECESSARY BY OWNER

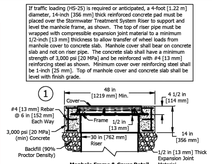
Aqua-Swirl® Polymer Coated (PCS) Stormwater Treatment System

Projected View
SCALE 1:80



Manhole Frame & Cover Detail
For Non-Traffic Areas Only
NTS

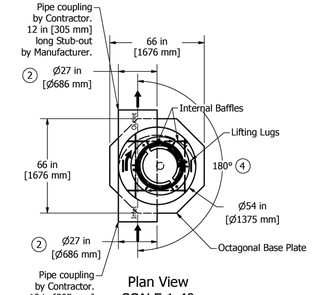
If traffic loading (HS-20) is required or anticipated, a 4-foot [1.22 m] diameter, 14-inch [356 mm] thick reinforced concrete pad must be placed over the Stormwater Treatment System Riser to support and level the manhole frame, as shown. The top of riser pipe must be wrapped with compressible expansion joint material to a minimum 1/2-inch [13 mm] thickness to allow transfer of wheel loads from manhole cover to concrete slab. Manhole cover shall bear on concrete slab and not on riser pipe. The concrete slab shall have a minimum strength of 3,000 psi [20 MPa] and be reinforced with #4 [13 mm] rebar @ 6 in [152 mm] each way. Minimum cover over reinforcing shall be 1-inch [25 mm]. Top of manhole cover and concrete slab shall be level with finish grade.



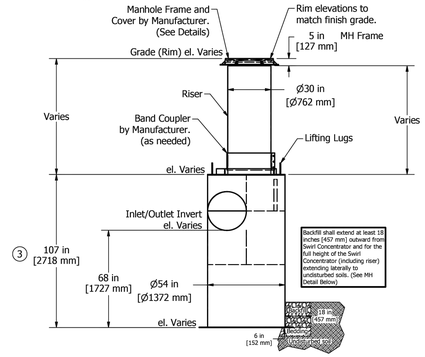
Manhole Frame & Cover Detail
For Traffic Loading Areas
NTS

Please see accompanied Aqua-Swirl® specification notes. See Site Plan for actual system orientation. Approximate dry (pick) weight: 2000 lbs [900 kg].

1. As an alternative, 42 in [1067 mm] diameter, HS-20/25 rated precast concrete rings may be substituted. 14 in [356 mm] thickness must be maintained.
2. AS-4 BYP inlet/outlet pipe size ranges from 12 in [305 mm] to 27 in [686 mm].
3. AS-4 chamber height may vary from 92 in [2337 mm] to 107 in [2718 mm], depending on inlet/outlet pipe size.
4. Orientation may vary from a minimum of 90° to a maximum of 180°.



Plan View
SCALE 1:40



Elevation View
SCALE 1:40

AquaShield®
SYSTEM INNOVATION TECHNOLOGY SOLUTIONS
2733 Kanawha Drive, Suite 111, Chattanooga, TN 37343
Phone (888) 344-6044 Fax (423) 826-2122
www.aquashieldinc.com

Aqua-Swirl® Concentrator
AS-4 BYP CW

Standard Detail

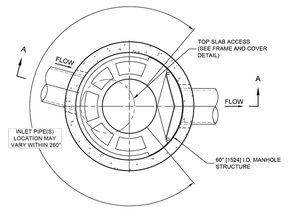
Structure #:	AS-4 STD	Rvwed	Rvw. Date
Drawn By:	OFGives		
Scale:	As Shown		
Date:	2/22/2023		

U.S. Patent No. 6524473 and other Patent Pending

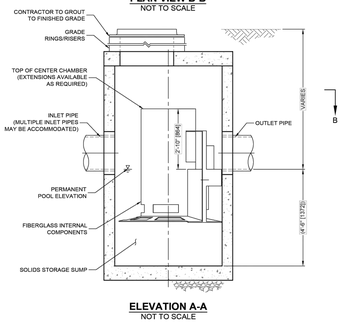
CASCADE SEPARATOR DESIGN NOTES

THE STANDARD CS-5 CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES



PLAN VIEW B-B
NOT TO SCALE



ELEVATION A-A
NOT TO SCALE

FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	
WATER QUALITY FLOW RATE (cfs [L/s])	
PEAK FLOW RATE (cfs [L/s])	
RETURN PERIOD OF PEAK FLOW (yrs)	
RIM ELEVATION	

PIPE DATA:	INVERT	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. CASCADE SEPARATOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' [610], AND GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
5. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD.
7. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS [mm].

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

(NOT TO SCALE)

CONTECH ENGINEERED SOLUTIONS LLC
www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CS-5
CASCADE SEPARATOR
STANDARD DETAIL

I:\COMMON\CAD\TREATMENT\CS1 CASCADE\AS STANDARD DRAWINGS\DWGS\CS-5.DTL.DWG 12/22/2016 9:39 AM

HYDRODYNAMIC SEPARATOR DETAILS

NOTES:
1. AQUA-SHIELD SPECIFICATIONS shall be considered part of this plan set.

2. Contact Sales Representative for product purchase:
Stacy Tobin
Product Consultant
Entel, Inc
734-358-4575
stobin@entel-group.com

3. CONTRACTOR MAY USE AQUA-SHIELD, CONTECH OR OTHER EQUAL HYDRODYNAMIC SEPARATOR PRODUCT/CONFIGURATION, BUT SHALL BE APPROVED BY ENGINEER OF RECORD AND TOWN OF MUNSTER SURVEYOR'S OFFICE.

DESIGN NOTES:

HYDRODYNAMIC SEPARATORS	WQV FLOW	10YR FLOW	CONTECH*	AQUA-SHIELD*
HDS#1B	1.65 CFS	6.89 CFS	CS5	AS-4 BYP CW

*DESIGN FLOWS SHOWN ASSUME FUTURE ADDITIONAL PARKING (IMPERVIOUS AREA)
*AQUA-SHIELD HYDRODYNAMIC SEPARATOR WERE SIZED BY WQV FLOW, Q=CiA, Q= 0.70*1*2.36 = 1.65 cfs
*CONTECH: HYDRODYNAMIC SEPARATOR WERE SIZED BY 10 YR FLOW.
*ALTERNATIVE CONFIGURATION USING A BYPASS STRUCTURE MAY CHANGE THE SIZE OF THE HYDRODYNAMIC SEPARATOR.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com
RUSSELL JACOB PITZEN REGISTERED NO. PE10910967 STATE OF INDIANA PROFESSIONAL ENGINEER
08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

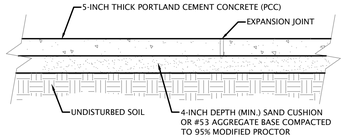
OSNI MEDICAL OFFICE BLDG

Construction Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

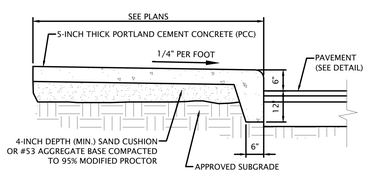
C204



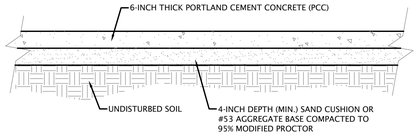
SIDEWALK
(NOT TO SCALE)

CONCRETE FLAT WORK NOTES:

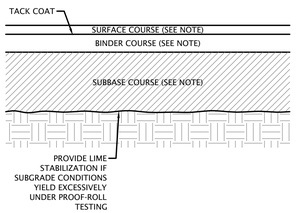
1. PROVIDE ½-INCH EXPANSION JOINT CONFORMING TO ASTM D-1751 ALONG BACK OF CURBS, DRIVEWAYS, STEPS, WALLS AND ACROSS THE SIDEWALK AT INTERVALS NOT TO EXCEED 40 FEET.
2. EXTEND EXPANSION JOINT MATERIAL FULL DEPTH OF THE SLAB.
3. PROVIDE TOOLED "V-GROOVE" CONTROL JOINT SPACED AT A DISTANCE EQUAL TO THE WIDTH OF THE WALK BUT NOT OVER 10 FEET APART, OR AS SPECIFIED ON THE SITE PLAN.
4. CONCRETE SHALL BE CLASS "A" & 4,000 PSI IN 28 DAYS, MEETING THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS MANUAL.
5. ALL CONCRETE FLAT WORK SHALL BE REINFORCED WIRE MESH 6"x6"x 10/10 GAUGE.



MONOLITHIC CURB & SIDEWALK
(NOT TO SCALE)



TRASH ENCLOSURE PAD
(NOT TO SCALE)

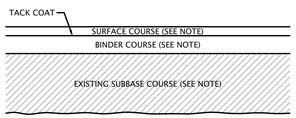


SURFACE COURSE
1.5 INCHES
INDOT HMA TYPE B SURFACE, 9.5mm

BINDER COURSE
2.0 INCHES
INDOT HMA TYPE B INTERMEDIATE, 19.0mm

SUBBASE COURSE
9.0 INCHES OF #53 COMPACTED LIMESTONE AGGREGATE
ON APPROVED PROOF-ROLLED SUBGRADE

ASPHALT PAVEMENT CROSS SECTION
(NOT TO SCALE)

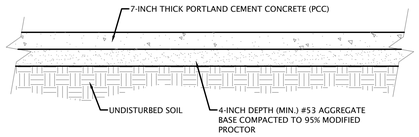


SURFACE COURSE
1.5 INCHES
INDOT HMA TYPE B SURFACE, 9.5mm

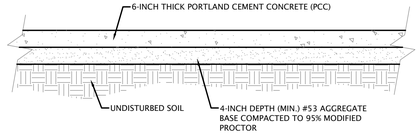
BINDER COURSE
2.0 INCHES & VARIES
INDOT HMA TYPE B INTERMEDIATE, 19.0mm
(ADDITIONAL AS REQUIRED TO MEET PROPOSED GRADE)

EXISTING SUBBASE COURSE
COMPACT EXISTING AGGREGATE

SURFACE & BINDER COURSE DETAIL
(NOT TO SCALE)



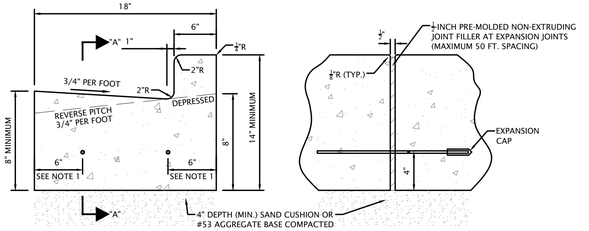
THICKENED SIDEWALK
(NOT TO SCALE)



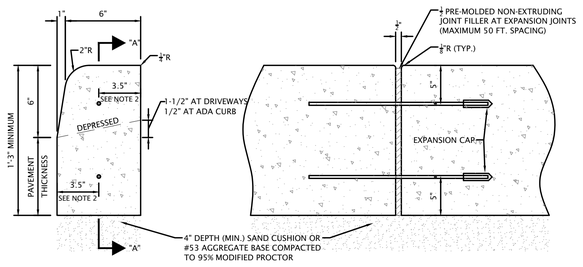
CONCRETE PAVEMENT (DRIVEWAY APRON)
(NOT TO SCALE)

CONCRETE CURB & GUTTER NOTES

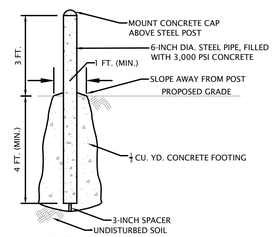
1. PROVIDE TWO #4 BARS (10 FT. LONG) CENTERED IN EACH UTILITY TRENCH.
2. PROVIDE TWO #6 SMOOTH BARS (30-inch LONG) WITH EXPANSION CAPS AT EACH EXPANSION JOINT.
3. COST OF BARS SHALL BE INCLUDED IN THE UNIT PRICE (PER LINEAR FOOT) FOR CURB AND GUTTER.
4. CONTRACTION JOINTS SHALL BE PLACED AT EQUAL SPACES BETWEEN NORMAL EXPANSION JOINTS.
5. ½" EXPANSION JOINTS AT 40 FEET MAXIMUM.
6. CONTRACTION JOINTS AT 20 FEET MAXIMUM.
7. CONTRACTION JOINTS SHALL BE SAW CUT IN THE UPPER ¼ OF CURB AND GUTTER WITHIN 7 DAYS OF PLACEMENT
8. SAW CUT EXISTING CURB PRIOR TO REMOVAL. PROVIDE NEAT AND CLEAN FACE TO ABUT NEW CURB.
9. USE 4,500 (MIN.) PSI CONCRETE.
10. DEPRESS DRIVEWAYS, AS REQUIRED.



BARRIER CURB & GUTTER
(NOT TO SCALE)

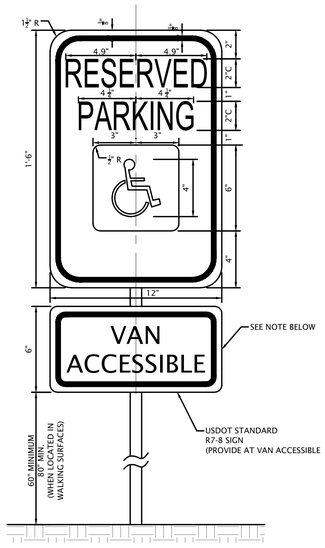


6-INCH BARRIER CURB
(NOT TO SCALE)



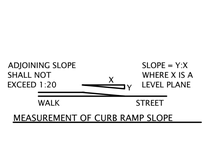
BOLLARD
(NOT TO SCALE)

NOTES:
1. PAINT ALL BOLLARDS SAFETY YELLOW.

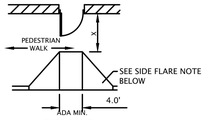


NOTE ON R7-8 SIGN:
THIS IS A STANDARD SIGN AND MAY BE ORDERED FROM ANY TRAFFIC SIGN SUPPLIER BY NUMBER. THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" SIGN AS APPLICABLE AND/OR AMOUNT OF THE FINE FOR ILLEGALLY PARKING IN THE RESERVED SPACE(S) A MUNICIPALITY MAY IMPOSE. CONFIRM WITH LOCAL REGULATIONS.

ADA SIGNAGE



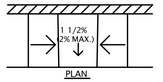
MEASUREMENT OF CURB RAMP SLOPE



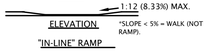
CURB RAMP

"X" IS 60" MIN. AT AN OUT SWING DOOR WITH A SLOPE OF 1:50 (2%) MAXIMUM. LEVEL SURFACE IS PREFERED.

SIDE FLARE NOTE: (SEE REFERENCE DIAGRAM ABOVE). SIDE FLARES SHALL HAVE A MAXIMUM SLOPE OF 1:10 (10%). WHERE "X" IS 36" TO48", THE OWNER PREFERS THE "IN-LINE" RAMP SHOWN BELOW.

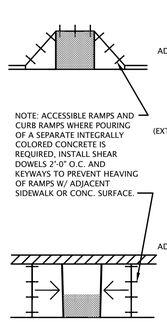


PLAN

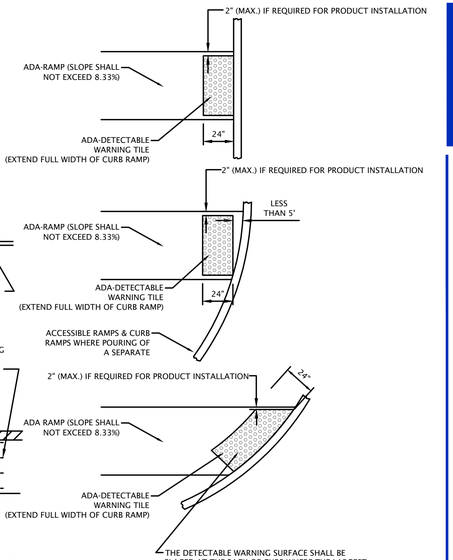


ELEVATION

"IN-LINE" RAMP

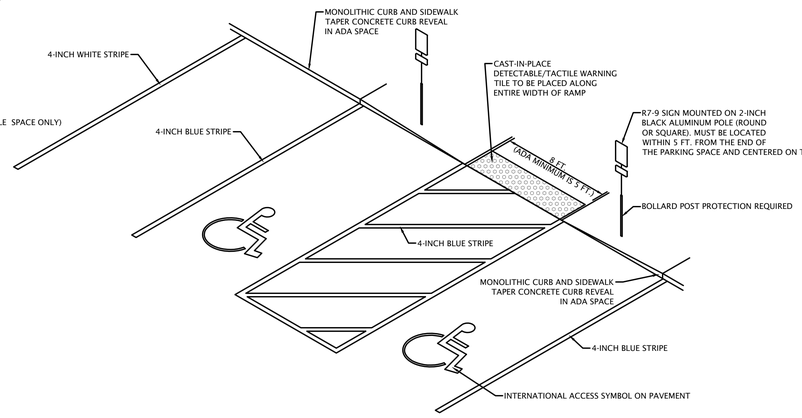


NOTE: ACCESSIBLE RAMPS AND CURB RAMPS WHERE POURING OF A SEPARATE INTEGRALLY COLORED CONCRETE IS REQUIRED, INSTALL SHEAR DOWELS 2'-0" O.C. AND KEYWAYS TO PREVENT HEAVING OF RAMPS W/ ADJACENT SIDEWALK OR CONC. SURFACE.



ADA RAMPS

THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB WHERE THE LARGEST DISTANCE BETWEEN THE FRONT FACE OF THE DETECTABLE WARNING SURFACE AND BACK OF CURB IS GREATER THAN 5'-0"



TYPICAL ADA PARKING SPACE PLAN

ADA NOTES

A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSIBLE PATH FROM THE PARKING LOT TO OWNERS CURBED SIDEWALK.

A CURB RAMP(S) MUST ALSO BE PROVIDED IN THE PARKING LOT AT ALL INTERMEDIATE AND PERIMETER CURBS ALONG THE ACCESSIBLE ROUTE CONNECTING TO PUBLIC SIDEWALKS.

A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAXIMUM SLOPE OF 1:12 (8.33%). THE MAXIMUM SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED.

A RAMP SHALL HAVE A DETECTABLE SURFACE IDENTIFYING THE AREA OF THE RAMP. DETECTABLE WARNINGS SHALL CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID. TRUNCATED DOMES SHALL HAVE A BASE DIAMETER OF 0.9 IN. TO 1.5 IN. MAXIMUM, A TOP DIAMETER OF 50% OF THE BASE DIAMETER MINIMUM TO 65% OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 IN. DOMES SHALL BE SPACED CENTER-TO-CENTER OF 1.6 IN. MINIMUM TO 2.4 IN. MAXIMUM AND A BASE-TO-BASE SPACING OF 0.65 IN. MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES.

ADA DETECTABLE WARNING STRIPS SHALL BE A CAST IN PLACE DETECTABLE/TACTILE WARNING TILE. THE TILE MUST MEET ALL ADA REQUIREMENTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANAFACTURERS INSTRUCTIONS. A 5-YEAR WARRANTEE SHALL BE PROVIDED BY THE MANUFACTURER FOR THE INSTALLED TILE FOR COLORFASTNESS AND DURABILITY. DETECTABLE/TACTILE WARNING TILE SHALL BE ARMOR-TILE, ACCESS-TILE OR AN APPROVED VENDOR.

THE LEADING EDGE OF THE DETECTABLE WARNING TILE MUST BE CLOSER THAN 5' FROM THE VEHICLE SURFACE, AND HAVE A MINIMUM OF 24" LENGTH ALONG THE PEDESTRIAN TRAVEL DIRECTION. THE TILE MAY BE CUT TO MATCH A RADIUS AT THE CURB IF ONE END OF THE RAMP EXCEEDS THE 5' MINIMUM.

THE CLEAR WIDTH OF ANY RAMP MEASURED PERPENDICULAR TO THE PEDESTRIAN TRAVEL DIRECTION IS A MINIMUM OF 36".

THERE ARE LOCAL JURISDICTIONS THAT SPECIFICALLY REQUIRE DETECTIBLE WARNINGS ON THE SIDE FLARES OR TOP OF RAMP (CA.). THERE ARE LOCAL JURISDICTIONS THAT HAVE REDEFINED DETECTIBLE WARNINGS (e.g. EXPOSED CONTRASTING COLOR AGGREGATE, GROOVES IN A PARALLEL OR DIAMOND PATTERN ETC.). ACCESSIBILITY GUIDLINES DEFINED BY LOCAL ORDINANCE SHOULD SUPERSEDE WHEN MORE STRINGENT THAN ADAAG. IN THE ABSENCE OF A DEFINITION, FOLLOW ADAAG.

ACCESSIBLE PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING ENTRANCE.

THE ACCESS AISLE SHALL BE DESIGNATED WITH HIGH QUALITY YELLOW DIAGONAL SURFACE PAINT STRIPING OR PER LOCAL MUNICIPALITY'S REQUIREMENTS.

RAMPS MUST NOT EXTEND OUT FROM THE CURB INTO THE ACCESS AISLE OF ANY ACCESS PARKING SPACE.

ADA ALLOWS TWO PARKING SPACES TO SHARE AN ACCESS AISLE.

ACCESSIBLE SPACE REQUIREMENTS

TOTAL OFF STREET PARKING SPACES PROVIDED	NUMBER OF ACCESSIBLE PARKING SPACES REQUIRED
1 TO 25	1
26 TO 50	2
51 TO 75	3
76 TO 100	4
101 TO 150	5
151 TO 200	6
201 TO 300	7
301 TO 400	8
401 TO 500	9
501 TO 1000	2% OF TOTAL
OVER 1000	2% PLUS 1 FOR EACH 100 OVER 1000
HOSPITAL OUTPATIENT FACILITIES	10% OF TOTAL PATIENT & VISITOR PARKING SPACES

ADA REQUIRES ONE VAN ACCESSIBLE PARKING SPACE IN EVERY SIX ACCESSIBLE SPACES, BUT NOT LESS THAN ONE.

- VAN ACCESSIBLE SPACES SHALL BE PERMITTED TO BE 8ft WIDE (MIN) WITH A 8ft WIDE (MIN) ACCESS AISLE
  OR
- VAN ACCESSIBLE SPACES SHALL BE PERMITTED TO BE 11ft WIDE WITH A 5ft WIDE (MIN) ACCESS AISLE

ACCESSIBLE PARKING-SIZE AND MARKINGS

NOTES:
1. PAINTED CROSSWALKS SHALL BE WHITE 18" WIDE STRIPES 6' LONG, SPACED 36" ON CENTER ACROSS THE ENTIRE LENGTH OF THE CROSSING.
2. PAINT 2" BLACK OUTLINE AROUND ARROWS AND LETTERS IN AREAS OF CONCRETE SURFACE.
3. PARKING SPACES ARE TO BE "WHITE" - 4" WIDE STRIPES
4. ADA SPACES, ADA MARKING, AND ADA ACCESS SPACE ARE TO BE "BLUE" - 4" WIDE STROKES.

PAVEMENT MARKINGS

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PITZEN REGISTERED NO. PE10910867 STATE OF INDIANA PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG

Construction Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

C205

GENERAL STORM WATER MANAGEMENT NOTES

Soil erosion and sedimentation control shall protect against loss of soil by the action of water, ice and wind.

Erosion control shall be in accordance with Munster Storm Water Ordinance & Storm Water Technical Manual & "The Indiana Storm Water Quality Manual".

There are two main elements for Storm Water Quality: Construction Site Stormwater Runoff Control and Post-Construction Stormwater Management. The contractor shall provide Construction Site Stormwater Runoff Control as required and construct the Post-Construction Stormwater Management features as shown on these plans.

The contractor shall be responsible for maintaining site conditions such that Stormwater Runoff Control is provided throughout construction. Surface water runoff management, ie: temporary ditches, swales, bypass pumping, and erosion control measures shall be constructed and maintained as required by construction activity and these items are considered incidental to the contract. These items shall be included in the base contract.

Upon the completion of the site work the contractor shall remove the Construction Site Stormwater Runoff Control measures and install the Post-Construction Stormwater Management measures.

Those Stormwater Runoff Control measures such as detention ponds that will also serve in the Post-Construction Stormwater Management Plan shall have construction sediment removed and full functionality restored upon the completion of the Site construction.

Each Construction Site Stormwater Runoff Control measure shall be installed immediately following the construction of the structure or feature in which the measure is intended to protect.

The contractor is responsible for any damage and/or cleaning to the structure or feature. Corrective work incurred by the contractor shall be considered incidental to the contract.

The contractor is responsible for compliance with the S.W.P.P.P. Any fines or punative measures incurred by the project due to failure to comply with the S.W.P.P.P. are the responsibility of the contractor. These costs shall be considered incidental to the contract, and shall not be considered an extra.

During the course of construction the S.W.P.P.P. may require additional erosion control measures to be installed to address site specific items not anticipated by this plan due to construction schedule or sequencing. It is not the intent of this plan to direct the schedule or sequencing beyond the general construction sequence. Any stormwater runoff control measures required due to construction methodology, sequencing, etc. are incidental to the contract. Corrective work and maintenance shall also be considered incidental, and shall not be considered an extra.

All items shown on these detail sheets are standard details and describe standard installation practices. Not all of these Stormwater Runoff Control measures will be utilized. See the erosion control plan for location and types of erosion control measures utilized. The stormwater checklist document will serve to further outline the S.W.P.P.P. for this project and it is considered part of the plan documents. In the event that site conditions require additional or different erosion control measures, these details serve to describe some acceptable methods.

POTENTIAL CONSTRUCTION POLLUTANT SOURCES

Potential pollutants that could enter the stormwater during construction include exposed soils, fuel and oil from leaking heavy equipment and vehicles. Equipment has the potential to leak fuel throughout the disturbed areas, or wherever construction is occurring. The contractors will inspect equipment before initiating construction and routinely thereafter. If leaks are discovered, they will be repaired before the equipment is used or new equipment will be brought to the site.

Bulk Fuel storage on-site can leak and thereby be a pollutant. All Fuel storage tanks shall meet the minimum requirements of the Fuel Storage requirements.

Exposed soils also have potential for being eroded by water and wind and must be prevented from entering the stormwater system. The contractor will install silt fence, riprap, and ditch checks in areas designated on the site development plans.

MATERIAL HANDLING AND STORAGE

Concrete Washout:
- Concrete wastewater liquid shall be fully evaporated prior to the planned capacity of the washout structure capacity being exceeded. Liquid must be disposed of offsite as wastewater.
- Concrete wastewater liquid that has not solidified may be pumped out into a secondary lined container or into a tanker and taken to an approved disposal facility.
- Concrete wastewater shall not be allowed to leak onto the ground, run into storm drains, or into any body of water. Where washout wastewater leaks onto the ground, all contaminated soils shall be excavated and disposed of properly.
- Allow concrete wastes to set. Break up and properly dispose of hardened wastes. Upon removal of waste, inspect the structure.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose of in the trash.
- Do not dump excess concrete onsite, except in designated areas.
- When concrete washout areas are no longer required, close the concrete washout systems. Dispose of all hardened concrete and other materials used to construct the system. Backfill, grade, and stabilize any holes, depressions, and other land disturbances associated with the system.

SOLID WASTE MANAGEMENT
- Select designated waste collection areas onsite.
- Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project. Provide containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow. Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.
- Litter from work areas within the construction limits of the project site should be collected and placed in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should
not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.
- Construction debris and waste should be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Stormwater run-on should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measure to elevate waste from site surfaces.
- Solid waste storage areas should be located at least 50 ft. from drainage facilities and watercourses and should not be located in area prone to flooding or ponding.
- Inspect construction waste area weekly.

CHEMICALS AND LIQUIDS STORAGE AND HANDLING
- Store materials in manufacturer's containers.
- Maintain Safety Data Sheets (SDS) on all products.
- Store materials in a weatherproof/vandal resistant locker or building. Keep materials away from flammable sources.
- Follow manufacturer's instructions for the proper use and storage of all materials.
- Do not perform washing of applicators or containers of solvent, paint, grout, stucco, or other materials near or into a waterway or stormwater inlet. Wash water is to be disposed offsite as wastewater.
- Tightly seal and store paint containers and curing compounds when not required for use.
- Do not discharge excess paint to a waterway or storm system. Properly dispose of excess paint according to the manufacturer's instructions and in accordance with all Federal, State, and local regulations.
- Provide secondary containment for aboveground storage tanks or storage areas containing hazardous materials that are located outside.
- Remove collected liquid in the secondary containment area within 72 hours of its discovery to maintain the capacity.

Fertilizers
- Apply fertilizers only in the minimum amounts recommended by the manufacturer, as indicated from a soil test, or per the Indiana Stormwater Quality Manual.
- Work fertilizers into the soil to limit exposure to stormwater.
- Do not apply immediately prior to precipitation events.
- Store fertilizers in a covered area and transfer partially used bags to a sealable container to avoid spills.

Equipment and Vehicle Washing
- As feasible, perform washing offsite in a covered facility with an impervious floor and drains connected to the sanitary sewer.
- Use a dedicated site for washing. Locate wash areas at least 50 feet from stormwater inlets or water bodies.
- Do not discharge wash water if using soaps, solvents, or detergents. Only non-contaminated wash water may be discharged to stormwater.
- Inspect equipment and vehicles for leaks or worn hoses prior to washing.
- Properly dispose of contaminated wash water.

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL SUMMARY OF BASIC PRINCIPLES

1. Keep disturbed area as small as possible.

2. Stabilize and/or protect disturbed areas as soon as possible.

3. Keep storm water runoff velocities low.

4. Retain sediment within immediate construction area.

The purpose of this plan is to specify methods for construction site stormwater runoff control.

All soil erosion and sedimentation control devices shall be regularly maintained by the contractor through the duration of the project. Collected silt and sedimentation shall be removed as required to maintain the effectiveness of the silt traps or sedimentation control devices. The contractor shall replace filter materials which have become ineffective due to contamination or physical deterioration. The contractor shall inspect all stormwater runoff control devices weekly and after all storm events.

The contractor shall have a log of maintenance and inspections, to be available at the site upon request of Local and State Inspectors.

If possible no grubbing should take place within 30' of an active watercourse.

GENERAL CONSTRUCTION SEQUENCE

- Installation/implementation of storm water quality measures.
- Site Clearing/demolition activities.
- Topsoil removal and stockpiling.
- Mass grading.
- Installation of underground utilities.
- Construction of dry-bottom storm water pond.
- Installation of curb and sidewalk.
- Construction of asphalt.
- Final grading.
- Permanent seeding/sod.

STORMWATER QUALITY CONSTRUCTION SEQUENCE

The sequence of when each measure will be implemented is summarized below.

- Post signed CSGP NOI, NPDES Permit number, CSGP NOS (when available), contact information for the site, municipal stormwater permit, and location where construction plans may be obtained in a visible location at entrance to site.
- Construct gravel construction entrance from the street to the building pad prior to construction.
- Install silt fence/fiber rolls prior to construction at construction limits.
- Construct refueling area and concrete washout area prior to construction.
- Install inlet protection at all inlets on property.
- Perform topsoil removal and stockpiling. Soil stockpiles created on site to be protected from erosion with silt fence around the base.
- Perform mass grading of the site subgrade.
- Construct dry-bottom storm water pond to help provide the required storage needed to capture and treat storm water runoff.
- Establish permanent seeding on banks of pond to prevent the banks from degrading.
- Construct diversion swales where required/shown to divert large amounts of runoff area to the storm water pond until the storm sewer system is installed.
- Establish temporary seeding of diversion swales.
- Install pipe outlet/outfall from storm water pond to existing storm sewer connection.
- Establish connection between new storm sewer and existing storm sewer.
- Install underground utilities.
- Upon completion of the rough grading, all areas affected by construction shall be temporarily seeded if they will remain dormant for greater than 7 days. These areas shall be stabilized within 14 days of remaining dormant and erosion control blankets shall be installed on slide slopes as shown on the plans.
- Re-seed any areas disturbed by construction and utilities installation with temporary seed mix within 3 days of completion of disturbance.
- Grade site to final elevations.
- Install curb and sidewalk.
- Construct asphalt.
- Install permanent seeding or sod.
- Maintain temporary erosion control features until construction is complete.
- Remove temporary erosion control measures once permanent vegetative cover has been established.
- Submit the the Notice of Termination for the Construction Stormwater General (CSGP) permit.

See attached details for acceptable erosion and sedimentation control installation methods.

TYPES OF CONTROL DEVICES

The Construction Site Stormwater Runoff Control Plan involves the use of four types of control devices to manage runoff thereby assuring that runoff meets the current requirements for stormwater quality.

1. Erosion Control
   a. Chemical Stabilization
   b. Geotextiles
   c. Scour Stop
   d. Riprap
   e. Mulching
   f. Soil Roughening
   g. Topsoil Utilization
   h. Seeding
   i. Sodding
2. Runoff Control
   a. Check Dams
   b. Temporary Diversion Dikes
   c. GeoRidge Ditch Berms
3. Sediment Control
   a. Polymer Systems (Floc Logs)
   b. Fiber Rolls
   c. Sediment Basins
   d. Dewatering Bags
   e. Silt Fence
   f. Storm Drain Inlet Protection
   g. Construction Entrances
   h. Construction Entrance Mud Mats
4. Material Management (housekeeping)
   a. Concrete Washouts
   b. Spill Prevention and Control Plan
   c. Fuel Storage
   d. Stockpiles
   e. Temporary Facilities
   f. Material Handling and Storage

SELF MONITORING PROGRAM

The contractor shall perform inspections weekly and after each storm event of 0.5" or more throughout the construction process for all Construction Site Stormwater Runoff Control measures.

See the Maintenance Section under each measure, or follow the manufacturers recommendations for routine maintenance.

The attached self monitoring form shall be used to monitor the Construction Site Stormwater Runoff Control measures. A binder of the weekly forms shall be kept and available upon request.

The contractors will inspect equipment before initiating construction and routinely thereafter to assure that mechanical equipment is not polluting the stormwater runoff.

SELF MONITORING FORM

Date: _____
Project: _____
Inspected by: _____
Type of Inspection: ☐ Scheduled Weekly ☐ Rain Event

CONSTRUCTION SITE INSPECTION AND MAINTENANCE LOG
(To be Completed by Property Owner or Agent)

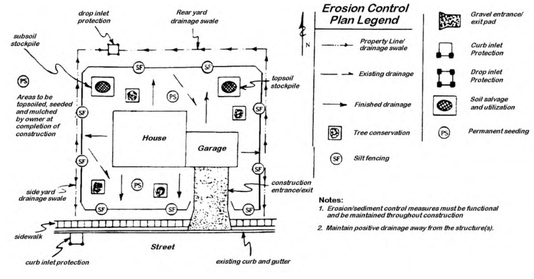
All stormwater pollution prevention BMPs shall be inspected and maintained as needed to ensure continued performance of their intended function during construction and shall continue until the entire site has been stabilized and a Notice of Termination has been issued. An inspection of the project site must be completed by the end of the next business day following each measurable storm event. If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Maintenance and repair shall be conducted in accordance with the accepted site plans. This log shall be kept as a permanent record and must be made available to the Municipal Engineer, in an organized fashion, within forty-eight (48) hours upon request.

Yes	No	N/A	
			1. Are all sediment control barriers, inlet protection and silt fences in place and functioning properly?
			2. Are all erodible slopes protected from erosion through the implementation of acceptable soil stabilization practices?
			3. Are all dewatering structures functioning properly?
			4. Are all discharge points free of any noticeable pollutant discharges?
			5. Are all discharge points free of any noticeable erosion or sediment transport?
			6. Are designated equipment washout areas properly sited, clearly marked, and being utilized?
			7. Are construction staging and parking areas restricted to areas designated as such on the plans?
			8. Are temporary soil stockpiles in approved areas and properly protected?
			9. Are construction entrances properly installed and being used and maintained?
			10. Are "Do Not Disturb" areas designated on plan sheets clearly marked on-site and avoided?
			11. Are public roads at intersections with site access roads being kept clear of sediment, debris, and mud?
			12. Is spill response equipment on-site, logically located, and easily accessed in an emergency?
			13. Are emergency response procedures and contact information clearly posted?
			14. Is solid waste properly contained?
			15. Is a stable access provided to the solid waste storage and pick-up area?
			16. Are hazardous materials, waste or otherwise, being properly handled and stored?
			17. Have previously recommended corrective actions been implemented?

If you answered "no" to any of the above questions, describe any corrective action which must be taken to remedy the problem and when the corrective actions are to be completed.

SAMPLE EROSION/SEDIMENT CONTROL PRACTICE PLAN

FOR A TYPICAL ONE OR TWO FAMILY DWELLING UNDER CONSTRUCTION



POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN

- After construction is completed, including buildings, parking lots constructed, and landscaping, the property owner will take possession of the property. When the property becomes occupied, it is no longer the responsibility of the developer to maintain the site. The responsibility for maintaining the permanent erosion and sediment control measures belongs to the current owner/s of the property. Pollutants associated with the proposed land use will most likely be very typical of commercial/retail developments. Most expected pollutants will be associated with automobiles: oil, grease, antifreeze, brake dust, rubber fragments, gasoline, diesel fuel, metals, and improper disposal of trash. It is the responsibility of the property owner/s or owners association to provide routine maintenance. Some maintenance items may include trimming vegetation, picking up litter, monitoring and cleaning catch basins, pond outlet structure and culverts. The sediment control basins protecting the stormwater quality of the site will require periodic cleaning of sediments that accumulate. After vegetation has been established, temporary erosion and sediment control measures such as silt fence and straw bales will be removed by the installing contractor.
- The plans make use of a detention pond system and green space to control the pollutants that occur after construction activities conclude.
- The post-construction stormwater quality measures will be installed as a part of the normal construction activities for the site. They shall be fully operational, and complete at the completion of construction.
- All storm water run-off shall be controlled by restrictors in the outfall pipes constructed as part of these engineering plans. The stormwater quality measures shall minimize the pollutants from stormwater run-off and therefore minimize adverse impacts to the receiving streams and riparian habitats.
- Green spaces - The green space areas of the site should receive routine fertilizing, watering, mowing and trimming to maintain a healthy landscape.
- Catch basins - Catch basins should be routinely inspected for build up of sediment. Mechanical cleaners or hand cleaning will be required to maintain the function of the catch basin.
- Storm drain flushing - In the event that the storm drains cease to function properly due to excessive sediment buildup, flushing of the storm drains may be required.
- Trees
- Native re-vegetation
- Pre-cast Storm Drain Covers
- Grass swales - Grass swales should receive routine fertilizing, watering, mowing and trimming to maintain a healthy landscape.

DVG Team Inc. has prepared this erosion and sedimentation control plan for the owner/developer in accordance with the known requirements and ordinances. It is the responsibility of the owner/developer for compliance with this erosion and sedimentation control plan and the related attachments by all subcontractors and consultants that perform work on the project site. The owner/developer is responsible for the routine inspection and maintenance of the erosion and sediment control measures. DVG Team Inc. is not responsible for the enforcement or compliance of the Erosion and Sediment Control Plan. Any additional erosion or sediment control measures beyond those specified in this plan, for unforeseen or unexpected situations, which may be required by the regulatory agencies shall be the responsibility of the owner/developer to implement.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PETERS REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG
Stormwater Pollution Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

C301

EROSION CONTROL MEASURES
CHEMICAL STABILIZATION

MATERIAL: SOFT PIABLE MATTING SUCH AS JUTE, COIR OR BURLAP, APPLIED POLYMER SYSTEMS, "SILT STOP" DRY POWER (OR APPROVED EQUAL).

COVERAGE: "SILT STOP" DRY POWDER IS A SOIL-SPECIFIC MATERIAL. A SOIL SAMPLE MUST BE SUBMITTED TO THE MANUFACTURER TO DETERMINE PROPER APPLICATION RATES.

INSTALLATION:
1. PREPARE THE SITE BY FILLING IN GULLIES, RILLS AND LOW SPOTS.
2. APPLY "SILT STOP" POWER (DRY) OVER DRY GROUND WITH A SEED/FERTILIZER SPREADER.
3. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL AND FLOW VELOCITY).

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

GEOTEXTILES

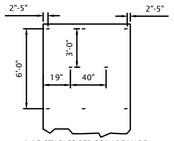
MATERIAL: NORTH AMERICAN GREEN - SC 150 or DS 150 BLANKET
SC 150 WHEN PLACEMENT OCCURS IN THE FALL/WINTER AND WHEN DURABILITY IS REQUIRED
DS 150 DEGRADES MORE RAPIDLY, ALLOWING FOR SOONER MOWING OF THE STABILIZED AREA

EROSION CONTROL BLANKET (SURFACE-APPLIED)

ANCHORING: STAPLES AS RECOMMENDED BY THE MANUFACTURER. FOR NORTH AMERICAN GREEN, USE STAPLE PATTERN "B". SEE CHART BELOW.

INSTALLATION:
1. SELECT THE TYPE AND WEIGHT OF EROSION CONTROL BLANKET TO FIT THE SITE CONDITIONS (e.g. SLOPE, CHANNEL, FLOW VELOCITY).
2. INSTALL ANY PRACTICES NEEDED TO CONTROL EROSION AND RUNOFF, SUCH AS TEMPORARY OR PERMANENT DIVERSION, SEDIMENT BASIN OR TRAP, SILT FENCE, AND/OR STRAW BALE DAM.
3. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.
4. ADD TOPSOIL WHERE APPROPRIATE.
5. PREPARE THE SEEDBED, FERTILIZE (AND LIME IF NEEDED) AND SEED THE AREA IMMEDIATELY AFTER GRADING.
6. FOLLOW MANUFACTURER'S DIRECTIONS AND LAY THE BLANKETS ON THE SEEDED AREA SUCH THAT THEY ARE IN CONTINUOUS CONTACT WITH THE SOIL AND THAT THE UPSLOPE OR UPSTREAM ONES OVERLAP THE LOWER ONES BY AT LEAST 8 INCHES.
7. TUCK THE UPPERMOST EDGE OF THE UPPER BLANKETS INTO A CHECK SLOT (SLIT TRENCH), BACKFILL WITH SOIL, AND TAMP DOWN.
8. ANCHOR THE BLANKETS AS SPECIFIED BY THE MANUFACTURER.

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION BELOW THE BLANKET.
2. IF ANY AREA SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING IT, ADD SOIL, RE-SEED THE AREA, AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

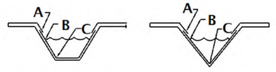


1.15 STAPLES PER SQUARE YARD
STAPLE PATTERN "B"
NORTH AMERICAN GREEN
(NOT TO SCALE)

EROSION CONTROL BLANKET (CHANNEL APPLICATION)

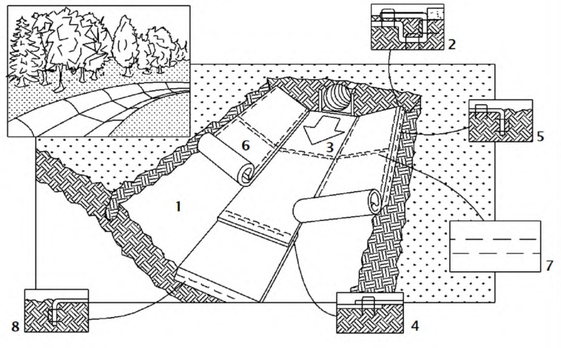
DETAIL SOURCE: NORTH AMERICAN GREEN

NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.



CRITICAL POINTS:

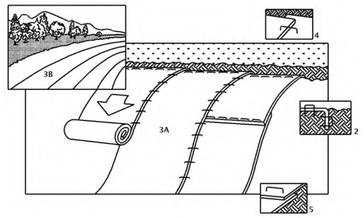
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDES, SLOPE VERTICES



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6-INCH DEEP BY 6-INCH WIDE TRENCH, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
4. PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH A 6-INCH OVERLAP. USE A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT THE TOP OF SIDE SLOPES MUST BE ANCHORED IN 6-INCH DEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. BLANKETS ON SIDE SLOPES MUST BE OVERLAPPED 4 INCHES OVER THE CENTER OF BLANKET AND STAPLED (2 INCHES FOR C350 MATTING).
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 FT. TO 40 FT. INTERVALS. USE A ROW OF STAPLES 4 INCHES APART OVER ENTIRE WIDTH OF CHANNEL. PLACE A SECOND ROW 4 INCHES BELOW THE FIRST ROW IN A STAGGERED PATTERN.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED IN A 6-INCH DEEP BY 6-INCH WIDE TRNECH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

EROSION CONTROL BLANKET (SIDE SLOPE APPLICATION)

DETAIL SOURCE: NORTH AMERICAN GREEN



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE RECOMMENDATIONS FOR CHANNELS.

DIRECTIONS:
1. PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED. 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 BLANKET 6-INCHEDEEP BY 6-INCH WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS DOWN OR HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH AN APPROXIMATELY 2-INCH OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE-STYLE) WITH AN APPROXIMATELY 4-INCH OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12 INCHES APART.

RIP RAP AT PIPE OUTLET

MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED d50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED d50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.

SUBGRADE PREPARATION

1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SPOIL CONSIDERABLY.
3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
4. SMOOTH THE GRADED FOUNDATION.

FILTER PLACEMENT

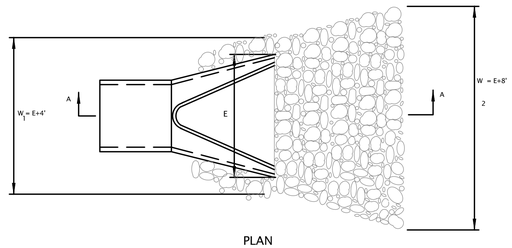
1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION. OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.

RIP RAP PLACEMENT

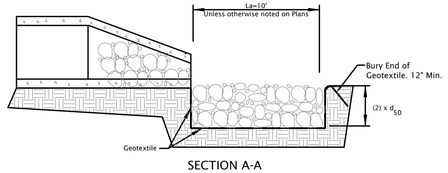
1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.

MAINTENANCE

1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.



PLAN
(NOT TO SCALE)

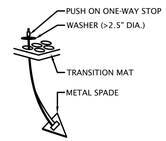


SECTION A-A
(NOT TO SCALE)

SCOURSTOP TRANSITION MAT FOR SCOUR PROTECTION

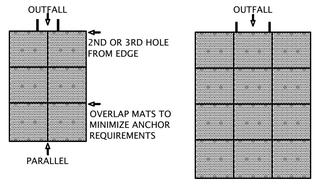
MATERIAL: SCOUR STOP TRANSITION MATS
WH SHURTLEFF COMPANY
11 WALLACE AVENUE
SOUTH PORTLAND, ME 04106
(800) 663-6149
WWW.WHSHURTLEFF.COM

PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS



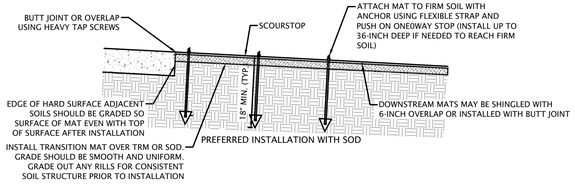
ANCHOR REQUIREMENTS*: FIRST ROW OF SCOURSTOP MATS - MINIMUM OF 8 ANCHORS
SECTION ROW OF SCOURSTOP MATS - MINIMUM OF 5 ANCHORS

* TO ENSURE CONSISTENT CONTACT WITH THE SOIL, EXCEED THE MINIMUM ANCHOR REQUIREMENT AT INSTALLATION OR IMPROVE SOIL SURFACE SMOOTHNESS



SHORELINE PROTECTION:

- ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1
- TRANSITION MATS OVER A MINIMUM 8 OZ. GEOTEXTILE
- POSITION ANCHORS TO SECURE SCOURSTOP MATS FLUSH WITH SOIL SURFACE
- MINIMIZE GAPS OR BRIDGING



NOT TO SCALE

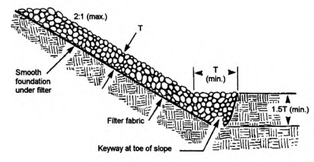
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.

RIP-RAP FOR SCOUR PROTECTION

MATERIAL: HARD, ANGULAR AND WEATHER-RESISTANT, HAVING A SPECIFIC GRAVITY OF AT LEAST 2.5
GRADATION: WELL-GRADED STONE, 50% (BY WEIGHT LARGER THAN THE SPECIFIED d50; HOWEVER, THE LARGEST PIECES SHOULD NOT EXCEED TWO TIMES THE SPECIFIED d50 AND NO MORE THAN 15% OF THE PIECES (BY WEIGHT) SHOULD BE LESS THAN 3 INCHES.
FILTER: USE GEOTEXTILE FABRIC FOR STABILIZATION AND FILTRATION OR SAND/GRAVEL LAYER PLACED UNDER ALL PERMANENT RIP RAP INSTALLATIONS.
SLOPE: 2:1 OR FLATTER, UNLESS APPROVED IN THE EROSION AND SEDIMENT CONTROL PLAN.
MINIMUM THICKNESS: TWO TIMES THE SPECIFIED d50 STONE DIAMETER.

SUBGRADE PREPARATION

1. REMOVE BRUSH, TREES, STUMPS AND OTHER DEBRIS.
2. EXCAVATE ONLY DEEP ENOUGH FOR BOTH FILTER AND RIP RAP. OVER-EXCAVATION INCREASES THE AMOUNT OF SPOIL CONSIDERABLY.
3. COMPACT ANY FILL MATERIAL TO THE DENSITY OF THE SURROUNDING UNDISTURBED SOIL.
4. CUT KEYWAY IN STABLE MATERIAL AT THE BASE OF THE SLOPE TO REINFORCE TOE. KEYWAY DEPTH SHOULD BE 1.5 TIMES THE DESIGN THICKNESS OF THE RIP RAP AND SHOULD EXTEND A HORIZONTAL DISTANCE EQUAL TO THE DESIGN THICKNESS.
5. SMOOTH THE GRADED FOUNDATION



FILTER PLACEMENT

1. IF USING GEOTEXTILE FABRIC, PLACE IT ON THE SMOOTHED FOUNDATION, OVERLAP THE EDGES AT LEAST 12 INCHES AND SECURE WITH ANCHOR PINS SPACED EVERY 3 FEET ALONG THE OVERLAP.
2. IF USING A SAND/GRAVEL FILTER, SPREAD THE WELL-GRADED AGGREGATE IN A UNIFORM LAYER TO THE REQUIRED THICKNESS (6 INCHES MINIMUM); IF TWO OR MORE LAYERS ARE SPECIFIED, PLACE THE LAYER OF SMALLER GRADATION FIRST AND AVOID MIXING THE LAYERS.

RIP RAP PLACEMENT

1. IMMEDIATELY AFTER INSTALLING THE FILTER, ADD THE RIP RAP TO FULL THICKNESS IN ONE OPERATION. DO NOT DUMP THROUGH CHUTES OR USE ANY METHOD THAT CAUSES SEGREGATION OF ROCK SIZES OR THAT WILL DISLODGE OR DAMAGE THE UNDERLYING FILTER MATERIAL.
2. IF FABRIC IS DAMAGED, REMOVE THE RIP RAP AND REPAIR BY ADDING ANOTHER LAYER OF FABRIC, OVERLAPPING THE DAMAGED AREA BY 12 INCHES.
3. PLACE SMALLER ROCK IN VOIDS TO FORM A DENSE, UNIFORM AND WELL-GRADED MASS. SELECTIVE LOADING AT THE QUARRY AND SOME HAND PLACEMENT MAY BE NEEDED TO ENSURE AN EVEN DISTRIBUTION OF ROCK MATERIAL.
4. BLEND THE ROCK SURFACE SMOOTHLY WITH THE SURROUNDING AREA TO ELIMINATE PROTRUSIONS OR OVER-FALLS.

MAINTENANCE

1. INSPECT PERIODICALLY FOR DISPLACED ROCK MATERIAL, SLUMPING AND EROSION AT EDGES, ESPECIALLY DOWN-STREAM OR DOWN-SLOPE.

SILT FENCE

APPROACH: POOL AREA FLAT (LESS THAN 1% SLOPE), WITH SEDIMENT STORAGE OF 945 CU.FT./ACRE DISTURBED.

MATERIALS: ECONOMY BLUE STRIPE SILT FENCE WITH POSTS, MANUFACTURED BY MIDWEST CONSTRUCTION PRODUCTS AT (800) 532-2381 OR APPROVED EQUAL.

ANCHORING: 2 INCH BY 2 INCH HARDWOOD STAKES WITH A LENGTH EQUAL TO THE HEIGHT OF THE SILT FENCE PLUS 1 FOOT.

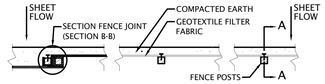
INSTALLATION:

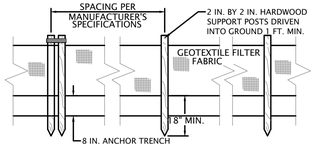
1. DRIVE STAKES 1 FT. (MINIMUM) INTO GROUND AND ATTACH FABRIC TO STAKES WITH STAPLER.
2. BOTTOM OF FABRIC SHALL BE PLACED UNDER 6 INCHES COMPACTED SOIL TO PREVENT SEDIMENT FLOW UNDERNEATH THE FENCE.
3. ENSURE THAT ALL SUPPORTING POSTS ARE ON THE DOWN SLOPE SIDE OF THE FENCING.

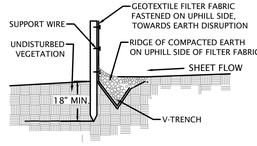
MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE SILT FENCE AS NEEDED.

ADDITIONAL CONSIDERATIONS:
1. WHEN PROTECTING SLOPES, FENCES SHOULD BE INSTALLED PARALLEL TO THE SLOPE CONTOUR.
2. ON SLOPES, THE STEEPNESS OF GRADE WILL DETERMINE THE MAXIMUM DISTANCE BETWEEN PARALLEL FENCES.

LESS THAN 2%	100 FT. MAX.
BETWEEN 2% AND 5%	75 FT. MAX.
GREATER THAN 55	ADDITIONAL SURFACE STABILIZATION SHALL BE PROVIDED







SECTION A-A

SECTION B-B

(NOT TO SCALE)

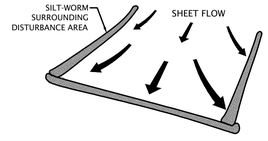
SILT-WORM

MATERIAL: SILT-WORM OR APPROVED EQUAL

DIAMETER: 9 INCHES MINIMUM

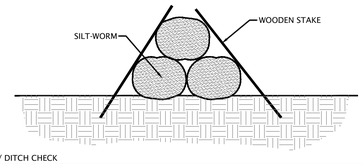
PERIMETER CONTROL

INSTALLATION:
1. PLACE SILT-WORM DIRECLY ON TOP OF GRADE FOR GRADES UNDER 12%.
2. ARRANGE PERIMETER CONTROL IN A MANNER THAT IS APPLIED PERPENDICULAR TO SHEET FLOW.
3. OVERLAP CONTIGUOUS SECTIONS OF SILT WORM AT A MINIMUM OF 6 INCHES.



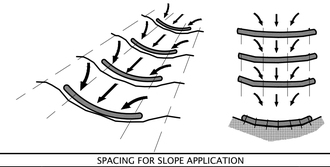
STACKING

INSTALLATION:
1. PLACE SILT-WORM DIRECTLY ON TOP OF GRADE FOR GRADES UNDER 12%.
2. STACK SILT-WORM IN A STAGGERED MANNER, AS SHOWN BELOW.
3. OVERLAP CONTIGUOUS SECTIONS OF SILT-WORM AT A MINIMUM OF 6 INCHES.



SLOPE INTERRUPTION / DITCH CHECK

INSTALLATION:
1. PLACE SILT-WORM PERPENDICULAR TO SHEET FLOW AND CURL ENDS UP TOWARD TOP OF SLOPE.
2. STAKE THE SILT-WORM EVERY 4 FEET AND OVERLAP THE ENDS BETWEEN 1 AND 2 FEET.
3. PLACE A LINE OF DEFENSE AT THE TOP OF THE SLOPE AND ANOTHER WITHIN 10 FEET FROM TOE OF SLOPE.



SPACING FOR SLOPE APPLICATION				
SLOPE	9-inch	12-inch	18-inch	24-inch
2% or less	70 ft.	80 ft.	N/A	N/A
5%	30 ft.	60 ft.	80 ft.	N/A
10%	20 ft.	30 ft.	70 ft.	80 ft.
6:1	N/A	20 ft.	40 ft.	55 ft.
4:1	N/A	20 ft.	30 ft.	30 ft.
3:1	N/A	N/A	20 ft.	25 ft.
2:1	N/A	N/A	20 ft.	20 ft.

SILT-WORM MAINTENANCE GUIDELINES

- INSPECT WITHIN 24 HOURS OF A RAIN EVENT AND AT LEAST ONCE EVERY 7 CALENDAR DAYS.
- IF SILT-WORM TEARS, STARTS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY. NOTE: ALL REPAIRS SHOULD MEET SPECIFICATIONS AS OUTLINED WITHIN THIS MEASURE.
- REMOVE DEPOSITED SEDIMENT WHEN IT IS CAUSING THE SILT-WORM TO BULGE OR WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT-WORM AT ITS LOWEST POINT. WHEN CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE SILT-WORM AND SEDIMENT DEPOSITS, GRADE THE SITE TO BLEND WITH THE SURROUNDING AREA, AND STABILIZE.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PITZEN
REGISTERED
NO. PE10910667
STATE OF INDIANA
PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

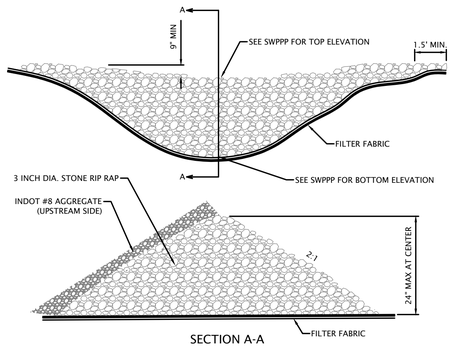
DATE:	REVISIONS AND NOTES:

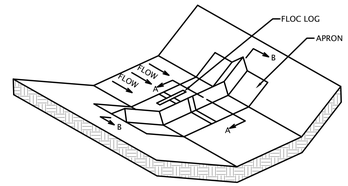
OSNI MEDICAL OFFICE BLDG
Stormwater Pollution Prevention Plan Details

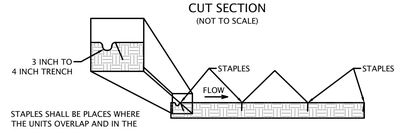
NO SCALE

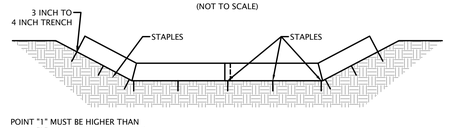
DESIGN BY	DATE
DVG	10/12/23
PROJECT NO.	
23-0031	

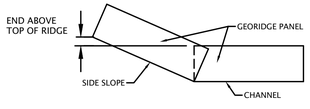
C302

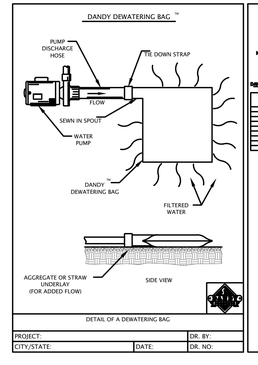












EROSION CONTROL MEASURES (continued)

MULCHING

MATERIAL: STRAW, HAY, WOOD FIBER, CELLULOSE
OR EXCELSIOR
OR EROSION CONTROL BLANKETS
OR TURF REINFORCEMENT MATS, AS SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN

COVERAGE: AT LEAST 75% OF THE SOIL SURFACE

ANCHORING: REQUIRED FOR STRAW OR HAY MULCH AND SOMETIMES EXCELSIOR TO PREVENT DISPLACEMENT BY WIND AND/OR WATER

MATERIAL	RATE	COMMENTS
STRAW OR HAY	1.5 TO 2 TONS/ACRE	SHOULD BE DRY, UNCHOPPED, FREE OF UNDESIRABLE SEEDS SPREAD BY HAND OR ANCHORED MUST BE CRIMPED OR ANCHORED
WOOD FIBER OF CELLULOSE	1 TON/ACRE	APPLY WITH A HYDROMULCHER AND USE WITH TACKING AGENT
LONG FIBER WOOD (EXCELSIOR)	0.5 TO 0.75 TON/ACRE	ANCHOR IN AREAS SUBJECT TO WIND

INSTALLATION:
1. APPLY MULCH AT THE RECOMMENDED RATE.
2. SPREAD UNIFORMLY BY HAND, HAY FORK, MULCH BLOWER OR HYDROMULCHER. AFTER SPREADING, NO MORE THAN 25% OF THE GROUND SURFACE SHOULD BE VISIBLE.
3. IF STRAW OR HAY IS USED, ANCHOR IT IMMEDIATELY IN ONE OF THE FOLLOWING WAYS:

MAINTENANCE:
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER STORM EVENTS FOR ANY EROSION.
2. IF ANY AREA SHOWS EROSION, REPAIR THE GRADE AND RE-APPLY "SILT STOP" POWDER AND RE-LAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT, CHECK THE TREATED AREA PERIODICALLY.

ANCHORING METHOD	HOW TO APPLY
MULCH ANCHORING TOOL OR FARM DISK (DULL, SERRATED AND SET STRAIGHT)	CRIMP OR PUNCH THE STRAW OR HAY INTO THE SOIL 2 TO 4 INCHES. OPERATE MACHINERY ON THE CONTOUR OF SLOPE.
CLEATING WITH DOZER TRACKS	OPERATE DOZER UP AND DOWN SLOPE, NOT ACROSS OR ELSE THE TRACKS WILL FORM RILLS.
WOOD HYDROMULCH FIBERS	APPLY 1 TO 2 TONS/ACRE USING A HYDROMULCHER AT A RATE OF 750 LBS./ACRE WITH A TACKING AGENT (OR ACCORDING TO CONTRACTOR SPECIFICATIONS). DO NOT USE IN AREAS OF CONCENTRATED FLOW.
ASPHALT EMULSION	EMULSIFIED ASPHALT SHOULD CONFORM TO THE REQUIREMENTS OF ASTEM SPEC. #977. APPLY WITH SUITABLE EQUIPMENT AT A RATE OF 0.05 GAL/SY. DO NOT USE IN AREAS OF CONCENTRATED FLOW.
SYNTHETIC TACKIFIER, BINDER OR SOIL STABILIZER	APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS
BIODEGRADABLE NETTING (POLYPROPYLENE OR SIMILAR MATERIAL)*	APPLY OVER MULCH AND STAPLE WITH 6 TO 8 INCH WIRE STAPLES. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION. BEST SUITED TO SLOPE APPLICATION.

* INSTALL THE NETTING IMMEDIATELY AFTER APPLYING THE MULCH. IN AREAS OF CONCENTRATED WATER FLOW, LAY NETTING PARALLEL TO THE DIRECTION OF FLOW. ON OTHER SLOPES, LAY NETTING EITHER PARALLEL OR PERPENDICULAR TO DIRECTION OF FLOW. EDGES OF ADJACENT NETTING STRIPS SHOULD OVERLAP 4 TO 6 INCHES WITH THE STRIP ON THE UPGRADE SIDE OF ANY LATERAL WATER FLOW ON TOP. INSTALLATION DETAILS ARE SITE SPECIFIC, SO FOLLOW THE MANUFACTURER'S DIRECTIONS.

MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT, REPAIR THE SURFACE, THEN RE-SEED, RE-MULCH AND, IF APPLICABLE, INSTALL NEW NETTING.
3. CONTINUE INSPECTIONS UNTIL VEGETATION IS FIRMLY ESTABLISHED.

SOIL ROUGHENING

DESCRIPTION:
SOIL ROUGHENING IS A TEMPORARY EROSION CONTROL PRACTICE OFTEN USED IN CONJUNCTION WITH GRADING. SOIL ROUGHENING INVOLVES INCREASING THE RELIEF OF A BARE SOIL SURFACE WITH HORIZONTAL GROOVES BY EITHER STAIR-STEPPING (RUNNING PARALLEL TO THE CONTOUR OF THE LAND) OR USING CONSTRUCTION EQUIPMENT TO TRACK THE SURFACE. SLOPES THAT ARE NOT FINE GRADED AND LEFT IN A ROUGHENED CONDITION CAN ALSO REDUCE EROSION. SOIL ROUGHENING REDUCES RUNOFF VELOCITY, INCREASES INFILTRATION, REDUCES EROSION, TRAPS SEDIMENT, AND PREPARES THE SOIL FOR SEEDING AND PLANTING BY GIVING SEED AN OPPORTUNITY TO TAKE HOLD AND GROW.

APPLICABILITY:
SOIL ROUGHENING IS APPROPRIATE FOR ALL SLOPES, BUT WORKS ESPECIALLY WELL ON SLOPES GREATER THAN 3:1, ON PILES OF EXCAVATED SOIL, AND IN AREAS WITH HIGHLY ERODIBLE SOILS. THIS TECHNIQUE IS ESPECIALLY APPROPRIATE FOR SOILS THAT ARE FREQUENTLY DISTURBED, BECAUSE ROUGHENING IS RELATIVELY EASY. TO SLOW EROSION, ROUGHEN THE SOIL AS SOON AS POSSIBLE AFTER THE VEGETATION HAS BEEN REMOVED FROM THE SLOPE OR IMMEDIATELY AFTER GRADING ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY). USE THIS PRACTICE IN CONJUNCTION WITH SEEDING, PLANTING, AND TEMPORARY MULCHING TO STABILIZE AN AREA. A COMBINATION OF SURFACE ROUGHENING AND VEGETATION IS APPROPRIATE FOR STEEPER SLOPES AND SLOPES THAT WILL BE LEFT BARE FOR LONGER PERIODS OF TIME.

SITING AND DESIGN CONSIDERATIONS:
ROUGHENED SLOPE SURFACES HELP ESTABLISH VEGETATION, IMPROVE INFILTRATION, AND DECREASE RUNOFF VELOCITY. A ROUGH SOIL SURFACE ALLOWS SURFACE PONDING THAT PROTECTS LIME, FERTILIZER, AND SEED AND DECREASES EROSION POTENTIAL. GROOVES IN THE SOIL ARE COOLER AND PROVIDE MORE FAVORABLE MOISTURE CONDITIONS THAN HARD, SMOOTH SURFACES. THESE CONDITIONS PROMOTE SEED GERMINATION AND VEGETATIVE GROWTH.

AVOID EXCESSIVE SOIL COMPACTING, BECAUSE THIS INHIBITS VEGETATION GROWTH AND CAUSES HIGHER RUNOFF VELOCITY. LIMIT ROUGHENING WITH TRACKED MACHINERY TO SANDY SOILS THAT DO NOT COMPACT EASILY; ALSO, AVOID TRACKING ON HEAVY CLAY SOILS, ESPECIALLY WHEN WET. SEED ROUGHENED AREAS AS QUICKLY AS POSSIBLE, AND FOLLOW PROPER PROCEDURES.

DEPENDING ON THE TYPE OF SLOPE AND THE AVAILABLE EQUIPMENT, USE DIFFERENT METHODS FOR ROUGHENING SOIL ON A SLOPE. THESE INCLUDE STAIR-STEP GRADING, GROOVING, AND TRACKING. WHEN CHOOSING A METHOD, CONSIDER FACTORS SUCH AS SLOPE STEEPNESS, MOWING REQUIREMENTS, WHETHER THE SLOPE IS FORMED BY CUTTING OR FILLING, AND AVAILABLE EQUIPMENT. CHOOSE FROM THE FOLLOWING METHODS FOR SURFACE ROUGHENING:

- *CUT SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.* USE STAIR-STEP GRADES OR GROOVE-CUT SLOPES FOR GRADIENTS STEEPER THAN 3:1. USE STAIR-STEP GRADING ON ANY ERODIBLE MATERIAL THAT IS SOFT ENOUGH TO BE RIPPED WITH A BULLDOZER. ALSO, IT IS WELL SUITED FOR SLOPES CONSISTING OF SOFT ROCK WITH SOME SUBSOIL. MAKE THE VERTICAL CUT DISTANCE LESS THAN THE HORIZONTAL DISTANCE, AND SLOPE THE HORIZONTAL PORTION OF THE STEP SLIGHTLY TOWARD THE VERTICAL WALL. KEEP INDIVIDUAL VERTICAL CUTS LESS THAN 2 FEET DEEP IN SOFT MATERIALS AND LESS THAN 3 FEET DEEP IN ROCKY MATERIALS.
- *GROOVING*. THIS TECHNIQUE USES MACHINERY TO CREATE A SERIES OF RIDGES AND DEPRESSIONS THAT RUN ACROSS THE SLOPE ALONG THE CONTOUR. MAKE GROOVES USING ANY APPROPRIATE IMPLEMENT THAT CAN BE SAFELY OPERATED ON THE SLOPE, SUCH AS DISKS, TILLERS, SPRING HARROWS, OR THE TEETH ON A FRONT-END LOADER BUCKET. MAKE THE GROOVES LESS THAN 3 INCHES DEEP AND LESS THAN 15 INCHES APART.
- *FILL SLOPE ROUGHENING FOR AREAS THAT WILL NOT BE MOWED.* FILL SLOPES WITH A GRADIENT STEEPER THAN 3:1 SHOULD BE PLACED IN LIFTS LESS THAN 9 INCHES, AND PROPERLY COMPACT EACH LIFT. THE FACE OF THE SLOPE SHOULD CONSIST OF LOOSE, UNCOMPACTED FILL 4 TO 6 INCHES DEEP. IF NECESSARY, ROUGHEN THE FACE OF THE SLOPES BY GROOVING THE SURFACE AS DESCRIBED ABOVE. DO NOT BLADE OR SCRAPE THE FINAL SLOPE FACE.
- *CUTS, FILLS, AND GRADED AREAS THAT WILL BE MOWED.* MAKE MOWED SLOPES NO STEEPER THAN 3:1. ROUGHEN THESE AREAS WITH SHALLOW GROOVES LESS THAN 10 INCHES APART AND DEEPER THAN 1 INCH USING NORMAL TILLING, DISKING, OR HARROWING EQUIPMENT (A CULTIPACKER-SEEDER CAN ALSO BE USED). EXCESSIVE ROUGHNESS IS UNDESIRABLE WHERE MOWING IS PLANNED.
- *ROUGHENING WITH TRACKED MACHINERY*. TO AVOID UNDUE COMPACTION OF THE SOIL SURFACE, LIMIT ROUGHENING WITH TRACKED MACHINERY ONLY TO SANDY SOILS. OPERATE TRACKED MACHINERY PERPENDICULARLY TO THE SLOPE TO LEAVE HORIZONTAL DEPRESSIONS IN THE SOIL. TRACKING IS GENERALLY NOT AS EFFECTIVE AS OTHER ROUGHENING METHODS.

LIMITATIONS:
SOIL ROUGHENING IS NOT APPROPRIATE FOR ROCKY SLOPES. TRACKED MACHINERY CAN EXCESSIVELY COMPACT THE SOIL. TYPICALLY, SOIL ROUGHENING IS EFFECTIVE ONLY FOR GENTLE OR SHALLOW DEPTH RAINS. IF ROUGHENING IS WASHED AWAY IN A HEAVY STORM, RE-ROUGHEN THE SURFACE AND RESEED.

MAINTENANCE CONSIDERATIONS:
INSPECT ROUGHENED AREAS AFTER STORMS TO SEE IF RE-ROUGHENING IS NEEDED. REGULAR INSPECTION SHOULD INDICATE WHERE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ARE NEEDED. IF RILLS (SMALL WATERCOURSES THAT HAVE STEEP SIDES AND ARE USUALLY ONLY A FEW INCHES DEEP) APPEAR, FILL, REGRADE, AND RESEED THEM IMMEDIATELY. USE PROPER METHODS.

EFFECTIVENESS:
SOIL ROUGHENING PROVIDES MODERATE EROSION PROTECTION FOR BARE SOILS WHILE VEGETATIVE COVER IS BEING ESTABLISHED. IT IS INEXPENSIVE AND SIMPLE FOR SHORT-TERM EROSION CONTROL WHEN USED WITH OTHER EROSION AND SEDIMENT CONTROLS.

TOPSOIL (SALVAGE AND UTILIZATION)

SALVAGING AND STOCKPILING:
1. DETERMINE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE.
2. PRIOR TO STRIPPING TOPSOIL, INSTALL ANY SITE-SPECIFIC DOWNSLOPE PRACTICES NEEDED TO CONTROL RUNOFF AND SEDIMENTATION.
3. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY DESCRIBES AS "SURFACE SOIL" (i.e., A OR AP HORIZON).
4. STOCKPILE THE MATERIAL IN ACCESSIBLE LOCATIONS THAT NEITHER INTERFERE WITH OTHER CONSTRUCTION ACTIVITIES NOR BLOCK NATURAL DRAINAGE; AND INSTALL SILT FENCES, STRAW BALES, OR OTHER BARRIERS TO TRAP SEDIMENT. (SEVERAL SMALLER PILES AROUND THE CONSTRUCTION SITE ARE USUALLY MORE EFFICIENT AND EASIER TO CONTAIN THAN ONE LARGE PILE.)
5. IF SOIL IS STOCKPILED FOR MORE THAN 6 MOS., IT SHOULD BE TEMPORARILY SEEDED OR COVERED WITH A TARP OR SURROUNDED BY A SEDIMENT BARRIER.

SPREADING TOPSOIL:
1. PRIOR TO APPLYING TOPSOIL, GRADE THE SUBSOIL AND ROUGHEN THE TOP 3-4 IN. BY DISKING. THIS HELPS THE TOPSOIL BOND WITH THE SUBSOIL.
2. DO NOT APPLY TOPSOIL WHEN THE SITE IS WET, MUDDY OR FROZEN, BECAUSE IT MAKES SPREADING DIFFICULT, INHIBITS BONDING, AND CAN CAUSE COMPACTION PROBLEMS.
3. APPLY TOPSOIL EVENLY TO A DEPTH OF AT LEAST 4 IN. (8-12 IN. IF THE UNDERLYING MATERIAL IS BEDROCK, LOOSE SAND, ROCK FRAGMENTS, GRAVEL OR OTHER UNSUITABLE SOIL MATERIAL) COMPACT SLIGHTLY TO IMPROVE CONTACT WITH THE SUBSOIL.
4. AFTER SPREADING, GRADE AND STABILIZE.

MAINTENANCE:
2. INSPECT NEWLY TOPSOILED AREAS FREQUENTLY UNTIL VEGETATION IS ESTABLISHED.
3. REPAIR ERODED OR DAMAGED AREAS AND REPLANT.

TEMPORARY SEEDING

SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN.

SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
2. WORK THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE

SEEDING:
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
4. MULCH SEEDED AREAS TO INCREASE SEEDING SUCCESS.
5. UPON COMPLETION OF THE ROUGH GRADING, ALL AREAS AFFECTED BY CONSTRUCTION SHALL BE TEMPORARILY SEEDED IF THEY WILL REMAIN DORMANT FOR GREATER THAN 7 DAYS. THESE AREAS SHALL BE STABILIZED WITHIN 14 DAYS OF REMAINING DORMANT AND EROSION CONTROL BLANKETS SHALL BE INSTALLED ON SIDE SLOPES AS SHOWN ON THE PLANS.

1. MAINTENANCE
2. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.
3. TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDING WITH 50 LBS./ACRE OF NITROGEN IN FEBRUARY OR MARCH IF NITROGEN DEFICIENCY IS APPARENT. TEMPORARY SEEDING RECOMMENDATIONS

TEMPORARY SEEDING RECOMMENDATIONS:

SEED SPECIES	RATE/ACRE	PLANTING DEPTH	OPTIMUM DATES**
WHEAT OR RYE	150 LBS.	1 TO 1.5 INCHES	SEPTEMBER 15 TO OCTOBER 30
SPRING OATS	100 LBS.	1 INCH	MARCH 1 TO APRIL 15
ANNUAL RYEGRASS	40 LBS.	0.25 INCH	MARCH 1 TO MAY 1 AUGUST 1 TO SEPTEMBER 1
GERMAN MILLET	40 LBS.	1 TO 2 INCHES	MAY 1 TO JUNE 1
SUDANGRASS	35 LBS.	1 TO 2 INCHES	MAY 1 TO JULY 30

* PERENNIAL SPECIES MAY BE USED AS A TEMPORARY COVER, ESPECIALLY IF THE AREA TO BE SEEDED WILL REMAIN IDLE FOR MORE THAN A YEAR
** SEEDING DONE OUTSIDE THE OPTIMUM DATES INCREASES THE CHANCE OF SEEDING FAILURE

PERMANENT SEEDING

PERMANENTLY SEED ALL FINAL GRADE AREAS (E.G., LANDSCAPE BERMS, DRAINAGE SWALES, EROSION CONTROL STRUCTURES, ETC.) AS EACH IS COMPLETED AND ALL AREAS WHERE ADDITIONAL WORK IS NOT SCHEDULED FOR A PERIOD OF MORE THAN A YEAR.

SITE PREPARATION:
1. THESE INSTALLATION PRACTICES ARE NEEDED TO CONTROL EROSION, SEDIMENTATION, AND WATER RUNOFF, SUCH AS TEMPORARY AND PERMANENT DIVERSIONS, SEDIMENT TRAPS OR BASINS, SILT FENCES, AND TRIANGULAR SILT DIKES.
2. GRADE THE SITE AS SPECIFIED IN THE CONSTRUCTION PLAN AND FILL IN DEPRESSIONS THAT CAN COLLECT WATER.
3. ADD TOPSOIL TO ACHIEVE NEEDED DEPTH FOR ESTABLISHMENT OF VEGETATION.

SEEDBED PREPARATION:
1. FERTILIZE AS REQUIRED.
2. TILL THE SOIL TO OBTAIN A UNIFORM SEEDBED, WORKING THE FERTILIZER INTO THE SOIL 2-4 IN. DEEP WITH A DISK OR RAKE OPERATED ACROSS THE SLOPE.

SEEDING:
OPTIMUM SEEDING DATES ARE MARCH 1-MAY 10 AND AUGUST 10-SEPTEMBER 30. PERMANENT SEEDING DONE BETWEEN MAY 10 AND AUGUST 10 MAY NEED TO BE IRRIGATED. AS AN ALTERNATIVE, USE TEMPORARY SEEDING UNTIL THE PREFERRED DATE FOR PERMANENT SEEDING.
1. SELECT A SEEDING MIXTURE AND RATE FROM THE TABLE AND PLANT AT DEPTH AND ON DATES SHOWN.
2. APPLY SEED UNIFORMLY WITH A DRILL OR CULTIPACKER-SEEDER OR BY BROADCASTING, AND COVER TO THE DEPTH SHOWN.
3. IF DRILLING OR BROADCASTING, FIRM THE SEEDBED WITH A ROLLER OR CULTIPACKER.
4. MULCH SEEDED AREAS. USE EROSION CONTROL BLANKETS ON SLOPING AREAS. IF SEEDING IS DONE WITH A HYDROSEEDER, FERTILIZER AND MULCH CAN BE APPLIED WITH THE SEED IN A SLURRY MIXTURE.

MAINTENANCE
1. INSPECT PERIODICALLY AFTER PLANTING TO SEE THAT VEGETATIVE STANDS ARE ADEQUATELY ESTABLISHED, RE-SEED IF NECESSARY.
2. CHECK FOR EROSION DAMAGE AFTER STORM EVENTS AND REPAIR, RESEED AND MULCH IF NECESSARY.

PERMANENT SEEDING RECOMMENDATIONS
THIS TABLE PROVIDES SEVERAL SEEDING OPTIONS. ADDITIONAL SEED SPECIES AND MIXTURES ARE AVAILABLE COMMERCIALLY. WHEN SELECTING A MIXTURE, CONSIDER SITE CONDITIONS, INCLUDING SOIL PROPERTIES (E.G., SOIL PH AND DRAINAGE), SLOPE ASPECT AND THE TOLERANCE OF EACH SPECIES TO SHADE AND DROUGHT.

SEED SPECIES AND MIXTURES	RATE/ACRE	OPTIMUM SOIL pH
OPEN AND DISTURBED AREAS (REMAINING IDLE FOR MORE THAN ONE YEAR)		
PERENNIAL RYEGRASS	30 TO 50 LBS.	5.6 TO 7.0
+ WHITE OR LADINO DOVER	1 TO 2 LBS.	
KENTUCKY BLUEGRASS	20 LBS.	5.5 TO 7.5
+ SMOOTH BROMEGRASS	10 LBS.	
+ SWITCHGRASS	3 LBS.	
+ TIMOTHY	4 LBS.	
+ PERENNIAL RYEGRASS	10 LBS.	
+ WHITE OR LADINO DOVER	1 TO 2 LBS.	

RUNOFF CONTROL MEASURES

RIP-RAP CHECK DAMS

SECTION A-A
(NOT TO SCALE)

MAINTENACE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

TRIANGULAR SILT FENCE DIKE - CHECK DAMS

MATERIAL: THE TRIANGULAR-SHAPED INNER MATERIAL SHALL BE URETHANE FORM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL AND ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 2 TO 3 FEET.

ANCHORING: THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE #11 GAUGE WIRE AND BE AT LEAST 6 TO 8 INCHES LONG. STAPLES SHALL BE PLACED AS INDICATED ON THE INSTALLATION DETAIL.

INSTALLATION:
1. PLACE TRIANGULAR SILT FENCE DIKE AS REQUIRED.
2. ATTACHED DIKES TO THE GROUND WITH STAPLES AS INDICATED ON THE DETAIL.

SILT DIKE UNIT
CUT SECTION
(NOT TO SCALE)

STAPLES SHALL BE PLACES WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE 7 FT. UNIT AS SHOWN ON THE DIAGRAM

SECTION A-A
(NOT TO SCALE)

POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS

DIKE SECTION
SECTION B-B
(NOT TO SCALE)

MAINTENACE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR/REPLACE THE CHECK DAMS AS NEEDED.

GEORIDGE DITCH BERM - CHECK DAMS

MATERIAL: GEORIDGE OR GEORIDGE BIO BY NILEX PRODUCTS, AN HDPE PRODUCT THAT SERVES TO DISSIPATE WATER ENERGY WITHIN A DITCH OR CHANNEL. GEORIDGE IS TO BE USED IN APPLICATIONS WHERE THE MEASURE WILL BE REMOVED AFTER THE CHANNEL IS STABILIZED. GEORIDGE BIO CAN BE USED WHEN THE MEASURE CAN BE LEFT TO DECOMPOSE IN LIEU OF BEING REMOVED.

INSTALLATION:
1. PLACE AN EROSION CONTROL BLANKET (ECB), LAID PARALLEL WITH THE CHANNEL DIRECTION, IN THE AREA WHERE THE GEORIDGE IS TO BE PLACED. ECB SHALL BE APPROPRIATE FOR THE CHANNEL SLOPE, VOLUME AND VELOCITY.
   ECB SHALL BE SECURED WITH A 4" TRENCH AT THE UPSTREAM EDGE, WITH MINIMUM 6-INCH STAPLES PLACED 21-INCH O.C. ALONG THE UPSTREAM AND DOWNSTREAM EDGES.
2. PLACE GEORIDGE BERM IN THE MIDDLE OF THE ECB, PERPENDICULAR TO THE CHANNEL FLOW DIRECTION, AND ANCHOR WITH 10-INCH SPIRAL SPIKES.
   A MINIMUM OF 3 ANCHORS SHALL BE USED ON THE UPSTREAM SIDE AND 2 ANCHORS ON THE DOWNSTREAM SIDE.
   IF MORE THAN ONE GEORIDGE BERM PANEL IS REQUIRED TO SPAN THE CHANNEL, LINE UP THE ANCHORING HOLES FOR INSTALLATION OF THE ANCHORS.
3. WHEN PLACING THE GEORIDGE PANEL ON THE SIDE SLOPE OF THE CHANNEL, THE BOTTOM OF THE PANELS SHOULD MEET WITH THE RIDGE BEING OVERLAPPED. THIS WILL PREVENT WATER FROM PASSING THROUGH THE BERM.
   ADDITIONALLY, THE OUTSIDE EDGE OF THE PANEL ON THE SIDE SLOPE SHOULD BE INSTALLED SO THAT IT IS HIGHER THAN THE TOP OF THE PANEL IN THE CHANNEL BOTTOM.

4. THE SPACING IS CALCULATED BY DIVIDING THE HEIGHT OF THE GEORIDGE BY THE GRADIENT OF THE CHANNEL SLOPE.
   9-INCH / 0.0.2 GRADIENT = 450 INCHES OR 37.5 FEET

MAINTENANCE
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE GEORIDGE.
3. REPAIR/REPLACE THE GEORIDGE AND THE EROSION CONTROL MAT AS NEEDED.

SEDIMENT CONTROL MEASURES

POLYMER SYSTEMS

MATERIAL: APS 700 SERIES FLOC LOG OR EQUAL

INSTALLATION:
1. THE FLOC LOG VENDOR SHALL SAMPLE THE WATER THAT IS TO BE TREATED WITH THE SYSTEM. THIS SAMPLE SHALL BE USED TO DETERMINE THE SITE-SPECIFIC POLYMER MIX THAT SHOULD BE USED.
2. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS PRIOR TO COMPLETION OF THE DETENTION POND; I.E. THE SIDE SLOPES ARE NOT FULLY STABILIZED, DEWATERING THE POND FOR FURTHER EXPANSION, ETC., THE FLOC LOG SHOULD BE INSTALLED AT THE END OF THE OUTFALL PIPE AND A TEMPORARY MATERIAL SUCH AS GEOJUTE SHOULD BE PLACED DOWNSTREAM OF THE FLOC LOG PROVIDING A SEDIMENT SETTLING AREA. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS)
3. IN APPLICATIONS WHERE THE OBJECTIVE OF THIS MEASURE IS TO MEET THE TOTAL SUSPENDED SOLIDS REQUIREMENTS AFTER THE DETENTION POND IS COMPLETED, THE FLOC LOG SHOULD BE INSTALLED AT THE END OF THE INLET PIPES INTO THE DETENTION POND. THIS WILL CAUSE THE SEDIMENT TO SETTLE MORE QUICKLY IN THE WET DETENTION POND, PROVIDING A CLEANER DISCHARGE. (SEE PLANS FOR SPECIFIC INSTALLATION LOCATIONS).
4 FOLLOWING THE USE OF THE FLOC LOG, THE SETTLED SEDIMENT WILL NEED TO BE REMOVED. THIS TEMPORARY SETTLING MEDIA REMOVED, OR THE DETENTION POND MIGHT NEED TO BE CLEANED IF SEDIMENT SETTLING HAS SIGNIFICANTLY REDUCED THE POND VOLUME.

MAINTENANCE:
1. INSPECT AFTER STORM EVENTS TO CHECK FOR MOVEMENT OF MULCH OR FOR EROSION.
2. IF WASHOUT, BREAKAGE, OR EROSION IS PRESENT IN THE SEDIMENT SETTLING MEDIA, REPAIR THE MEDIA.
3. BE SURE THE FLOC LOG IS SECURE ATTACHED AT THE INSTALLED LOCATION, VERIFY THAT STORM WATER IS HAVING CONTACT WITH THE FLOC LOG.

FIBER ROLLS

MATERIAL: TUBE SHAPED FIBER ROLLS FILLED WITH STRAW, FLAX, RICE, COCONUT FIBER MATERIAL, MULCH, OR COMPOSTED MATERIAL. EACH ROLL IS WRAPPED WITH UV-DEGRADABLE POLYPROPYLENE NETTING FOR LONGEVITY OR WITH 100 PERCENT BIODEGRADABLE MATERIALS LIKE BURLAP, JUTE, OR COIR.

INSTALLATION:
1. INSTALL ROLLS PARALLEL WITH THE SLOPE CONTOUR, WITH THE ENDS SLIGHTLY LOWER THAN THE MID-SECTION, TO PREVENT WATER PONDING AT THE MID-SECTION. TURN THE ENDS SLIGHTLY UPSLOPE TO PREVENT WATER FROM BYPASSING THE MEASURE.
2. EXCAVATE A TRENCH WITH A WIDTH AND DEPTH EQUAL TO ONE-FOURTH THE DIAMETER OF THE LOG.
3. WHERE APPLICABLE INSTALL THE MEASURE UPSLOPE OF A CURB OR SIDEWALK. PLACING THE MEASURE AGAINST THE CURB WILL PROVIDE ADDITIONAL STABILITY AND RESISTANCE TO SURFACE FLOW.
4. PLACE ROLLS END TO END TO FORM A CONTINUOUS BARRIER.
5. HARDWOOD STAKES SHALL BE DRIVEN THROUGH THE ROLLS, SPACED NO GREATER THAN 5' TO A DEPTH OF 18".
6. THE FIBER ROLLS SHOULD BE FASTENED TO THE HARDWOOD STAKES WITH ROPE.
7. BACKFILL THE TRENCH WITH EXCAVATED SOIL TO GROUND LEVEL ON THE DOWN-SLOPE SIDE AND 2" ABOVE GROUND LEVEL ON THE UP-SLOPE SIDE OF THE ROLL.

MAINTENANCE:
1. THE ROLLS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT. INSPECTION SHOULD INCLUDE IF THE MATERIAL'S DIAMETER IS LESS THAN SPECIFICATION AND IF THE OUTER NETTING HAS BEEN DEGRADED OR BROKEN.
2. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE-QUARTER OF THE HEIGHT OF THE ROLL.
3. REPAIR ERODED AND DAMAGED AREAS.
4. IF PONDING BECOMES EXCESSIVE, ROLLS SHOULD BE REMOVED AND EITHER RECONSTRUCTED OR NEW PRODUCT INSTALLED.

SEDIMENT BASINS/DETENTION PONDS

MATERIAL: DEPRESSIONAL AREAS CONSTRUCTED AT THE OUTFALL OF PIPES, END OF CHANNELS, OR END OF SURFACE SHEET FLOW, WHICH SERVES TO SETTLE OUT THE SUSPENDED SOLIDS.

INSTALLATION:
1. AT LOCATIONS SHOWN ON THE PLANS, THE CONTRACTOR SHALL EXCAVATE A SMALL BASIN. THE BASIN SIZE SHALL BE SHOWN ON THE PLANS AND IS DETERMINED BY THE VOLUME OF WATER TRIBUTARY TO THE BASIN. THE BASIN OVERFLOW ELEVATION SHALL BE LOWER THAN THE INCOMING WATER, BY A MINIMUM OF 12 INCHES.
2. THE BASIN SHALL BE LINED WITH A GEOTEXTILE FABRIC, 9" OF 4" RIPRAP SHALL BE PLACED ALL AROUND THE INSIDE OF THE BASIN.

MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAINFALL EVENT.
2. REPLACE AND RESTORE ANY BASIN BANK EROSION.
3. REPAIR OR REPLACE ANY DISPLACED RIPRAP.
4. RE-EXCAVATE AND REPLACE THE BASIN WHEN IT BECOMES MORE THAN 50% FULL OF SEDIMENT.

DEWATERING BAGS

MATERIAL: "DANDY" DE-WATERING BAG OR "PUMP-IT" DE-WATERING BAG

INSTALLATION:
1. INSTALL AT LOCATION OF THE DEWATERING PUMP OUTFALL.
2. SIZE THE BAG T THE DISCHARGE RATE. THE MAXIMUM BAG SIZE MAY LIMIT THE DISCHARGE RATE OF THE PUMP.
3. CONNECT BAG TO PUMP OUTFALL PER MANUFACTURER'S INSTRUCTIONS.
4. INSTALL BAG UPSTREAM OF THE RECEIVING STRUCTURE LOCATION.
5. OUTLET TO GRASS AREA IF POSSIBLE

MAINTENANCE:
1. THE BASINS SHOULD BE INSPECTED PRIOR TO EACH USE.
2. REPLACE BAG WHEN IT IS HALF FULL.

DETAIL OF A DEWATERING BAG

PROJECT:		DR. BY:
CITY/STATE:	DATE:	DR. NO:

DANDY DEWATERING BAG™
SPECIFICATIONS

NOTE: THE DANDY DEWATERING BAG™ WILL BE MANUFACTURED IN THE U.S.A. FROM A NONWOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS:

DANDY DEWATERING BAG™

Mechanical Properties
Grab Tensile Strength
Grab Tensile Elongation
Puncture Strength
Mullen Burst Strength
Trapezoid Tear Strength
UV Resistence
Apparent Opening Size
Flow Rate
Permittivity

DVG
TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB POZEN
PE10910667
08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG
Stormwater Pollution
Prevention Plan Details

NO SCALE

DESIGN BY	DATE
DVG	10/12/23

PROJECT NO.
23-0031

C303

SEDIMENT CONTROL MEASURES (continued)

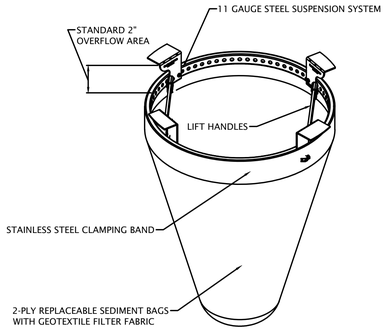
INLET PROTECTION

MATERIAL: FLEXSTORM CATCH-IT BY ADS, INC. OR APPROVED EQUAL.
ADS CAN BE CONTACTED AT (866) 287-8655

CAPACITY:

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE			
Nominal Bag Size	Solids Storage (CuFt)	Filtered Flow Rate at 50% Max (CFS) FX (Woven)	IL (NonWoven)
Small	1.6	1.2	0.9
Medium	2.1	1.7	1.3
Large	3.8	2.7	1.9
XL	4.2	3.6	2.6

INSTALLATION:
1. REMOVE GRATE; INSTALL PRIOR TO LAND DISTURBING ACTIVITIES AND/OR IMMEDIATELY AFTER DRAINAGE STRUCTURES HAVE BEEN INSTALLED
2. DROP INLET PROTECTION ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE.
3. REPLACE GRATE.



(NOT TO SCALE)

INLET PROTECTION - CURB BASKET

CONTRIBUTING DRAINAGE AREA: 0.25 ACRE MAXIMUM

LOCATION: AT CURB INLETS WHERE BARRIERS SURROUNDING THEM WOULD BE IMPRACTICAL OR UNSAFE

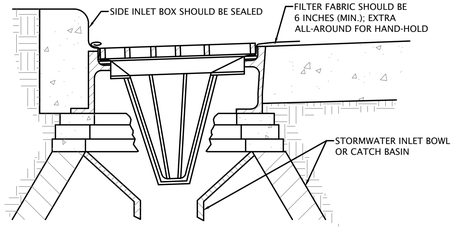
MATERIAL: D2 CATCH-ALL INLET PROTECTOR OR APPROVED EQUAL
D2 LAND & WATER RESOURCE (WWW.D2LWR.COM OR 800-597-2180)

CAPACITY: RUNOFF FROM A 2-YEAR FREQUENCY, 24-HOUR DURATION STORM EVENT ENTERING A STORM DRAIN WITHOUT BYPASS FLOW

BASKET: FABRICATED METAL WITH TOP WDITH/LENGTH DIMENSIONS SUCH THAT THE BASKET FITS INTO THE INLET WITHOUT GAPS

GEOTEXTILE FABRIC: FOR FILTRATION

INSTALLATION:
1. INSTALL BASKET CURB INLET PROTECTIONS AS SOON AS INLET BOXES ARE INSTALLED IN THE NEW DEVELOPMENT OR BEFORE LAND-DISTURBING ACTIVITIES BEGIN IN A STABILIZED AREA.
2. IF NECESSARY, ADAPT BASKET DIMENSIONS TO FIT INLET BOX DIMENSIONS, WHICH VARY ACCORDING TO THE MANUFACTURER AND/OR MODEL.
3. SEAL THE SIDE INLETS ON THOSE TYPES OF INLET BOXES THAT HAVE THEM.
4. REMOVE THE GRATE AND PLACE THE BASKET IN THE INLET.
5. CUT AND INSTALL A PIECE OF FILTER FABRIC LARGE ENOUGH TO LINE THE INSDE OF THE BASKET AND EXTEND AT LEAST 6 INCHES BEYOND THE FRAM.
6. REPLACE THE INLET GRATE, WHICH ALSO SERVES TO ANCHOR THE FABRIC.



(NOT TO SCALE)

MAINTENANCE:
1. INSPECT AFTER EACH STORM EVENT.
2. REMOVE BUILT-UP SEDIMENT AND REPAIR (OR REPLACE IF NECESSARY) THE GEOTEXTILE FABRIC AFTER EACH STORM EVENT.
3. PERIODICALLY REMOVE SEDIMENT AND TRACKED-ON SOIL FROM THE STREET (BUT NOT BY FLUSHING WITH WATER) TO REDUCE THE SEDIMENT LOAD ON THIS CURB INLET PRACTICE.

COMMON CONCERNS:
1. SEDIMENT NOT REMOVED AND GEOTEXTILE FABRIC NOT REPLACED FOLLWING A STORM EVENT RESULTS IN INCREASED SEDIMENT, TRACKING, TRAFFIC HAZARD, AND EXCESSIVE PONDING.
2. GEOTEXTILE FABRICE PERMITTIVITY THAT IS TOO LOW RESULTS IN RAPID CLOGGING AND CAUSES SEVERE PONDING WITH SEDIMENT ENTERING THE DRAIN IF THE FABRIC BREAKS.
3. DRAINAGE AREA TOO LARGE RESULTS IN SEDIMENT OVERLAOD AND SEVERE PONDING; SEDIMENT ENTERS THE DRAIN IF FABRIC BREAKS.

TEMPORARY CONSTRUCTION ENTRANCE/EXIT PAD

MATERIAL: 2 TO 3 INCHES OF WASHED STONE (INDOT #2 AGGREGATE) OVER A STABLE FOUNDATION

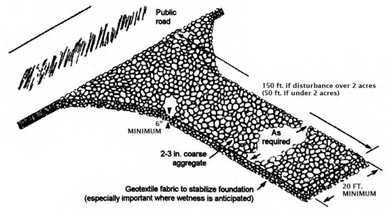
THICKNESS: 8 INCHES MINIMUM

WIDTH: 20 FEET MINIMUM OR FULL WIDTH OF ENTRANCE/EXIT ROADWAY, WHICHEVER IS GREATER

LENGTH: 150 FEET MINIMUM (50 FEET MINIMUM IF SITE DISTURBANCE IS UNDER 2.0 ACRES)

WASHING FACILITY: LEVEL AREA WITH 3 INCHES OF WASHED STONE (MINIMUM) OR A COMMERCIAL RACK AND WASTE WATER DIVERTED TO A SEDIMENT TRAP OR BASIN (PRACTICE 3.72)

GEOTEXTILE FABRIC UNDERLINER: MAY BE USED UNDER WET CONDITIONS OR FOR SOILS WITHIN A HIGH SEASONAL WATER TABLE TO PROVIDE GREATER BEARING STRENGTH



(NOT TO SCALE)

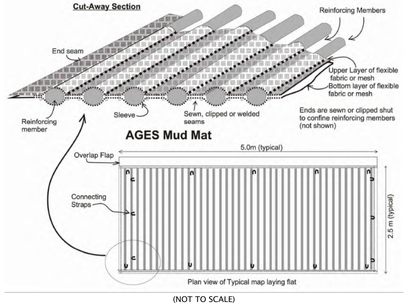
INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. IF SLOPE TOWARDS THE ROAD EXCEEDS 2%, CONSTRUCT A 6-8 IN. HIGH WATER BAR (RIDGE) WITH 3:1 SIDE SLOPES ACROSS THE FOUNDATION AREA ABOUT 15 FT. FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE ROAD (PRACTICE 3.24) SEE EXHIBIT.
4. INSTALL PIPE UNDER THE PAD IF NEEDED TO MAINTAIN PROPER PUBLIC ROAD DRAINAGE.
5. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN IN THE EROSION/SEDIMENT CONTROL PLAN, LEAVING THE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN.

(NOT TO SCALE)

MAINTENANCE:
1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOP-DRESS WITH CLEAN STONE AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MUD MATS - ENTRANCE STABILIZATION

MATERIAL: MUD MAT BY AGES, RE-USABLE SOIL STABILIZATION SYSTEM OR APPROVED EQUAL



(NOT TO SCALE)

INSTALLATION:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES IN PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE FOUNDATION AREA, AND GRADE AND CROWN FOR POSITIVE DRAINAGE.
3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. UNROLL, CONNECT MATS TOGETHER TO FORM AREA OF PROTECTION AND PROPERLY ANCHOR TO GROUND.
4. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE MUD MAT TO A SEDIMENT TRAP OR BASIN.
5. MINIMUM SIZE OF THE MAT IS 12 FEET WIDE AND 50 FEET LONG.

MAINTENANCE:
1. INSPECT ENTRANCE PAD DAILY AND REMOVE BUILT-UP DEBRIS AS NECESSARY.
2. INSPECT ENTRANCE PAD FOR BREAKS AND TEARS IN THE MATERIAL. REPAIR OR REPLACE AS NECESSARY.
3. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
4. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

MATERIAL MANAGEMENT MEASURES (HOUSEKEEPING)

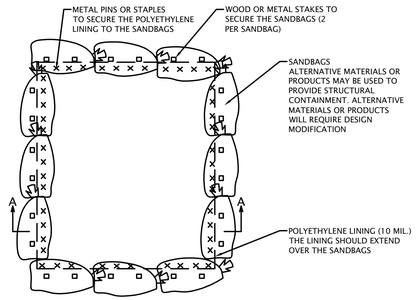
CONCRETE WASHOUT

MATERIALS: MINIMUM OF TEN MIL POLYETHYLENE SHEETING, FREE OF HOLES, TEARS, AND OTHER DEFECTS
ORANGE SAFETY FENCING OR EQUIVALENT
SANDBAGS
METAL PINS OR STAPLES SIX INCHES IN LENGTH MINIMUM.

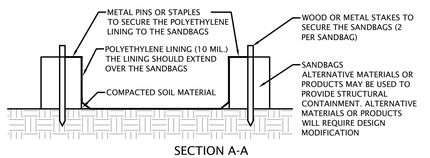
LOCATION:
1. LOCATE CONCRETE WASHOUT SYSTEMS AT LEAST 50 FEET FROM ANY CREEKS, WETLANDS, DITCHES, KARST FEATURES, OR STORM DRAINS/MANMADE CONVEYANCE SYSTEMS.
2. LOCATE CONCRETE WASHOUT SYSTEMS IN RELATIVELY FLAT AREAS THAT HAVE ESTABLISHED VEGETATIVE COVER AND DO NOT RECEIVE RUNOFF FROM ADJACENT LAND AREAS.
3. LOCATE AWAY FROM OTHER CONSTRUCTION TRAFFIC IN AREAS THAT PROVIDE EASY ACCESS FOR CONCRETE TRUCKS.

INSTALLATION:
1. A BASE SHALL BE CONSTRUCTED AND PREPARED THAT IS FREE OF ROCKS AND OTHER DEBRIS THAT MAY CAUSE TEARS OR PUNCTURES IN THE POLYETHYLENE LINING.
2. INSTALL THE POLYETHYLENE LINING. FOR EXCAVATED SYSTEMS, THE LINING SHOULD EXTEND OVER THE ENTIRE EXCAVATION. THE LINING FOR BERMED SYSTEMS SHOULD BE INSTALLED OVER THE POOLING AREA WITH ENOUGH MATERIAL TO EXTEND THE LINING OVER THE BERM OR CONTAINMENT SYSTEM. THE LINING SHOULD BE SECURED WITH PINS, STAPLES, OR OTHER FASTENERS.
3. PLACE FLAGS, SAFETY FENCING, OR EQUIVALENT TO PROVIDE A BARRIER TO CONSTRUCTION EQUIPMENT AND OTHER TRAFFIC.
INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
4. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

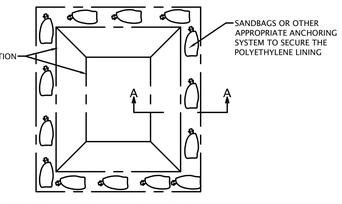
MAINTENANCE:
1. INSPECT DAILY AND AFTER EACH STORM EVENT.
2. INSPECT THE SYSTEM FOR LEAKS, SPILLS, AND TRACKING OF SOIL BY EQUIPMENT.
3. INSPECT THE POLYETHYLENE LINING FOR FAILURE, INCLUDING TEARS AND PUNCTURES.
4. ONCE CONCRETE WASTES HARDEN, REMOVE AND DISPOSE OF THE MATERIAL.
5. EXCESS CONCRETE SHOULD BE REMOVED WHEN THE WASHOUT SYSTEM REACHES 50 PERCENT OF THE DESIGN CAPACITY. USE OF THE SYSTEM SHOULD BE DISCONTINUED UNTIL APPROPRIATE MEASURES CAN BE INITIATED TO CLEAN THE STRUCTURE.
6. UPON REMOVAL OF THE SOLIDS, INSPECT THE STRUCTURE. REPAIR THE STRUCTURE AS NEEDED OR CONSTRUCT A NEW SYSTEM. DISPOSE OF ALL CONCRETE IN A LEGAL MANNER. REUSE THE MATERIAL ON SITE, RECYCLE, OR HAUL THE MATERIAL TO AN APPROVED CONSTRUCTION/DEMOLITION LANDFILL SITE. RECYCLING OF MATERIAL IS ENCOURAGED. THE WASTE MATERIAL CAN BE USED FOR MULTIPLE APPLICATIONS INCLUDING BUT NOT LIMITED TO ROADBEDS AND BUILDING. THE AVAILABILITY FOR RECYCLING SHOULD BE CHECKED LOCALLY.
7. THE PLASTIC LINER SHOULD BE REPLACED AFTER EVERY CLEANING; THE REMOVAL OF MATERIAL WILL USUALLY DAMAGE THE LINING. THE CONCRETE WASHOUT SYSTEM SHOULD BE REPAIRED OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
8. CONCRETE WASHOUT SYSTEMS ARE DESIGNED TO PROMOTE EVAPORATION. HOWEVER, IF THE LIQUIDS DO NOT EVAPORATE AND THE SYSTEM IS NEAR CAPACITY IT MAY BE NECESSARY TO VACUUM OR REMOVE THE LIQUIDS AND DISPOSE OF THEM IN AN ACCEPTABLE METHOD. DISPOSAL MAY BE ALLOWED AT THE LOCAL SANITARY SEWER AUTHORITY PROVIDED THEIR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMITS ALLOW FOR ACCEPTANCE OF THIS MATERIAL. ANOTHER OPTION WOULD BE TO UTILIZE A SECONDARY CONTAINMENT SYSTEM OR BASIN FOR FURTHER DEWATERING.
9. INSPECT CONSTRUCTION ACTIVITIES ON A REGULAR BASIS TO ENSURE SUPPLIERS, CONTRACTORS, AND OTHERS ARE UTILIZING DESIGNATED WASHOUT AREAS. IF CONCRETE WASTE IS BEING DISPOSED OF IMPROPERLY, IDENTIFY THE VIOLATORS AND TAKE APPROPRIATE ACTION.
10. WHEN CONCRETE WASHOUT SYSTEMS ARE NO LONGER REQUIRED, THE CONCRETE WASHOUT SYSTEMS SHALL BE CLOSED. DISPOSE OF ALL HARDENED CONCRETE AND OTHER MATERIALS USED TO CONSTRUCT THE SYSTEM.
11. HOLES, DEPRESSIONS, AND OTHER LAND DISTURBANCES ASSOCIATED WITH THE SYSTEM SHOULD BE BACKFILLED, GRADED, AND STABILIZED.



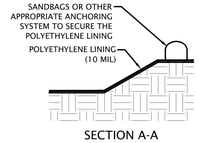
ABOVE GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)



BELOW GRADE CONCRETE WASHOUT
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)

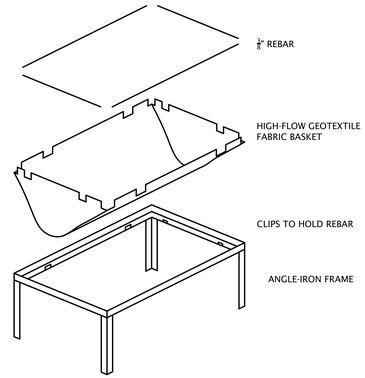
COMMON CONCERNS:
1. COMPLETE CONSTRUCTION/INSTALLATION OF THE SYSTEM AND HAVE WASHOUT LOCATIONS OPERATIONAL PRIOR TO CONCRETE DELIVERY.
2. IT IS RECOMMENDED THAT WASHOUT SYSTEMS BE RESTRICTED TO WASHING CONCRETE FROM MIXER AND PUMP TRUCKS AND NOT USED TO DISPOSE OF EXCESS CONCRETE OR RESIDUAL LOADS DUE TO POTENTIAL TO EXCEED THE DESIGN CAPACITY OF THE WASHOUT SYSTEM.
3. INSTALL SYSTEMS AT STRATEGIC LOCATIONS THAT ARE CONVENIENT AND IN CLOSE PROXIMITY TO WORK AREAS AND IN SUFFICIENT NUMBER TO ACCOMMODATE THE DEMAND FOR DISPOSAL.
4. INSTALL SIGNAGE IDENTIFYING THE LOCATION OF CONCRETE WASHOUT SYSTEMS.

FRYEFLOW FILTRATION SYSTEMS WASHOUT

MATERIALS: FRYE-FLOW FILTRATION SYSTEMS CONCRETE WASHOUT DEVICE OR APPROVED EQUAL

INSTALLATION:
1. INSERT REBAR INTO POCKETS OF DEBRIS BAG.
2. INSTALL FRYEFLOW SYSTEMS DEBRIS BAG INTO ANGLE IRON FRAME.
3. MAKE SURE REBAR SETS BEHIND REBAR BRACKETS.
4. MAKE SURE FRAME AND BAG IS SET ON FLAT SURFACE
5. INSTALL SIGNAGE THAT IDENTIFIES CONCRETE WASHOUT AREAS.
6. WHERE NECESSARY, PROVIDE STABLE INGRESS AND EGRESS OR ALTERNATIVE APPROACH PAD.

MAINTENANCE:
1. ONCE DEBRIS BAG IS FULL, USE HANDLES PROVIDED TO LIFT OUT OF FRAME.
2. REMOVE REBAR FROM SIDE POCKETS.
3. INSERT NEW DEBRIS BAG.



SPILL PREVENTION AND CONTROL PLAN

1. ONLY APPROVED FUEL STORAGE TANK SHALL BE ALLOWED ON SITE.
2. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
3. MOBILE FUELING SHALL BE USED WHENEVER POSSIBLE.
4. FUELING SHOULD TAKE PLACE IN A CENTRAL LOCATION.
5. EQUIPMENT SHOULD BE KEPT IN GOOD WORKING ORDER, WELL MAINTAINED SO THAT BREAKDOWNS, AND EQUIPMENT FAILURES ARE REDUCED.

FUEL STORAGE

1. ALL FUEL TANKS ON SITE SHALL HAVE SECONDARY CONTAINMENT APPROVED BY IDEM.
2. NO FUEL TANKS ARE TO BE LOCATED WITHIN 100 FEET OF A STORM SEWER INLET.
3. FUEL STORAGE SYSTEM SHALL BE KEPT IN GOOD WORKING ORDER AND SHALL BE SUBJECT TO PERIODIC IDEM INSPECTIONS.
4. SPILL KITS MUST BE LOCATED ON-SITE IN THE VICINITY OF THE FUEL STORAGE SINK.
5. FUEL TANKS SHALL HAVE A SAFETY GAUGE.

STOCKPILES

1. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE.
2. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPAULINE TYPE COVER.
3. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

TEMPORARY FACILITIES

1. THE CONTRACTOR SHALL FOLLOW THE PROCEDURES DELINEATED ON THE PLAN IN ORDER TO CONSTRUCT AND MAINTAIN THE FACILITIES SHOWN ON THE DRAWINGS TO CONTROL WATER AND WIND EROSION DURING CONSTRUCTION OF THE PROJECT.
2. ALL DISTURBED SURFACE AREAS (INCLUDING UTILITY TRENCHES) SHALL BE TEMPORARILY GRADED AND/OR DITCHED TO DIRECT WATER RUNOFF FROM SUCH AREAS TO SEDIMENTATION CONTROL DEVICES WHICH WILL PREVENT DISTURBING ERODED WATER CARRYING SOIL FROM ENTERING A WATERCOURSE, SEWER, OR ADJACENT LANDS. SUCH SEDIMENTATION CONTROL DEVICES SHALL INCLUDE BUT NOT BE LIMITED TO PROTECTIVE DITCHES, SEDIMENT TRAPS, SEDIMENT FILTERS, DITCH TRAPS, PIPE BARRIERS, SIKE DIKES, CHECK DAMS, CHEMICAL SETTLING FILTERS.
3. UPON COMPLETION OF THE ROUGH GRADING ALL AREAS NOT EFFECTED BY CONSTRUCTION TRAFFIC SHALL BE PERMANENTLY SEEDED, AND EROSION CONTROL BLANKETS INSTALLED ON SIDE SLOPES THAT EXCEED 5:1.
4. UPON COMPLETION OF THE STORM SEWER SYSTEM, INLET PROTECTION SHALL BE INSTALLED, CHECK DAMS INSTALLED IN THE SWALES, AND TEMPORARY RIPRAP WITH SETTLING BASINS PLACED AT THE OUTFALLS OF ALL PIPE.
5. IN ROADWAY AREAS TEMPORARY AGGREGATE SURFACING SHALL BE PLACED IMMEDIATELY AFTER THE BACKFILLING HAS BEEN COMPLETED. POSITIVE DUST CONTROL MEASURES SHALL BE TAKEN AT ALL TIMES.
6. WITHIN 14 DAYS FROM THE DATE A PROJECT IMPROVEMENT IS INSTALLED THE CONTRACTOR SHALL PROCEED WITH FINAL CLEANUP AND RESTORATION OF THE PROJECT AREA DISTURBED INCLUDING SPOIL AREAS,AND COMPLETE SUCH OPERATIONS WITHIN THE NEXT 15 DAYS. IF SEASONAL CONDITIONS PREVENT FINAL CLEANING AND RESTORATION, THE CONTRACTOR SHALL PROCEED WITH TEMPORARY STABILIZATION OF THE DISTURBED AREAS. FINAL CLEANUP AND RESTORATION WILL CONSIST OF FINAL GRADING, APPLYING TOPSOIL, SEEDING AND MULCHING AND/OR SODDING OF ALL DISTURBED AREAS OF THE PROJECT. TEMPORARY STABILIZATION SHALL CONSIST OF ROUGH GRADING THE DISTURBED AREAS TO A CONDITION READY TO RECEIVE TOPSOIL, SEEDING, AND MULCHING IN ACCORDANCE WITH THE TEMPORARY SEEDING SCHEDULE. TEMPORARY STABILIZATION MATERIALS SHALL BE REMOVED, DISPOSED OF, AND FINAL CLEANUP AND RESTORATION SHALL BE COMPLETED NOT LATER THAN 60 DAYS AFTER SEASONAL CONDITIONS ALLOW PERFORMANCE OF THE REQUIRED WORK. THE CONTRACTOR SHALL LOCATE TOPSOIL STOCKPILES ON-SITE AS NOTED ON THE S.W.P.P.P. AND SHALL ENCOMPASS EACH WITH SEDIMENT DITCH AND SILT FENCE. IN CASES WHERE THE STOCKPILE IS SMALL AND WILL BE REMOVED FROM THE SITE WITHIN 15 DAYS, THE CONTRACTOR CAN COVER THE STOCKPILE WITH A WATERPROOF TARPAULINE TYPE COVER. NO OFF-SITE STOCKPILES ARE BEING PROPOSED. ANY OFF-SITE STOCKPILES THAT THE CONTRACTOR UTILIZES SHALL FOLLOW THE SAME REQUIREMENTS AS ON-SITE STOCKPILES. THE CONTRACTOR SHALL IDENTIFY TO THE LOCAL S.W.P.P.P. ENFORCEMENT AGENCY THE LOCATIONS OF ANY OFF-SITE STOCKPILES.

MATERIAL HANDLING AND STORAGE

THE CONTRACTOR SHALL MINIMIZE THE DISTURBANCE OF EXCAVATED SOILS BY MINIMIZING THE NUMBER OF TIMES THE SOIL IS HANDLED. ON-SITE HANDLING OF SOILS WILL OCCUR DURING EXCAVATION, LOADING, AND SPREADING ACTIVITIES. FUEL FOR HEAVY EQUIPMENT AND VEHICLES WILL NOT BE STORED ON THE SITE DURING CONSTRUCTION OPERATIONS. MOBILE FUEL TANKS WILL FUEL HEAVY EQUIPMENT. IN THE EVENT OF A SPILL OR LEAK THE CONTRACTOR SHALL FOLLOW PROPER PROCEDURES TO MINIMIZE CONCERN. THE CONTRACTOR SHALL:

1. TAKE IMMEDIATE MEASURES TO CONTROL AND CONTAIN THE SPILL TO PREVENT RELEASE INTO SEWERS OR SURFACE WATERS.
2. NOTIFY THE LOCAL FIRE DEPARTMENT IMMEDIATELY AT 9-1-1.
3. NOTIFY THE FEDERAL EMERGENCY SPILL HOTLINE AT 1-800-424-8802 WITHIN 2 HOURS IF THE AMOUNT IS ABOVE A REPORTABLE
4. QUANTITY OR ANY AMOUNT ENTERS A WATERWAY OR STORM SEWER.
5. NOTIFY THE INDIANA EMERGENCY RESPONSE HOTLINE AT 1-888-233-7745.
6. FOLLOW THE GUIDELINES FOR HANDLING THE SPILL AS OUTLINED IN THE INCLUDED MATERIAL SAFETY DATA SHEETS.

DVG TEAM INC
1155 Troutwine Road
Crown Point, IN 46307
P: (219) 662-7710
F: (219) 662-2740
www.dvgteam.com

RUSSELL JACOB PIZEN REGISTERED NO. PE10910667 STATE OF INDIANA PROFESSIONAL ENGINEER

08/30/2024

OSNI
730 45TH AVE
MUNSTER, IN 46321

DATE:	REVISIONS AND NOTES:

OSNI MEDICAL OFFICE BLDG
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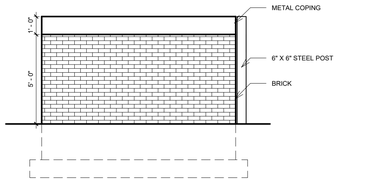
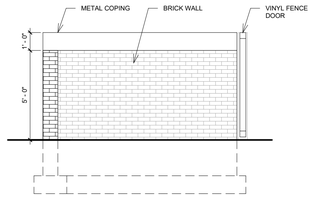
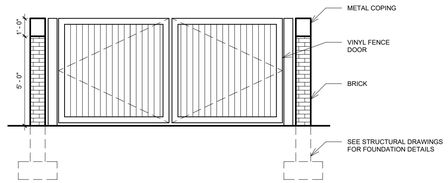
C304



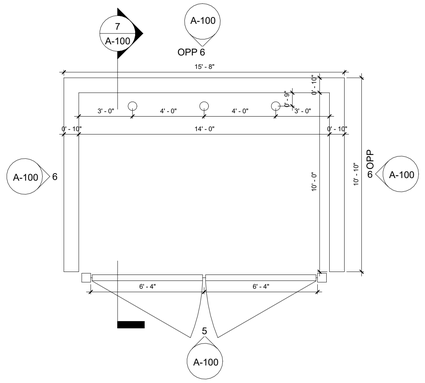
6 TRASH ENCLOSURE ELEVATION
1/4" = 1'-0"



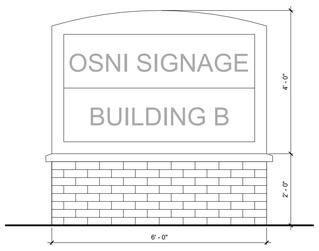
7 TRASH ENCLOSURE SECTION
1/4" = 1'-0"



5 TRASH ENCLOSURE ELEVATION
1/4" = 1'-0"

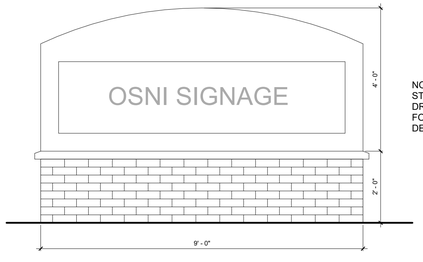


4 TRASH ENCLOSURE PLAN
1/4" = 1'-0"



NOTE: SEE STRUCTURAL DRAWINGS FOR FOUNDATION DETAILS

3 MONUMENT SIGN 2
1/2" = 1'-0"



NOTE: SEE STRUCTURAL DRAWINGS FOR FOUNDATION DETAILS

2 MONUMENT SIGN 1
1/2" = 1'-0"

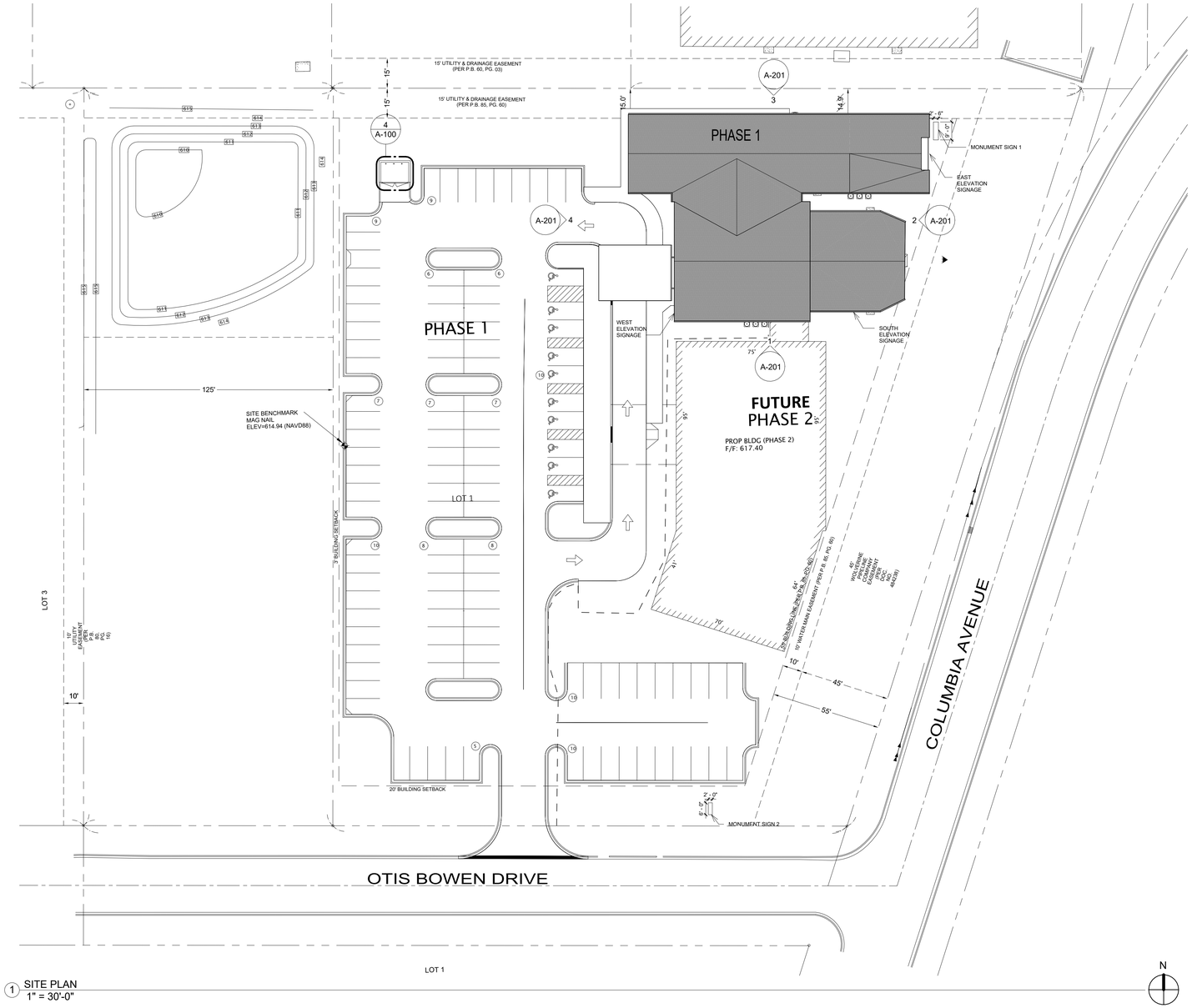
SIGNAGE SUMMARY:

MONUMENT SIGN

	PERMITTED	PROVIDED
QUANTITY	1 PER/FRONTAGE 2 TOTAL	2 PROVIDED
HEIGHT	6 FT MAX	6 FT
AREA	18 SF	18 SF

WALL SIGN

	PERMITTED	PROVIDED
QUANTITY	1 PER/FACADE 4 TOTAL	3 PROVIDED
AREA	1.5 SF / LINEAL FT FACADE	
	NORTH FACADE: 164 SF WEST FACADE: 150 SF SOUTH FACADE: 169 SF EAST FACADE: 142 SF	- 32 SF 48 SF 37 SF



1 SITE PLAN
1" = 30'-0"

3/12/2024 2:43:34 PM

REGION CONTRACTORS
912 AVENUE H
GRIFFITH, IN 46319
PH 219-365-3508
FAX 219-365-8573

Georgiou & Associates Architects
912 Avenue H
Griffith, IN 46319
Ph 219-365-9345
Fax 219-365-8573

SEAL

NICHOLAS A. GEORGIOU REGISTERED No. AR19800171 STATE OF INDIANA ARCHITECT

PROJECT

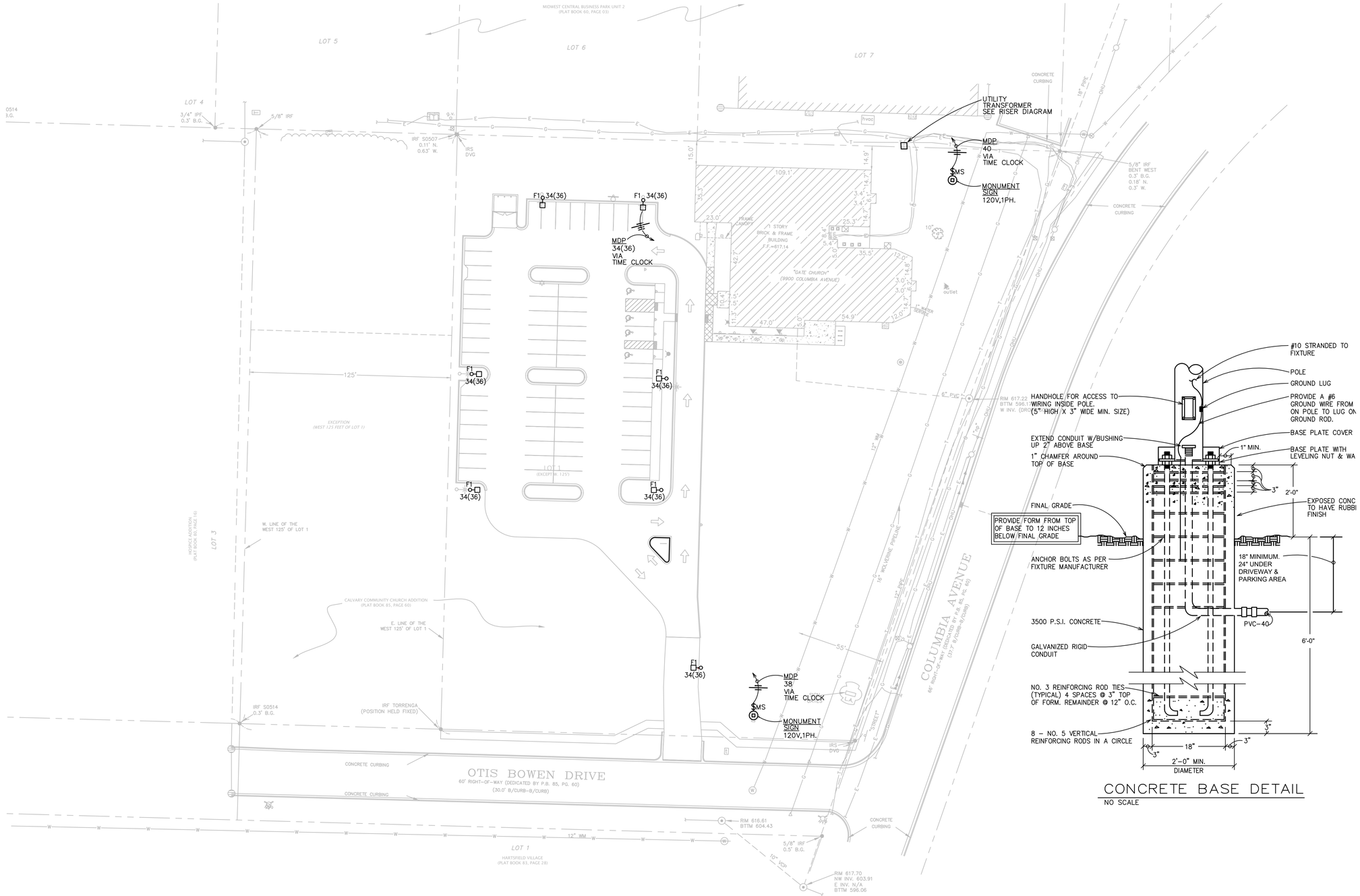
OSNI BUILDING RENOVATION & SITE WORK
9900 COLUMBIA AVE
MUNSTER, INDIANA 46321

#	DATE	DESCRIPTION
	02/05/2024	ISSUE FOR 50% REVIEW
	03/11/2024	ISSUE FOR PERMIT/BID

PROJECT NO:
CAD DWG FILE:
DRAWN BY:
SHEET TITLE

ARCHITECTURAL SITE PLAN

A-100



CONCRETE BASE DETAIL

NO SCALE

LIGHTING SITE PLAN

1" = 30'-0"

NORTH

0 4' 8' 16' 32' 48' — 1/16" = 1'-0"
0 2' 4' 8' 16' 24' — 1/8" = 1'-0"
0 3' 6' 12' 18' — 3/16" = 1'-0"
0 1' 2' 4' 8' 12' — 1/4" = 1'-0"
0 6" 1' 2' 4' 6' — 1/2" = 1'-0"
0 4" 8" 16" 32" 4' — 3/4" = 1'-0"
0 3" 6" 1' 2' 3' — 1" = 1'-0"
0 2" 4" 8" 16" 2' — 1 1/2" = 1'-0"
0 1" 2" 4" 8" 1' — 3" = 1'-0"

Legacy Designs, Inc.
555 S. Perryville Road
ROCKFORD, ILLINOIS 61108
Professional Design Firm No. 184-003483
815-484-4708 Phone 815-484-4710 Fax
e-mail legacy@legacydesigns.net
web site www.legacydesigns.net

RIDGELAND ASSOCIATES INC.
ARCHITECTS DESIGNERS PLANNERS
1 Riverside Rd. Riverside, Illinois 60546
708.435.0300 708.435.0305 fax
www.ridgelandassociates.com

STATE OF INDIANA
ZENON KURDZIEL
AR 19800045
REGISTERED ARCHITECT
EXPIRATION DATE: 12/31/2025

EAI
DESIGN/BUILD
E.ANTHONY,INC.
Complete Construction Services
708-802-8230

OSNI
BUILDING RENOVATION AND SITE WORK

9900 COLUMBIA AVENUE, MUNSTER, INDIANA 46321

Revisions

Drawing Date 8-5-2024

Project Number 24038

STATE OF INDIANA
JOHN P. STELLE
PROFESSIONAL ENGINEER
7-31-26

Sheet Name
SITE LIGHTING
SITE PLAN

Sheet Number
ES101

Legacy Designs, Inc.
555 S. Perryville Road
ROCKFORD, ILLINOIS 61108
Professional Design Firm No. 184–003483
815–484–4708 Phone 815–484–4710 Fax
e–mail legacy@legacydesigns.net
web site www.legacydesigns.net

RIDGELAND ASSOCIATES INC.
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1 Riverside Rd. Riverside, Illinois 60546
708.435.0300 708.435.0305 fax
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AR 19800045
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Schedule

Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot
□	F1		7	Lithonia Lighting	DSX0 LED P4 30K T4M MVOLT HS G1	DSX0 LED P4 30K T4M MVOLT with houseside shield	1	7445	1	92	

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
4	F1	960.50	434.50	25.00	25.00	181.65	0.00	960.47	433.42	0.00
5	F1	1023.70	432.80	25.00	25.00	181.65	0.00	1023.67	431.72	0.00
6	F1	917.89	324.79	25.00	25.00	90.90	0.00	918.97	324.77	0.00
7	F1	917.09	252.99	25.00	25.00	90.90	0.00	918.17	252.97	0.00
8	F1	1039.20	321.80	25.00	25.00	270.00	0.00	1038.12	321.80	0.00
9	F1	1036.30	252.50	25.00	25.00	270.00	0.00	1035.22	252.50	0.00
3	F1	1058.92	141.65	25.00	25.00	273.60	0.00	1057.84	141.71	0.00

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Stat Zone # 1	✳	1.2 fc	2.3 fc	0.1 fc	23.0:1	12.0:1
Calc Zone #1	+	0.4 fc	2.3 fc	0.0 fc	N/A	N/A

PHOTOMETRIC SITE PLAN
1" = 30'-0"

NORTH

Revisions

Drawing Date	8-5-2024
Project Number	24038

Sheet Name
PHOTOMETRIC SITE PLAN

Sheet Number
ES102

0 4' 8' 16' 32' 48' 1/16" = 1'-0"
0 2' 4' 8' 16' 24' 1/8" = 1'-0"
0 3' 6' 12' 18' 3/16" = 1'-0"
0 1' 2' 4' 8' 12' 1/4" = 1'-0"
0 6" 1' 2' 4' 6' 1/2" = 1'-0"
0 4" 8" 16" 32" 4' 3/4" = 1'-0"
0 3" 6" 1' 2' 3' 1" = 1'-0"
0 2" 4" 8" 16" 2' 1 1/2" = 1'-0"
0 1" 2" 4" 8" 1' 3" = 1'-0"

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** OPF-S-A05-840-T4M-AR1-UNV-BZ Notes:	**Type:** F1 CLW24-28520

GARDCO by signify

Site and Area

OptiForm

OPF-S Small

Gardco OptiForm site and area luminaires are available in three sizes: small, medium and large. Featuring the latest in LED technology, OptiForm achieves up to 192 lumens per watt. Eleven optical distributions are available, suitable for a range of outdoor lighting applications. OptForm features a unique mounting system with a two-piece housing for hassle-free installation. Mounting options include a standard arm, mast arm, and wall mount bracket. Service Tag is a standard feature with every OptiForm luminaire, providing maintenance or upgrade assistance throughout the life of the product.

Project:
Location:
Cat No:
Type:
Lamps: Qty:
Notes:

Ordering guide

example: OPF-S-A01-840-T4M-AR1-120-BL50-L3-BZ

Luminaire	Configuration (nom. lumens)			Color Temperature	Distribution			Mounting	Voltage
OPF-S									
OPF-S OptiForm Small Area	Site and Area		Precision Plus[16] (T2M, T3M, T4M, T5M only)	827[1] 80CRI 2700K	AFR Autofront row	LCL LEED corner optic left	AR1[2,17] Arm mount (standard)	120 120V
	A01 7,000 lumens		P01 2,500 lumens	830 80CRI 3000K	T2M Type 2 medium	LCR LEED corner optic right	MAR[3] Mast arm	208 208V
	A02 9,000 lumens		P02 4,000 lumens	840 80CRI 4000K	T3M Type 3 medium	BLC Back light control	WAL Wall mount	240 240V
	A03 11,000 lumens		P03 6,500 lumens	727[1] 70CRI 2700K	T4M Type 4 medium	2RL Type 2 rotated left 90°	MOS[4] Mounting ordered separately	277 277V
	A04 15,000 lumens		P04 9,000 lumens	730 70CRI 3000K	T4W Type 4 wide	2RR Type 2 rotated right 270°		347 347V
	A05 17,000 lumens		P05 11,500 lumens	740 70CRI 4000K	T5N Type 5 narrow	3RL Type 3 rotated left 90°		480 480V
	A06 19,000 lumens		P06 14,000 lumens	750 70CRI 5000K	T5M Type 5 medium	3RR Type 3 rotated right 270°		UNV 120-277V
	A07 20,000 lumens		P07 16,500 lumens		T5W Type 5 wide	4RL[1] Type 4 rotated left 90°		HVU[16] 347-480V
			P08 19,000 lumens			4RR[1] Type 4 rotated right 270°		
			P09 22,000 lumens					

Dimming Controls		Sensing	Options (electrical, mechanical, etc)		Emergency		Finish	
The following options include 0-10V Driver			None	Surge protector 10kV/10kA standard	EM[12,14,15] Emergency Battery Pack (0-40 °C) Available with precision plus optics P01-P03 only		**Standard textured finish**	
none	0-10V dimming driver		SP2	Surge protector 20kV/10kA (option)			BK	Black
DLEA[5,10]	Dimming leads externally accessible (controls by others)		FS1[11]	Single fuse (120, 277, or 347VAC)			WH	White
FAWS[5,6,10]	Field adjustable wattage selector		FS2[11]	Double fuse (208, 240, or 480V)			BZ	Bronze
BL50[5,7,10]	Bi-level with motion sensor	L2 PIR sensor, #2 lens (Required if BL50 is selected)	PCB[11,12]	Photocontrol button connected to 0-10V driver			DG	Dark Gray
The following options include SR/DALI Driver			TR5	NEMA Twist-lock 5-pin receptacle connected to 0-10V driver			MG	Medium Gray
SRDR[5,8,13]	SR driver connected to Zhaga socket (D4i)		TR7[13]	7-pin twist lock receptacle connected to D4i compliant driver			**Customer specified**	
OMSR[5,8,13]	Outdoor multi-sensor		TLP[11,13]	7-pin twist lock receptacle connected to D4i compliant driver w/ 3-pin photocell			OC	Special optional color or RAL, consult factory
DynaDimmer: Automatic Profile Dimming			EHS	Housing machined to accept external house side shield for field install. Must be combined with OPF-S-EHS-1 accessory.			SC	Special color (must supply color chip, requires factory quote)
CS50[5,13]	Security 50% dimming, 7 hours							
CM50[5,13]	Median 50% dimming, 8 hours							
CS30[5,13]	Security 30% dimming, 7 hours							
CM30[5,13]	Median 30% dimming, 8 hours							

1. Extended leadtime applies. Consult factory for details.
2. Mounts to a square pole with knockout for 4-5" OD round pole.
3. Mounts to a horizontal 2-3/8" OD x 5" Long tenon.
4. Must be ordered with mounting accessory. Photocell option (TR7) must be selected with mounting accessory. See Page 2 for options.
5. Not available with other dimming control options (mutually exclusive).
6. Not available with motion sensor (physical restriction).
7. Must be specified with a motion sensor lens (L2).
8. Not available with PCB, TR5.
9. Must be specified with a motion sensor LW, LB.
10. Not available with TR7, TLP.
11. Must specify input voltage.
12. Not available in HVU [347-480V].
13. UNV [120-277V] only available for lumen packages P03-P09. HVU [347-480V] only available for lumen packages P06-P09 & A04-A07.
14. UNV [120-277V] only available for lumen packages P04-P09.
15. Not available with Dynadimmer, SRDR, FAWS, FS1, FS2, OMSR, DLEA, BL50 (physical restriction).
16. Precision Plus Optics (P01-P09) available only with T2M, T3M, T4M, and T5M optical distributions and are non-rotatable.
17. OPF-RMB accessory recommended for retrofit applications.

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** OPF-S-A05-840-T4M-AR1-UNV-BZ Notes:	**Type:** F1 CLW24-28520

OPF-S OptiForm small

Site & area luminaire

Shielding Accessory Kits (order separately)

One shield kit per luminaire

OPF-S-EHS-1*	External house side shield (field installed)
OPF-S-HIS-1**	Internal house side shields. For Area optic types T2M, T3M, and T5N.
OPF-S-HIS-T4-1**	Internal house side shield for Area optic types T4M and T4W, qty 1.
OPF-S-HIS-5M/5W-1**	Internal house side shield for Area optic types T5M and T5W. qty 1

*Must select EHS option on luminiare options section

**Not available for Precision Plus (P01-P09)

Luminaire Accessories (order separately)

Pole Mount Fusing	
FP1	Pole mount single fuse (120V, 277V, or 347V)
FP2	Pole mount double fuse (208V, 240V, or 480V)
FP3	Pole mount double fuse canadian double pull (208V, 240V, or 480V)
Photocell Accessories	
P400S	Shorting cap

Mountings (boxed and shipped separately)

Must choose Mounting Ordered Separately (MOS) selection for mounting option of luminaire. Useful for attachment of arm to pole prior to luminaire installation

Standard Arm	
OPF-AR1-(F)[2,17]	Standard arm mount
OPF-AR1-TR7-(F)[2,3,17]	Mast arm mount with 7-pin (TR7) receptacle
Wall Mount	
OPF-WAL-(F)	Wall mount bracket
OPF-WAL-TR7-(F)[3]	Wall mount with 7-pin (TR7) receptacle
Mast Arm	
OPF-MAR-(F)[3]	Mast arm mount
OPF-MAR-TR7-(F)[3,3]	Mast arm mount with 7-pin (TR7) receptacle

Mounting Accessories

OPF-RMB	Retrofit Mounting Bolster Plate for attaching OptiForm to existing poles. Recommended for retrofit applications.
OPF-RPA	Round Pole Adapter. Fits to 3"- 3.9" O.D. pole. Painted black.

Pole Top Fitters

PTF2 - Pole top fitter fits 2 3/8 - 2 1/2" OD x 4" depth tenon	
PTF2-1-90-(F)	1 luminiare at 90°
PTF2-2-90-(F)	2 luminiares at 90°
PTF2-3-90-(F)	3 luminiares at 90°
PTF2-4-90-(F)	4 luminiares at 90°
PTF2-2-180-(F)	2 luminiares at 180°
PTF2-3-120-(F)	3 luminiares at 120°
PTF3 - Pole top fitter fits 3-3 1/2" OD x 6" depth tenon	
PTF3-1-90-(F)	1 luminiare at 90°
PTF3-2-90-(F)	2 luminiares at 90°
PTF3-3-90-(F)	3 luminiares at 90°
PTF3-4-90-(F)	4 luminiares at 90°
PTF3-2-180-(F)	2 luminiares at 180°
PTF3-3-120-(F)	3 luminiares at 120°

Optical Distributions

Site and Area Optics

Type 2 Medium

Type 3 Medium

Type 4 Medium

Type 4 Wide

Type 5 Narrow

Type 5 Medium

Type 5 Wide

Back Light Control

Autofront Row

LCL

LCR

Precision Plus Optics

Type 2 Medium

Type 3 Medium

Type 4 Medium

Type 5 Medium

Submitted by Leslie Nowalski

CHICAGO LIGHTWORKS

Job Name:
ORTHOPEDIC SPECIALISTS OF NWI OSNI
Electrical Contractor: PALOS ELECTRIC-CRESTWOOD

Catalog Number:
OPF-S-A05-840-T4M-AR1-UNV-BZ

Notes:

Type:
F1

CLW24-28520

OPF-S OptiForm small

Site & area luminaire

OPF-S Area Optic Lumen values

Performance Package	System Watts	Distribution Type	70 CRI 3000K			70 CRI 4000K			70 CRI 5000K		
			Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
A01	42	T2M	6991	B2-U0-G2	167	7391	B2-U0-G2	176	7391	B2-U0-G2	176
		T3M	6935	B2-U0-G2	166	7332	B2-U0-G2	175	7332	B2-U0-G2	175
		T4M	7028	B1-U0-G2	168	7431	B1-U0-G2	177	7431	B1-U0-G2	177
		T5M	7244	B3-U0-G1	173	7659	B3-U0-G1	183	7659	B3-U0-G1	183
		AFR	7241	B2-U0-G2	173	7655	B2-U0-G2	183	7655	B2-U0-G2	183
		T4W	6692	B1-U0-G2	160	7075	B1-U0-G2	169	7075	B1-U0-G2	169
		T5N	7193	B3-U0-G1	172	7605	B3-U0-G1	182	7605	B3-U0-G1	182
		T5W	6926	B3-U0-G2	165	7322	B3-U0-G2	175	7322	B3-U0-G2	175
		LCL	3804	B1-U0-G1	91	4021	B1-U0-G1	96	4021	B1-U0-G1	96
		LCR	3804	B1-U0-G1	91	4021	B1-U0-G1	96	4021	B1-U0-G1	96
		BLC	4874	B0-U0-G1	116	5153	B0-U0-G1	123	5153	B0-U0-G1	123
A02	54	T2M	8941	B2-U0-G2	165	9452	B2-U0-G2	175	9452	B2-U0-G2	175
		T3M	8869	B2-U0-G2	164	9377	B2-U0-G2	173	9377	B2-U0-G2	173
		T4M	8989	B1-U0-G2	166	9503	B1-U0-G2	176	9503	B1-U0-G2	176
		T5M	9265	B3-U0-G2	171	9795	B3-U0-G2	181	9795	B3-U0-G2	181
		AFR	9260	B2-U0-G2	171	9790	B2-U0-G2	181	9790	B2-U0-G2	181
		T4W	8558	B2-U0-G2	158	9048	B2-U0-G2	167	9048	B2-U0-G2	167
		T5N	9200	B3-U0-G1	170	9726	B3-U0-G1	180	9726	B3-U0-G1	180
		T5W	8858	B3-U0-G2	164	9365	B3-U0-G2	173	9365	B3-U0-G2	173
		LCL	4864	B1-U0-G1	90	5143	B1-U0-G1	95	5143	B1-U0-G1	95
		LCR	4864	B1-U0-G1	90	5143	B1-U0-G1	95	5143	B1-U0-G1	95
		BLC	6234	B0-U0-G2	115	6591	B0-U0-G2	122	6591	B0-U0-G2	122
A03	54	T2M	10438	B2-U0-G2	164	11035	B2-U0-G2	174	11035	B3-U0-G3	174
		T3M	10354	B2-U0-G2	163	10947	B2-U0-G2	172	10947	B2-U0-G2	172
		T4M	10494	B2-U0-G2	165	11094	B1-U0-G2	174	11094	B2-U0-G2	174
		T5M	10816	B3-U0-G2	170	11435	B3-U0-G2	180	11435	B3-U0-G2	180
		AFR	10811	B3-U0-G3	170	11429	B2-U0-G2	180	11429	B3-U0-G3	180
		T4W	9991	B2-U0-G3	157	10563	B2-U0-G2	166	10563	B2-U0-G3	166
		T5N	10740	B3-U0-G2	169	11355	B3-U0-G1	179	11355	B3-U0-G2	179
		T5W	10341	B4-U0-G2	163	10933	B3-U0-G2	172	10933	B4-U0-G2	172
		LCL	5679	B1-U0-G1	89	6004	B1-U0-G1	94	6004	B1-U0-G1	94
		LCR	5679	B1-U0-G1	89	6004	B1-U0-G1	94	6004	B1-U0-G1	94
		BLC	7278	B1-U0-G2	114	7694	B0-U0-G2	121	7694	B1-U0-G2	121
A04	91	T2M	14465	B3-U0-G3	160	15293	B3-U0-G3	169	15293	B3-U0-G3	169
		T3M	14350	B3-U0-G3	158	15171	B3-U0-G3	167	15171	B3-U0-G3	167
		T4M	14543	B2-U0-G2	160	15375	B2-U0-G2	170	15375	B2-U0-G2	170
		T5M	14990	B4-U0-G2	165	15848	B4-U0-G2	175	15848	B4-U0-G2	175
		AFR	14982	B3-U0-G3	165	15840	B3-U0-G3	175	15840	B3-U0-G3	175
		T4W	13847	B2-U0-G3	153	14639	B2-U0-G3	161	14639	B2-U0-G3	161
		T5N	14884	B4-U0-G2	164	15736	B4-U0-G2	174	15736	B4-U0-G2	174
		T5W	14331	B4-U0-G3	158	15151	B4-U0-G3	167	15151	B4-U0-G3	167
		LCL	7870	B1-U0-G2	87	8321	B1-U0-G2	92	8321	B1-U0-G2	92
		LCR	7870	B1-U0-G2	87	8321	B1-U0-G2	92	8321	B1-U0-G2	92
		BLC	10086	B1-U0-G2	111	10663	B1-U0-G2	118	10663	B1-U0-G2	118

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** OPF-S-A05-840-T4M-AR1-UNV-BZ Notes:	**Type:** F1 CLW24-28520

OPF-S OptiForm small

Site & area luminaire

OPF-S Area Optic Lumen values (cont'd)

Performance Package	System Watts	Distribution Type	70 CRI 3000K			70 CRI 4000K			70 CRI 5000K		
			Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
A05	104	T2M	16226	B3-U0-G3	156	17155	B3-U0-G3	164	17155	B3-U0-G3	164
		T3M	16096	B3-U0-G3	154	17018	B3-U0-G3	163	17018	B3-U0-G3	163
		T4M	16313	B2-U0-G3	156	17247	B2-U0-G3	165	17247	B2-U0-G3	165
		T5M	16814	B4-U0-G2	161	17777	B4-U0-G2	170	17777	B4-U0-G2	170
		AFR	16806	B3-U0-G3	161	17768	B3-U0-G3	170	17768	B3-U0-G3	170
		T4W	15532	B3-U0-G3	149	16421	B3-U0-G3	157	16421	B3-U0-G3	157
		T5N	16696	B4-U0-G2	160	17652	B4-U0-G2	169	17652	B4-U0-G2	169
		T5W	16075	B4-U0-G3	154	16995	B4-U0-G3	163	16995	B4-U0-G3	163
		LCL	8828	B1-U0-G2	85	9333	B1-U0-G2	89	9333	B1-U0-G2	89
		LCR	8828	B1-U0-G2	85	9333	B1-U0-G2	89	9333	B1-U0-G2	89
		BLC	11314	B1-U0-G2	108	11961	B1-U0-G2	115	11961	B1-U0-G2	115
A06	122	T2M	18441	B3-U0-G3	151	19496	B3-U0-G3	160	19496	B3-U0-G3	160
		T3M	18294	B3-U0-G3	150	19341	B3-U0-G3	158	19341	B3-U0-G3	158
		T4M	18540	B3-U0-G3	152	19601	B3-U0-G3	160	19601	B3-U0-G3	160
		T5M	19110	B4-U0-G2	156	20203	B4-U0-G2	165	20203	B4-U0-G2	165
		AFR	19100	B3-U0-G3	156	20193	B3-U0-G3	165	20193	B3-U0-G3	165
		T4W	17652	B3-U0-G3	144	18662	B3-U0-G3	153	18662	B3-U0-G3	153
		T5N	18975	B4-U0-G2	155	20061	B4-U0-G2	164	20061	B4-U0-G2	164
		T5W	18270	B5-U0-G3	150	19315	B5-U0-G3	158	19315	B5-U0-G3	158
		LCL	10033	B2-U0-G2	82	10607	B2-U0-G2	87	10607	B2-U0-G2	87
		LCR	10033	B2-U0-G2	82	10607	B2-U0-G2	87	10607	B2-U0-G2	87
		BLC	12858	B1-U0-G2	105	13594	B1-U0-G2	111	13594	B1-U0-G2	111

OPF-S Precision Plus Optic Lumen values

Performance Package	System Watts	Distribution Type	70 CRI 3000K			70 CRI 4000K			70 CRI 5000K		
			Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
P01	15	T2M	2691	B1-U0-G1	182	2845	B1-U0-G1	192	2845	B1-U0-G1	192
		T3M	2718	B1-U0-G1	184	2874	B1-U0-G1	194	2874	B1-U0-G1	194
		T4M	2665	B1-U0-G1	180	2817	B1-U0-G1	190	2817	B1-U0-G1	190
		T5M	2610	B2-U0-G1	176	2759	B2-U0-G1	186	2759	B2-U0-G1	186
P02	23	T2M	4022	B1-U0-G1	178	4252	B1-U0-G1	189	4252	B1-U0-G1	189
		T3M	4062	B1-U0-G1	180	4295	B1-U0-G1	191	4295	B1-U0-G1	191
		T4M	3983	B1-U0-G1	177	4211	B1-U0-G1	187	4211	B1-U0-G1	187
		T5M	3900	B2-U0-G1	173	4124	B2-U0-G1	183	4124	B2-U0-G1	183
P03	38	T2M	6465	B2-U0-G2	169	6835	B2-U0-G2	179	6835	B2-U0-G2	179
		T3M	6530	B2-U0-G2	171	6904	B2-U0-G2	181	6904	B2-U0-G2	181
		T4M	6402	B1-U0-G2	168	6768	B1-U0-G2	177	6768	B1-U0-G2	177
		T5M	6269	B3-U0-G2	164	6629	B3-U0-G2	174	6629	B3-U0-G2	174
P04	53	T2M	8759	B2-U0-G2	165	9261	B2-U0-G2	174	9261	B2-U0-G2	174
		T3M	8848	B2-U0-G2	166	9355	B2-U0-G2	176	9355	B2-U0-G2	176
		T4M	8674	B2-U0-G2	163	9171	B2-U0-G2	172	9171	B2-U0-G2	172
		T5M	8495	B3-U0-G2	160	8982	B3-U0-G2	169	8982	B3-U0-G2	169

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** OPF-S-A05-840-T4M-AR1-UNV-BZ Notes:	**Type:** F1 CLW24-28520

OPF-S OptiForm small

Site & area luminaire

OPF-S Area Optic Lumen values (cont'd)

Performance Package	System Watts	Distribution Type	70 CRI 3000K			70 CRI 4000K			70 CRI 5000K		
			Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)	Lumen Output	BUG Rating	Efficacy (LPW)
P05	66	T2M	11253	B2-U0-G2	172	11898	B2-U0-G2	182	11898	B2-U0-G2	182
		T3M	11366	B3-U0-G3	173	12018	B3-U0-G3	183	12018	B3-U0-G3	183
		T4M	11143	B2-U0-G3	170	11782	B2-U0-G3	180	11782	B2-U0-G3	180
		T5M	10913	B3-U0-G2	167	11539	B3-U0-G2	176	11539	B3-U0-G2	176
P06	76	T2M	13987	B3-U0-G3	183	14788	B3-U0-G3	194	14788	B3-U0-G3	194
		T3M	14128	B3-U0-G3	185	14937	B3-U0-G3	196	14937	B3-U0-G3	196
		T4M	13850	B2-U0-G3	182	14644	B2-U0-G3	192	14644	B2-U0-G3	192
		T5M	13564	B4-U0-G3	178	14342	B4-U0-G3	188	14342	B4-U0-G3	188
P07	94	T2M	15850	B3-U0-G3	168	16758	B3-U0-G3	178	16758	B3-U0-G3	178
		T3M	16010	B3-U0-G3	170	16927	B3-U0-G3	180	16927	B3-U0-G3	180
		T4M	15696	B3-U0-G3	167	16595	B3-U0-G3	176	16595	B3-U0-G3	176
		T5M	15372	B4-U0-G3	163	16253	B4-U0-G3	172	16253	B4-U0-G3	172
P08	113	T2M	19800	B3-U0-G3	176	20934	B3-U0-G3	186	20934	B3-U0-G3	186
		T3M	19999	B3-U0-G3	178	21145	B3-U0-G3	188	21145	B3-U0-G3	188
		T4M	19607	B3-U0-G3	174	20730	B3-U0-G3	184	20730	B3-U0-G3	184
		T5M	19202	B4-U0-G3	171	20302	B4-U0-G3	180	20302	B4-U0-G3	180
P09	133	T2M	21655	B3-U0-G3	163	22896	B3-U0-G3	172	22896	B3-U0-G3	172
		T3M	21874	B3-U0-G3	164	23127	B3-U0-G3	174	23127	B3-U0-G3	174
		T4M	21444	B3-U0-G4	161	22673	B3-U0-G4	171	22673	B3-U0-G4	171
		T5M	21002	B4-U0-G3	158	22205	B4-U0-G3	167	22205	B4-U0-G3	167

LED Wattage and Lumen Values (Emergency Mode)

Ordering Code	CCT	CRI	Avg. System Wattage (W)	Type 2M		Type 3M		Type 4M	
				Lumen Output	BUG Rating	Lumen Output	BUG Rating	Lumen Output	BUG Rating
OPF-S-PXX-740-X-EM	4000	70	6	1000	B0-U0-G0	1014	B0-U0-G1	838	B0-U0-G0
OPF-S-PXX-750-X-EM	5000	70	6	960	B0-U0-G0	973	B0-U0-G1	804	B0-U0-G0
OPF-S-PXX-830-X-EM	3000	80	6	856	B0-U0-G0	868	B0-U0-G1	717	B0-U0-G0
OPF-S-PXX-840-X-EM	4000	80	6	887	B0-U0-G0	899	B0-U0-G1	743	B0-U0-G0

Predicted Lumen Depreciation Data

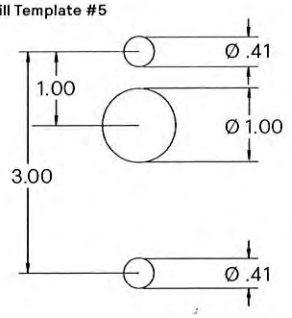
Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L_{70} is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L_{70} hours limited to 6 times actual LED test hours

Ambient Temp°C	Lumen Package	Calculated L_{70} Hours	L_{70} per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	A06-A07	>77,000 hours	>77,000 hours	90%
25°C	All others	>100,000 hours	>100,000 hours	96%

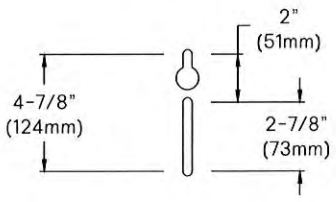
Dimensions

Standard Drill Pattern

Drill Template #5



Standard Arm Mounting Hole Pattern



Submitted by Leslie Nowalski			
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OPF-S OptiForm small

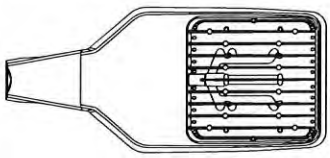
Site & area luminaire

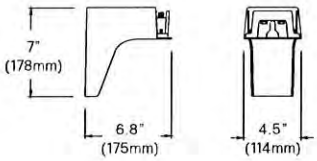
Dimensions

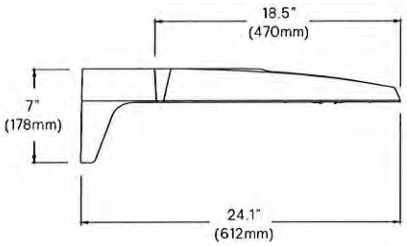
OptiForm Standard Arm

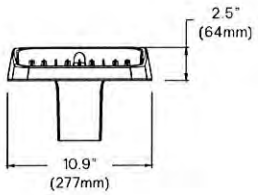
Weight: 11 lb (5.0 kg)

EPA: 0.2 ft² (0.018 m²)



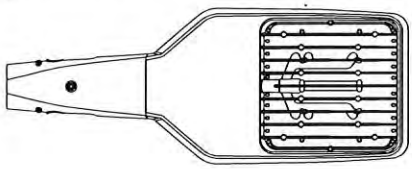


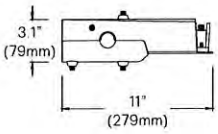


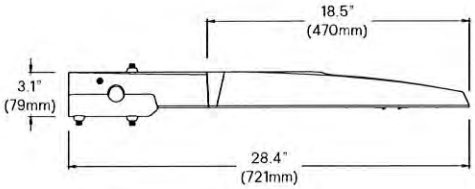


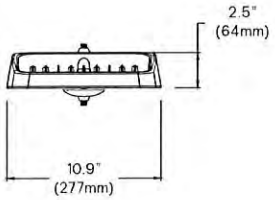
OptiForm Mast Arm

Weight: 12.6 lb (5.7 kg)



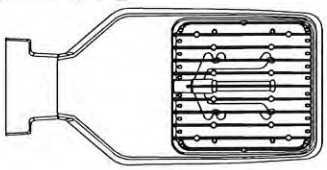


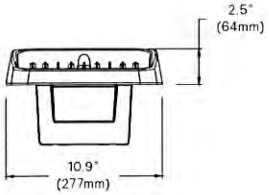


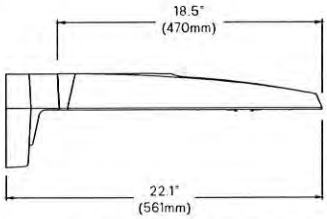


OptiForm Wall Mount

Weight: 11.6 lb (5.3 kg)







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OPF-S OptiForm small

Site & area luminaire

Specifications

Housing

Housing and door constructed of low copper die cast Aluminum alloy (A360) with detatchable arms for quick mounting. Heatsink is integral to the housing providing passive cooling of LEDs to maintain long LED life. Luminaire housing rated to IP65, LED Modules rated IP66 tested in accordance to Section 9 of IEC 60598-1.

Vibration resistance

OptiForm is tested and rated to standards set forth in ANSI C136.31-2018 Level 2 for Bridge and Overpass applications.

Light engine

Light engine comprises of a module of 40-LED aluminum metal clad board fully sealed with optics: Medium = 2 Modules with 80 LEDs, Large = 4 modules with 160 LEDs. Module is RoHS compliant. Color temperature as per ANSI/NEMA bin 2700 Kelvin nominal (2725 ±145K), 3000 Kelvin nominal (3045K +/- 175K) or 4000 Kelvin nominal (3985K +/- 275K). CRI 70 Min. 75 Typical. Other CCT/CRI also available, consult factory. LED light engine is rated IP66 in accordance to Section 9 of IEC 60598-1.

Energy saving benefits

System efficacy up to 182 lms/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

Optical systems

Site and Area optical distributions include Types 2 Medium, 3 Medium, 4 Medium, 4 Wide, 5 Narrow, 5 Medium, 5 Wide, and Auto Front Row. LEED Corner Left, LEED Corner Right, and Backlight Control distributions also available to provide excellent cutoff to meet the most stringent requirements at property lines. Optional internal shields mount to LED optics and are available with Type 2M, 3M, and 4M distributions. Types 2M and 3M can be rotated at 90° or 270° when specified, and are factory set only. Site and Area optics shall be performance tested per LM-79 and TM-15 (IESNA) certifying their photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

Precision Plus optical distributions include Types 2, 3, 4 and 5 and are designed to illuminate pedestrian scale applications by providing lower glare, while still achieving desired distribution, optimized spacing, and excellent uniformity. Optics are made of optical grade polymer refractor lenses and shall be performance tested per LM-63, LM-79 and TM-15 (IESNA) certifying their photometric performance. Luminaire designed with 0% uplight (U0 per IESNA TM-15).

Mounting

Standard luminaire arm mounts to square poles with knock-out on the arm to allow for mounting to 4" O.D. round poles. Standard arm casting can accomodate existing bolt spacing from 2" to 4-7/8". It is recommended to use the bolster plate kit OPF RMB when it's not a new installation or if the mounting holes are larger than 0.41" (10mm).

OptiForm features a Mast Arm for Mounting to 2-3/8x4" tenon as well as wall mount casting for exterior building mount applications.

Control options

Dimming Leads Externally Accessible (DLEA): Access to 0-10V dimming leads supplied through back of luminaire (for secondary dimming controls by others). Cannot be used with other control options.

Sensor Ready Zhaga Socket Connector (SRDR): Product is D4i Certified and equipped with Sensor Ready drivers connected to 4-pin Zhaga Book 18 compliant receptacle designed for sensor and other control system applications. Receptacle is rated IP66 assembly in a compact design that provides a sealed electrical interface and rated UV resistance, mounted on underside of the luminaire, protective dust cap included. When a controller not provided by Signify is used with Sensor Ready Zhaga socket connector, the controller must be certified to work with the Xitanium SR LED drivers as part of the SR certified program. SRDR can be used with NEMA 7-pin twist lock receptacle, which is mounted on top of the luminaire.

Automatic Profile Dimming (CS/CM/CE/CA): Standard dimming profiles provide flexibility towards energy savings goals while optimizing light levels during specific dark hours. Dimming profiles include two dimming settings including dim to 30% or 50% of the total lumen output. When used in combination with not programmed motion response it overrides the controller's schedule when motion is detected. After 5 minutes with no motion, it will return to the automatic diming profile schedule. Automatic dimming profile scheduled with the following settings:

- **CS50/CS30:** Security for 7 hours night duration (Ex., 11 PM - 6 AM)
- **CM50/CM30:** Median for 8 hours night duration (Ex., 10 PM - 6 AM)

All above profiles are calculated from mid point of the night. Dimming is set for 6 hours after the mid point and 1 or 2 hours before depending of the duration of dimming. Cannot be used with other dimming control options

Field Adjustable Wattage Selector (FAWS): Luminaire equipped with the ability to manually adjust the wattage in the field to reduce total luminaire lumen output and light levels. Comes pre-set to the highest position lumen output selected. Use chart below to estimate reduction in lumen output desired. Cannot be used with other control options or motion response.

FAWS Position	Percent of Typical Lumen Output	FAWS Position	Percent of Typical Lumen Output
1	25%	6	80%
2	50%	7	85%
3	55%	8	90%
4	65%	9	95%
5	75%	10	100%

Note: Typical value accuracy +/- 5%

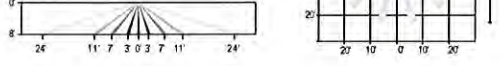
Motion response options

Bi-Level Infrared Motion Response (BL50): Motion Response module is mounted integral to luminaire factory pre-programmed to 50% dimming when not ordered with other control options. BL-IMRI is set/operates in the following fashion: The motion sensor is set to a constant 50%. When motion is detected by the PIR sensor, the luminaire returns to full power/light output. Dimming on low is factory set to 50% with 5 minutes default in "full power" prior to dimming back to low. When no motion is detected for 5 minutes, the motion response system reduces the wattage by 50%, to 50% of the normal constant wattage reducing the light level. Other dimming settings can be provided if different dimming levels are required (contact Technical Support for details).

Infrared Motion Response with Other Controls: When used in combination with other controls (Automatic Dimming Profile), motion response device will simply override controller's schedule with the added benefits of a combined dimming profile and sensor detection. In this configuration, the motion response device cannot be re-programmed with FSIR-100 Wireless Remote Programming Tool. The profile can only be re-programmed via the controller.

Infrared Motion Response Lenses (L2): Infrared Motion Response Integral module is available with two different sensor lens types to accommodate various mounting heights and occupancy detection ranges. Lens #2 is designed for mounting heights 8' to 15'. Lens #3 is designed for higher mounting heights up to 20' with a 40' diameter coverage area.
See charts for approximate detection patterns:

Luminaire with #2 lens



OPF-S OptiForm small

Site & area luminaire

Specifications (cont'd)

Electrical

Twist-Lock Receptacle (TR5/TR7): Twist Lock Receptacle with 5 pins enabling dimming or with 7 pins with additional functionality (by others) can be used with a twistlock photoelectric cell or a shorting cap. Dimming Receptacle Type B (5-pin) and Type D-24 (7-pin) in accordance to ANSI C136.41. Can be used with third-party control system. Receptacle located on top of luminaire housing. When specifying receptacle with twistlock photoelectric cell, voltage must be specified. When ordering 7-pin Twist-lock receptacle (TR7), all 7 pins are wired to respective pins with the Sensor Ready (SR) driver, and photocell or shorting cap is not included. When ordering a twist-lock receptacle with a photocell (TLP), the receptacle used is a 7-pin receptacle, with pins 6 and 7 connected to SR DALI driver. 0-10V dimming leads (pins 4 and 5) are connected if not ordered with any other dimming option.

Driver: Driver efficiency (>90% standard). 120-480V available (restrictions apply). Open/short circuit protection. All drivers are 0-10V dimming to 10% power standard, except when using Sensor Ready (SR) drivers, which uses DALI protocol (options CS50/CM50/CS30/CM30, SRDR, and TR7). Drivers are RoHS and FCC Title 47 CFR Part 15 compliant.

Button Photocontrol (PCB): Button style design for internal luminaires mounting applications. The photocontrol is constructed of a high impact UV stabilized polycarbonate housing. Rated voltage of 120V or 208-277V with a load rating of 1000 VA. The photocell will turn on with 1-4Fc of ambient light.

Surge protection (SP1/SP2): Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA. 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

Listings

UL/cUL wet location listed to the UL 1598 standard, suitable for use in ambient temperatures from -40° to 40°C (-40° to 104°F). All Optiform configurations are qualified under Design Lights Consortium Premium classification. Consult DLC Qualified Products list to confirm your specific luminaire selection is approved. CCTs 3000K and warmer are Dark Sky Approved.

Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) textured polyester powdercoat finish. Standard colors include bronze (BZ), black (BK), white (WH), dark gray (DGY), and medium gray (MGY). Consult Factory for specs on optional, custom colors, and marine grade paint.

Service Tag

Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away. For more details visit: signify.com

Warranty

OptiForm luminaires feature a 5-year limited warranty
See signify.com/warranties for complete details and exclusions.

Buy American Act of 1933 (BAA):

This product is manufactured in one of our US factories and, as of the date of this document, this product was considered a commercially available off-the-shelf (COTS) item meeting the requirements of the BAA. This BAA designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies. Prior to ordering, please visit www.signify.com/baa to view a current list of BAA-compliant products to confirm this product's current compliance.

Signify North America Corporation
400 Crossing Blvd, Suite 600
Bridgewater, NJ 08807
Telephone: 800-555-0050

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone: 800-668-9008

Submitted by Leslie Nowalski

CHICAGO LIGHTWORKS

Job Name:
ORTHOPEDIC SPECIALISTS OF NWI OSNI
Electrical Contractor: PALOS ELECTRIC-CRESTWOOD

Catalog Number:
SSS-CB-4-7-23-D1-DT5-BZ, AB 3/4X24X3-G DEC W/ 8.5 BC ABT
Notes:

Type:
F1
CLW24-28520

GARDCO by signify

Poles & Brackets

Site and Area Poles

Straight Square Steel

Project:
Location:
Cat.No:
Type:
Notes:

The **Gardco SSS Straight Square Steel** pole consists of a one-piece high tensile carbon steel tube welded and secured to the carbon steel base plate providing excellent strength and integrity. The poles are finished with an electrostatically applied, thermally cured polyester powdercoat. All poles include base cover, hand hole, ground lug and top cap. Anchor bolts and templates are ordered as a separate accessory.

Ordering guide **example:** SSS-CB-4-11-12-D1-DT1-BK-FES

Family	Base: CB	Pole Shaft Size (in.)	Pole Gauge/Wall Thickness	Height (ft) [6]: 23
SSS	CB Carbon Steel Base w/ Base Cover	4	11 11 ga. / 0.120"	10, 12, 14, 15, 16, 18, 20, 25
			7 7 ga. / 0.180"	20, 25, 30
		5	11 11 ga. / 0.120"	20, 25, 30
			7 7 ga. / 0.180"	20, 25, 30, 35
L/SSS		6	7 7 ga. / 0.180"	30, 35, 40

Drilling

		Drilling Template [2]	
D1	1 Way	DT1	Drill Template 1
D1@180	1 Way @ 180	DT2	Drill Template 2
D2	2 Way @ 180	DT3	Drill Template 3
D2@90	2 Way @ 90	DT4	Drill Template 4
D3	3 Way @ 90	DT5	Drill Template 5
D4	4 Way @ 90	DT6	Drill Template 6
		(DTX-xxx) [6,7]	Custom Template

See drill template chart for details.

Tenons

T2D4L	2-3/8" OD x 4" length	N	No Drilling Template (for Tenon and Plain Top Options)
T2D6L [8]	2-3/8" OD x 6" length		
T3D4L	3" OD x 4" length		
T4D6L	4" OD x 6" length		

No Drilling/No Tenon

P	Plain Top

BK	Black
BZ	Bronze
WH	White
DG	Dark Grey
MG	Medium Grey
GY3 [8]	Light Grey, Smooth
SSDGY [8]	SolarForm Dark Grey (RAL 7011)
GV	Galvanized (No Paint)
FP/GV	Finished Textured Paint over Galvanized (Specify, ex: MG/GV)
OC	Optional Color Paint (ex: RAL7024)
SC [6]	Special/ Custom Color (Specify, must supply color chip)

FES [6]	Festoon Outlet
VDA	Vibration Dampener
AHH [6]	Additional Hand Hole
DR [6,8]	Duplex Receptacle
VPA	Vandalproof Screws
GFI [6,8]	DR with GFI (120V only)
BAC [9]	Buy American Compliant
CL1/2 [6]	Coupling 1/2"
CL3/4 [6]	Coupling 3/4"
CL1 [6]	Coupling 1"
CL1-1/4 [6]	Coupling 1-1/4"
CL1-1/2 [6]	Coupling 1-1/2"
NL1/2 [6]	Nipple 1/2"
NL3/4 [6]	Nipple 3/4"
NL1 [6]	Nipple 1"
NL1-1/4 [6]	Nipple 1-1/4"
NL1-1/2 [6]	Nipple 1-1/2"

For FES, AHH, DR, GFI, CL*, and NL* options, indicate height in inches above base and orientation to hand hole (ex. GFI-36@180). See page 2 and 3 for details.

1. See Drilling Configurations on Page 3.
2. See Luminaire Drilling Templates on Page 3
3. Not all options available with all configurations. Consult factory for more details
4. Options listed with gray text will be shipped with the Legacy SSS design. Use the L/SSS family code whenever these options are specified.
5. Pole heights can be cut to length. Specify as a whole number in ft. (ex. 11, 13) or to the inch as a decimal (ex. 15.33 = 15' 4") or as "15FT 4IN" for Legacy designs.
6. Option must be specified, including install location, by the customer before order release. FES, DR, GFI, AHH options typically must be placed 12-18" away from standard hand hole (20" or 12" above base).
7. Custom drill templates (DTX) require factory quote.
8. Option not available with Legacy SSS designs.
9. Failure to properly select the "BAC" suffix could result in you receiving product that is not BAA compliant product with no recourse for an RMA or refund. This BAC designation hereunder does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.
10. Consult Signify to confirm whether specific accessories are BAA-compliant.

Accessories [10]

Service	Pole Size	12NC	Description (Diameter x Length x Hook)
	Anchor Bolts + Templates		
For shipment with the pole (order 1 per pole)	4" Poles	912401597397	AB 3/4x24x3-G DEC w/ 8.5 BC ABT
	5" Poles	912401613107	AB 1x33x3-G DEC w/ 11 BC ABT
	6" Poles	912401597401	AB 1x33x3-G DEC w/ 12 BC ABT
For Pre-Ship service (order 1 per pole)	4" Poles	912401597405	AB 3/4x24x3-G DEC w/ 8.5 BC ABT-RS
	5" Poles	912401613106	AB 1x33x3-G DEC w/ 11 BC ABT-RS
	6" Poles	912401597408	AB 1x33x3-G DEC w/ 12 BC ABT-RS

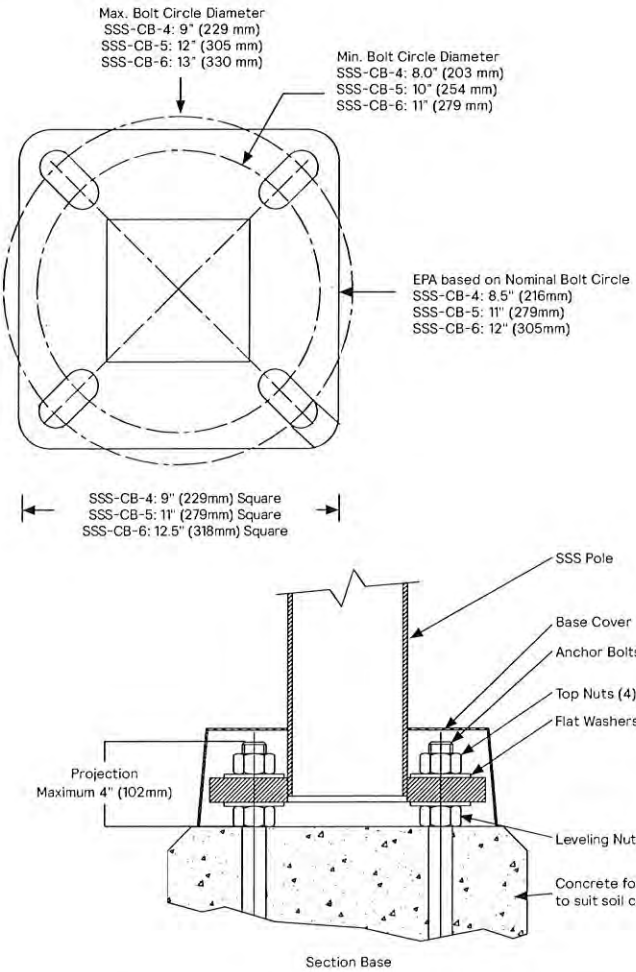
Part No.	Description
RLAR-1A-SQ4+ -(finish)	Cast aluminum mounting arm, 15" long with DT6 drill pattern (order 1 per luminaire). For use with Lumec Roadway and Gardco SolarForm luminaires (for SolarForm: use RLAR bracket to mount horizontally, use T2D6L tenon to mount vertically). Specify finish to match pole.

RLAR

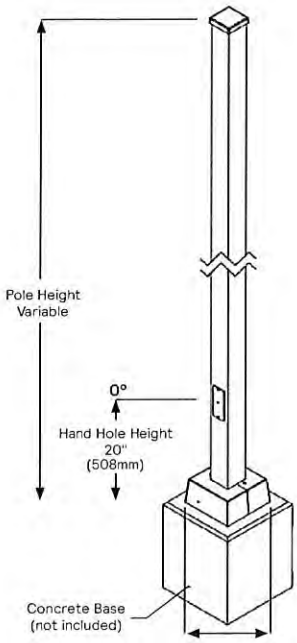
Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** SSS-CB-4-7-23-D1-DT5-BZ, AB 3/ 4X24X3-G DEC W/ 8.5 BC ABT Notes:	**Type:** F1 CLW24-28520

Poles Straight Square Steel

Dimensions



Section Base



Base Cover Dimensions (L x W x H)
SSS-CB-4: 9.80" x 9.80" x 4.58" (245mm x 245mm x 116mm)
SSS-CB-5: 11.80" x 11.80" x 4.58" (300mm x 300mm x 116mm)
SSS-CB-6: 13.30" x 13.30" x 4.58" (338mm x 338mm x 116mm)

SSS Legacy Design not shown.
Base Cover: Square
Hand Hole: 12" Above Base

* Anchor Bolt Lock Washers are not normally required and are not included in standard anchor bolt sets. They are available upon request at additional cost.

** Grouting should include a drainage slot or tube (by others) to permit water to drain from the base of the pole. Failure to provide drainage may weaken the pole base structure over time and may result in pole base failure, for which Gardco is not responsible.

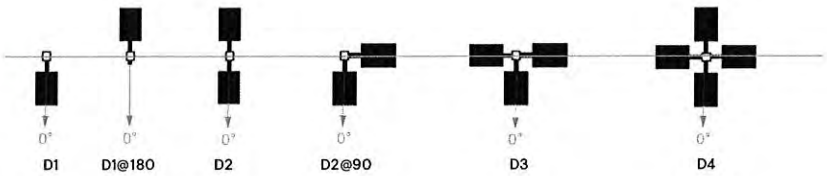
NOTE: Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement from failure to use factory supplied templates.

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** SSS-CB-4-7-23-D1-DT5-BZ, AB 3/ 4X24X3-G DEC W/ 8.5 BC ABT Notes:	**Type:** **F1** CLW24-28520

Poles Straight Square Steel

Drilling Configuration

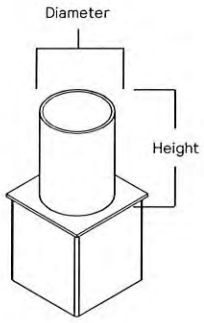
Code	Description
D1	Single luminaire
D1@180	Single luminaire @ 180
D2	Two luminaires @ 180
D2@90	Two luminaires @ 90
D3	Three luminaires @ 90
D4	Four luminaires @ 90



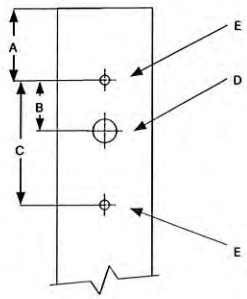
Ref. access door at 0° for all
Legacy design places access door at 180°

Tenon Dimensions

Tenon	Diameter	Height
T2D4L	2.375" (60mm)	4" (102mm)
T2D6L	2.375" (60mm)	6" (152mm)
T3D4L	3" (76mm)	4" (102mm)
T4D6L	4" (102mm)	6" (152mm)



Pole Top Drilling



Luminaire Drill Pattern

Code	Description	Luminaires	Pole Drilling				
			A To Pole Top	B	C Full Extent	D Wireway Hole	E Bolt Hole
DT1	Drill Template 1	Gardco SlenderForm Round SFRA	2.25" (57mm)	1.5" (38.1mm)	3" (76mm)	0.875" (22.2mm)	0.40" (10.2mm)
DT2	Drill Template 2	Gardco SlenderForm Square - SFA Gardco Gullwing - GL13, GL18 Gardco Form Ten - EH14L, EH19L, CAL17, CAL22, MAL17, MAL22	2.25" (57mm)	2.17" (55mm)	3.84" (98mm)	0.875" (22.2mm)	0.39" (9.9mm)
DT3	Drill Template 3	Gardco PowerForm PFAS	2.25" (57mm)	1.75" (44mm)	3.84" (98mm)	0.875" (22.2mm)	0.41" (10.4mm)
DT4	Drill Template 4	**Gen1** Stonco/Keene AL150-G1, AL200-G1	2.5" (64mm)	1.7" (43mm)	3.5" (89mm)	0.875" (22.2mm)	0.41" (10.4mm)
DT5	Drill Template 5	Gardco EcoForm Gen2 - ECF-S, ECF-L Gardco PureForm Gen2 - P15, P20, P26, P34 OptiForm Small - OPF-S OptiForm Med - OPF-M OptiForm Large - OPF-L	3" (76mm)	1" (25mm)	3" (76mm)	1" (25mm)	0.41" (10.4mm)
DT6	Drill Template 6	Hole pattern drilled for the following: **Gen2** Stonco/Keene AL70-G2 and AL150-G2, or to attach RLAR bracket accessory, suitable for use with: Lumec Capella CPLM, CPLS Lumec RoadStar GPLM, GPLS Lumec RoadFocus RFS, RFM, RFL Lumec RoadView RVM, RVS Lumec MiniView SVS Lumec StreetView SVM Gardco SolarForm BRP710	2.5" (64mm)	1" (25mm)	2" (50mm)	0.875" (22mm)	0.5" (12.7mm)

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** SSS-CB-4-7-23-D1-DT5-BZ, AB 3/4X24X3-G DEC W/ 8.5 BC ABT Notes:	**Type:** F1 CLW24-28520

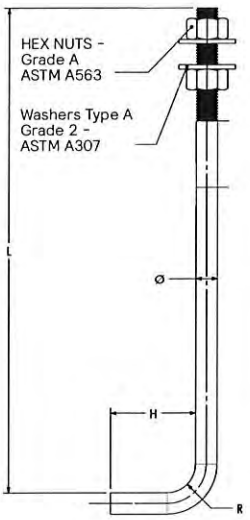
Poles Straight Square Steel

Pole Data

Product Catalog Number	Pole Specs				Anchor Bolt Data			
	Height (ft.)	Pole Diameter (in.)	Wall Thickness (in.)	Pole Weight (lbs)	Bolt Circle (in.)	Anchor Bolt Spec (in.)	Legacy Anchor Bolt Spec (in.)	Anchor Bolt Max Proj. (in.)
SSS-CB-4-11-10	10	4	0.12	63	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-12	12	4	0.12	76	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-14	14	4	0.12	88	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-15	15	4	0.12	94	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-16	16	4	0.12	101	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-18	18	4	0.12	113	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-20	20	4	0.12	126	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-11-25	25	4	0.12	157	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-7-20	20	4	0.18	185	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-4-7-25	25	4	0.18	232	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
● SSS-CB-4-7-30	30	4	0.18	278	8.5 (+/- 0.5)	3/4 x 24 x 3	3/4 x 24 x 3	4
SSS-CB-5-11-20	20	5	0.12	158	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
SSS-CB-5-11-25	25	5	0.12	197	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
● SSS-CB-5-11-30	30	5	0.12	237	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
SSS-CB-5-7-20	20	5	0.18	234	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
SSS-CB-5-7-25	25	5	0.18	292	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
● SSS-CB-5-7-30	30	5	0.18	350	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
● SSS-CB-5-7-35	35	5	0.18	409	11 (+/- 1)	1 x 33 x 3	3/4 x 24 x 3	4
● SSS-CB-6-7-30	30	6	0.18	423	12 (+/- 1)	1 x 33 x 3	1 x 33 x 3	4
● SSS-CB-6-7-35	35	6	0.18	493	12 (+/- 1)	1 x 33 x 3	1 x 33 x 3	4
● SSS-CB-6-7-40	40	6	0.18	564	12 (+/- 1)	1 x 33 x 3	1 x 33 x 3	4

● SSS Legacy Design

Standard Anchor Bolt



Pole Data (cont.)

Product Catalog Number	AASHTO 2001 - EPA ft²								CSA - EPA ft²							
	80 MPH	90 MPH	100 MPH	110 MPH	120 MPH	130 MPH	140 MPH	150 MPH	300 Pa 79 MPH	400 Pa 91 MPH	500 Pa 102 MPH	600 Pa 111 MPH	700 Pa 120 MPH	800 Pa 129 MPH	900 Pa 136 MPH	1000 Pa 144 MPH
SSS-CB-4-11-10	30.00	26.82	21.25	17.13	13.99	11.55	9.62	8.07	30.00	27.03	21.10	17.15	14.34	12.23	10.59	9.27
SSS-CB-4-11-12	28.31	21.72	17.04	13.55	10.88	8.83	7.19	5.88	30.00	21.74	16.76	13.44	11.08	9.30	7.92	6.82
SSS-CB-4-11-14	23.54	17.83	13.77	10.77	8.48	6.69	5.26	4.15	24.79	17.66	13.40	10.53	8.51	6.98	5.79	4.85
SSS-CB-4-11-15	21.53	16.22	12.41	9.57	7.43	5.76	4.44	3.36	22.58	15.92	11.94	9.30	7.40	5.96	4.87	3.97
SSS-CB-4-11-16	19.70	14.69	11.12	8.48	6.47	4.91	3.65	2.66	20.58	14.37	10.65	8.16	6.37	5.05	4.03	3.19
SSS-CB-4-11-18	16.19	11.82	8.72	6.43	4.67	3.30	2.21	1.33	17.07	11.59	8.31	6.12	4.56	3.38	2.47	1.74
SSS-CB-4-11-20	13.29	9.46	6.72	4.67	3.13	1.92	N/A	N/A	14.07	9.20	6.29	4.34	2.95	1.90	1.10	N/A
SSS-CB-4-11-25	7.78	4.86	2.78	1.22	N/A	N/A	N/A	N/A	7.95	4.26	2.06	N/A	N/A	N/A	N/A	N/A
SSS-CB-4-7-20	22.23	16.63	12.62	9.65	7.40	5.65	4.26	3.15	23.05	15.94	11.67	8.83	6.78	5.26	4.09	3.15
SSS-CB-4-7-25	14.87	10.59	7.54	5.28	3.56	2.23	1.16	N/A	14.83	9.42	6.17	4.01	2.46	1.31	N/A	N/A
● SSS-CB-4-7-30	9.63	6.25	3.82	2.01	N/A	N/A	N/A	N/A	8.36	4.20	1.72	N/A	N/A	N/A	N/A	N/A
SSS-CB-5-11-20	22.64	16.51	12.13	8.89	6.43	4.51	2.99	1.76	24.95	17.04	12.29	9.10	6.84	5.14	3.82	2.76
SSS-CB-5-11-25	14.32	9.62	6.25	3.79	1.90	N/A	N/A	N/A	16.16	10.00	6.29	3.83	2.06	N/A	N/A	N/A
● SSS-CB-5-11-30	8.28	4.53	1.86	N/A	N/A	N/A	N/A	N/A	9.30	4.42	1.48	N/A	N/A	N/A	N/A	N/A
SSS-CB-5-7-20	30.00	27.78	21.37	16.63	13.01	10.21	7.97	6.17	30.00	28.15	21.16	16.51	13.19	10.71	8.77	7.21
SSS-CB-5-7-25	25.42	18.54	13.62	9.97	7.19	5.05	3.34	1.98	27.74	18.68	13.23	9.61	7.02	5.08	3.56	2.37
● SSS-CB-5-7-30	17.45	11.94	8.01	5.08	2.88	1.16	N/A	N/A	18.54	11.33	7.02	4.12	2.07	N/A	N/A	N/A
● SSS-CB-5-7-35	11.37	6.84	3.62	1.22	N/A	N/A	N/A	N/A	10.73	5.08	1.70	N/A	N/A	N/A	N/A	N/A
● SSS-CB-6-7-30	27.54	19.44	13.66	9.38	6.14	3.59	1.57	N/A	30.00	20.55	13.99	9.59	6.47	4.11	2.27	N/A
● SSS-CB-6-7-35	19.06	12.39	7.60	4.05	1.36	N/A	N/A	N/A	21.06	12.23	6.96	3.42	N/A	N/A	N/A	N/A
● SSS-CB-6-7-40	12.29	6.64	2.60	N/A	N/A	N/A	N/A	N/A	12.21	5.17	N/A	N/A	N/A	N/A	N/A	N/A

1. **Warning:** Additional wind loading, in terms of EPA, from banners, cameras, floodlights and other accessories attached to the pole, must be added to the luminaire(s) EPA before selecting the pole with the appropriate wind load capability. Specifying BAA or BAC compliant poles may result in different EPA ratings.
2. Factory supplied template must be used when setting anchor bolts. Gardco will not honor any claim for incorrect anchorage placement resulting from failure to use factory supplied templates. Exact length of anchor bolts may vary.
3. EPA ratings are based on the listed, optimal midpoint of the bolt circle. The bolt circle has limited variability but the EPA rating will change.

NOTE: Above EPA (Effective Projected Area) rating is in accordance with AASHTO 2001, with a 50 pound load (22.7 kg) placed at 1 foot (305mm) above its center.

Submitted by Leslie Nowalski			
CHICAGO LIGHTWORKS	**Job Name:** ORTHOPEDIC SPECIALISTS OF NWI OSNI Electrical Contractor: PALOS ELECTRIC-CRESTWOOD	**Catalog Number:** SSS-CB-4-7-23-D1-DT5-BZ, AB 3/ 4X24X3-G DEC W/ 8.5 BC ABT Notes:	**Type:** F1 CLW24-28520

Poles Straight Square Steel

Specifications

Pole shaft

The pole shaft is fabricated from a single piece of 11 ga (0.1196") or 7 ga (0.180") high tensile carbon steel. The formed steel plate is longitudinally welded providing minimum yield strength of 50 ksi. Shaft includes factory installed copper ground lug, 10-7 copper wire, and ground lug screw.

Anchor Base

The pole anchor base is fabricated from 44W structural quality carbon steel with a minimum yield strength of 44 ksi. The base plate is circumferentially welded on both top and bottom.

Anchor Bolts

Anchor bolts are fabricated from a commercial quality hot rolled carbon steel bar that meets or exceeds a minimum guaranteed yield strength of 55 ksi. Bolts have an "L" bend on one end and threaded on the opposite end. Anchor bolts are galvanized in accordance with ASTM A-153.6 C1.C. Four (4) properly sized bolts, each furnished with two (2) regular hex nuts and two (2) flat washers, are provided per pole (priced and ordered separately), unless otherwise specified. Conforms to AASHTO M 314 90 and ASTM F1554.

Customer Specified Options

The options, DTX, FES, DR, GFI, AHH, CL*, and NL* require factory quotation. Poles with custom drilling templates (DTX) are provided as a service, however Signify holds no liability for improper installation and safety when using non-Signify luminaires or attachments on Gardco poles via drilling, tenon mounting, or coupling and nipple mounting. It is the responsibility of the customer to ensure the pole is loaded and installed in a safe manner to the limitations of the pole structure. See "Warning" paragraph for more details.

Base Cover

A two-piece painted square aluminum base cover that completely conceals the entire base plate and anchorage. Base cover is provided standard. Legacy design is provided with a composite base cover.

Hand hole

The hand hole has a nominal rectangular 2"x4.5" inside opening in the pole shaft. Included is an aluminum cover plate, EPDM gasket, and captive attachment screws. The hand hole is located 20" above the base and 0° clockwise with respect to the luminaire arm when viewed from the top of the pole for one arm. For two arms the hand hole is located directly under one arm. Legacy design includes an easy to install, self-contained Swing Latch hand hole cover assembly. U.S. Patent Swing Latch cover is fabricated from durable polycarbonate/ABS blend plastic. All pole assemblies are provided with a 2.50" x 5.00" rectangular hand hole.

Pole Top Cap

Each pole assembly is provided with a removable aluminum pole top cap painted to match the specified pole and attached with two pressure screws. Legacy design is provided with a removable plastic top push cap. Finish is Black.

Finish

Poles are available with Gardco's standard textured color finishes - Black, White, Bronze, Dark Grey, Medium Grey, and Lumec GY3 for a match with roadway luminaire finishes. Optional Galvanized finish and custom colors also available. Legacy design is provided with gloss paint on standard finishes.

Couplings and Nipples

Couplings (NPSC standard internal threads) and Nipples (NPT standard external threads) are available to mount 3rd party objects to the pole. For most applications Couplings and Nipples must be at least 4' from the base of the pole. Lengths are as follows:

Couplings < 1" dia. = 1" length
Couplings >= 1" dia. = 1.5" length
Nipples < 1" dia. = 1.5" length
Nipples >= 1" dia. = 2" length

Legacy pole designs may deviate from specifications listed here. See "Customer Specified Options" paragraph for more details.

Duplex Receptacle (DR and GFI)

DR and GFI options are placed at 2' below the pole top on the same side as the hand hole unless otherwise specified. DR or GFI options cannot be placed within 1' of the the hand hole. Options can typically be placed 32" above base for utility purposes. Maximum output of the receptacles are 15A.

General Pole Information

Design

EPA specs conform to AASHTO 2001 standard. The poles as charted are designed to withstand dead loads and predicted dynamic loads developed by variable wind pressure with an additional 2.5 gust factor under the following conditions: The charted weights include luminaire(s) and/or mounting bracket(s). Poles installed in areas of known abnormal conditions may require special consideration. For example: coastal areas, airports and areas of special winds. Poles are designed for ground mounted applications. Poles mounted on structures (such as buildings and bridges) may also necessitate special consideration requiring Gardco's recommendation. Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the pole.

Warning

This design information is intended as a general guideline only. The customer is solely responsible for proper selection of pole, luminaire, accessory and foundation under the given site conditions and intended usage. The addition of any items to the pole, in addition to the luminaire, will dramatically impact the EPA load on that pole. It is strongly recommended that a qualified professional be consulted to analyze the loads given the user's specific needs to ensure proper selection of the pole, luminaire, accessories, and foundation. Gardco assumes no responsibility for such proper analysis or product selections. Failure to ensure proper site analysis, pole selection, loads and installation can result in pole failure, leading to serious injury or property damage.

Warranty

Gardco Steel poles are covered by a 3-year structural and finish warranty. Legacy designs are covered by a 1-year warranty. For more information visit **signify.com/warranties**

Signify North America Corporation
400 Crossing Blvd, Suite 600
Bridgewater, NJ 08807
Telephone: 800-555-0050

Signify Canada Ltd.
281 Hillmount Road,
Markham, ON, Canada L6C 2S3
Telephone: 800-668-9008