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 Construction Drawings
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CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS

VZW SITE NAME
BUSINESS DRIVE

MDG LOCATION #
5000954019

FUZE PROJECT #
2612115

125' MONOPOLE

verticalbridge

VB SITE NAME
BUSINESS DRIVE

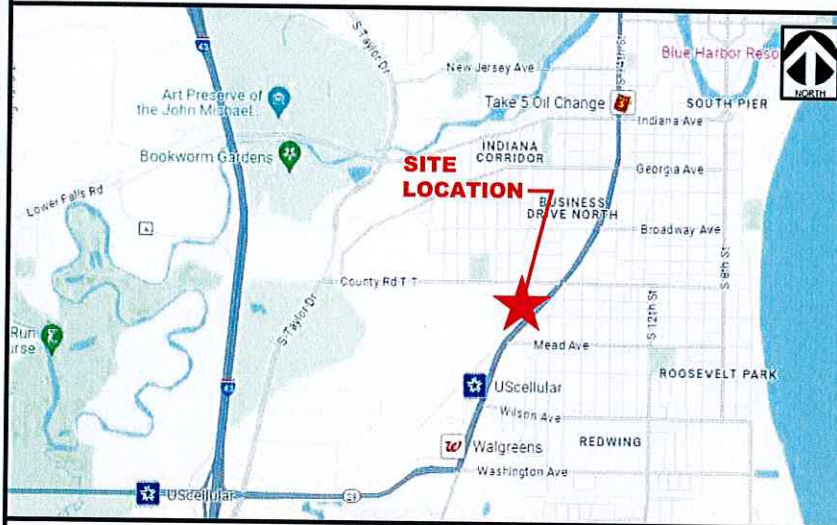
VB SITE #
US-WI-5737

ADDRESS
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083

verticalbridge

CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS

VICINITY MAP:



AERIAL MAP:



APPROVALS:

CONSTRUCTION MANAGER:
LANDLORD:

PROJECT INFORMATION:

SITE ADDRESS:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SITE COORDINATES:
LATITUDE: 43° 43' 49.32" N (43.730367°)
LONGITUDE: 87° 43' 56.23" W (-87.732286°)

GROUND ELEVATION:
640' AMSL

PARCEL OWNER:
MATHEW J. DROSS & LISA A. DROSS
PARCEL ID: 59281425610

ZONING:
CURRENT ZONING: CLASS 2 COMMERCIAL
JURISDICTION: CITY OF SHEBOYGAN

LESSOR:
VERTICAL BRIDGE
750 PARK OF COMMERCE DRIVE, SUITE 200
BOCA RATON, FL 33487

SCOPE OF WORK:

- (9) PROPOSED PANEL ANTENNAS WITH (1) PROPOSED ANTENNA SECTOR PLATFORM
- (6) PROPOSED TOP OF TOWER RRHS, (3) RRHS INTEGRATED WITH PANEL ANTENNAS
- (3) PROPOSED TOP OF TOWER OVP BOX WITH (3) ALARMS
- (1) PROPOSED 4'X11' EQUIPMENT CONCRETE PAD WITH ICE BRIDGE CANOPY
- (2) PROPOSED EQUIPMENT CABINETS
- (1) PROPOSED 4'-0"X10' GENERATOR CONCRETE PAD
- (1) PROPOSED GENERATOR
- (1) PROPOSED 6' UTILITY STAND WITH ICE BRIDGE CANOPY
- (3) PROPOSED OVP BOX AT 6' UTILITY STAND
- (1) PROPOSED ILC CABINET
- (1) PROPOSED CHARLES CUBE
- (1) PROPOSED CONTACT ALARM BOX
- (3) PROPOSED 1.58" HYBRID CABLES WITH ICE BRIDGE
- INSTALL EQUIPMENT POWER AND FIBER

CODE COMPLIANCE:

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE ALL CODES REFERENCED ON PAGE GN-1 AND AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

PROJECT DESCRIPTION:
CONSTRUCTION OF TELECOMMUNICATIONS AND PUBLIC UTILITY FACILITY, CONSISTING OF A LATTICE TOWER, SPACE FOR CARRIER EQUIPMENT, AND UTILITY BACKBOARD WITHIN A FENCED COMPOUND. NO WATER OR SEWER IS REQUIRED. THIS WILL BE AN UNMANNED FACILITY.



LESSEE:
VERIZON WIRELESS
1701 GOLF ROAD, TOWER 2, SUITE 400
ROLLING MEADOWS, IL 60008
CONTACT: KATHY COGSWELL
EMAIL: kathryn.cogswell@Verizonwireless.com
PHONE: (847) 841-0694

A&E FIRM
RAMAKER
855 COMMUNITY DRIVE
SAUK CITY, WI 53583
CONTACT: MIKE REEVE
EMAIL: mreeve@ramaker.com
PHONE: (608) 643-4100

FIBER PROVIDER
AT&T
PHONE: (855) 781-7542

ELECTRIC PROVIDER
ALLIANT ENERGY
CONTACT: JOSH ANDREWS
EMAIL: joshuaandrews@alliantenergy.com
PHONE: (920) 459-6345

SHEET INDEX

SHEET NUMBER	SHEET DESCRIPTION
T-1	COVER SHEET
SOW	SCOPE OF WORK
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C-3	ACCESS ROAD DETAILS
C-3A	DRAINAGE GRADING & EROSION CONTROL NOTES & DETAILS
C-4, C-5, & C-6	FENCE DETAILS
C-7	SITE SIGNAGE DETAILS
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C-9	GENERATOR FOUNDATION DETAILS
ANT-1	SITE ELEVATION
E-1	UTILITY ROUTING PLAN
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VW EX-1 & 2	GENERATOR CUT-SHEET

ATTACHMENTS

1 OF 2 & 2 OF 2 SURVEY



CERTIFICATION & SEAL:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.



Signature: *Michael L. Pinsky* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
TITLE SHEET

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: T-1

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VERTICAL BRIDGE CONSTRUCTION SCOPE OF WORK

- 1.00 PERMITTING
 - A. CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL PERMITS AND ALL REQUIRED INSPECTIONS.
- 2.00 SITE CLEARING
 - A. CONTRACTOR SHALL CLEAR ACCESS EASEMENT AND LEASE AREA OF ALL TREES AND STUMPS. REMOVE AND DISPOSE OF ALL DEBRIS. CONTRACTOR SHALL NOT DISTURB AREA OUTSIDE OF LIMITS OF DISTURBANCE.
 - B. IF REQUIRED PER UTILITY COORDINATION CONTRACTOR SHALL CLEAR UTILITY EASEMENTS OF ALL TREES AND STUMPS. REMOVE AND DISPOSE OF ALL DEBRIS.
 - C. CONTRACTOR SHALL INSTALL SILT FENCE PRIOR TO THE START OF CONSTRUCTION.
 - D. ALL DEBRIS OR MATERIALS TO BE LEFT ON SITE WILL BE CLEARED WITH THE LAND OWNER ON A SIGNED DOCUMENT.
- 3.00 ACCESS ROAD
 - A. CONTRACTOR SHALL COMPLETE GRAVEL ACCESS DRIVE TO TOWER COMPOUND PER CONSTRUCTION DRAWINGS OR AT A MINIMUM OF VERTICAL BRIDGE STANDARDS.
 - B. 18" CULVERT PIPE IS VERTICAL BRIDGE MINIMUM STANDARD UNLESS DOT ENFORCED SIZE IS REQUESTED. SEE CONSTRUCTION DRAWINGS GRADING PLAN FOR SITE CULVERT LOCATION(S) AND SIZES.
- 4.00 COMPOUND FENCE
 - A. CONTRACTOR SHALL INSTALL STYMIE LOCK SYSTEM AND VERTICAL BRIDGE LOCK ON COMPOUND GATE. VERTICAL BRIDGE LOCK COMBO (0951)
 - B. CONTRACTOR SHALL INSTALL MUSHROOM AND GATE STOPS.
 - C. CONTRACTOR SHALL INSTALL 50'x50'x6" CHAINLINK FENCE WITH (3) RUNS OF BARBED WIRE ON TOP FOR MONOPOLE AND GUYED TOWERS. (75'x75'x6" FENCED COMPOUND FOR SST TOWER SITES)
- 5.00 TOWER AND FOUNDATION
 - A. CONTRACTOR SHALL COORDINATE DELIVERY OF ANCHOR BOLTS, TEMPLATE AND TOWER STEEL WITH TOWER VENDOR.
 - B. CONTRACTOR SHALL UTILIZE SUPPLIED FOUNDATION DESIGN FOR TOWER. REBAR AND CONCRETE INSTALLATION SHALL BE INSPECTED AND TESTED BY A 3RD PARTY COMPANY AND SUBMIT TEST AND INSPECTION REPORTS TO VERTICAL BRIDGE. (SPOILS FROM FOUNDATION SHALL BE REMOVED FROM SITE)
 - C. 3 DAY / 7 DAY / 28 DAY BREAK TEST REQUIRED. BREAK TEST MUST BE SUBMITTED FOR REVIEW PRIOR TO TOWER STACK.
 - D. CONTRACTOR SHALL INSTALL TOWER, ALL ASSOCIATED STEP BOLTS, SAFETY CLIMB EQUIPMENT, LIGHTNING ROD, WAVEGUIDE LADDER AND ALL MISCELLANEOUS TOWER PARTS.
 - E. CONTRACTOR SHALL CONFORM TO SUPPLIED FAA HEIGHT VERIFICATION.
- 6.00 TOWER LIGHTING
 - A. TOWER LIGHTING EQUIPMENT SHALL BE INSTALLED BY LIGHTING MANUFACTURE.
 - B. CONTRACTOR SHALL SUPPLY AND INSTALL 100A SUB-PANEL WITH (3) 20 AMP BREAKERS FOR TOWER LIGHTING IF REQUIRED.
 - C. CONTRACTOR SHALL SUPPLY AND INSTALL (1) GFI OUTLET AT SUB-PANEL LOCATION FOR TOWER LIGHTING IF REQUIRED.
 - D. CONTRACTOR SHALL SUPPLY AND INSTALL (1) 2" CONDUIT FROM SUB-PANEL LOCATION TO TOWER LEG WITH WEATHER-HEAD IF REQUIRED.
- 7.00 UTILITY H-FRAME CONSTRUCTION
 - A. CONTRACTOR SHALL SUPPLY AND INSTALL A 4-GANG 800 AMP METER PANEL ON A NEW 8' H-FRAME.
 - B. H-FRAME TO BE CONSTRUCTED TO HOLD 4-GANG METER BASE ON FRONT WITH METERS FACING OUT OF COMPOUND.
 - C. H-FRAME TO BE CONSTRUCTED TO HOLD TOWER LIGHTING SUB-PANEL AND LIGHTING CONTROLLER ON FRONT ALONGSIDE METER BASE.
 - D. CONTRACTOR SHALL SUPPLY GFCI ALL WEATHER RECEPTACLES ON H-FRAME.
 - E. CONTRACTOR SHALL SUPPLY AND INSTALL 500-WATT METAL HALIDE FLOOD LIGHT 120 VOLT WITH TIMER SWITCH.
- 8.00 POWER SERVICE
 - A. CONTRACTOR SHALL USE PROVIDED UTILITY REPORT AND CONSTRUCTION DRAWINGS TO BID POWER FROM POWER DEMARC.
 - B. CONTRACTOR SHALL BE IN CONSTANT COMMUNICATION WITH POWER COMPANY UNTIL POWER IS ACQUIRED AT MULTI-METER FRAME.
 - C. CONTRACTOR SHALL NOTIFY UTILITY PROVIDER OF START OF CONSTRUCTION.
 - D. CONTRACTOR SHALL CONDUCT A SECOND POWER WALK WITH UTILITY PROVIDER AT START OF CONSTRUCTION.
 - E. IF CHANGES TO THE SCOPE OF WORK ARE MADE BY THE UTILITY PROVIDER AFTER CONSTRUCTION START, CONTRACTOR SHALL NOTIFY VERTICAL BRIDGE CM/PM IMMEDIATELY.
- 9.00 VERIZON TELCO/FIBER SERVICE INSTALL BY VERTICAL BRIDGE
 - A. CONTRACTOR SHALL SUPPLY AND INSTALL A SEPARATE HAND-HOLE AT THE ROW, AT THE COMPOUND AND EVERY 300' (OR AT ANY BEND) WITH 2" CONDUIT FOR THE LIT FIBER PER THE CONSTRUCTION DRAWINGS.
MARK HAND-HOLES LIT FIBER
 - B. CONTRACTOR SHALL SUPPLY AND INSTALL A SEPARATE HAND-HOLE AT THE ROW, AT THE COMPOUND AND EVERY 300' (OR AT ANY BEND) WITH 2" CONDUIT FOR THE DARK FIBER PER THE CONSTRUCTION DRAWINGS.
MARK HAND-HOLES DARK FIBER FIBER
 - C. **FIBER TO FOLLOW ACCESS ROAD TO ROW ALWAYS!**

CONTRACTOR NOTES



VERTICAL BRIDGE CM NOTES

- 1. NOISE PRODUCING CONSTRUCTION ACTIVITIES SHALL TAKE PLACE ONLY ON WEEKDAYS (MONDAY THROUGH SATURDAY, NON-HOLIDAY) BETWEEN THE HOURS OF 6:00 A.M. & 6:00 P.M., EXCEPT IN TIMES OF EMERGENCY REPAIR
- 2. GENERAL CONTRACTOR TO REFERENCE THE VERTICAL BRIDGE UTILITY COORDINATION REPORT (UCR) FOR POWER COMPANY REQUIREMENTS REGARDING POWER CONDUITS.
- 3. SPECIFIC GROUND EQUIPMENT LIGHTING REQUIRED TO ADDRESS CONSERVATION MEASURES OF NORTHERN LONG EARED BAT. SEE SHEETS VW B-2 & VW E-7.

VERTICAL BRIDGE CONSTRUCTION SCOPE OF WORK CONT.

- 10.00 VERIZON CIVILS
 - A. CONTRACTOR SHALL PROVIDE LUMP SUM FEE FOR ALL VERIZON LINE ITEMS UNDER TENANT CIVILS ON BID DOCUMENT. THIS INCLUDES SET AND CONNECTIONS OF VERIZON'S EQUIPMENT/GENERATOR PADS, FUEL TANKS, EQUIPMENT/GENERATOR ELECTRICAL, TELCO/FIBER CONDUITS, EQUIPMENT GROUNDING AND ICE BRIDGE.
- 11.00 VERIZON ANTENNA MOUNT(S)
 - A. CONTRACTOR SHALL PROVIDE SEPARATE LINE ITEM FOR ANTENNA MOUNT INSTALLATION UNDER TENANT MOUNT. CONTRACTOR SHALL ORDER THE ANTENNA MOUNT AND CONFIRM THE ITEM DESCRIPTION THROUGH VERIZON.
 - B. CONTRACTOR WILL BE REQUIRED TO ORDER ANTENNA MOUNT ASAP TO AVOID ANY DELAYS TO STACK THE TOWER.

VERIZON CONSTRUCTION SCOPE OF WORK

- 1.00 VERIZON ANTENNA AND LINES
 - A. CONTRACTOR SHALL PROVIDE LUMP SUM FEE FOR ALL VERIZON ANTENNA AND LINES WITH EQUIPMENT UNDER TENANT CIVILS ON BID DOCUMENT. VERIZON TO PROVIDE ALL ANTENNA AND LINE INSTALLATION. CONTRACTOR SHALL PROVIDE CONSUMABLE MATERIALS AS NEEDED TO COMPLETED THE CO-LOCATION.
 - B. CONTRACTOR SHALL SUPPLY AND INSTALL HYBRID CABLES.
- 2.00 STARTUP COMMISSIONING
 - A. CONTRACTOR SHALL PROVIDE LUMP SUM FEE UNDER BID CLARIFICATION/EXCEPTIONS SECTION FOR COMMISSIONING AND START-UPS (AS REQUIRED BY "STANDARD VERIZON INSTALL). VERIZON IS RESPONSIBLE FOR PAYMENT OF THESE SERVICES.
- 3.00 VERIZON POWER SERVICE
 - A. CONTRACTOR/VERIZON CM RESPONSIBLE FOR SETTING UP VERIZON'S POWER ACCOUNT OR TRANSFER OF INITIAL SERVICE ACCOUNT FROM VERTICAL BRIDGE TO VERIZON.
 - 1. CONTRACTOR RESPONSIBLE FOR REPORTING POWER UPDATES.
 - 2. CONTRACTOR RESPONSIBLE FOR TRACKING AND CONFIRMING METER SET.
 - 3. PHOTO CONFORMATION REQUIRED.
 - B. VERIZON POWER SERVICE SHALL BE 200 AMPS
 - C. TYPICAL VERIZON ELECTRICAL POWER SERVICE INSTALL. SEE CONSTRUCTION DRAWINGS FOR POWER ROUTING.

VERTICAL BRIDGE TIMELINE EXPECTATIONS

- ONCE NTP HAS BEEN ISSUED, CONTRACTOR HAS (3) BUSINESS DAYS TO PROVIDE A SCHEDULE TO VERTICAL BRIDGE CONSTRUCTION MANAGER AND PROJECT MANAGER.
- CONSTRUCTION STARTS WITHIN 7 DAYS OF NTP RECEIPT.
- DAILY SAFETY REPORTS ARE REQUIRED.
- DAILY SITE UPDATES WITH PHOTOS ARE REQUIRED.
- TOWER STACKED (OTHVR) WITHIN 28 DAYS OF NTP RECEIPT.
- CLOSEOUT APPROVAL WITHIN 60 DAYS OF NTP RECEIPT.



**CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS**



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Certification # Seal:
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Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE PRELIMINARY DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
SCOPE OF WORK

SCALE: NONE

PROJECT NUMBER 60498

SHEET NUMBER SOW

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EXISTING PARENT PARCEL PROPERTY LINE

PROPOSED 13'-6" X 30' GRAVEL SPACE

P.O.B. 30' WIDE ACCESS EASEMENT

EXISTING CONCRETE APPROACH

P.O.B. 30' WIDE UTILITY EASEMENT

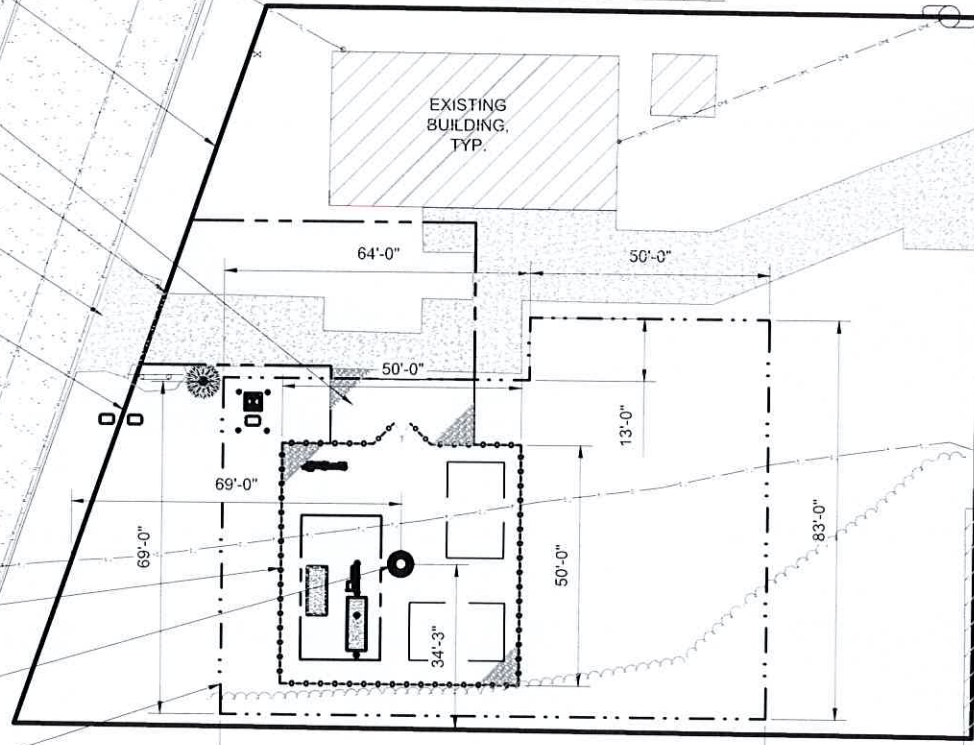
PROPOSED 50' x 50' FENCED COMPOUND AREA

PROPOSED 125' MONOPOLE TOWER

PROPOSED 114' x 83' LEASE AREA

SAUK TRAIL RD

EXISTING BUILDING TYP.



NOTE:
 UTILIZE EXISTING APPROACH FROM SAUK TRAIL RD. EXISTING ASPHALT AND CONCRETE SURFACES TO PROVIDE FOR PROPOSED 30' WIDE ACCESS EASEMENT



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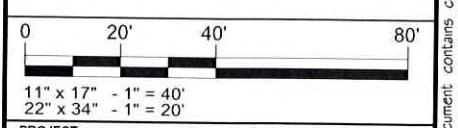
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
LOCATION PLAN



PROJECT NUMBER: 60498
 SHEET NUMBER: LP

LOCATION PLAN
 SCALE: 1" = 40' 1

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Michael L. Pinske 9/30/2024
Signature: Date:

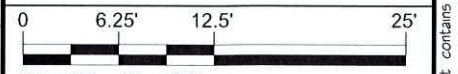
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MARK	DATE	DESCRIPTION

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

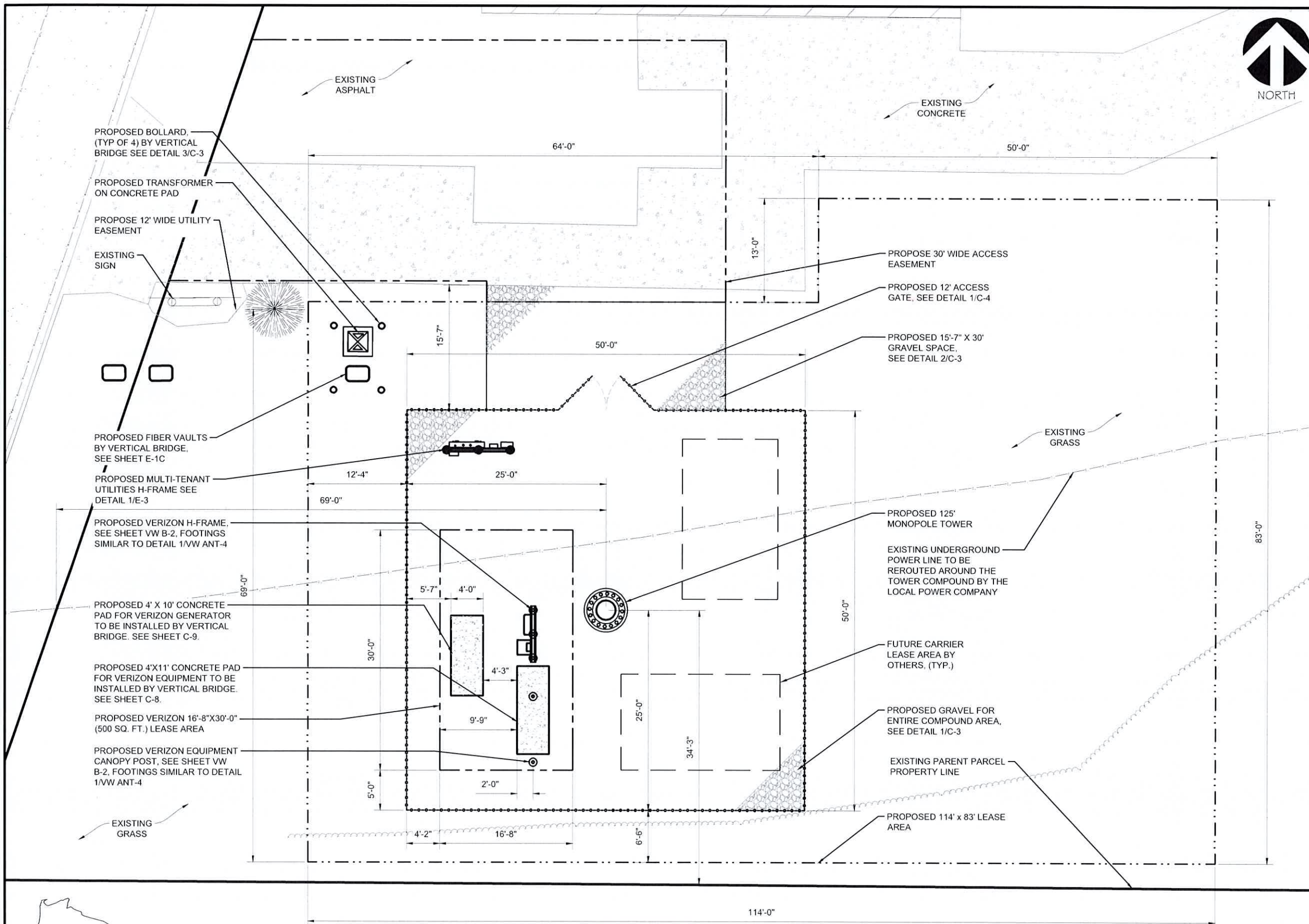
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
ENLARGED SITE PLAN



11" x 17" - 1" = 12.5'
22" x 34" - 1" = 6.25'

PROJECT NUMBER: 60498
SHEET NUMBER: C-1

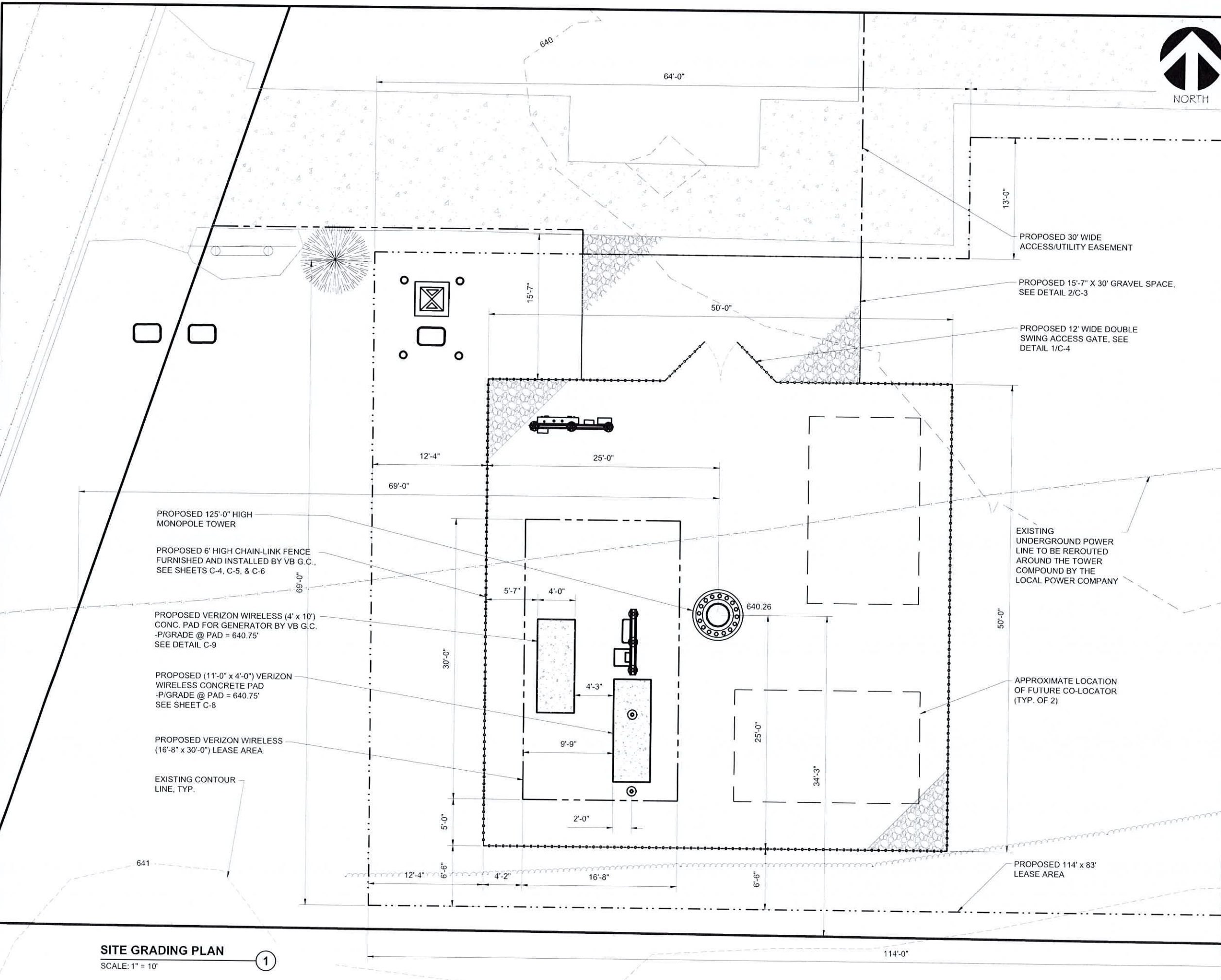


OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED

ENLARGED SITE PLAN
SCALE: 1" = 12.5' 1

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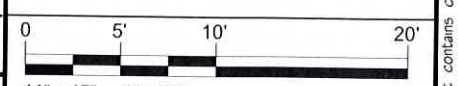
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A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
SITE GRADING PLAN



11" x 17" - 1" = 10"
22" x 34" - 1" = 5"

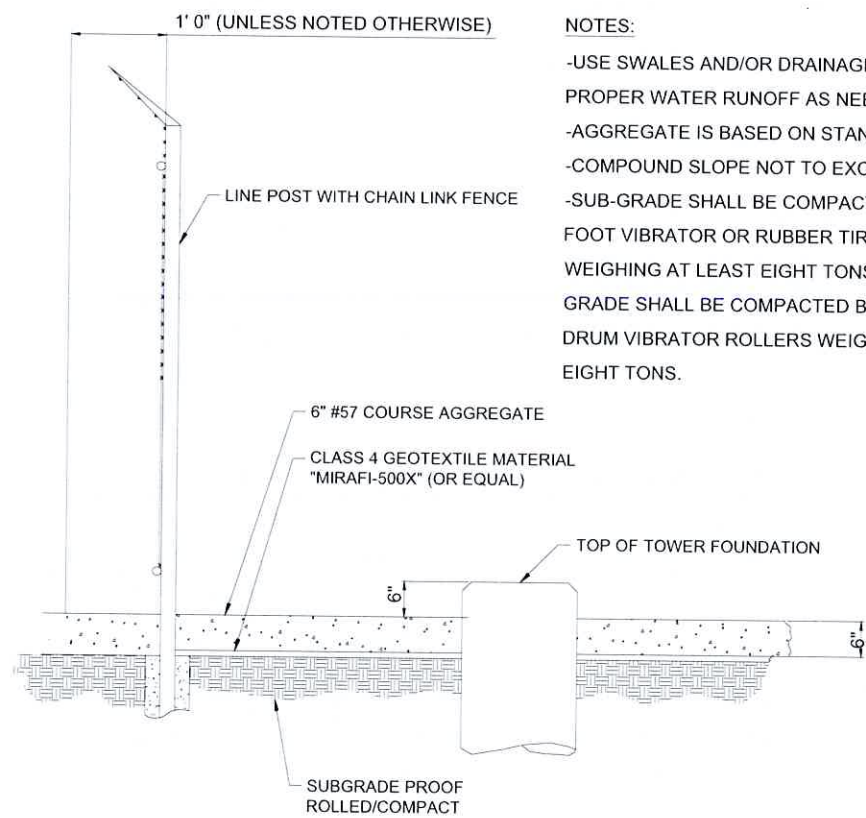
PROJECT NUMBER	60498
SHEET NUMBER	C-2

SITE GRADING PLAN
SCALE: 1" = 10'

1

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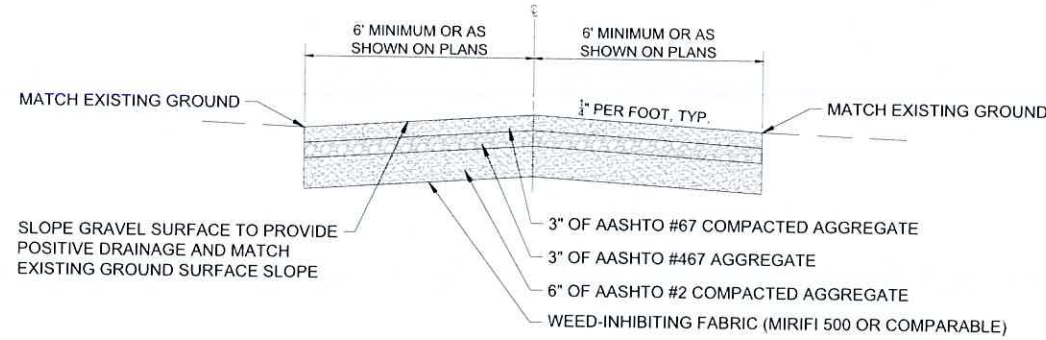
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NOTES:

- USE SWALES AND/OR DRAINAGE DITCHES FOR PROPER WATER RUNOFF AS NEEDED.
- AGGREGATE IS BASED ON STANDARD AASHTO.
- COMPOUND SLOPE NOT TO EXCEED 5%.
- SUB-GRADE SHALL BE COMPACTED BY SHEEPS FOOT VIBRATOR OR RUBBER TIERED ROLLERS WEIGHING AT LEAST EIGHT TONS.
- FINISHED GRADE SHALL BE COMPACTED BY SMOOTH DRUM VIBRATOR ROLLERS WEIGHING AT LEAST EIGHT TONS.

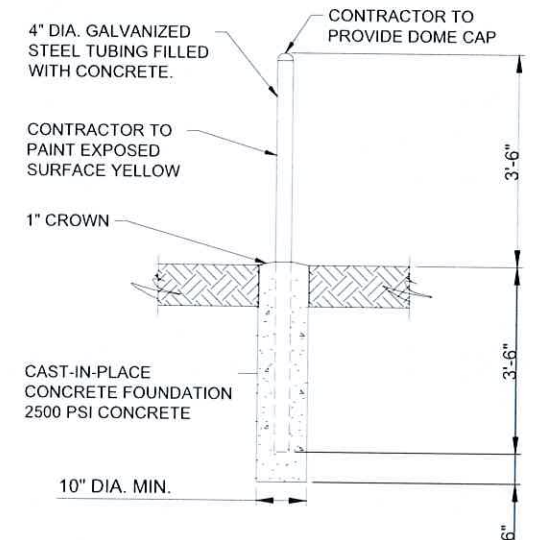
SITE COMPOUND SURFACING DETAIL
SCALE: NTS 1



NOTES:

- 1.) THE TURN-AROUND AREA SHALL BE CONSTRUCTED PER THE TYPICAL ACCESS DRIVE SECTION AS SHOWN ABOVE.

TYPICAL ACCESS DRIVE SECTION
SCALE: NTS 2



BOLLARD DETAIL
SCALE: NTS 3



OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED.



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d/b/a VERIZON WIRELESS



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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
ACCESS ROAD DETAILS

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: C-3

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GRADING & EXCAVATING NOTES:

- ALL EXCAVATIONS ON WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE FROM LOOSE MATERIAL AND EXCESS GROUNDWATER. DEWATERING FOR EXCESS GROUNDWATER SHALL BE PROVIDED IF REQUIRED.
- CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC MATERIAL. IF SOUND SOIL IS NOT REACHED AT THE DESIGNATED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION BE FILLED WITH CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION.
- ANY EXCAVATION OVER THE REQUIRED DEPTH SHALL BE FILLED WITH EITHER MECHANICALLY COMPACTED GRANULAR MATERIAL OR CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. STONE, IF USED, SHALL NOT BE USED AS COMPILING CONCRETE THICKNESS.
- AFTER COMPLETION OF THE FOUNDATION AND OTHER CONSTRUCTION BELOW GRADE, AND BEFORE BACKFILLING, ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH.
- USE APPROVED MATERIALS CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND -BE FREE FROM CLODS OR STONES OVER 2-1/2" MAXIMUM DIMENSIONS -BE PLACED IN 6" LAYERS AND COMPACTED TO 95% STANDARD PROCTOR EXCEPT IN GRASSED/BANDSCAPED AREAS, WHERE 90% STANDARD PROCTOR
- REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE PRIOR TO PLACING FILLS, PLOW, STRIP, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING SURFACE. WHEN SUBGRADE OR EXISTING GROUND SURFACE TO RECEIVE FILL HAS A DENSITY LESS THAN THAT REQUIRED FOR FILL, BREAK UP GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION OR AERATE SOIL AND RECOMPACT TO REQUIRED DENSITY.
- PROTECT EXISTING GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE USE PLANKING OR OTHER SUITABLE MATERIALS DESIGNED TO SPREAD EQUIPMENT LOADS, REPAIR DAMAGE TO EXISTING GRAVEL SURFACING OR SUBGRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTOR'S OPERATIONS. DAMAGED GRAVEL SURFACING SHALL BE RESTORED TO MATCH THE ADJACENT UNDAMAGED GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS
- REPLACE EXISTING GRAVEL SURFACING ON AREAS FROM WHICH GRAVEL SURFACING IS REMOVED DURING CONSTRUCTION OPERATIONS. GRAVEL SURFACING IS REMOVED DURING CONSTRUCTION OPERATIONS. GRAVEL SURFACING SHALL BE REPLACED TO MATCH EXISTING ADJACENT GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS. SURFACES OF GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED IF INJURIOUS AMOUNTS OF EARTH, ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ALL ADDITIONAL GRAVEL RESURFACING MATERIAL AS REQUIRED. BEFORE GRAVEL SURFACING IS REPLACED, SUBGRADE SHALL BE GRADED TO CONFORM TO REQUIRED SUBGRADE ELEVATIONS, AND LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED. DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL MAY BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE, SUBJECT TO ENGINEER'S APPROVAL.
- DAMAGE TO EXISTING STRUCTURES AND UTILITIES RESULTING FROM CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED/REPLACED TO OWNER'S SATISFACTION AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH PROPERTY OWNER SO AS TO AVOID INTERRUPTIONS TO PROPERTY OWNER'S OPERATIONS.
- ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.
- ALL CUT AND FILL SLOPES SHALL BE MAXIMUM 2 HORIZONTAL TO 1 VERTICAL
- CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING SITE VEHICLE TRAFFIC AS TO NOT ALLOW VEHICLES LEAVING THE SITE TO TRACK MUD ONTO PUBLIC STREETS. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING PUBLIC STREETS DUE TO MUDDY VEHICLES LEAVING THE SITE.

GENERAL EROSION & SEDIMENT CONTROL NOTES:

- THE SOIL EROSION AND SEDIMENT CONTROL MEASURES AND DETAILS AS SHOWN HEREIN AND STIPULATED WITHIN STATE STANDARDS SHALL BE FOLLOWED AND INSTALLED IN A MANNER SO AS TO MINIMIZE SEDIMENT LEAVING THE SITE.
- PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBING SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE ENGINEERING IMMEDIATELY.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES UNTIL PERMANENT VEGETATION HAS BEEN ESTABLISHED. CONTRACTOR SHALL CLEAN OUT ALL SEDIMENT PONDS WHEN REQUIRED BY THE ENGINEER OR THE LOCAL JURISDICTION INSPECTOR. CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT WHEN THE SILT IS WITHIN 12" OF THE TOP OF THE SILT FENCE.
- FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED.
- SILT BARRIERS TO BE PLACED AT DOWNSTREAM TOE OF ALL CUT AND FILL SLOPES.
- ALL CUT AND FILL SLOPES MUST BE SURFACED ROUGHENED AND VEGETATED WITHIN SEVEN (7) DAYS OF THEIR CONSTRUCTION.
- CONTRACTOR SHALL REMOVE ALL EROSION & SEDIMENT CONTROL MEASURES AFTER COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.

SEEDING GUIDELINES:

FINAL STABILIZATION OF ALL DISTURBED AREAS, UNLESS OTHERWISE NOTED, SHALL BE LOAMED AND SEEDED. LOAM SHALL BE PLACED AT A MINIMUM COMPACTED DEPTH OF 4". RECOMMENDED SEEDING DATES FOR PERMANENT VEGETATION SHALL BE BETWEEN JUNE 15 THROUGH AUGUST 1 AND SEPTEMBER 15 THROUGH OCTOBER 15. TEMPORARY VEGETATIVE MEASURES SHALL CONSIST OF AN ANNUAL OR PERENNIAL RYE GRASS WITH RECOMMENDED SEEDING DATES BEING FROM JUNE 1 THROUGH AUGUST 15 AND SEPTEMBER 30 THROUGH NOVEMBER 30.

EVALUATE PROPOSED COVER

MATERIAL BEFORE SPREADING COVER MATERIAL OVER THE DESIGNATED AREA. OBTAIN A REPRESENTATIVE SOIL SAMPLE AND SUBMIT TO A REPUTABLE SOIL TESTING LABORATORY FOR CHEMICAL AND PHYSICAL ANALYSIS. THE PRELIMINARY TEST IS NECESSARY TO DETERMINE THE REQUIRED INORGANIC AND/OR ORGANIC AMENDMENTS THAT ARE NEEDED TO ASSIST IN ESTABLISHING THE SEED MIXTURE IN AN ENVIRONMENTALLY AND ECONOMICALLY SOUND MANNER. THE RESULTS WILL GIVE THE COVER MATERIAL CHARACTERISTICS SUCH AS A pH AND FERTILIZATION NEEDS. THESE RESULTS SHALL BE KEPT ON-SITE BY THE CONTRACTOR AND AVAILABLE FOR REVIEW BY THE COUNTY.

SEED BED PREPARATION

PROPOSED COVER MATERIAL SHOULD BE SPREAD EVENLY OVER THE SITE AREA IN A MINIMUM 4" LIFT VIA BULLDOZER/BUCKET LOADER, USING THE INFORMATION FROM THE SOIL ANALYSIS, CAREFULLY CALCULATE THE QUANTITIES OF LIMESTONE AND PRE-PLANT FERTILIZER NEEDED PRIOR TO APPLYING. PRE-PLANT AMENDMENTS CAN BE APPLIED WITH A BROADCAST AND/OR DROP SEEDER AND INCORPORATED WITH AN OFFSET DISK, YORK RAKE, AND/OR HAND RAKE. AFTER INCORPORATION THE PRE-PLANT SOIL AMENDMENTS, THE SEED BED SHOULD BE SMOOTH AND FIRM PRIOR TO SEEDING. THE FOLLOWING SEED MIXTURES SHALL BE USED AS NOTED:

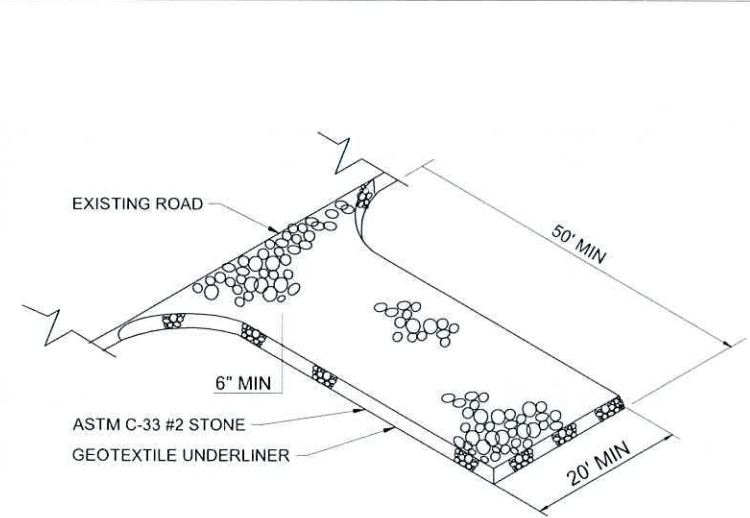
SEED MIXTURE SPECIES/VARIETY	LBS/ACRE
CREEPING RED FESCUE	20
KENTUCKY BLUEGRASS	20
PERENNIAL RYEGRASS	5

SEED TIME AND METHOD

THE PREFERRED TIME FOR SEEDING THE COOL SEASON MIXTURE IS LATE SUMMER. SOIL AND AIR TEMPERATURES ARE IDEAL FOR SEED GERMINATION AND SEEDING GROWTH. WEED COMPETITION IS REDUCED BECAUSE SEEDS OF MANY WEED SPECIES GERMINATE EARLIER IN THE GROWING SEASON. ADDITIONALLY, HERBICIDE USE IS GREATLY REDUCED. HOWEVER, SEEDING MAY BE DONE AT ANY OF THE ABOVE NOTED TIMES.

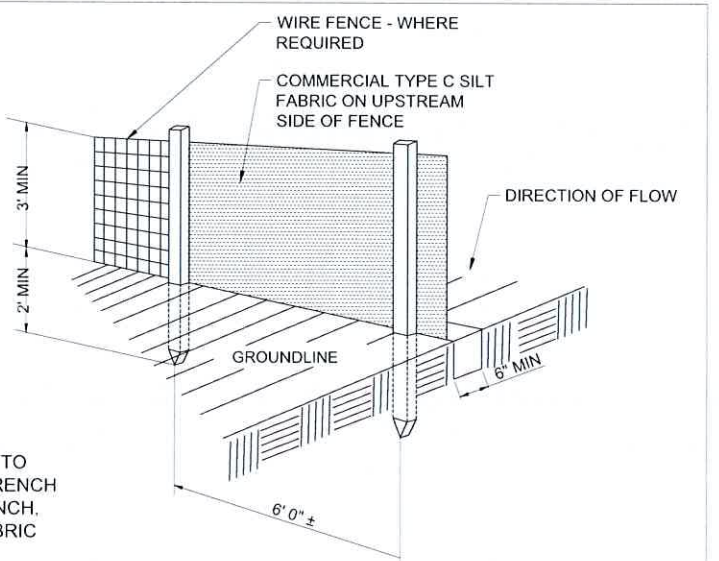
MULCHING

NEWLY SEEDED AREAS SHOULD BE MULCHED TO INSURE ADEQUATE MOISTURE FOR SUCCESSFUL TURF ESTABLISHMENT AND TO PROTECT AGAINST SURFACE MOVEMENT OF SEDIMENT-BOUND AGROCHEMICALS AND SOIL EROSION. IF MULCHING PROCEDURES ARE NOT SPECIFIED ON PLANS, COMMERCIALY AVAILABLE MULCHES CAN BE USED.



CONSTRUCTION EXIT DETAIL
SCALE: NTS

1



SILT FENCE DETAIL
SCALE: NTS

2

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES
 - FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
 - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
 - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.
 - ALL SILT FENCE MATERIALS MUST BE LISTED ON THE CURRENT STATES. D.O.T. QUALIFIED PRODUCTS LIST.
- POSTS: STEEL EITHER T OR U TYPE.
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING.
FILTER CLOTH: FILTER X, MIRAFI 100X STABILINKA T140N OR APPROVED EQUAL.
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE OR APPROVED EQUAL.



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Michael L. Pinske 9/30/2024
Signature: Date:

A	9/10/24	REVISED UTILITY NOTES
MARK	DATE	DESCRIPTION
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

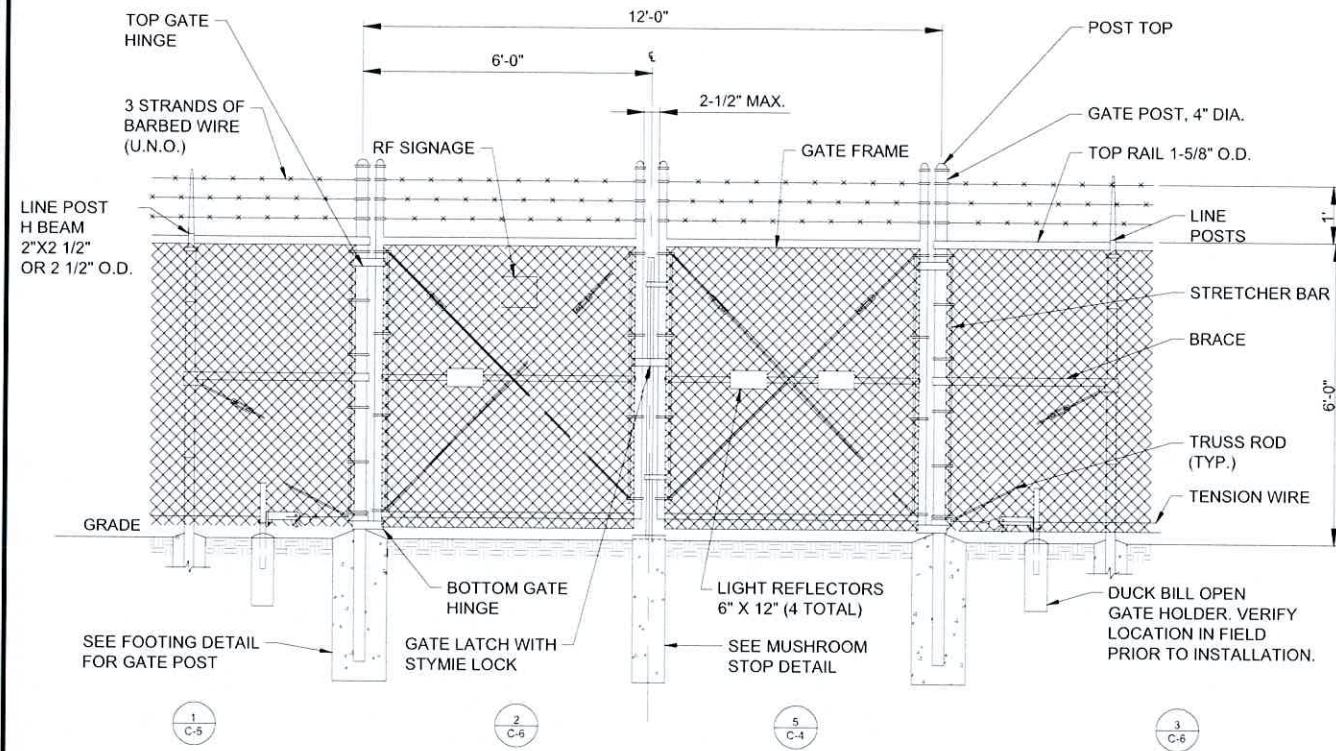
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
DRAINAGE, GRADING & EROSION CONTROL NOTES AND DETAILS

SCALE: NONE

PROJECT NUMBER 60498
SHEET NUMBER C-3A

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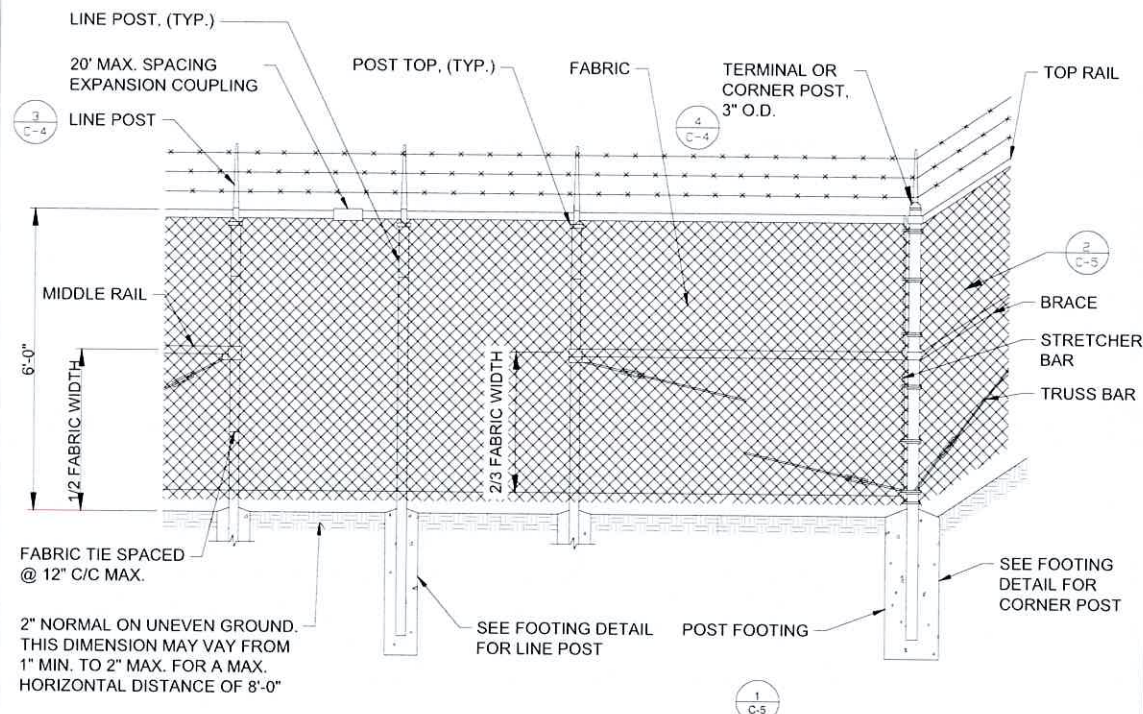


NOTE:
 FENCE SECURITY - NUTS ON ALL BOLTS SHALL BE TOWARD THE INTERIOR OF THE COMPOUND

VEHICLE GATE DETAIL

SCALE: NTS

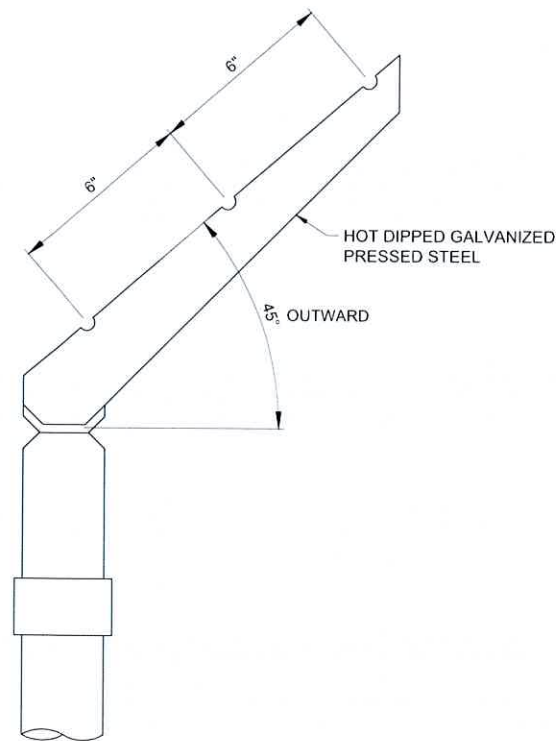
1



POST / CORNER POST DETAIL

SCALE: NTS

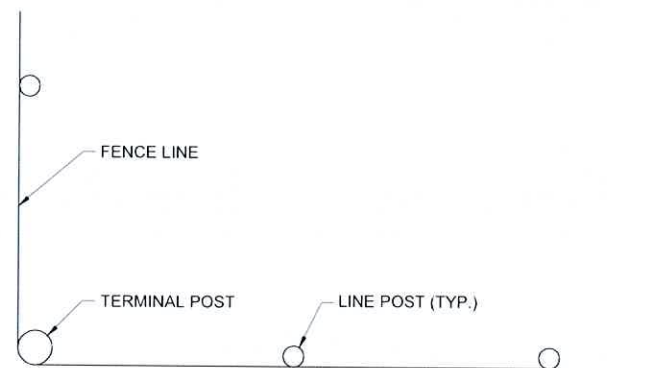
2



BARBED WIRE ARM OF LINE POST

SCALE: NTS

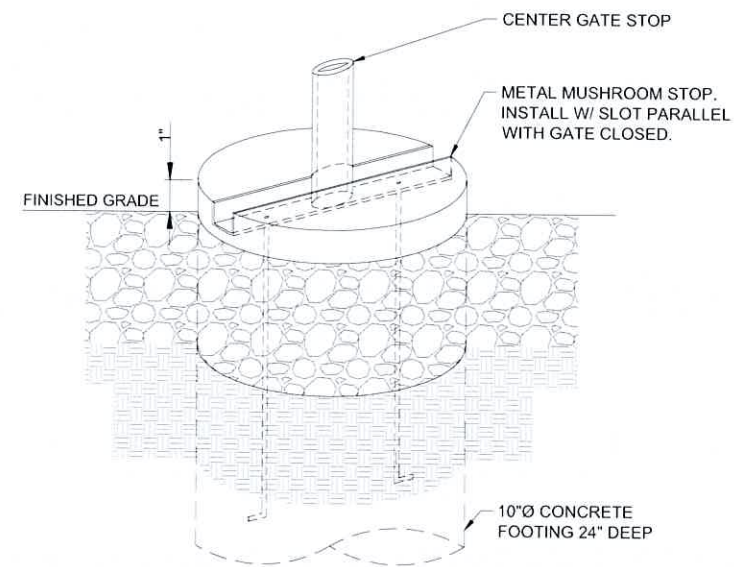
3



INSTALLATION @ CORNERS

SCALE: NTS

4



MUSHROOM STOP DETAIL

SCALE: NTS

5



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Signature: *Michael L. Pinske* Date: 9/30/2024

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ISSUE PHASE	DATE ISSUED
PRELIMINARY	06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
FENCE DETAILS

SCALE: NONE

PROJECT NUMBER	60498
SHEET NUMBER	C-4

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NOTES:

ZINC COATING - THE WEIGHT OF THE COATING SHALL NOT BE LESS THAN 1.2 OUNCES PER SQUARE FOOT OF ACTUAL SURFACE COVERED. ALL FERROUS METALS USED AS PART OF THE FENCE INSTALLATION SHALL BE HOT DIPPED GALVANIZED OF STAINLESS STEEL. ALL SCREWS, BOLTS, LOCK WASHERS, NUTS, ETC. SHALL BE HOT DIP GALVANIZED OR MADE OF STAINLESS STEEL.

FABRIC - STANDARD INDUSTRIAL GRADE #9 GAUGE WITH 2 INCH MESH ZINC COATED CHAIN LINK WITH A BREAKING STRENGTH OF NOT LESS THAN 1290 LBS SHALL BE USED. THE FABRIC SHALL BE ZINC COATED BY THE HOT DIP PROCESS AFTER FABRICATION.

METAL POSTS - METAL POSTS (LINE, CORNER, TERMINAL, GATE POSTS, MIDDLE RAILS, BRACES AND TOP RAIL) SHALL BE HOT DIP GALVANIZED SCHEDULE 40 TUBULAR STEEL WITH AN OUTSIDE DIAMETER AS INDICATED ON THIS DRAWING. A POST TOP FITTING OF GALVANIZED STEEL WILL BE INSTALLED TO EXCLUDE MOISTURE.

POST CAPS - ALL POST CAPS TO USE THE BARBED WIRE OUTRIGGER BRACKET AND SHALL BE ATTACHED TO THE POST WITH TAMPER RESISTANT SCREWS, BRADS, OR BOLTS.

TOP RAIL - A MINIMUM OF ONE COUPLING IN EACH STRAIGHT RUN OF TOP RAIL, SHALL HAVE A HEAVY SPRING INSERTED WITHIN THE COUPLING TO TAKE UP EXPANSION AND CONTRACTION OF THE TOP RAIL. THE TOP RAIL SHALL BE FASTENED TO TERMINAL POSTS WITH PRESSED STEEL CONNECTIONS.

MIDDLE RAIL - THE MIDDLE RAIL SHALL BE OF THE SAME MATERIAL AS THE TOP RAIL AND INSTALLED WITH HOT DIP GALVANIZED FITTINGS ATTACHED TO THE POSTS.

BRACE RAIL - BRACE RAIL MATERIAL SHALL BE OF THE MATERIAL AS THE TOP RAIL AND LOCATED 2/3 OF THE DISTANCE UP FROM THE BOTTOM OF THE FABRIC. BRACE RAILS SHALL BE SECURELY FASTENED TO POSTS BY SUITABLE PRESSED STEEL CONNECTIONS.

TRUSS RODS - SHALL BE 3/8" ROUND GALVANIZED STEEL RODS WITH GALVANIZED TURNBUCKLES. THE ZINC COATING SHALL NOT BE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF SURFACE.

TENSION WIRE - THE TENSION WIRE SHALL BE OF #7 GAUGE HOT DIP GALVANIZED SPRING TENSION WIRE WITH A BREAKING STRENGTH OF NOT LESS THAN 1900 LBS. THIS WIRE SHALL BE KEPT TAUT WITH GALVANIZED TURNBUCKLES AND ATTACHED TO POSTS WITH GALVANIZED HARDWARE OR CABLE CLAMPS.

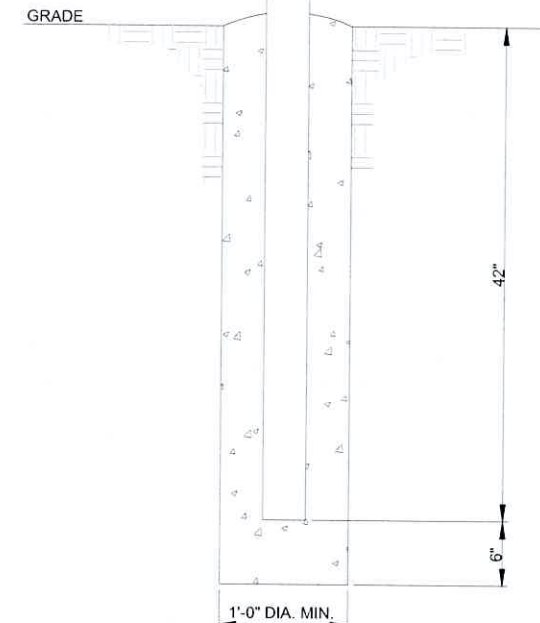
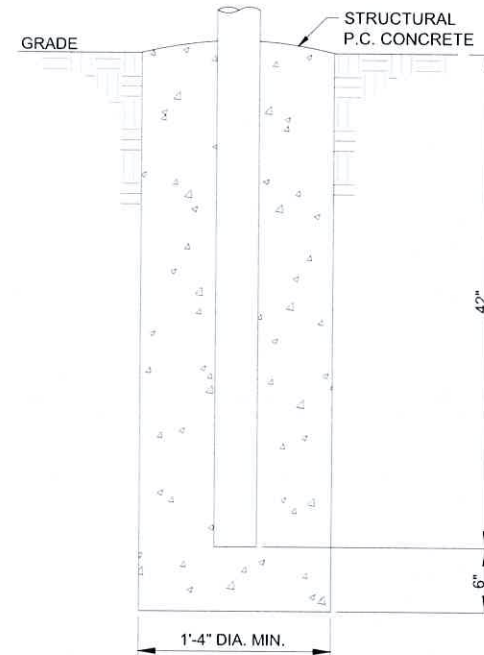
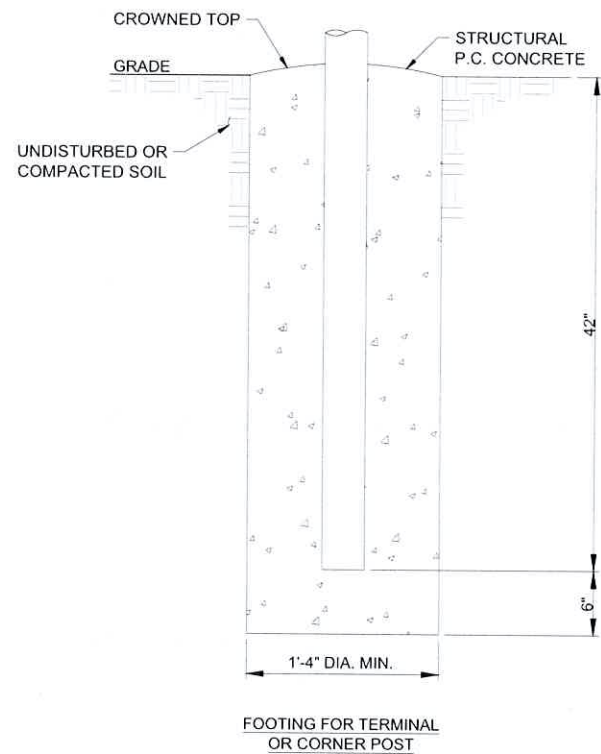
FABRIC TIES - THE FABRIC TIES SHALL BE ALUMINUM WIRE. NOT LESS THAN #9 GAGE.

STRETCHER BARS - THE STRETCHER BARS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 5/16" x 3/4" AND NOT LESS THAN 2" SHORTER THAN THE FABRIC. STRETCHER BAR BANDS SHALL BE FLAT GALVANIZED STEEL BARS NOT LESS THAN 5/16" x 1 1/2" WITH 5/16" DIAMETER GALVANIZED CARRIAGE BOLT.

BARBED WIRE - BARBED WIRE OF GALVANIZED STEEL (OR ALUMINUM) CONSISTING OF 12 1/2 GAGE WIRE WITH 4-POINT BARBS OF 14 GAGE WIRE SPACED 5 INCHES APART.

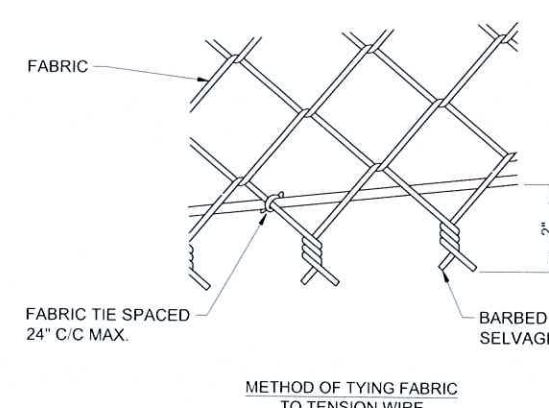
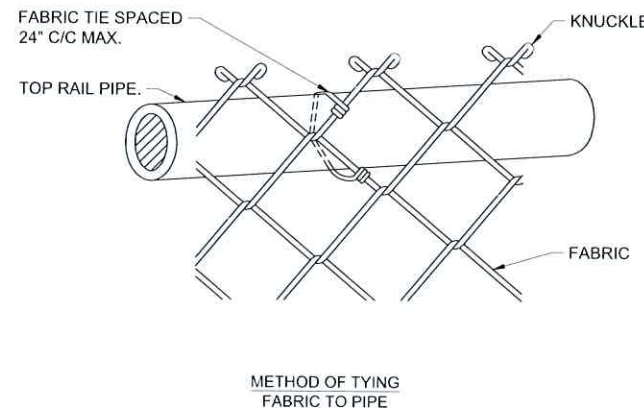
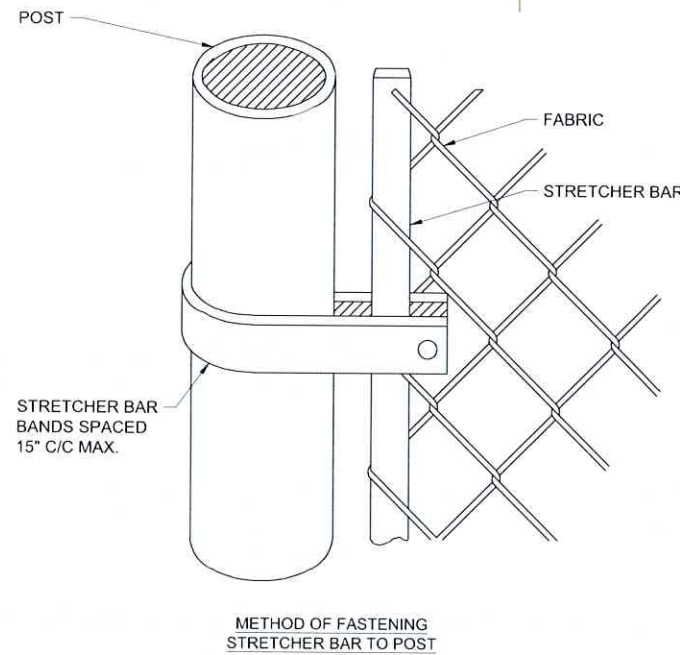
GATE FRAMES SHALL BE CONSTRUCTED OF 2 1/2" OUTSIDE DIAMETER HEAVY DUTY GALVANIZED STEEL PIPE. THE GATES SHALL BE ASSEMBLED USING CORNER FITTINGS OF HEAVY PRESSED STEEL OR MALLEABLE CASTINGS OR MAY BE WELDED IF THE ENTIRE GATE FRAME IS HOT DIP GALVANIZED AFTER THE WELDING. ALL GATES SHALL BE EQUIPPED WITH HEAVY DUTY GALVANIZED STEEL TYPE HINGES WITH LARGE BEARING SURFACES OF ADEQUATE STRENGTH TO SUPPORT THE GATE. THE HINGES SHALL NOT TWIST OR TURN UNDER THE ACTION OF THE GATE. GATES WILL PROVIDE A FULL RANGE OF MOTION AND BE EASILY OPENED AND CLOSED BY ONE PERSON. GATE LATCH SHALL BE CARGO PROTECTORS, INC MODEL FL-100. LATCH SHALL BE EQUIPPED TO RECIEVE A PADLOCK.

PROVIDE R.F. WARNING SIGNAGE ON ALL GATES.



POSTS FOOTINGS
 SCALE: NTS

1



FABRIC / BAR CONNECTIONS
 SCALE: NTS

2



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BUSINESS DRIVE

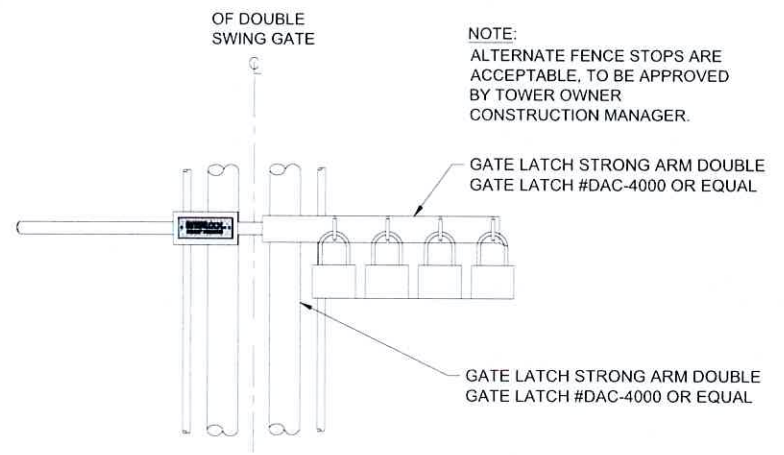
PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
FENCE DETAILS

SCALE: NONE

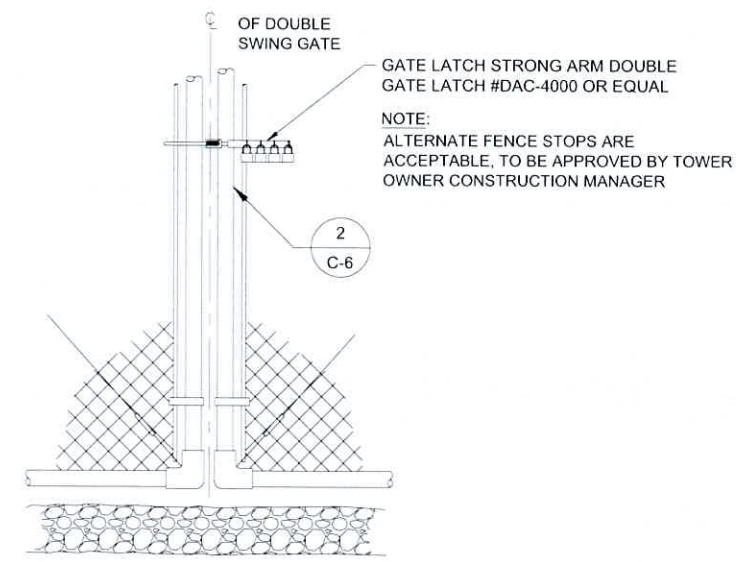
PROJECT NUMBER: 60498
 SHEET NUMBER: C-5

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GATE LATCH DETAIL
SCALE: NTS

1

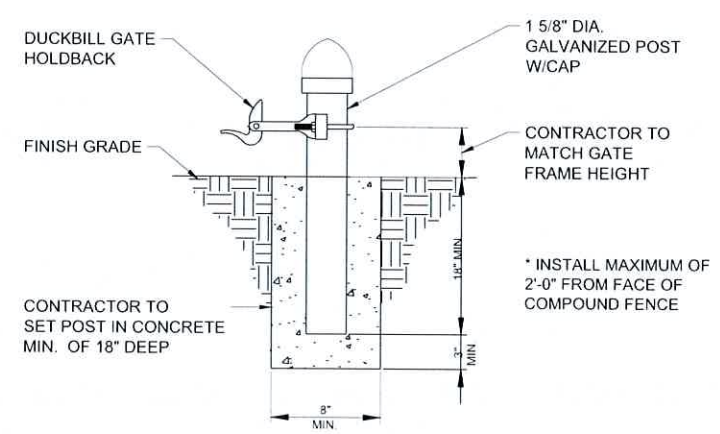


GATE LATCH DETAIL
SCALE: NTS

2

NOT USED
SCALE: 1" = NTS

3



GATE KEEPER DETAIL
SCALE: NTS

4



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SHEBOYGAN COUNTY

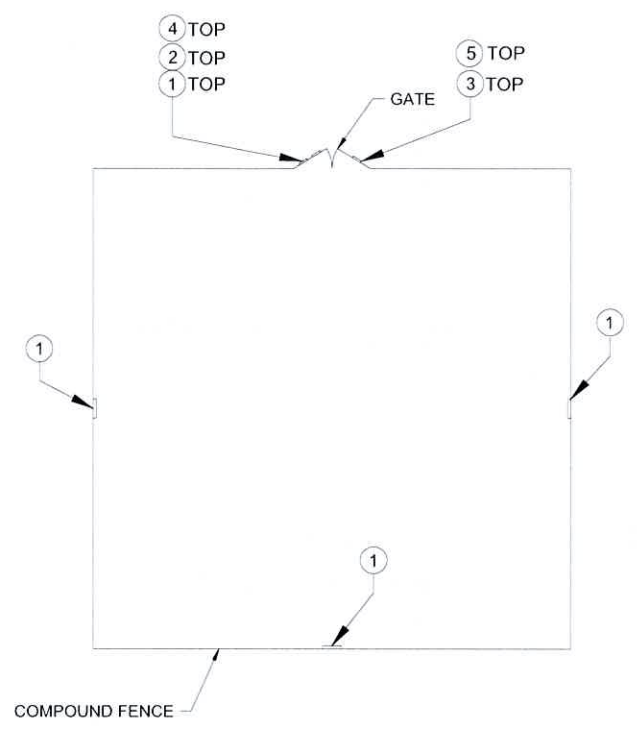
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SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: C-6

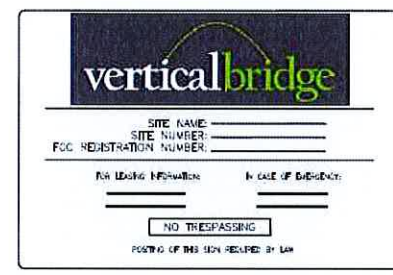
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NOTE: SEE TYPICAL SIGNS AND SPECIFICATIONS DETAIL ON THIS SHEET FOR SIGN DESIGNATIONS.



NOTE: SEE TYPICAL SIGNS AND SPECIFICATIONS DETAIL ON THIS SHEET FOR SIGN DESIGNATIONS.

OVERALL SIGN PLACEMENT PLAN VIEW
SCALE: NTS



OWNER CONTACT SIGN
WHITE BACKGROUND, BLACK/RED LETTERING
MOUNTING LOCATION: GATE
QUANTITY: 2



AUTHORIZED PERSONNEL SIGN
WHITE/BLUE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1
WHERE ACCESS GATE INSTALLED (QTY: 2)



FCC REGISTRATION SIGN
WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

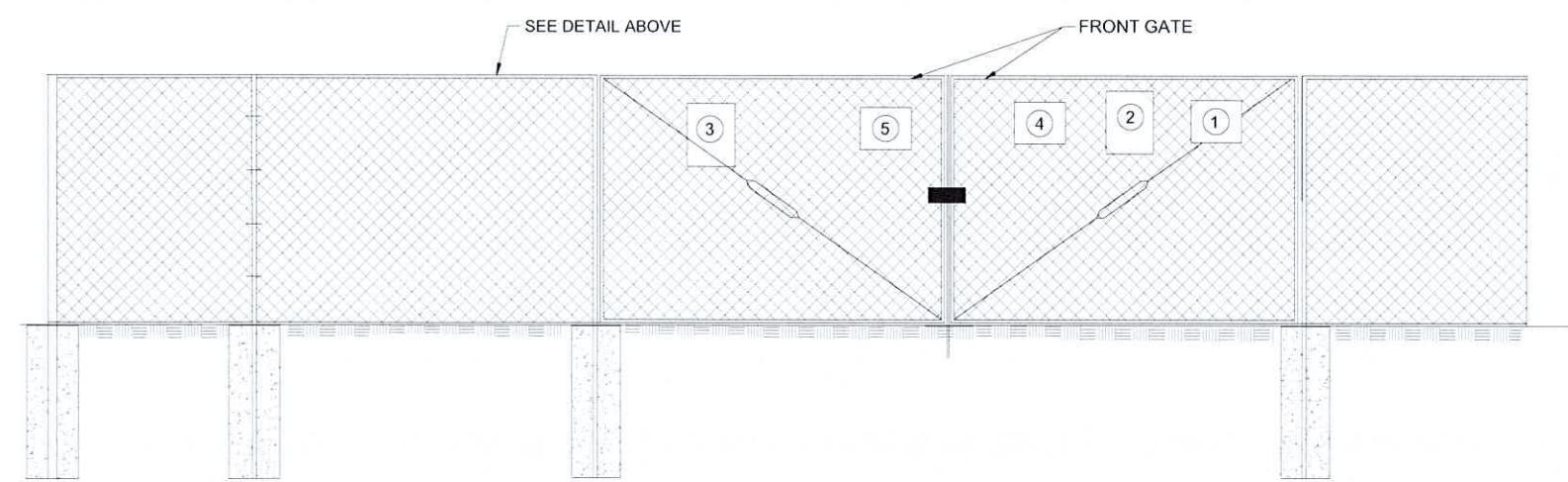


NOTICE RF SIGN (BLUE)
WHITE/BLUE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & CENTERLINE OF FENCING AROUND SITE (QTY: 4)
WHERE ACCESS GATE INSTALLED (QTY: 5)



DANGER NO TRESPASSING SIGN
WHITE/BLACK BACKGROUND, BLACK/WHITE LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1
WHERE ACCESS GATE INSTALLED (QTY: 2)

TYPICAL SIGNS AND SPECIFICATIONS
SCALE: NTS



SITE SIGNAGE FRONT GATE VIEW
SCALE: NTS

SIGNAGE NOTES:

- SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
- SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE, AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (AS UTILIZED IN FENCE INSTALLATIONS) OR BRACKETS WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.



**CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS**



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Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.



Michael L. Pinske 9/30/2024
Signature: Date:

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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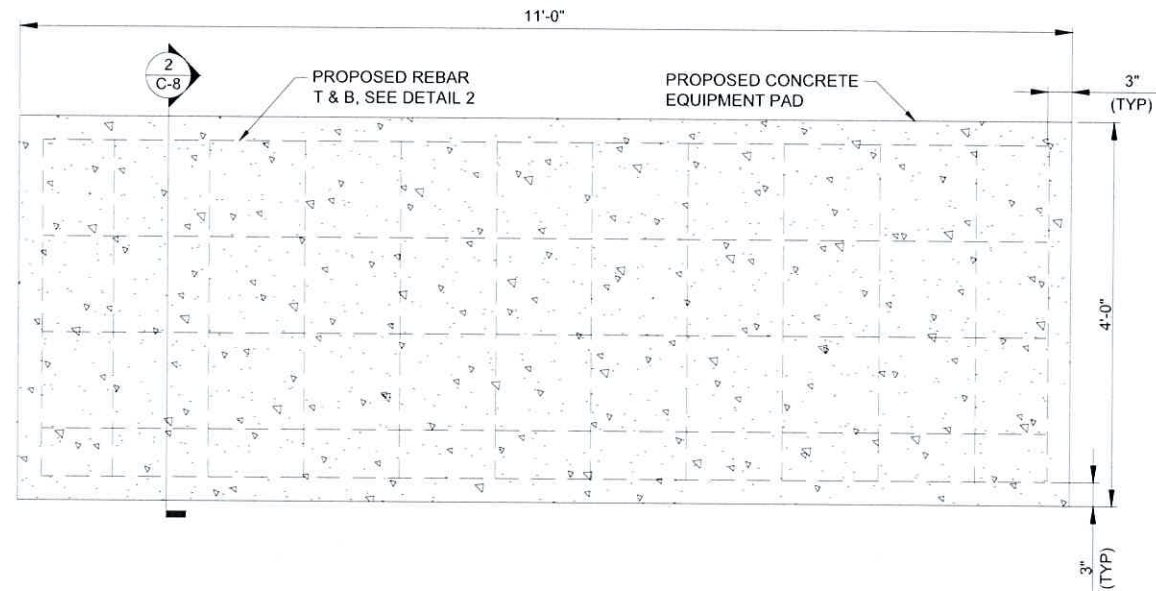
PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

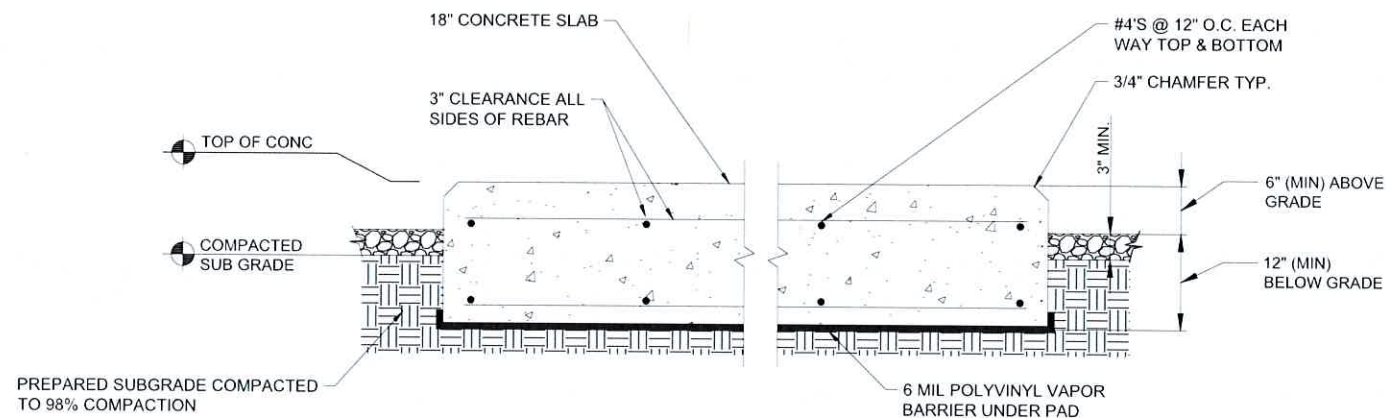
SHEET TITLE:
SITE SIGNAGE DETAILS

SCALE: NONE

PROJECT NUMBER	60498
SHEET NUMBER	C-7



EQUIPMENT SLAB DETAIL
SCALE: NTS



- NOTES:
1. SLAB TO BE LEVEL (\pm) 1/4".
 3. FOUNDATION SHALL HAVE A MINIMUM 6" PROJECTION ABOVE GRADE.
 4. CONCRETE STRENGTH SHALL BE A MINIMUM OF 4000 PSI @ 28 DAYS.

EQUIPMENT PAD DETAIL
SCALE: NTS



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Signature: _____ Date: 9/30/2024

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A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE: PRELIMINARY DATE ISSUED: 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
FOUNDATION DETAILS

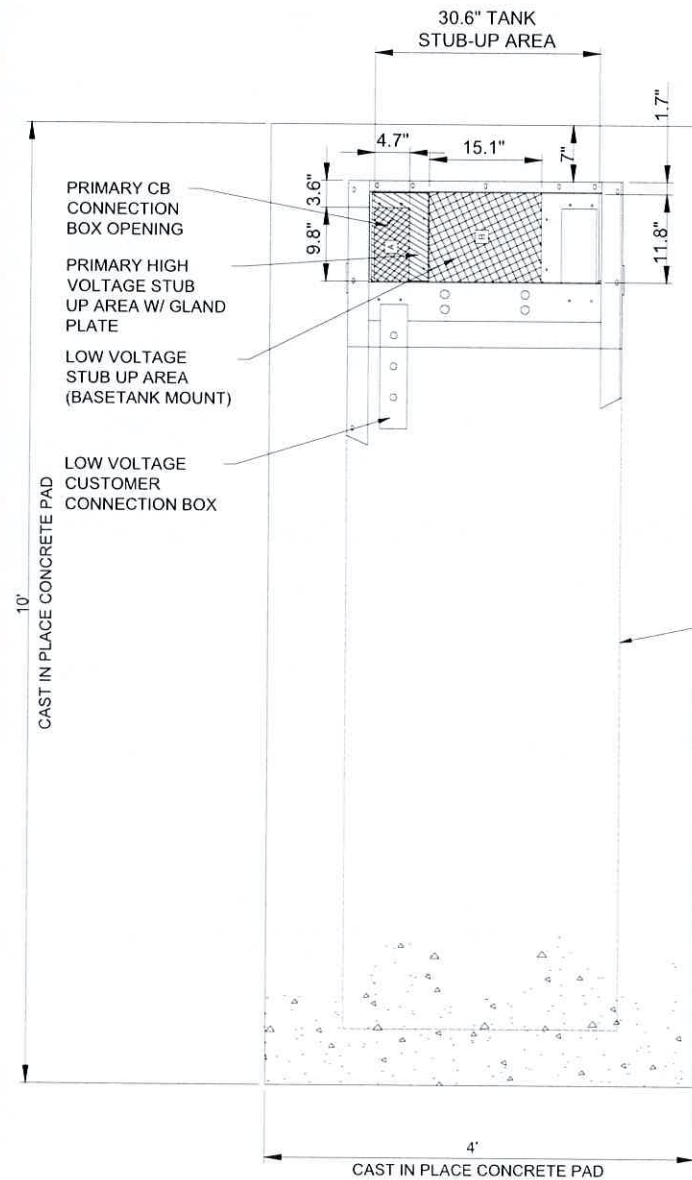
SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: C-8

RECOMMENDED ELECTRICAL STUB-UPS
(SEE DETAILED VIEW & TOP VIEW)

(LOW VOLTAGE STUB UP)
 1. TRANSFER SWITCH/COMMUNICATIONS CONDUITS. COMMUNICATIONS AND 2-WIRE START MUST NOT BE RUN IN CONDUIT W/ AC WIRING.

(HIGH VOLTAGE STUB UP)
 1. AC LOAD LEAD CONDUIT AREA.
 2. 120/240 VAC FROM UTILITY FOR OPTIONAL LOADS SUCH AS GFCI OUTLET, BLOCK HEATER, BATTERY CHARGER, AND OTHER 120/240 VAC OPTIONS. (GLAND PLATE INCLUDED)

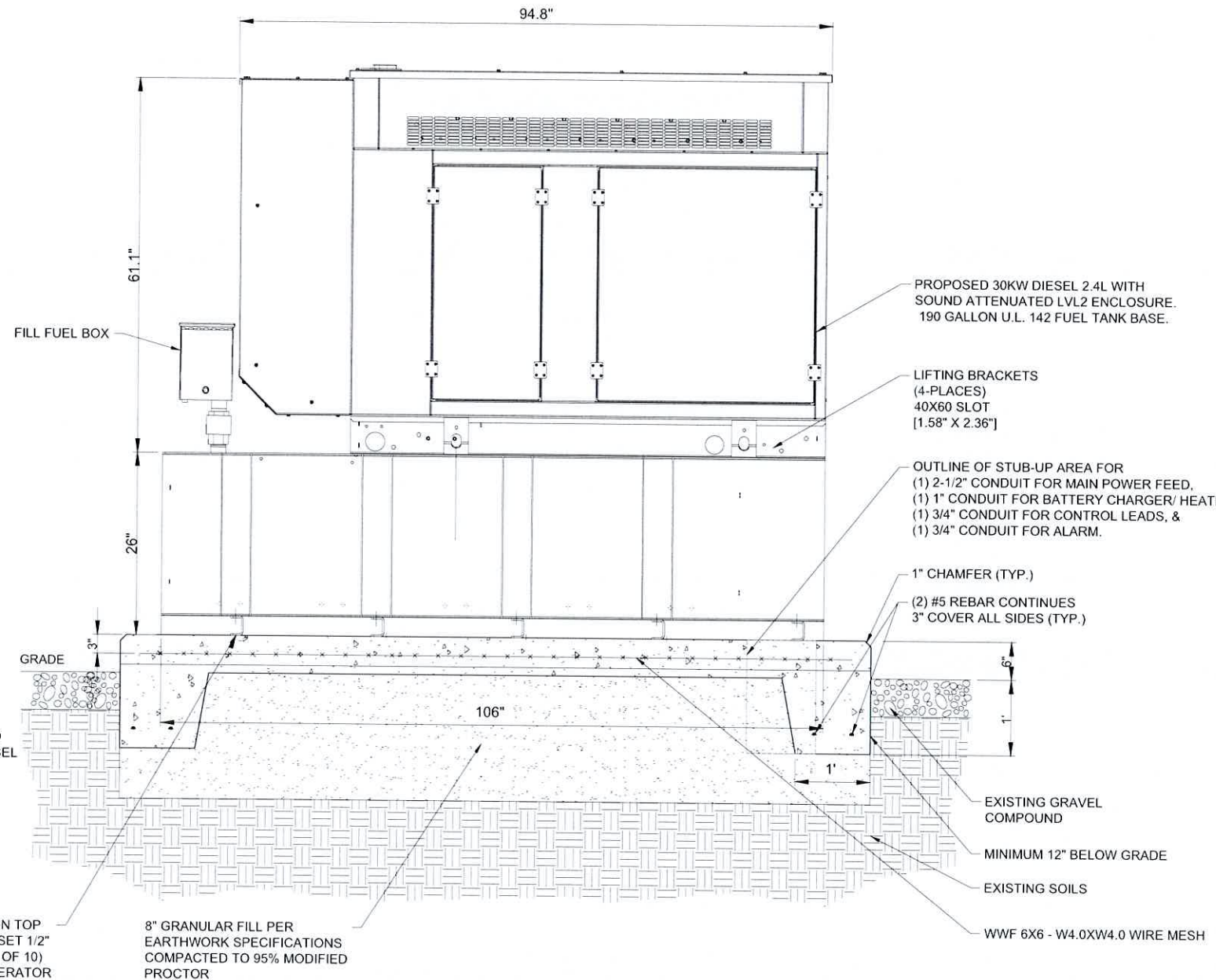


PLAN VIEW

TYPICAL GENERAC FOUNDATION DETAIL

SCALE: NTS

1



FRONT SIDE VIEW

TYPICAL GENERAC FOUNDATION DETAIL

SCALE: NTS

2

NOTES:

- SEE GENERATOR MANUFACTURE'S DRAWINGS FOR PHYSICAL LOCATION OF FUEL LINES, CONTROL AND POWER INTERCONNECTIONS AND OTHER INTERFACES THAT ARE TO CAST INTO THE CONCRETE. THE PREFERRED METHOD IS TO BRING THE CONDUIT THROUGH THE PAD TO THE UNDERSIDE OF THE GENERATOR (MINIMIZES RODENT DAMAGE). FINISH CONNECTIONS WITH FLEXIBLE CONDUIT PER GENERATOR MANUFACTURES SPECS. RIGID CONDUITS SHALL BE SECURED TO THE EXISTING SLAB, THEN BURIED BETWEEN SLAB AND SHELTER.
- THE GENERATOR SHALL BE LOCATED A MIN 5' AWAY FROM A COMBUSTIBLE WALL.
 -THE GENERATOR SHALL BE LOCATED A MIN OF 3' AWAY FROM A NON-COMBUSTIBLE WALL.



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Michael L. Pinske
 Signature: _____ Date: 9/30/2024

A	9/10/24	REVISED UTILITY NOTES
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MARK	DATE	DESCRIPTION

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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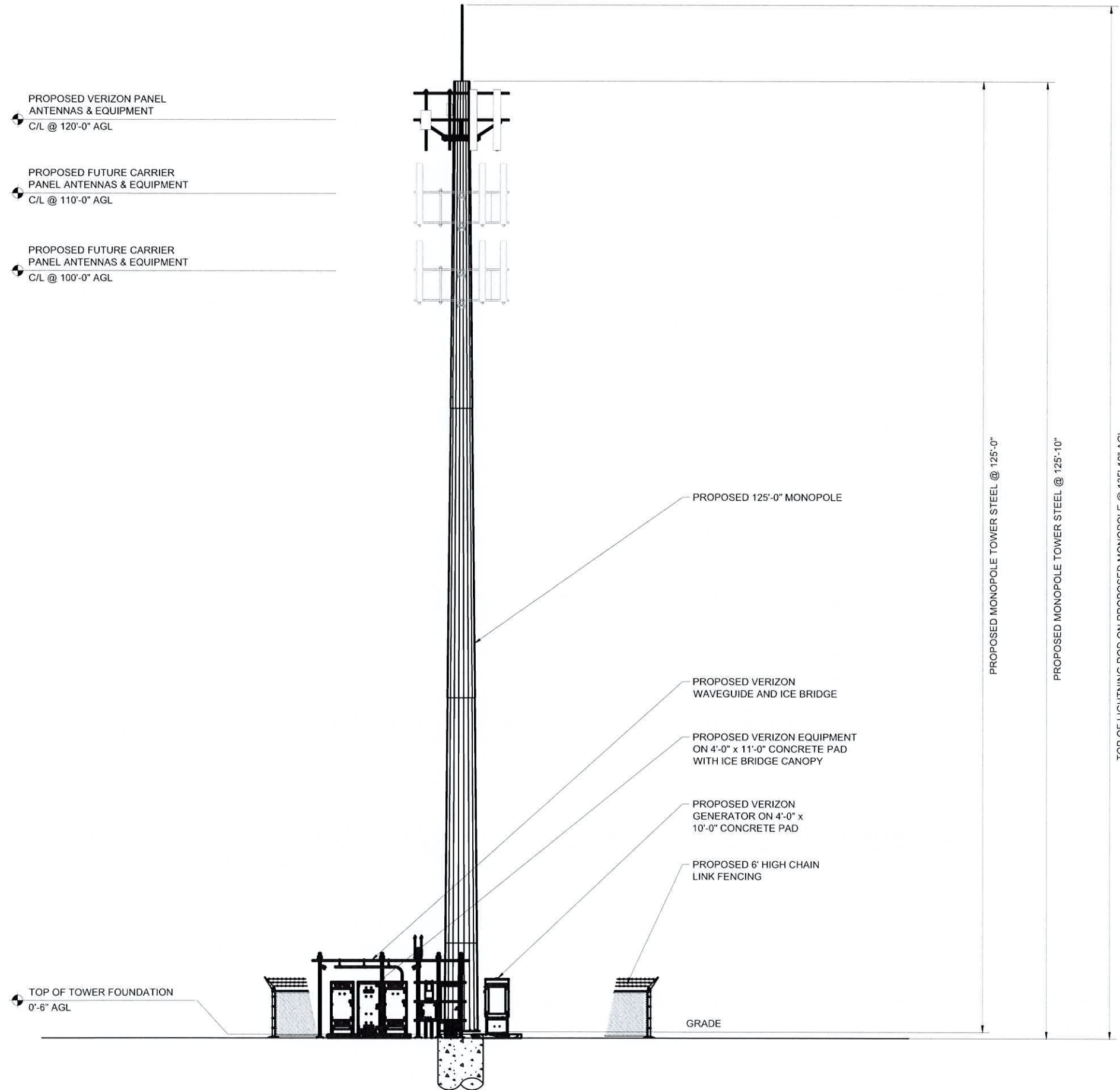
PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
GENERATOR FOUNDATION DETAILS

SCALE: NONE

PROJECT NUMBER	60498
SHEET NUMBER	C-9



SITE ELEVATION
 SCALE: 1" = 20'

- STRUCTURAL NOTES:**
1. RAMAKER SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. STRUCTURAL CALCULATIONS WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE AND ANTENNA MOUNTS FOR THE DEPLOYMENT OF THE EQUIPMENT. CONTRACTOR TO COORDINATE WITH THE PROJECT MANAGER TO OBTAIN A COPY.
 2. CONTRACTOR MUST COMPLY WITH STRUCTURAL ANALYSIS AND MOUNT ANALYSIS RECOMMENDATIONS FOR ALL NEW LOADING.



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Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE
 PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SITE ELEVATION

11" x 17" - 1" = 20"
 22" x 34" - 1" = 10"

PROJECT NUMBER: 60498
 SHEET NUMBER: ANT-1

(2) PROPOSED 2" HDPE CONDUITS W/ PULL ROPES FROM VERIZON WIRELESS FIBER HANDHOLE TO VERIZON WIRELESS FIBER HANDHOLE BY VERTICAL BRIDGE G.C. (22± L.F.) SEE DETAIL 4/E-3

PRIMARY POWER EXTENSION BY POWER COMPANY FROM R.O.W. TO PROPOSED TRANSFORMER. (25± L.F.) SEE DETAIL 4/E-3

PROPOSED VERIZON WIRELESS FIBER HANDHOLE BY VERTICAL BRIDGE - SEE SHEET E-1C

PROPOSED CONDUIT BY FIBER PROVIDER (5± L.F.)

PROPOSED FIBER VAULT BY FIBER PROVIDER

EXISTING BURIED POWER LINE

EXISTING UTILITY POWER W/ TRANSFORMER

PROPOSED 16'-8" x 30'-0" VERIZON LEASE AREA

PROPOSED PAD MOUNTED TRANSFORMER BY UTILITY COMPANY

PROPOSED VERIZON WIRELESS FIBER HANDHOLE OUTSIDE OF COMPOUND FENCE BY VERTICAL BRIDGE, SEE SHEET E-1C

PROPOSED (3) RUNS OF 4" PVC CONDUIT WITH PULLSTRING BY G.C. FROM METER BANK TO PROPOSED TRANSFORMER (25± L.F.) SEE SHEET E-3 FOR DETAILS

PROPOSED VERTICAL BRIDGE UTILITY H-FRAME MIN. 5' OFF FENCE SEE DETAIL 1/E-3

(2) PROPOSED 2" SCH 40 PVC CONDUITS W/ PULL ROPES FROM VERIZON WIRELESS HANDHOLE OUTSIDE FENCE TO VERIZON WIRELESS FIBER ENCLOSURE BY VERTICAL BRIDGE (54± L.F.) SEE DETAIL 2/E-3

PROPOSED 3" CONDUIT FOR VERIZON POWER FROM VERTICAL BRIDGE UTILITY H-FRAME TO VERIZON UTILITY H-FRAME BY VERTICAL BRIDGE (42± L.F.) - SEE DETAIL 3/E-3

PROPOSED 125' MONOPOLE

FUTURE LEASE AREA TYP. OF 2



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Michael L. Pinske 9/30/2024
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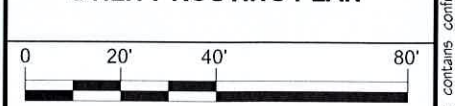
A	9/10/24	REVISED UTILITY NOTES
MARK	DATE	DESCRIPTION

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
UTILITY ROUTING PLAN



11" x 17" - 1" = 40'
22" x 34" - 1" = 20'

PROJECT NUMBER: 60498
SHEET NUMBER: E-1

COORDINATION WITH UTILITY COMPANY

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANIES FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS

CONDUITS AND WIRING

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

CODES AND STANDARDS

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
NEC	NATIONAL ELECTRICAL CODE, LATEST ADOPTED EDITION
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
UL	UNDERWRITERS LABORATORIES, INC.

UTILITY PROVIDER INFORMATION

POWER COMPANY: ALIANT ENERGY FIBER COMPANY: AT&T
PHONE: (920) 459-6345 PHONE: (855) 781-7542

UTILITY ROUTING PLAN

SCALE: 1" = 40'

1

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 d/b/a VERIZON WIRELESS**



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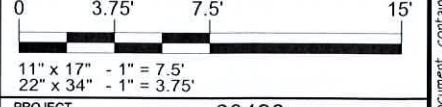
Michael L. Pinske 9/30/2024
 Signature: Date:

A	9/10/24	REVISED UTILITY NOTES
MARK	DATE	DESCRIPTION
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

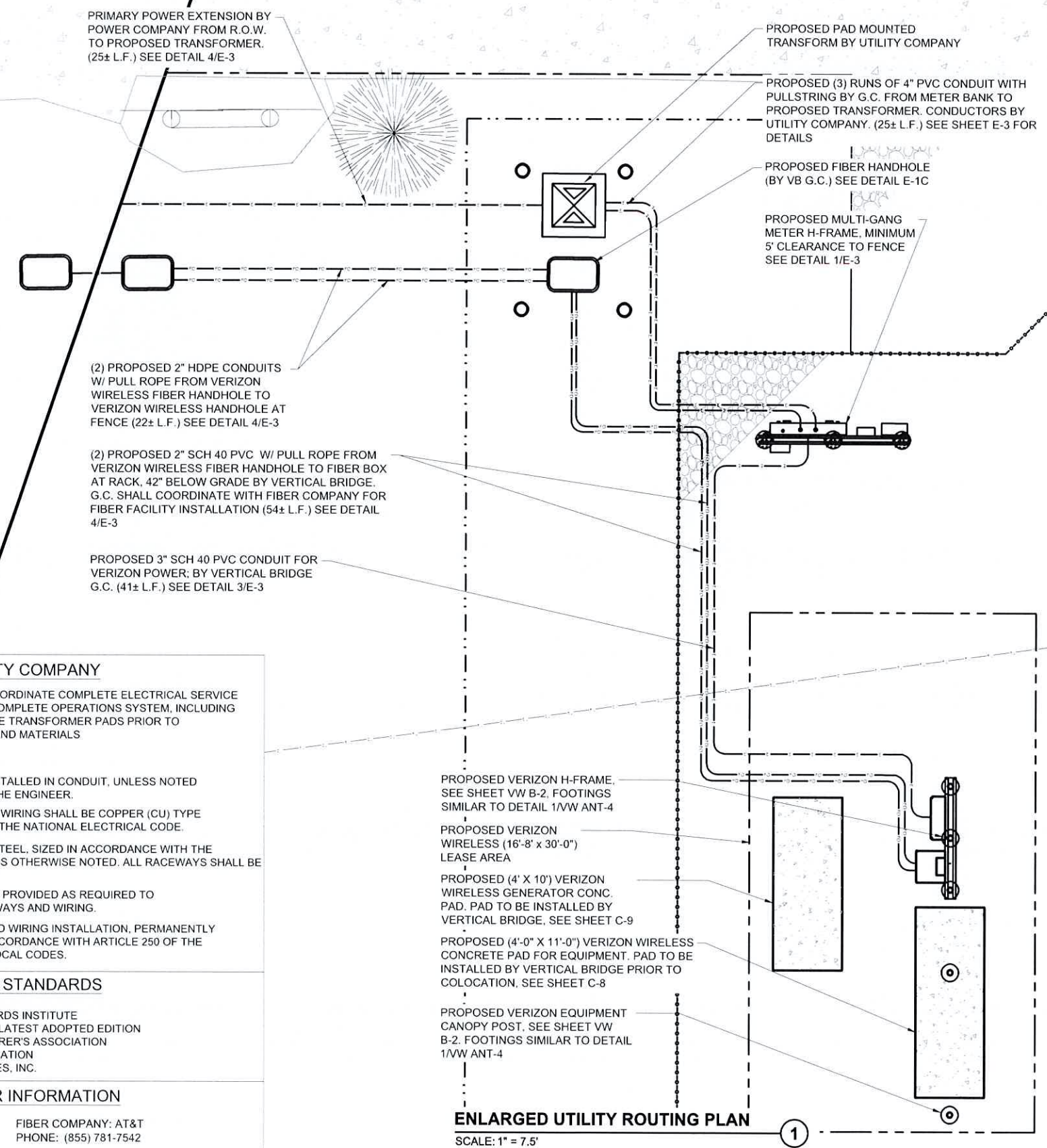
PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

**ENLARGED UTILITY ROUTING
 PLAN**



PROJECT NUMBER: 60498
 SHEET NUMBER: E-1A



PRIMARY POWER EXTENSION BY POWER COMPANY FROM R.O.W. TO PROPOSED TRANSFORMER. (25± L.F.) SEE DETAIL 4/E-3

PROPOSED PAD MOUNTED TRANSFORM BY UTILITY COMPANY

PROPOSED (3) RUNS OF 4" PVC CONDUIT WITH PULLSTRING BY G.C. FROM METER BANK TO PROPOSED TRANSFORMER. CONDUCTORS BY UTILITY COMPANY. (25± L.F.) SEE SHEET E-3 FOR DETAILS

PROPOSED FIBER HANDHOLE (BY VB G.C.) SEE DETAIL E-1C

PROPOSED MULTI-GANG METER H-FRAME, MINIMUM 5' CLEARANCE TO FENCE SEE DETAIL 1/E-3

(2) PROPOSED 2" HDPE CONDUITS W/ PULL ROPE FROM VERIZON WIRELESS FIBER HANDHOLE TO VERIZON WIRELESS HANDHOLE AT FENCE (22± L.F.) SEE DETAIL 4/E-3

(2) PROPOSED 2" SCH 40 PVC W/ PULL ROPE FROM VERIZON WIRELESS FIBER HANDHOLE TO FIBER BOX AT RACK, 42" BELOW GRADE BY VERTICAL BRIDGE. G.C. SHALL COORDINATE WITH FIBER COMPANY FOR FIBER FACILITY INSTALLATION (54± L.F.) SEE DETAIL 4/E-3

PROPOSED 3" SCH 40 PVC CONDUIT FOR VERIZON POWER, BY VERTICAL BRIDGE G.C. (41± L.F.) SEE DETAIL 3/E-3

PROPOSED VERIZON H-FRAME, SEE SHEET VW B-2, FOOTINGS SIMILAR TO DETAIL 1/VW ANT-4

PROPOSED VERIZON WIRELESS (16'-8" x 30'-0") LEASE AREA

PROPOSED (4' X 10') VERIZON WIRELESS GENERATOR CONC. PAD. PAD TO BE INSTALLED BY VERTICAL BRIDGE. SEE SHEET C-9

PROPOSED (4'-0" X 11'-0") VERIZON WIRELESS CONCRETE PAD FOR EQUIPMENT. PAD TO BE INSTALLED BY VERTICAL BRIDGE PRIOR TO COLOCATION. SEE SHEET C-8

PROPOSED VERIZON EQUIPMENT CANOPY POST, SEE SHEET VW B-2, FOOTINGS SIMILAR TO DETAIL 1/VW ANT-4

ENLARGED UTILITY ROUTING PLAN
 SCALE: 1" = 7.5'

COORDINATION WITH UTILITY COMPANY

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANIES FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS

CONDUITS AND WIRING

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3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

CODES AND STANDARDS

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- NEMANATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
- NFPANATIONAL FIRE PROTECTION ASSOCIATION
- UL UNDERWRITERS LABORATORIES, INC.

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POWER COMPANY: ALIANT ENERGY FIBER COMPANY: AT&T
 PHONE: (920) 459-6345 PHONE: (855) 781-7542

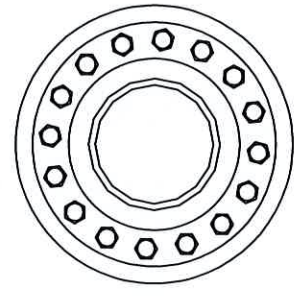


OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED.

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- PROPOSED VERIZON UTILITY STAND, SEE SHEET E-1A
- PROPOSED NEMA 3R 200 AMP ILC MOUNTED TO SUPPORT FRAME (BY VERIZON WIRELESS G.C.)
- VERTICAL BRIDGE G.C. TO INSTALL
 (2) 1" RIGID H.W. CONDUIT
 (1) 2-1/2" RIGID H.W. CONDUIT
 (1) 3/4" RIGID H.W. CONDUIT FROM GENERATOR PAD TO VERIZON ILC LOCATION
- (2) #16 THWN, LEAVE 25' OF #16 IN ALARM BOX
- LOCATION OF FIBER ENCLOSURE
- PROPOSED VERIZON WIRELESS (4'-0"X10'-0") PAD (BY VB G.C.), SEE SHEET C-9
- CONDUIT STUB-UP AREA, SEE/COORDINATE WITH MANUFACTURER'S SPECIFICATIONS
- PROPOSED VERIZON WIRELESS (4'-0"X11'-0") CONC. PAD BY VERTICAL BRIDGE - SEE SHEET C-8
- PROPOSED VERIZON EQUIPMENT CANOPY POST, SEE SHEET E-1A



verticalbridge

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Michael L. Pinske 9/30/2024
 Signature: Date:

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
GENERATOR UTILITY ROUTING PLAN

11" x 17" - 1" = 3.75'
 22" x 34" - 1" = 1.875'

PROJECT NUMBER: 60498
 SHEET NUMBER: E-1B



OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED

NOTE:
 CONTRACTOR TO VERIFY ROUTES WITH LOCAL UTILITY COMPANY PRIOR TO INSTALLATION.

GENERATOR UTILITY ROUTING PLAN ①
 SCALE: 1" = 3.75'

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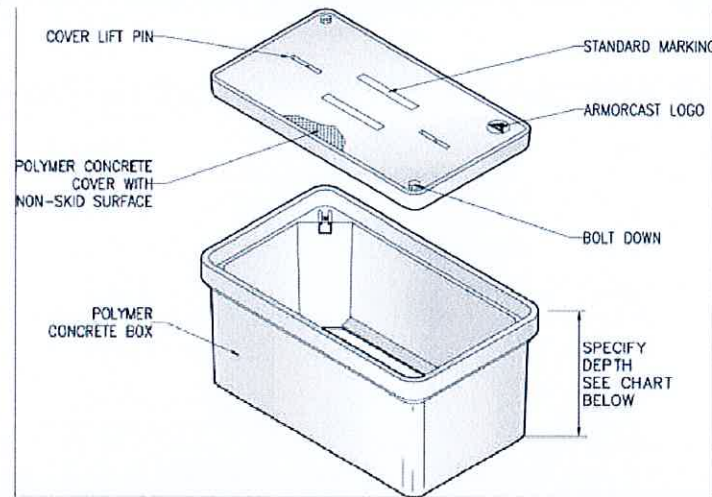
17" x 30" BOX ASSEMBLY

12" to 30" DEPTHS



POLYMER CONCRETE ARMORCAST PRODUCTS COMPANY

A6001640



17"W x 30"L BOX ASSEMBLIES Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	17" x 30" x 12"	10K	8	A6001640APCX12	114 lbs.	12
	17" x 30" x 12"	20K	15 / 22	A6001640TAPCX12 / A6001640HDAPCX12	140 lbs.	12
Box & Cover Assembly	17" x 30" x 18"	10K	8	A6001640APCX18	140 lbs.	6
	17" x 30" x 18"	20K	15 / 22	A6001640TAPCX18 / A6001640HDAPCX18	166 lbs.	6
Box & Cover Assembly	17" x 30" x 22"	10K	8	A6001640APCX22	154 lbs.	6
	17" x 30" x 22"	20K	15 / 22	A6001640TAPCX22 / A6001640HDAPCX22	180 lbs.	6
Box & Cover Assembly	17" x 30" x 24"	10K	8	A6001640APCX24	165 lbs.	6
	17" x 30" x 24"	20K	15 / 22	A6001640TAPCX24 / A6001640HDAPCX24	190 lbs.	6
Box & Cover Assembly	17" x 30" x 28"	10K	8	A6001640APCX28	184 lbs.	3
	17" x 30" x 28"	20K	15 / 22	A6001640TAPCX28 / A6001640HDAPCX28	210 lbs.	3
Box & Cover Assembly	17" x 30" x 30"	10K	8	A6001640APCX30	191 lbs.	3
	17" x 30" x 30"	20K	15 / 22	A6001640TAPCX30 / A6001640HDAPCX30	221 lbs.	3

COMPONENTS

MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	17" x 30"	10K	8	A6001643	44 lbs.	30
	17" x 30"	20K	15 / 22	A6001947T / A6001947HD	70 lbs.	30
Replacement Boxes	17" x 30" x 12"	10K / 20K	22	A6001640PCX12	70 lbs.	12
	17" x 30" x 18"	10K / 20K	22	A6001640PCX18	96 lbs.	6
	17" x 30" x 22"	10K / 20K	22	A6001640PCX22	110 lbs.	6
	17" x 30" x 24"	10K / 20K	22	A6001640PCX24	121 lbs.	6
	17" x 30" x 28"	10K / 20K	22	A6001640PCX28	140 lbs.	3
	17" x 30" x 30"	10K / 20K	22	A6001640PCX30	151 lbs.	3

- Boxes are Open Bottom and Stackable, also available with Solid Bottoms.
- For sizes not shown please contact Armorcast Products for more information.

THIS PRODUCT IS LISTED TO APPLICABLE UL STANDARDS AND REQUIREMENTS BY UL.

www.armorcastprod.com

Tel: (818) 982-3600 Fax: (818) 982-7742

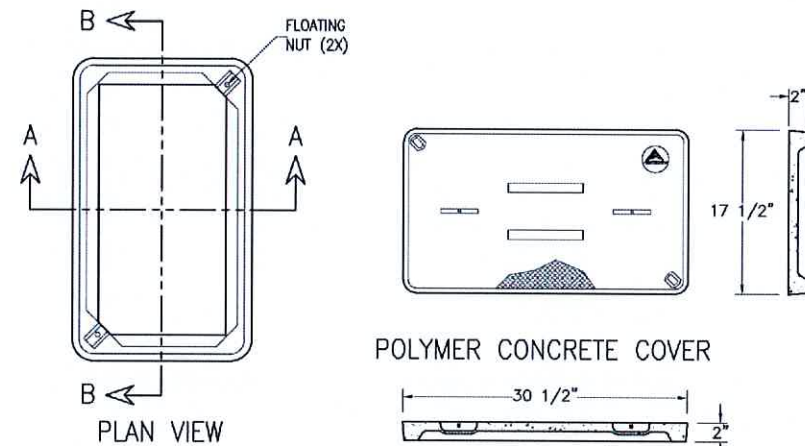


ARMORCAST PRODUCTS COMPANY **POLYMER CONCRETE**

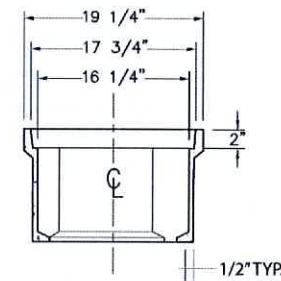
17" x 30" BOX ASSEMBLY

STANDARD DIMENSIONS

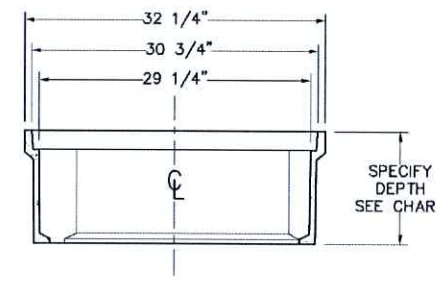
A6001640



POLYMER CONCRETE COVER



SECTION A-A



SECTION B-B

Aarmorcast Products Company reserves the right to update or discontinue product information at any time without notice.

www.armorcastprod.com

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d/b/a VERIZON WIRELESS



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Michael L. Pinsky 9/30/2024
Signature: _____ Date: _____

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
VAULT SPEC. SHEET

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: E-1C

VAULT SPECIFICATIONS

SCALE: NONE

KEYED NOTES

- | KEY | DESCRIPTION |
|-----|--|
| 1 | SYSTEM GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS. A THREE POINT SYSTEM RESISTANCE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH VERTICAL BRIDGE SPECIFICATIONS. |
| A. | PERFORM THREE TESTS AT EACH SITE. |
| B. | CONTRACTOR SHALL PROVIDE A WRITTEN REPORT CONSISTING OF THE FOLLOWING: SITE NAME, ADDRESS AND IDENTIFICATION NUMBER, DESCRIPTION OF SITE SOIL AND MOISTURE CONDITION, DESCRIPTION OF WEATHER, MODEL NUMBER OF TESTING EQUIPMENT, DATE OF LAST CALIBRATION, SITE SKETCH SHOWING LOCATION OF TEST PROBES AND ALL FIELD DATA COLLECTED (READINGS, RANGE, TEST, MILLIAMPS, ETC.) |
| C. | CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES PERFORMING SYSTEM RESISTANCE TESTS OR IF MEASUREMENTS ARE ABOVE 5 OHMS. THE CONSTRUCTION MANAGER SHALL PROVIDE INSTRUCTION TO THE CONTRACTOR TO INSTALL ADDITIONAL GROUNDING MEASURES TO MEET THE 5 OHM REQUIREMENT. |
| 2 | PROPOSED TOWER GROUND RING BURIED TO A DEPTH OF 30" OR 6" BELOW THE FROST LINE, WHICHEVER IS GREATER. |
| 3 | BOND PROPOSED TOWER TO TOWER GROUND RING (3 PLACES TOTAL). |
| 4 | SERVICE ENTRANCE GROUND ROD. |
| 5 | BOND GROUND RING(S) TO SITE CORNER POST (TYP. x 4). |
| 6 | BOND GATE POST TO PROPOSED GROUND RING (TYP. x 2). |
| 7 | BOND FLEXIBLE JUMPER TO GATE (TYP. x 2). |
| 8 | BOND PROPOSED H-FRAME TO GROUND RING (TYP. x 8). |

EXTERIOR GROUNDING NOTES:

- GROUNDING SHALL CONFORM WITH VERTICAL BRIDGE STANDARDS AND PER FEDERAL, STATE AND LOCAL CODES. IN THE EVENT OF A CONFLICT, MEET THE MOST STRINGENT REQUIREMENT.
- GROUND RODS PAST METER SHALL BE COPPER CLAD STEEL 5/8 INCH DIAMETER X 10 FEET IN LENGTH (MIN.)
- ALL GROUND CONDUCTORS PAST METER SHALL BE #2 AWG SOLID BARE TINNED COPPER. MINIMUM BEND RADIUS FOR CONDUCTOR SHALL BE 8 INCHES.
- GROUND RODS SHALL BE SPACED NOT MORE THAN 16'-0" AND NOT LESS THAN 6'-0" APART EXCEPT FOR THE TOWER GROUND RING WHICH SHALL COMPLY WITH TIA/EIA 222 (REV G).
- CONTRACTOR SHALL ADD ADDITIONAL RODS AND CONDUCTORS OR APPROVED GROUND ENHANCING MATERIAL TO ACHIEVE LESS THAN 5 OHMS RESISTANCE TO GROUND.
- MAINTAIN 2'-0" (TOWER) AND 3'-0" (SHELTER) BETWEEN GROUND RINGS AND FOUNDATIONS.
- ALL GROUNDING INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY ANY JURISDICTION HAVING INSPECTION & APPROVAL AUTHORITY (IF REQUIRED) AND VERTICAL BRIDGE BEFORE PLACING ANY BACKFILL.
- ALL GROUNDING SPLICES AND CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS (CADWELD OR EQUIVALENT). COAT ALL WELDS WITH A ZINC RICH PAINT.

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED.

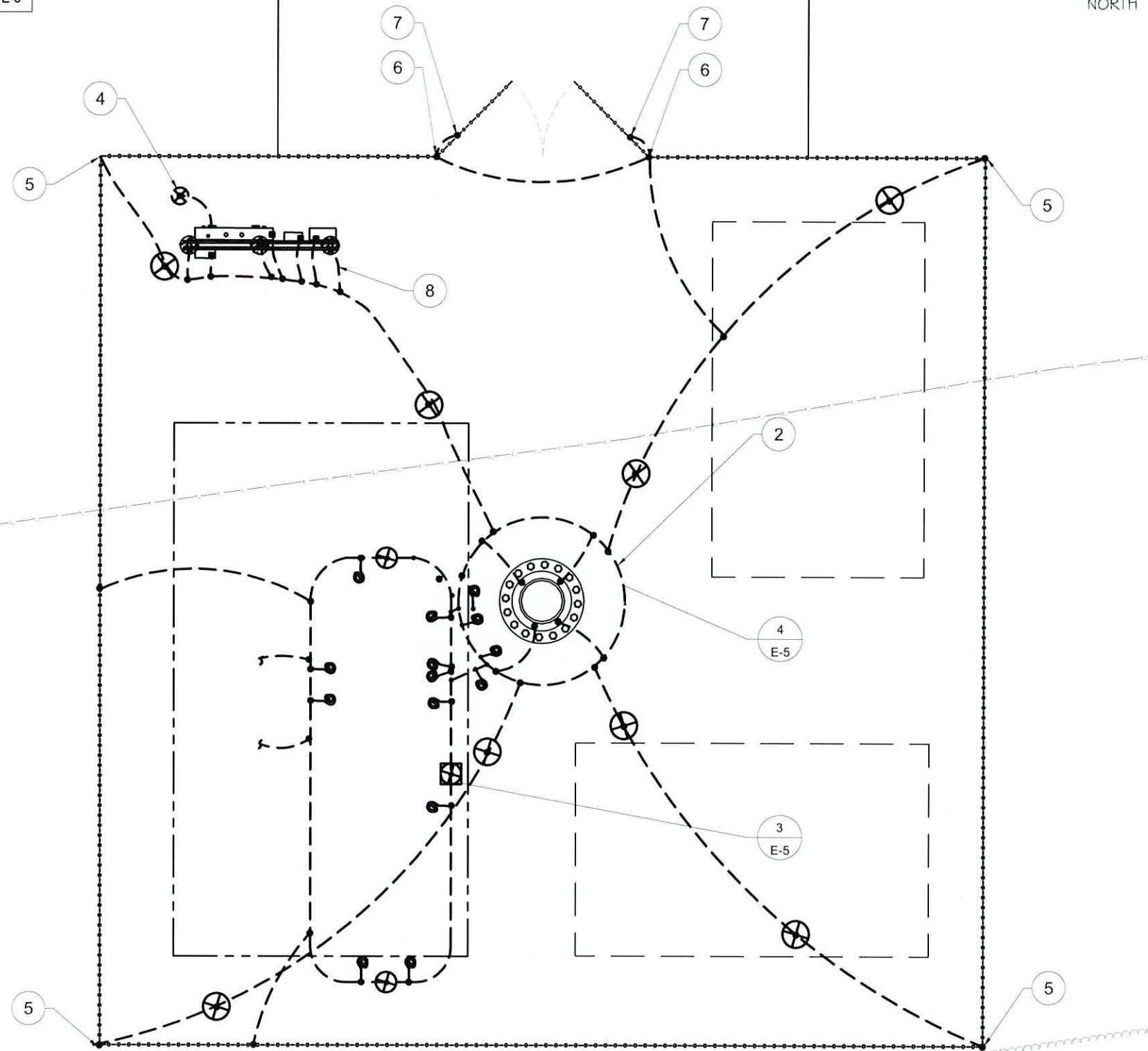
SYMBOLS LEGEND

- | | | | |
|--|------------------------|--|-----------------------|
| | GROUND ROD WITH ACCESS | | MECHANICAL CONNECTION |
| | GROUND ROD | | GROUND BAR |
| | EXOTHERMIC CONNECTION | | GROUND WIRE |
| | VZW GROUND LEAD | | |

NOTE:
SEE GROUNDING
DETAILS ON
SHEETS E-3 & E-5



OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED



SITE GROUNDING PLAN

SCALE: 1" = 7.5'



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Michael L. Pinske
Signature: _____ Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

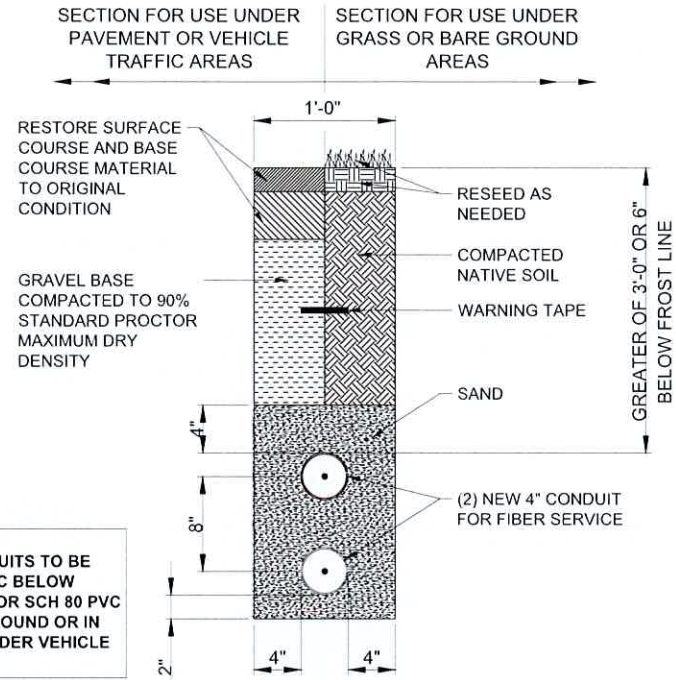
PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

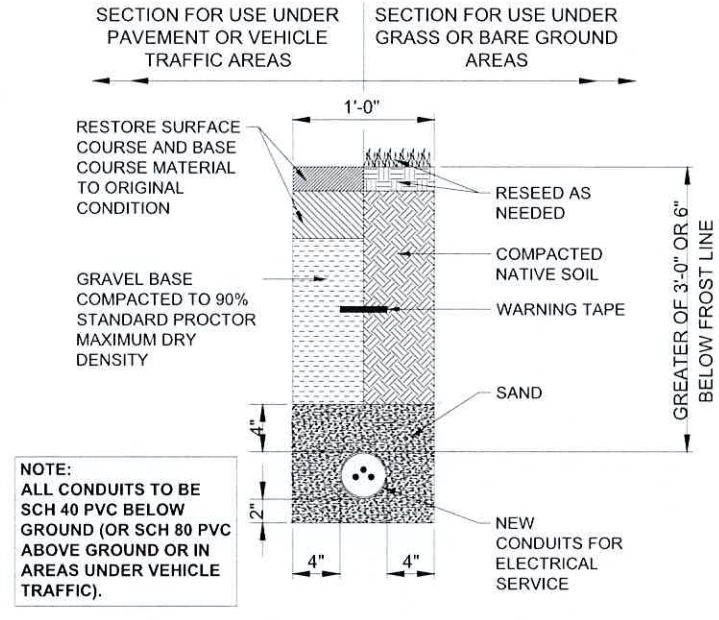
SITE GROUNDING & NOTES

11" x 17" - 1" = 7.5'
22" x 34" - 1" = 3.75'

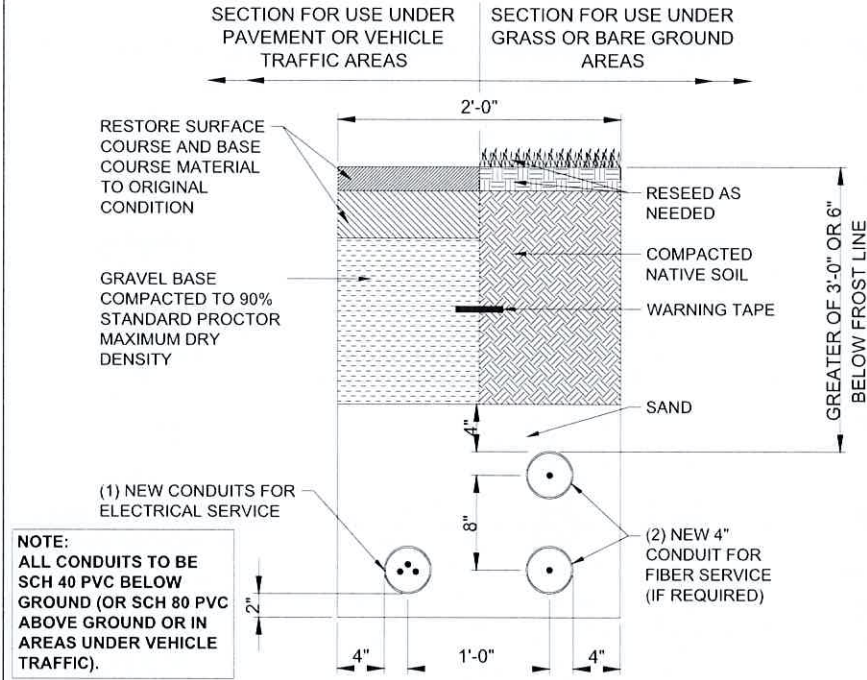
PROJECT NUMBER: 60498
SHEET NUMBER: E-2



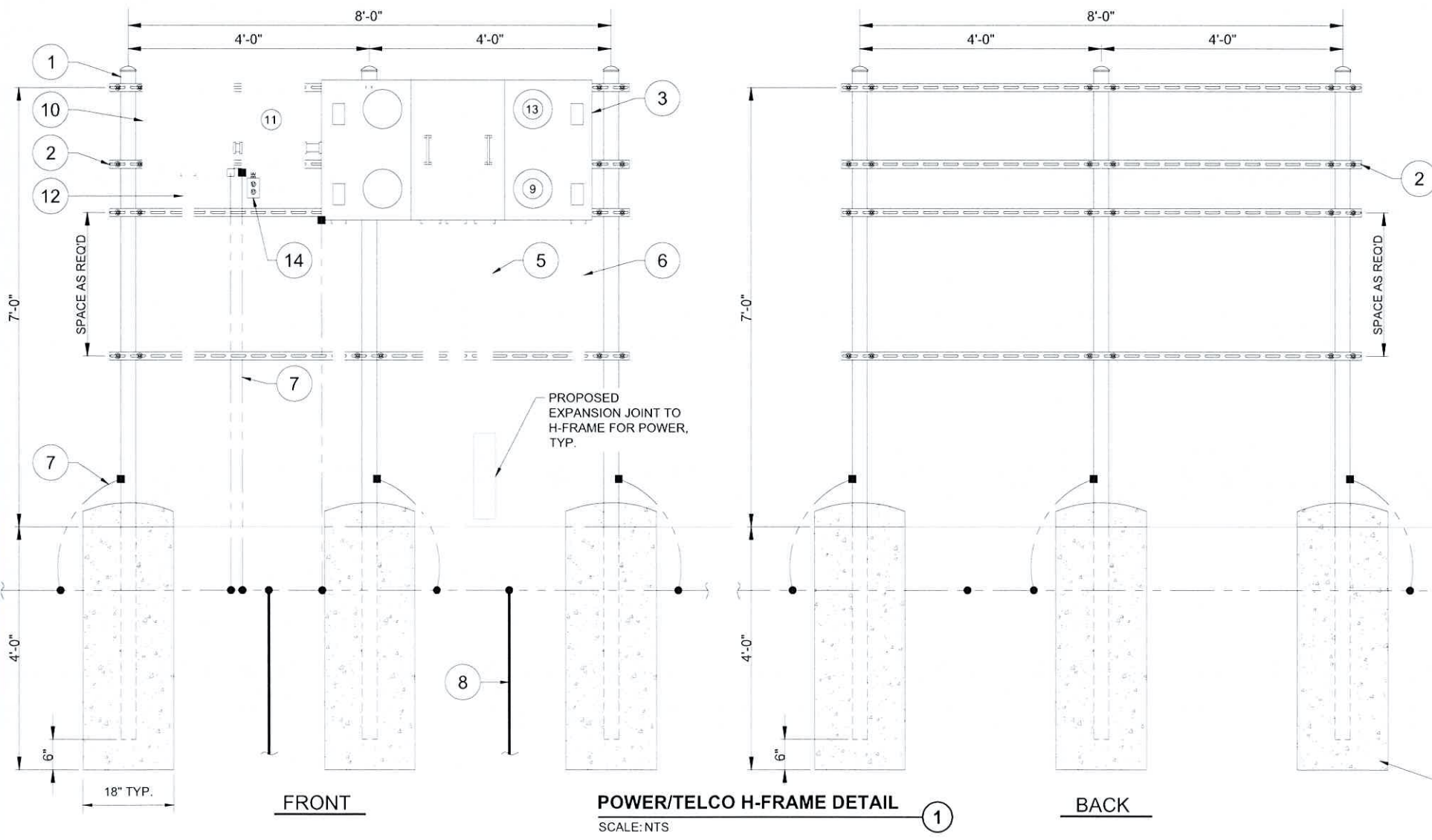
FIBER TRENCH DETAIL (IF REQUIRED)
SCALE: NTS



ELECTRICAL TRENCH DETAIL
SCALE: NTS



JOINT UTILITY TRENCH DETAIL
SCALE: NTS



POWER/TELCO H-FRAME DETAIL
SCALE: NTS

- KEYED NOTES**
- 1 3-1/2" SCH 40 GALVANIZED PIPE W/ END CAP (TYP.)
 - 2 P1000 UNISTRUT U-BOLTED TO POSTS W/ END CAP (TYP.)
 - 3 PROPOSED 4-GANG MULTI-TENANT METER CENTER, 800A, 120/240V 1 Ø, 3W, NEMA 3R ENCLOSURE. (SQUARE D MODEL #EZM1800TB OR #EZML114225 AS REQUIRED BY POWER PROVIDER)
 - 4 SERVICE GROUND CONDUCTOR(S) IN 1" PVC SIZED PER NEC 4 BASED ON ACTUAL SERVICE CONDUCTORS INSTALLED.
 - 5 (3) 4" PVC TO POWER SOURCE/TRANSFORMER (TYP.)
 - 6 3" CONDUIT TO VERIZON WIRELESS EQUIPMENT (TYP.)
 - 7 #2 AWG SOLID TINNED GROUND LEAD TO EQUIPMENT GROUND RING (TYP.)
 - 8 SERVICE ENTRANCE GROUND ROD 5/8" X 8'-0" COPPER CLAD (TYP. OF 2)
 - 9 VERIZON WIRELESS METER
 - 10 E1 TOWER LIGHT CONTROLLER & PHOTOCELL (IF TOWER IS LIT)
 - 11 PROPOSED 125A LOAD CENTER WITH (2) 20 AMP BREAKERS, 120/240V, 1Ø, 3W, NEMA 3R ENCLOSURE, SQUARE D OR APPROVED EQUAL. (IF TOWER IS LIT)
 - 12 2-1/2" SCH. 40 PVC CONDUIT TO CLOSEST TOWER LEG (IF TOWER IS LIT)
 - 13 TOWER OWNER'S METER (IF TOWER IS LIT)
 - 14 120/240V 2-GANG COMMERCIAL GRADE OUTDOOR ELECTRICAL BOX W/ (2) 20A COMMERCIAL GRADE DUPLEX RECEPTACLE (IF TOWER IS LIT)

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ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE: **BUSINESS DRIVE**

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE: **UTILITY DETAILS**

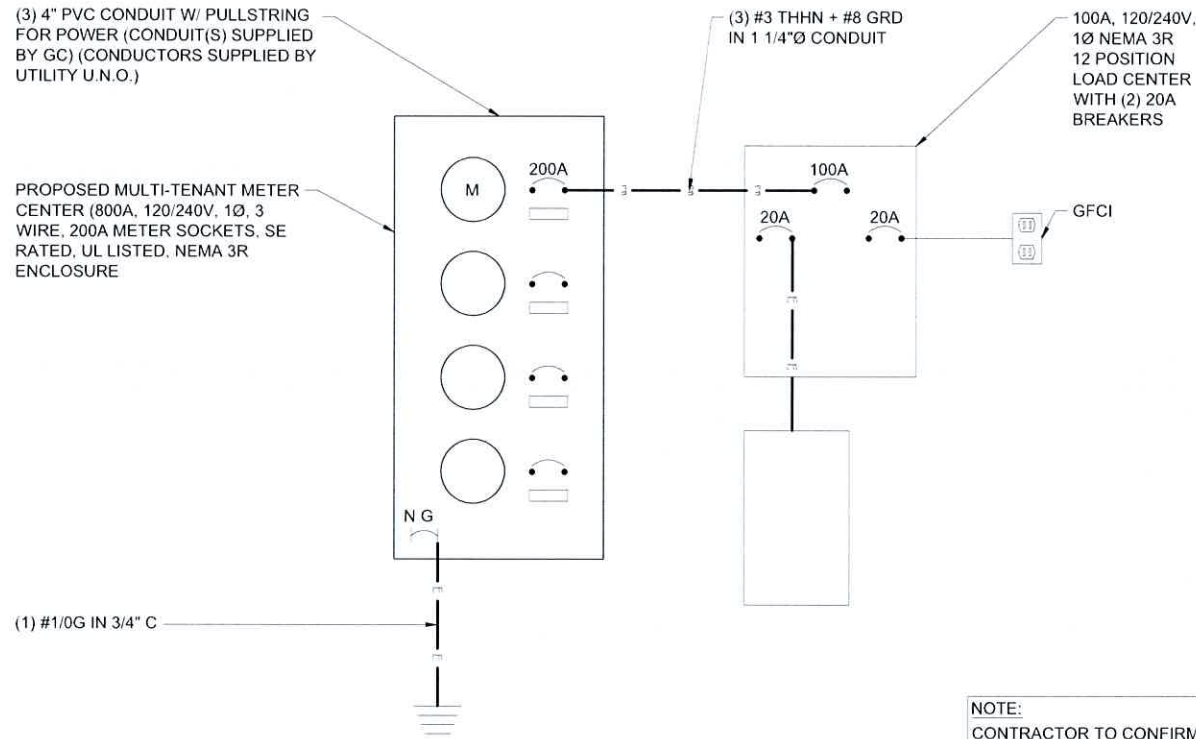
SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: E-3



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NOTE:
 CONTRACTOR TO CONFIRM BREAKER SIZE WITH TOWER LIGHTING MANUFACTURER

SINGLE LINE DIAGRAM (POWER)
 SCALE: NTS 1

NOTES AND SPECIFICATIONS

- ELECTRIC UTILITY WILL PROVIDE METER AND INCOMING SERVICE LATERAL CONDUCTORS. ALL ELECTRICAL WORK SHALL COMPLY WITH NEC, STATE AND LOCAL CODES.
- CONTRACTOR SHALL OBTAIN OWNER/TENANT EQUIPMENT DRAWINGS AND REVIEW FOR
- ADDITIONAL DETAILS AND REQUIREMENTS THAT MAY NOT BE SHOWN IN THESE DRAWINGS. CONTRACTOR SHALL COMPLY WITH ANY ADDITIONAL OWNER/TENANT SPECIFICATIONS AND REQUIREMENTS THAT MAY BE ADDRESSED IN THE EQUIPMENT DRAWINGS.
- PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE UTILITY SERVICE POINT. PROVIDE MAX AFC SIGNAGE AS REQUIRED PER ENC 110.24. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT. IN NO CASE SHALL THE FAULT CURRENT INTERRUPTING RATING BE LESS THAN 10,000 AMPS.
- THE GROUNDED SERVICE CONDUCTOR (NEUTRAL CONDUCTOR) SHALL BE GROUNDED AT THE SERVICE DISCONNECT ONLY.
- ALL POWER CIRCUITS SHALL USE COPPER CONDUCTORS WITH THHN/THWN INSULATION. ALL TERMINATIONS SHALL BE RATED FOR AT LEAST 75°C.
- CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLES FOR ALL UTILITY RECEPTACLES.
- CONTRACTOR SHALL ENSURE ALL NEUTRAL CONDUCTORS HAVE WHITE INSULATION AND EQUIPMENT GROUND CONDUCTORS HAVE GREEN INSULATION. COLOR TAPE IDENTIFICATION OF THESE CONDUCTORS IS NOT ALLOWED.
- PER NEC ARTICLE 702 PROVIDE SIGNAGE AS FOLLOWS:

AT SERVICE DISCONNECT:

WARNING - SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE(S) IS ENERGIZED



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ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

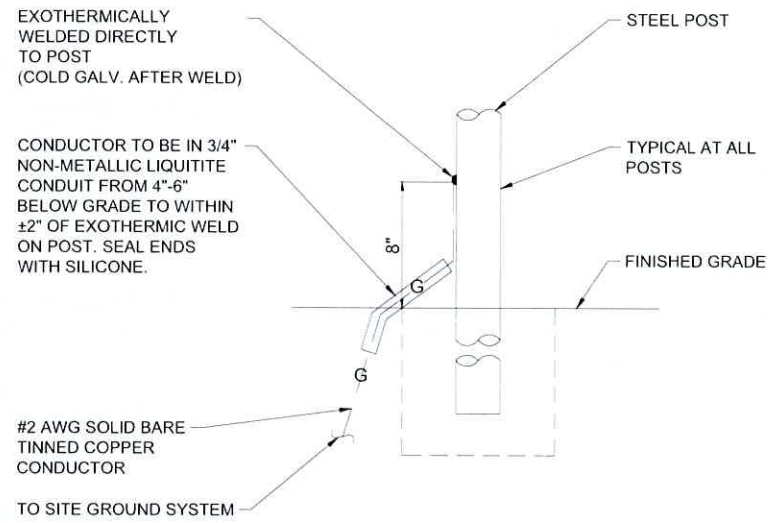
PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
SINGLE LINE DIAGRAM

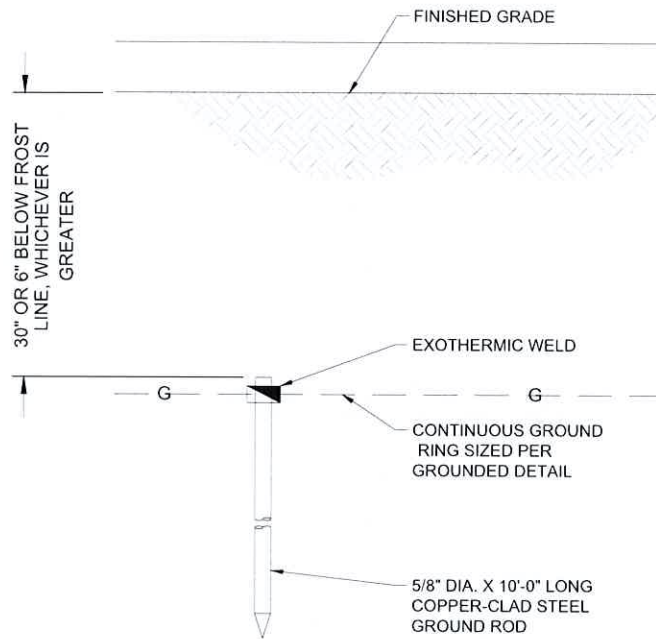
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PROJECT NUMBER	60498
SHEET NUMBER	E-4

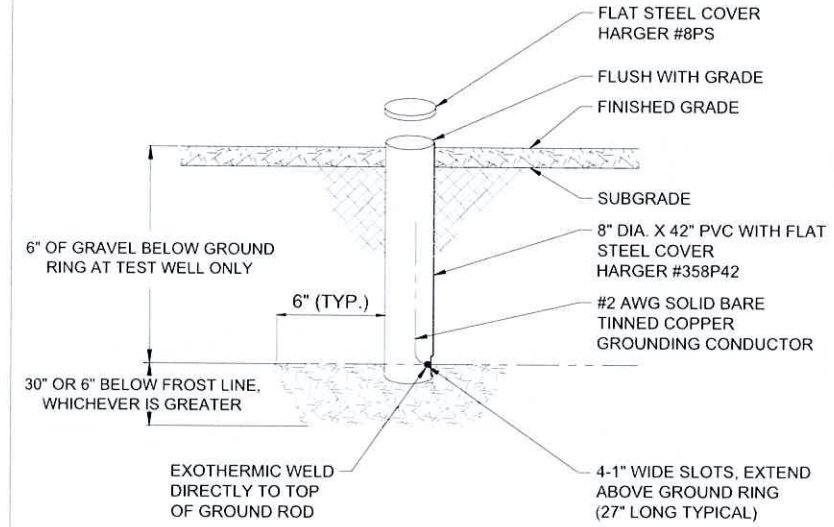
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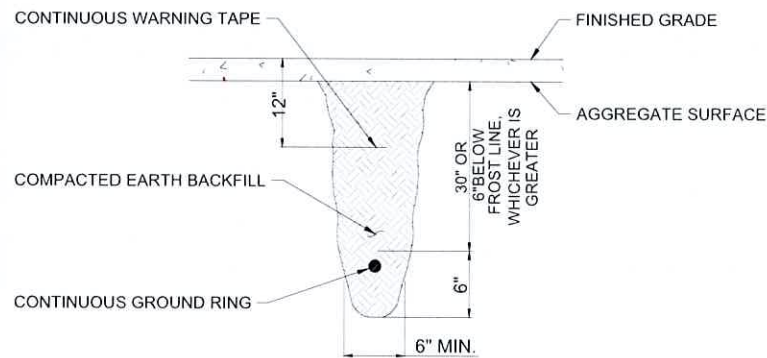
POST GROUNDING DETAIL
SCALE: NTS



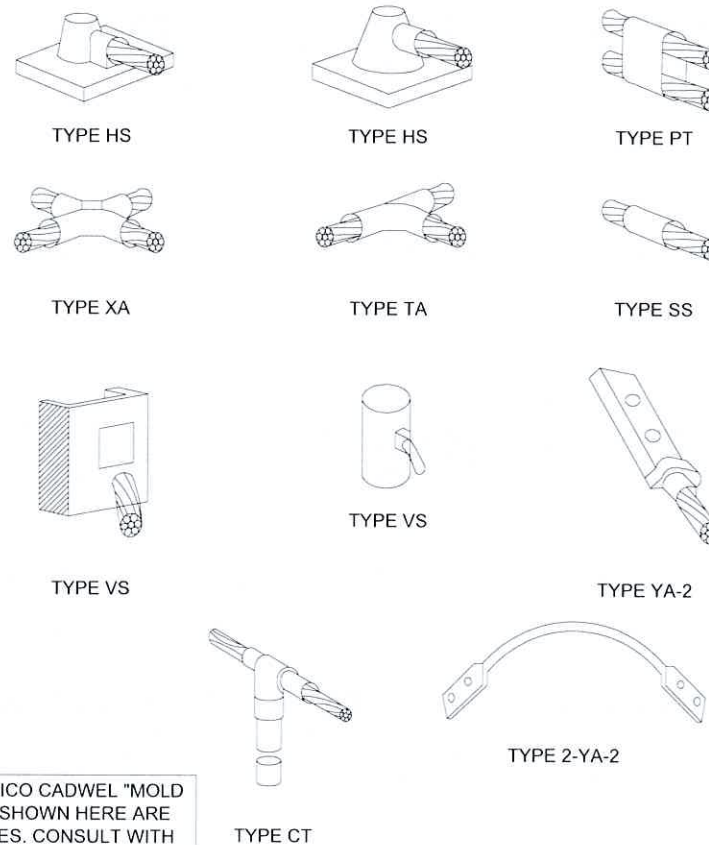
GROUND ROD DETAIL
SCALE: NTS



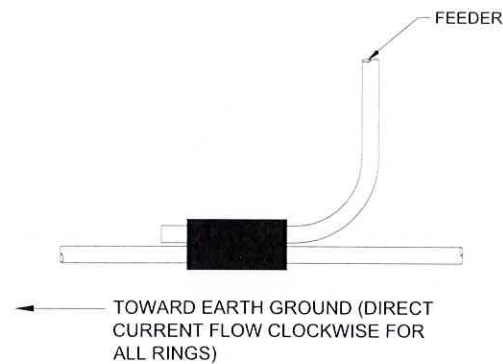
GROUND TEST WELL DETAIL
SCALE: NTS



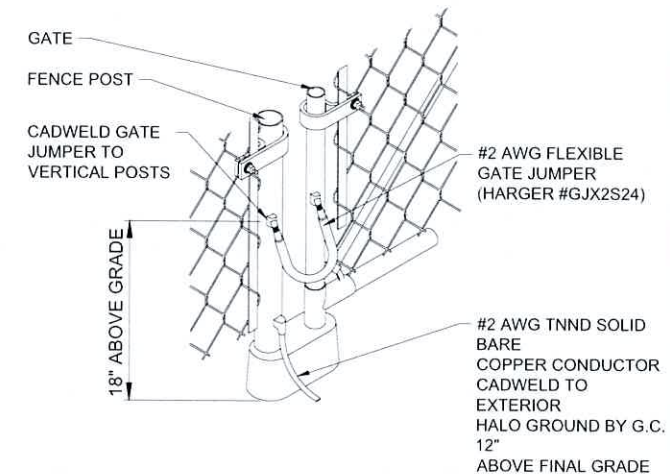
TRENCH DETAIL FOR GROUND RING
SCALE: NTS



EXOTHERMIC WELD DETAIL
SCALE: NTS



GROUND CONDUCTOR CONNECTION
SCALE: NTS



CORNER AND GATE POST DETAIL
SCALE: NTS



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A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: E-5

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GENERAL PROJECT NOTES

1. THE ENGINEER SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT ON A ONE TIME BASIS.
2. THE CONTRACTOR SHALL TOPSOIL AND SEED ALL DISTURBED AREAS.
3. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE-GROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE WORKING AREA, EXACT LOCATION OF WHICH MAY VARY FROM THE LOCATIONS INDICATED. IN PARTICULAR, THE CONTRACTOR IS WARNED THAT THE EXACT OR EVEN APPROXIMATE LOCATION OF SUCH PIPELINES, SUBSURFACE STRUCTURES AND/OR UTILITIES IN THE AREA MAY BE SHOWN OR MAY NOT BE SHOWN; AND IT SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. 48 HOURS BEFORE YOU DIG, DRILL OR BLAST, CALL 811.
4. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
6. THE CONTRACTOR SHALL RESTORE ALL PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO AT LEAST AS GOOD OF CONDITION AS BEFORE DISTURBED AS DETERMINED BY THE ENGINEER.
7. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.
9. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF THE STATE LICENSED LAND SURVEYOR.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
11. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE JURISDICTIONS STATE CODE AND OSHA REGULATIONS FOR CONSTRUCTION.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
13. ALL UTILITY WORK INVOLVING CONNECTIONS TO EXISTING SYSTEMS SHALL BE COORDINATED WITH THE ENGINEER AND THE UTILITY OWNER. NOTIFY THE ENGINEER AND THE UTILITY OWNER 24 HOURS BEFORE EACH AND EVERY CONNECTION TO EXISTING SYSTEMS IS MADE.
14. MAINTAIN FLOW FOR ALL EXISTING UTILITIES
15. ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
16. CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE COMPOUND AND THE TOWER.
17. THE CONTRACTOR SHALL TAKE TIES TO ALL UTILITY CONNECTIONS AND PROVIDE MARKED-UP AS-BUILT PLANS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES, AND THE CONTRACTOR SHALL PROVIDE ANY CORRECTION OR ADMISSIONS TO THE SATISFACTION OF THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED. AS-BUILTS SHALL INCLUDE ALL POWER, TELEPHONE, GROUNDING, ETC.
18. TOWER FOOTING DIMENSIONS SHALL BE VERIFIED WITH THE TOWER MANUFACTURER AND THE TOWER PLANS.

GENERAL CONSTRUCTION NOTES

1. GENERAL
 - A. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
 - B. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES.
 - C. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE APPROVAL.
 - D. EACH CONTRACTOR SHALL COOPERATE WITH THE OWNER'S REPRESENTATIVE, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
 - E. PAINT ALL ANTENNAS, MOUNTING HARDWARE, CABLES, CABLE TRAYS, ETC. TO MATCH EXISTING STRUCTURE PER OWNER REQUIREMENTS. OWNER SHALL APPROVE COLOR. ALL DAMAGED, MARRED, SCRAPPED, ABRADED, ETC. AREAS OF EXISTING PAINT SHALL BE REPAIRED PER OWNERS REQUIREMENTS. OWNER SHALL APPROVE COLOR.
2. EXCAVATIONS/FOUNDATION
 - A. FOUNDATION EXCAVATION SHALL BE HAND-TRIMMED TO REMOVE LOOSE MATERIALS.
 - B. EXTERIOR FOUNDATION BACKFILL SHALL BE SELECTED GRANULAR FILL.
 - C. ALL STRUCTURAL BACKFILL AND SUBBASE UNDER SLABS-ON-GRADE AND FOOTINGS SHALL BE "SW" OR BETTER PER ASTM D-2487 COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY PER ASTM D 698.
 - D. DO NOT PLACE FOOTINGS IN WATER OR ON FROZEN GROUND.
 - E. SOIL BEARING SURFACES, PREVIOUSLY ACCEPTED BY GEOTECHNICAL ENGINEER, WHICH ARE ALLOWED TO BECOME SATURATED, FROZEN OR DISTURBED SHALL BE REWORKED TO SATISFACTION OF GEOTECHNICAL ENGINEER.
 - F. DO NOT ALLOW GROUND BENEATH FOOTINGS TO FREEZE.
 - G. FOOTING EXCAVATIONS SHALL BE CUT NEAT.

3. CONCRETE

- A. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING APPLICABLE CODES: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"; ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"; MIX DESIGN SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLACING CONCRETE.

- C. CONCRETE SHALL BE NORMAL WEIGHT, 6% AIR ENTRAINED (±1.5%) WITH A MAXIMUM 4" SLUMP, AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI UNLESS OTHERWISE NOTED.
- D. MAXIMUM AGGREGATE SIZE SHALL BE 1".
- E. THE FOLLOWING MATERIALS SHALL BE USED:
 - PORTLAND CEMENT: ASTM C 150,
 - TYPE I REINFORCEMENT: ASTM A 615,
 - GRADE 60 NORMAL WEIGHT AGGREGATE: ASTM C 33
 - WATER: DRINKABLE
 - ADMIXTURES: NON-CHLORIDE CONTAINING
- F. REINFORCING SHALL CONFORM TO ASTM A-615 WITH SUPPLEMENT. MINIMUM YIELD STRENGTH Fy=60 KSI. REINFORCING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315.
- G. CONCRETE COVER AROUND REINFORCING BARS (U.N.O.) SHALL BE:
 1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED EARTH 3"
 2. CONCRETE EXPOSED TO EARTH, WEATHER 2"
 3. SLABS 3/4"
 4. ALL OTHER CONCRETE 1 1/2"
- H. UNLESS INDICATED OTHERWISE ON THE DRAWINGS, REINFORCEMENT SPLICES SHALL MEET CLASS B, TENSION LAP REQUIREMENTS IN ACCORDANCE WITH ALL PROVISIONS OF ACI 318 LATEST EDITION, UNLESS NOTED OTHERWISE.

GENERAL CONSTRUCTION NOTES CONT.

- I. CURING COMPOUNDS SHALL CONFORM TO ASTM C-309.
 - J. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN ACI-301
 - K. DO NOT WELD OR TACKWELD REINFORCING STEEL.
 - L. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, PIPING, WATERSTOPS, INSERTS, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
 - M. LOCATE ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITATE CONSTRUCTION AS ACCEPTABLE TO ENGINEER. PLACE REINFORCEMENT CONTINUOUSLY THROUGH JOINT.
 - N. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
 - O. PLACE CONCRETE IN A UNIFORM MANNER TO PREVENT THE FORMATION OF COLD JOINTS AND OTHER PLANES OF WEAKNESS. VIBRATE THE CONCRETE TO FULLY EMBED REINFORCING. DO NOT USE VIBRATORS TO TRANSPORT CONCRETE THROUGH CHUTES OR FORMWORK.
 - P. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
 - Q. DO NOT ALLOW CONCRETE SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 14 DAYS AFTER PLACEMENT.
 - R. FOR COLD-WEATHER AND HOT-WEATHER CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS MINIMUM.
 - S. PROVIDE A STEEL TROWEL FINISH TO THE SLAB.
- 4. ANTENNA SUPPORT BRACKET NOTES (IF APPLICABLE)**
- A. DESIGN RESPONSIBILITY OF ANTENNA MOUNTING BRACKETS AND POLES AND ALL COMPONENTS THERE OF AND ATTACHMENT THERE TO SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER. MFR SHALL PROVIDE TO THE ENGINEER FOR APPROVAL, DRAWINGS DETAILING ALL COMPONENTS OF THE ASSEMBLY, INCLUDING CONNECTIONS, DESIGN LOADS, AND ALL OTHER PERTINENT DATA.
 - B. BRACKETS SHALL BE DESIGNED TO SUPPORT CURRENT AND FUTURE PANEL ANTENNAS AND COAXIAL CABLES AS SHOWN.

5. STRUCTURAL STEEL NOTES

- A. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- B. STEEL ANGLES, BASE PLATES, BEARING PLATES AND MISC. FABRICATION SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF ASTM-A36 WITH A MINIMUM YIELD STRESS OF 36 KSI. ALL STEEL TUBES AND PIPES SHALL BE A500 STEEL MINIMUM.
- C. ALL DINGS, SCRAPES, MARS, AND WELDS IN THE FINISHED AREAS SHALL BE REPAIRED BY FIELD TOUCH-UP PRIOR TO COMPLETION OF THE WORK.
- D. ALL EXTERIOR STRUCTURAL STEEL SHALL BE, WHEN DELIVERED, HOT-DIP GALVANIZED ACCORDING TO ASTM A123, TOUCH-UP FIELD WELDS AND ABRADED AREAS W/2 COATS OF GALVANIZED PAINT, ZRC COLD GALVANIZING COMPOUND OR APPROVED EQUAL.
- E. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
- F. CONNECTIONS:
 1. BOLTED CONNECTIONS SHALL USE BEARING TYPE GALVANIZED ASTM A325 BOLTS AND SHALL HAVE A MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
 2. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. GALVANIZED ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
- G. SAFETY NOTES:
 1. THE CONTRACTOR WILL ADHERE TO ALL SAFETY REGULATIONS, LOCAL, STATE AND FEDERAL.
 2. THE CONTRACTORS WILL CONDUCT DAILY SAFETY TAILGATE MEETINGS IN ADDITION TO WEEKLY SAFETY MEETINGS. THESE REPORTS WILL BE MADE AVAILABLE TO THE OWNER UPON REQUEST.
 3. ALL WORKERS & VISITORS TO THE SITE SHALL WEAR HARD HATS & ANY OTHER SAFETY EQUIPMENT REQUIRED BY THE WORK BEING PERFORMED ON THE SITE.

GENERAL GROUNDING NOTES:

1. ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
2. GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL.
3. THE CONTRACTOR SHALL NOTIFY THE VERTICAL BRIDGE REPRESENTATIVE WHEN THE GROUND RING IS INSTALLED SO THAT THE REPRESENTATIVE CAN INSPECT GROUNDING BEFORE IT IS CONCEALED.
4. ALL EXTERIOR GROUND CONDUCTORS INCLUDED GROUND RING SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
5. ALL BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL, EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #15-501.

APPLICABLE CODES AND STANDARDS

1. ANSI/TIA-222-H-1: STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES, LATEST EDITION
2. ANSI/TIA-322-2016: LOADING, ANALYSIS, DESIGN, INSTALLATION, ALTERATION AND MAINTENANCE OF COMMUNICATION STRUCTURES, LATEST EDITION
3. ANSI/TIA-222 STRUCTURAL-H-1: STRUCTURAL STANDARD, LATEST EDITION
4. 2015 IBC: INTERNATIONAL BUILDING CODE
5. 2015 IBC: INTERNATIONAL MECHANICAL CODE
6. NFPA 70, NATIONAL ELECTRICAL CODE (2017 NEC)
7. NFPA 780, LIGHTNING PROTECTION CODE (2017 NEC)
8. 2015 IBC: INTERNATIONAL FUEL GAS CODE
9. 2015 IFC: FIRE CODE
10. ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (2014 ACI)
11. CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION
12. AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION
13. AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION

6. WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS, PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
7. THE CONTRACTOR SHALL COORDINATE AS REQUIRED TO HAVE UTILITY COMPANY REPRESENTATIVE AT THE SITE TO DISCONNECT THE UTILITY NEUTRAL FROM GROUNDING SYSTEM DURING FINAL INSPECTION SO THAT REQUIRED TESTING ON THE GROUND SYSTEM CAN BE PERFORMED. THE CONTRACTOR SHALL PROVIDE NOTICE TO THE VERTICAL BRIDGE REPRESENTATIVE (TWO) DAYS PRIOR TO FINAL TESTING. IF THE CONTRACTOR SHALL PAY THE COST FOR AN INDEPENDENT GROUNDING CONSULTANT TO PERFORM THE GROUND RESISTANCE TEST. GROUNDING CONSULTANT SHALL BE SELECTED BY THE VERTICAL BRIDGE REPRESENTATIVE. IF THE UTILITY COMPANY REPRESENTATIVE FAILS TO APPEAR DUE TO NO FAULT THE CONTRACTOR, NO PENALTY APPLY.
8. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
9. THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCREASE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS ARE UNAVOIDABLE. ALL METAL WORK WITHIN 10 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THIS GROUND SYSTEM, WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
10. PAINT, ENAMEL LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATING SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
11. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
12. ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 30" (OR 6" BELOW THE FROST LINE, WHICHEVER IS GREATER).
13. CONTRACTOR TO COORDINATE WITH TOWER CONTRACTOR TO PROVIDE, RUN AND TERMINATE POWER & CONTROL WIRES WITHIN CONDUITS FROM LIGHTENING CONTROLLER TO ELECTRICAL AND CONTROL PANELS.
14. INTERMEDIATE COAX, GROUNDING TO BE INSTALLED ON VERTICAL RUNS THAT EXCEED 200 FEET IN LENGTH. CONTRACTOR SHALL COORDINATE WITH VERTICAL CONSTRUCTION MANAGER ON LOCATION OF INTERMEDIATE GROUNDING LOCATION.

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANY OR OTHER PUBLIC AUTHORITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
5. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
8. TRANSMITTER EQUIPMENT AND ANTENNAS ARE DESIGNED TO MEET ANSI/EIATIA 222-G REQUIREMENTS.
9. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
10. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
11. IF ANY UNDERGROUND UTILITIES OR STRUCTURES EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE THEM AND CONTACT THE APPLICANT AND OWNER'S REPRESENTATIVE.
12. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION BY TECHNICIANS APPROXIMATELY TWICE A MONTH.
13. PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT OR MODIFICATION TO THE EXISTING STRUCTURE, A STRUCTURAL ANALYSIS SHALL BE PERFORMED BY THE OWNER'S AGENT TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES.
14. PROPERTY LINE INFORMATION WAS PREPARED USING DEEDS, TAX MAPS AND PLANS OF RECORD AND SHOULD NOT BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY.
15. THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
16. THE PROPOSED FACILITY WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORM WATER RUNOFF, THEREFORE NO DRAINAGE STRUCTURES ARE PROPOSED.
17. NO SIGNIFICANT NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY.
18. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
19. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
20. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.



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Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:

BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:

GENERAL & GROUNDING NOTES

SCALE: NONE

PROJECT NUMBER 60498

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EXISTING OVERALL SITE

SCALE: NTS

1



EXISTING ACCESS DRIVE

SCALE: NTS

2



EXISTING POWER POLE / TRANSFORMER

SCALE: NTS

3



EXISTING FIBER PEDESTAL

SCALE: NTS

4



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Michael L. Pinske 9/30/2024
Signature: Date:

A	9/10/24	REVISED UTILITY NOTES
MARK	DATE	DESCRIPTION

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

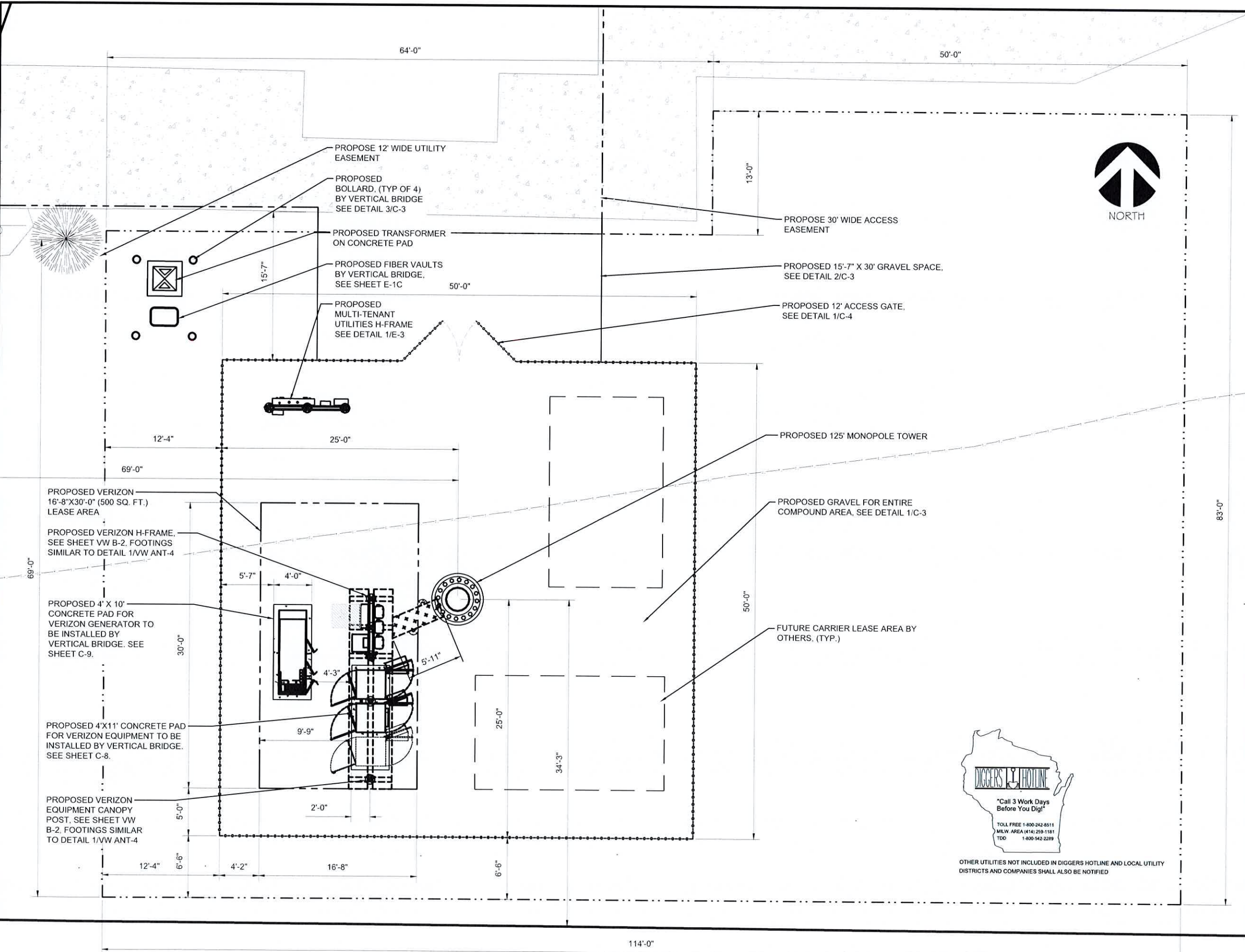
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
EXISTING SITE PHOTOS

SCALE: NONE

PROJECT NUMBER: 60498
SHEET: 1

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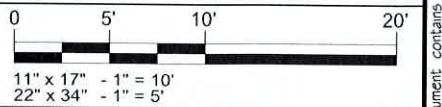
Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
ENLARGED SITE PLAN



PROJECT NUMBER: 60498
 SHEET NUMBER: VW C-1

ENLARGED SITE PLAN
 SCALE: 1" = 10'

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SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
13. ALL REMOVED SPOILS TO BE UTILIZED FOR BACKFILL SHALL BE PROTECTED FROM FREEZE

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. SLAB FOUNDATION DESIGN ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1 1/2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL3/4 IN.
BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES ON CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. COLD WEATHER CONCRETING (BELOW 40°). SHALL COMPLY WITH ACI 301. CONTRACTOR SHALL NEVER PLACE CONCRETE ON FROZEN SUBGRADE AND REBAR TEMPERATURE SHALL NEVER BE BELOW 32°F DURING CONCRETE PLACEMENT. STEEL TEMPERATURE CAN BE RAISED BY BATHING IT IN WATER UNTIL ICE DOES NOT FORM ON BARS. CONCRETE MATERIALS MAY BE HEATED, BUT MIX TEMPERATURE SHALL BE BETWEEN 50°F & 70°F AT TIME OF PLACING. ALL CONCRETE EXPOSED TO FREEZING DURING PLACEMENT OR DURING SERVICE LIFE SHALL BE AIR ENTRAINED. INSULATED BLANKETS (OR APPROVED EQUAL METHOD) SHALL BE PLACED OVER FRESHLY FINISHED CONCRETE TO ALLOW PROPER CURING/COMBAT FREEZING. THE CONCRETE TEMP. SHOULD BE MAINTAINED AT 50°F FOR FIVE (5) DAYS OR 70° FOR THREE (3) DAYS. CONCRETE SHALL NOT BE ALLOWED TO FREEZE BEFORE IT HAS REACHED A STRENGTH OF AT LEAST 500 PSI

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - TO BE DETERMINED SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - CENTRAL STATES TOWERS OEM - ORIGINAL EQUIPMENT MANUFACTURE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. CONSTRUCTION SHALL COMPLY WITH "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF CINGULAR GSM SITES."

APPLICABLE BUILDING CODES AND STANDARDS:

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
2003 INTERNATIONAL BUILDING CODE (2003 IBC OR LATEST EDITION)
2008 NATIONAL ELECTRICAL CODE (NEC 2008)
UNDERWRITER LABORATORIES APPROVED ELECTRICAL PRODUCTS LIFE SAFETY CODE NFPA-101
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD.
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) EIA-222-G, EXPOSURE CATEGORY C, STRUCTURE CLASS II, TOPO CATEGORY 1. STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.
INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONICS IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND HIGH SYSTEM EXPOSURE")
TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN GENERAL REQUIREMENTS AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



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Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE: PRELIMINARY DATE ISSUED: 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
GENERAL NOTES

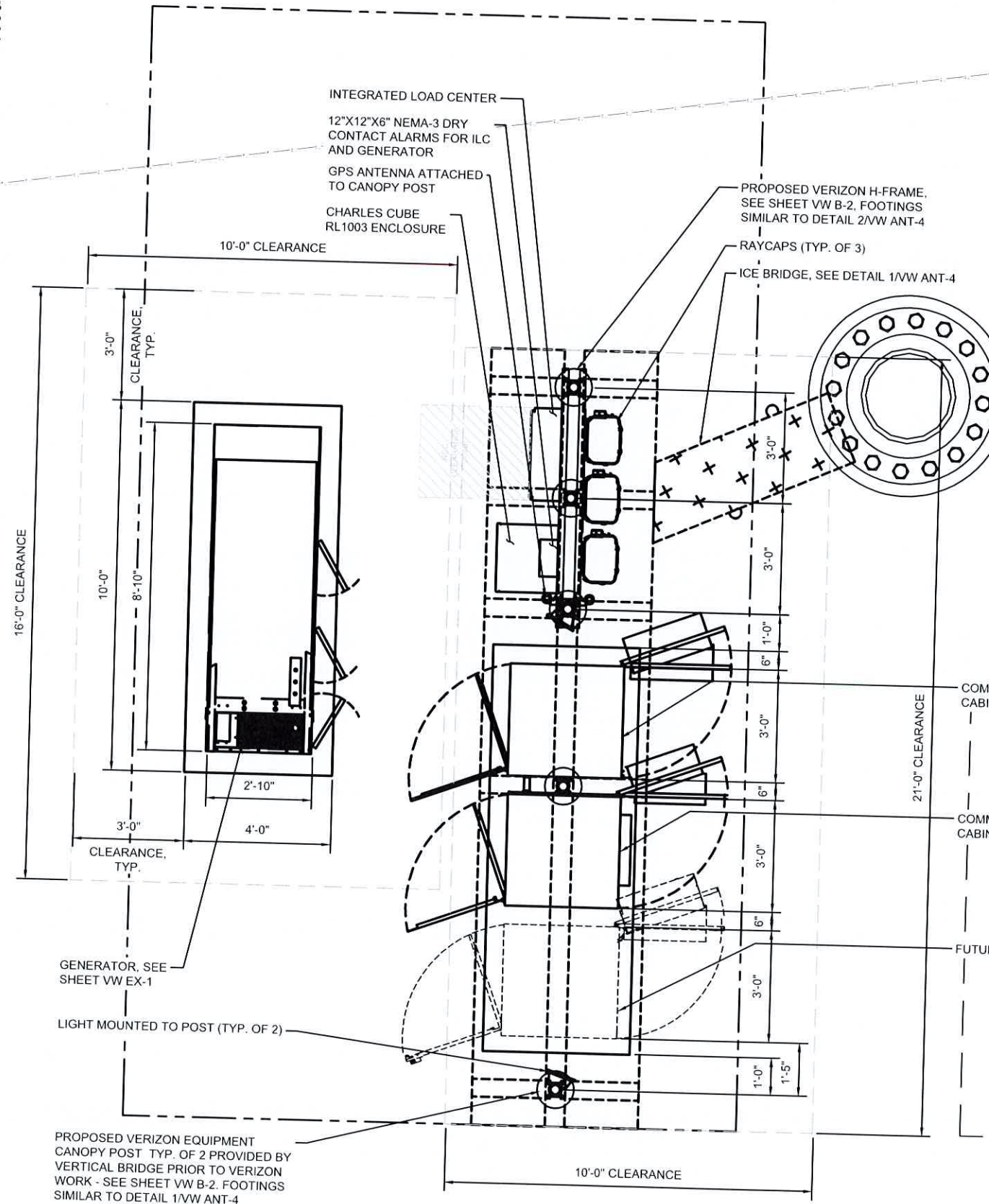
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PROJECT NUMBER: 60498
SHEET NUMBER: VW C-2

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NOTE:
 CONCRETE PAD TO BE INSTALLED
 BY VERTICAL BRIDGE PRIOR TO
 COLOCATION

NOTE:
 FOR MORE EQUIPMENT
 INFORMATION SEE SHEET VW B-2



- NOTES:
- THIS IS AN UNMANNED STORAGE AND EQUIPMENT PAD ONLY.
 - PAD SHALL BE PLACED ACCORDING TO STATE AND LOCAL CODE FROM ANY PROPERTY LINE, INTERIOR LOT LINE OR ANY OTHER BUILDING.
 - ALL ITEMS NOTED AS "FIELDWORK" SHALL BE INSTALLED AND TESTED AT THE FACTORY THEN REMOVED FOR TRANSPORT AND REINSTALLED AT THE FINAL SITE.
 - PAD NOT DESIGNED FOR INSTALLATION IN A FLOOD PRONE AREA.
 - THIS PAD DOES NOT CONTAIN PLUMBING FACILITIES.
 - THIS ENCLOSURE IS CLASSIFIED AS USE S-2 (IBC, FBC), U (OBC) 2006-2015 INTERNATIONAL BUILDING CODE 2009-2012 UNIFORM MECHANICAL CODE 2006-2015 INTERNATIONAL MECHANICAL CODE 2004 CHICAGO BUILDING CODE
 - DESIGN PARAMETERS
 USE GROUP: S-2 (IBC, FBC) U (OBC)
 CONSTRUCTION TYPE: V-B (IBC, FBC)
 OCCUPANCY CATEGORY: II
 ROOF LIVE LOAD: 81 PSF
 FLOOR LIVE LOAD: 986 PSF
 GROUND SNOW LOAD: 96 PSF (W/A FOR FBC 2014)
 WIND SPEED: 150 MPH/EXPOSURE C
 SEISMIC ZONE FOR SBC & UBC: 4
 SEISMIC DESIGN CATEGORY FOR IBC: E (IBC) USE GROUP-III (OBC) SITE CLASS-D (OBC)
 BULLET RESISTANCE LEVEL 4 FOR 4" CONCRETE PER IBC
 CONCRETE f_c : 5000 PSI AT 28 DAYS
 CONCRETE UNIT WEIGHT: 115 PCF
 - CONCRETE PAD AND ASSOCIATED EQUIPMENT IS PROVIDED BY OWNER UNDER SEPARATE CONTRACT. EQUIPMENT ENCLOSURE INFORMATION INDICATED HEREIN IS PROVIDED FOR REFERENCE ONLY AND IS TAKEN FROM MANUFACTURER'S AVAILABLE DATA. REFER TO CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR WORK TO BE PERFORMED UNDER THIS CONTRACT.



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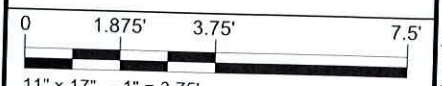
Michael L. Pinske
 Signature: _____ Date: 9/30/2024

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A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

EQUIPMENT PAD PLAN & NOTES

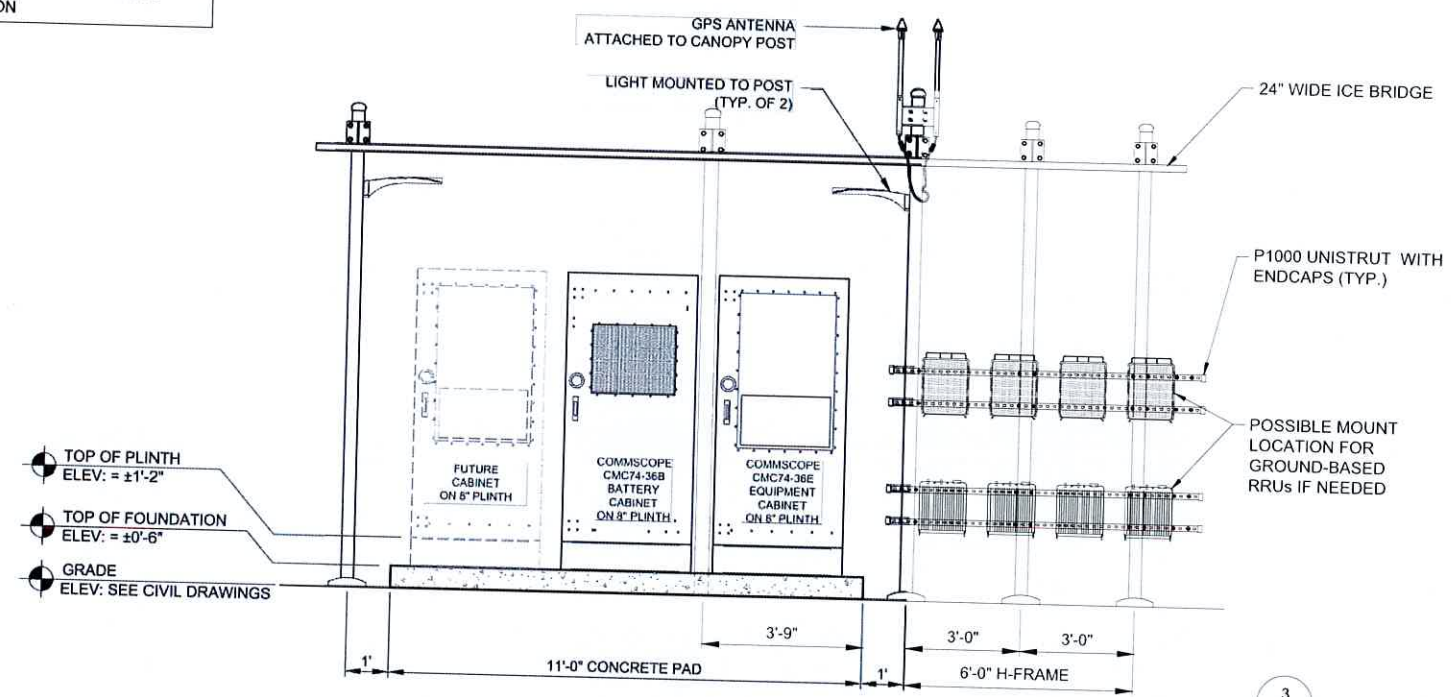


PROJECT NUMBER: 60498
 SHEET: _____

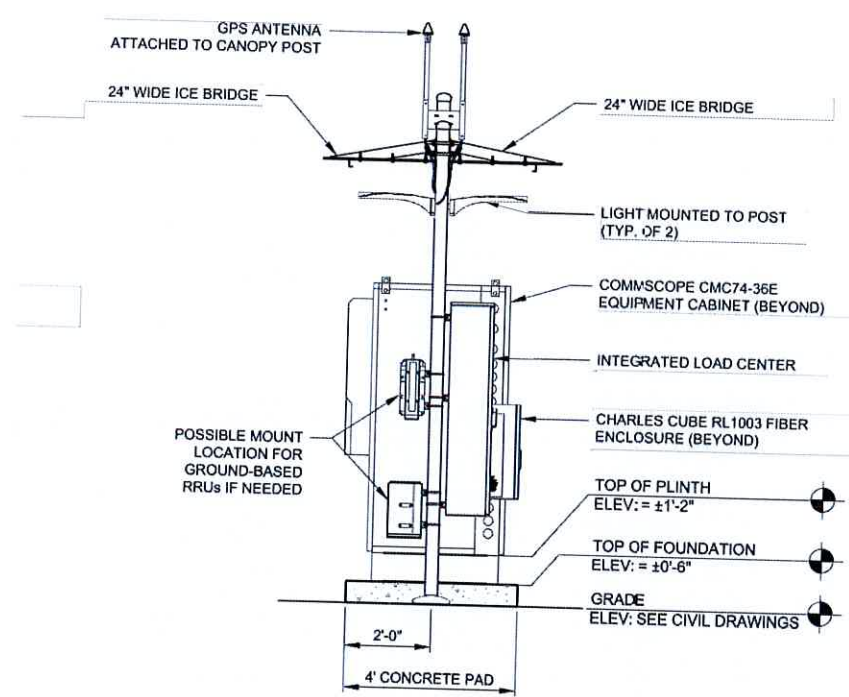
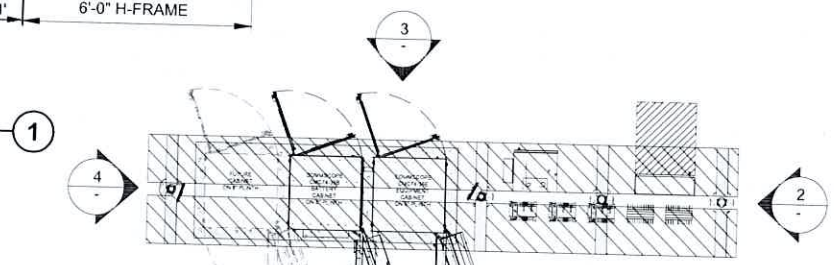
EQUIPMENT PAD - LAYOUT PLAN
 SCALE: 1" = 3.75'

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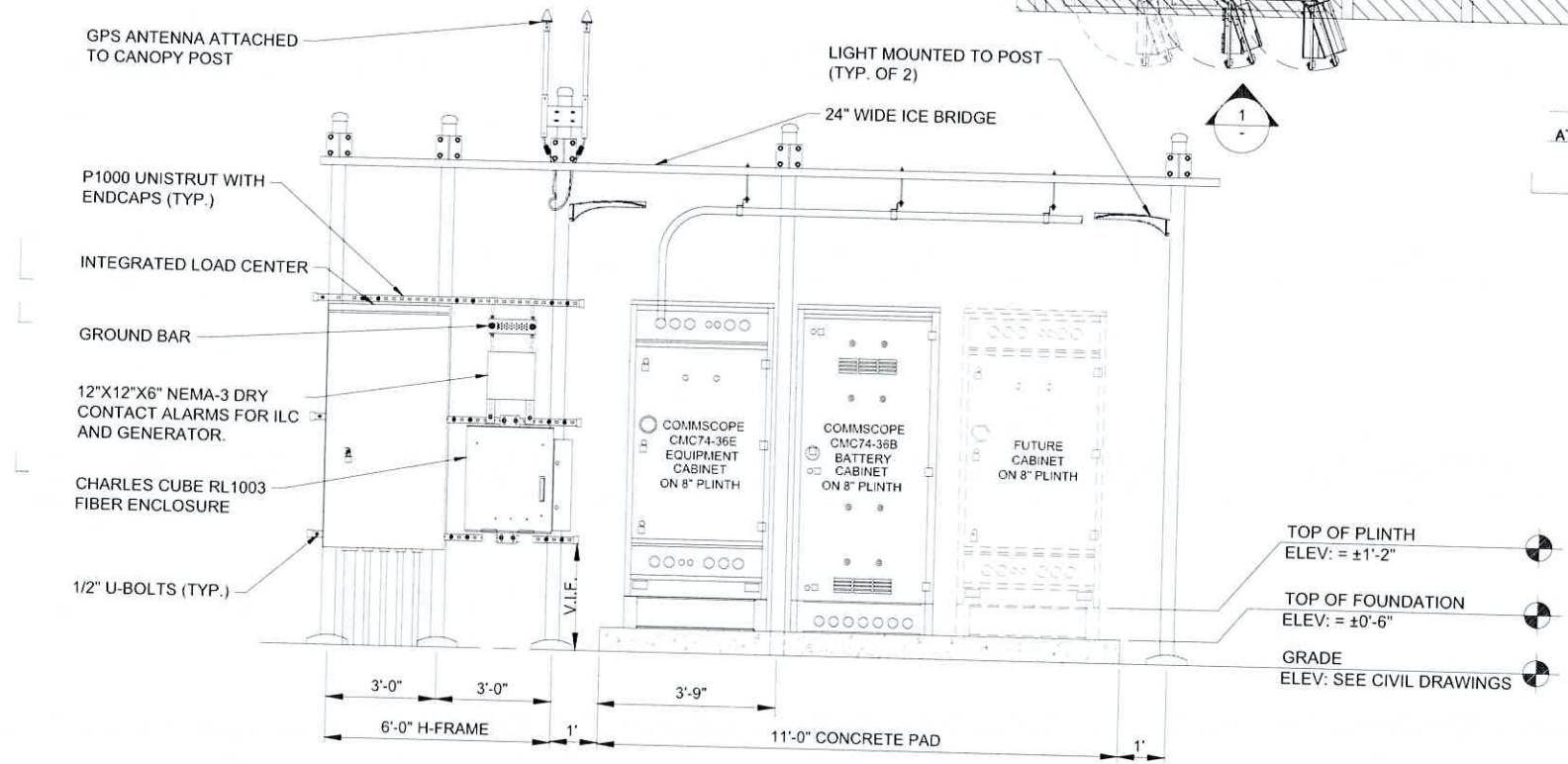
NOTE:
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 BY VERTICAL BRIDGE PRIOR TO
 COLOCATION



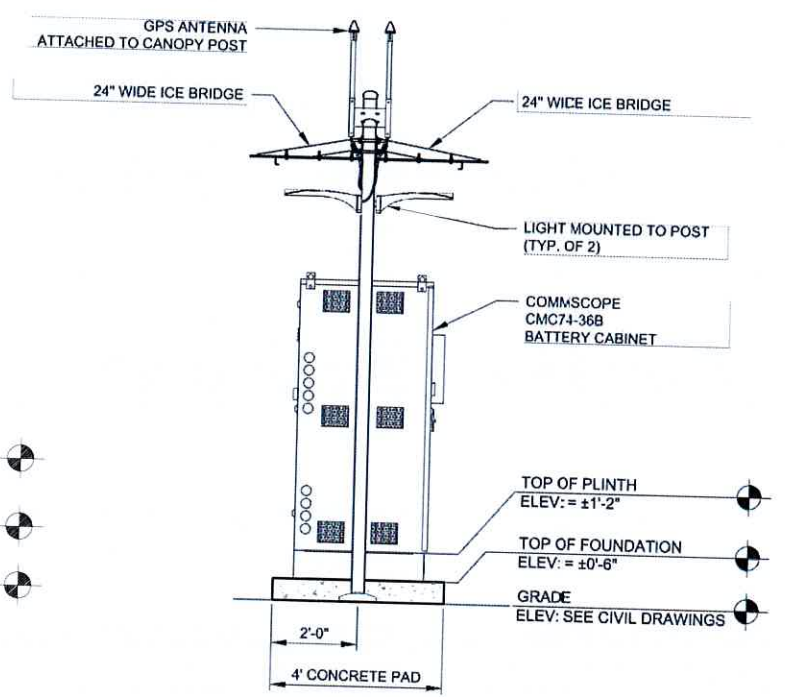
EQUIPMENT PAD ELEVATION
 SCALE: NTS



EQUIPMENT PAD ELEVATION
 SCALE: NTS



EQUIPMENT PAD ELEVATION
 SCALE: NTS



EQUIPMENT PAD ELEVATION
 SCALE: NTS

NOTE: FOR REFERENCE ONLY



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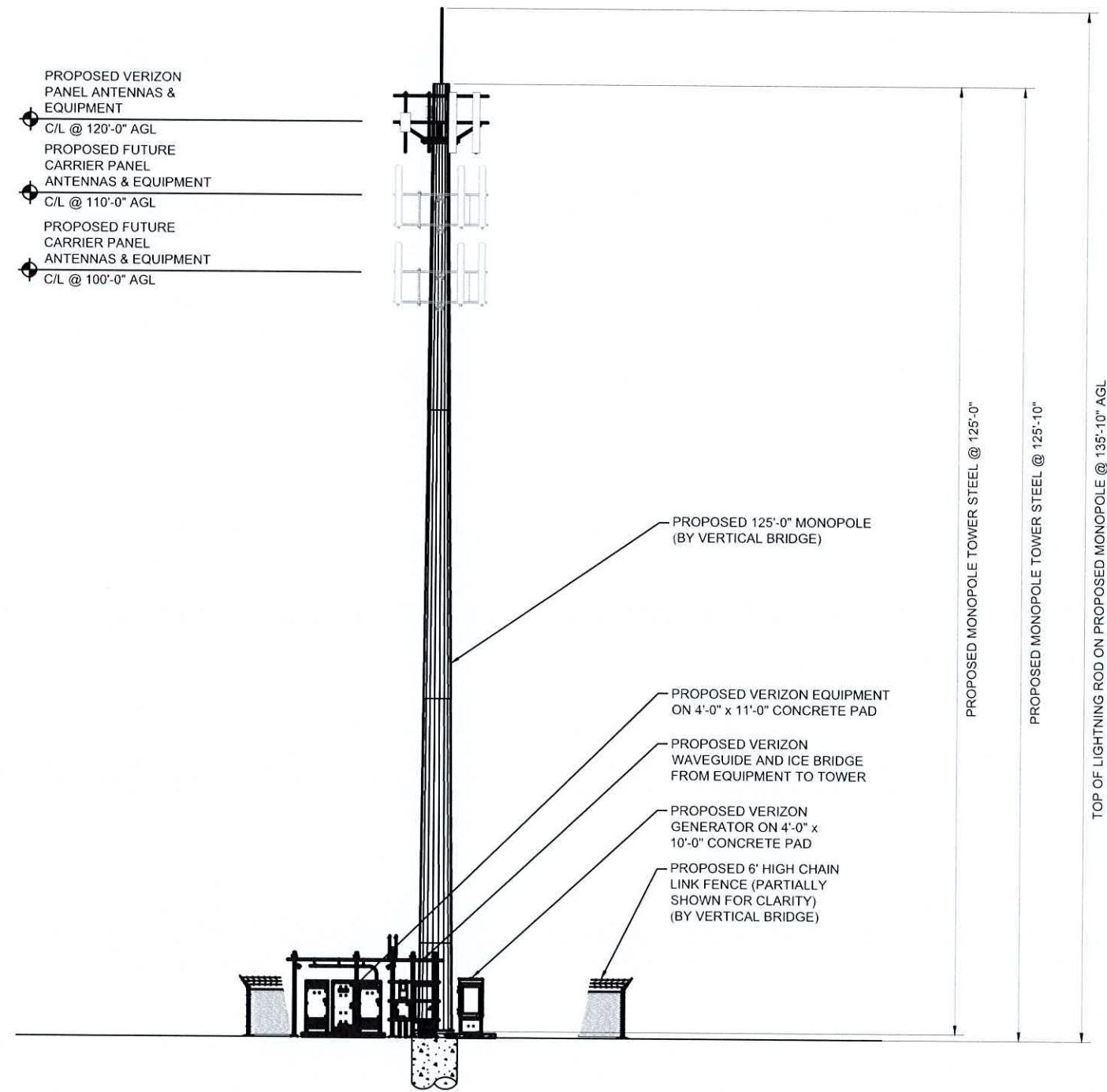


Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024
PROJECT TITLE: BUSINESS DRIVE		
PROJECT INFORMATION: 2219 SAUK TRAIL RD SHEBOYGAN, WI 53083 SHEBOYGAN COUNTY		
SHEET TITLE: EQUIPMENT PAD ELEVATIONS		
SCALE: NONE		
PROJECT NUMBER	60498	
SHEET		

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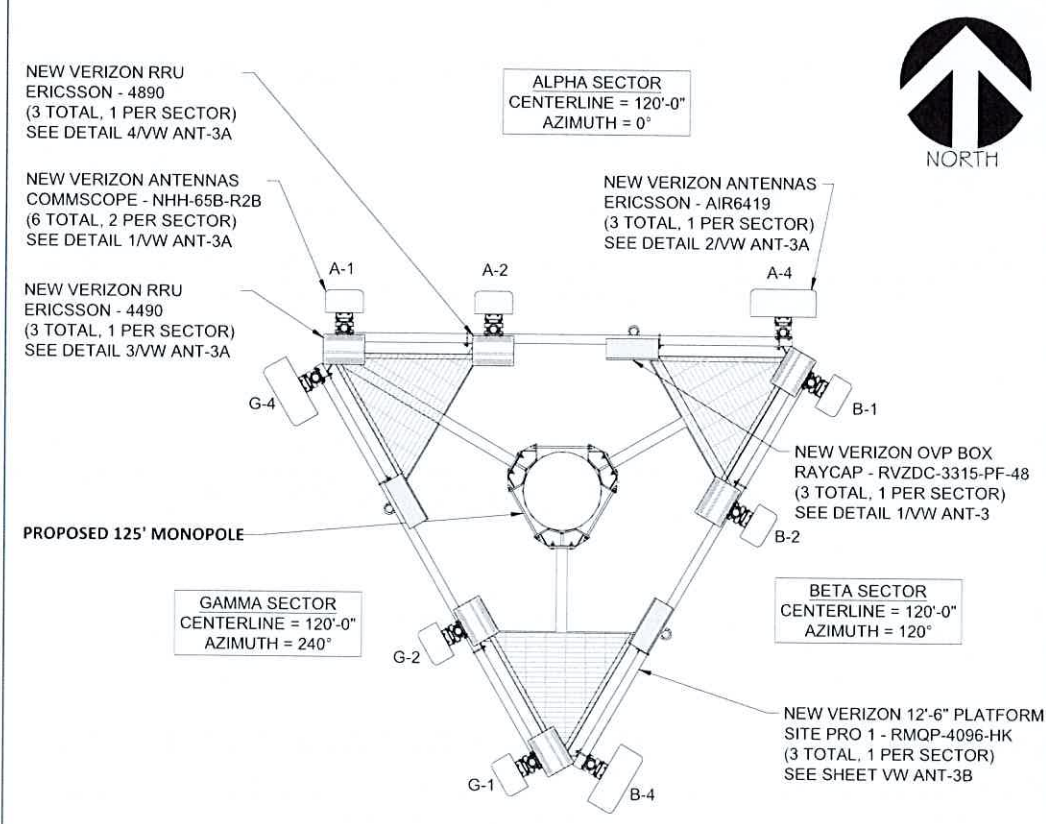


SITE ELEVATION
SCALE: 1" = 20' 1

G.C. TO ADJUST HEIGHT OF MOUNT BY
 ±6" AS NEEDED TO AVOID CLIMBING
 FACILITIES. G.C. IS NOT TO REMOVE OR
 DAMAGE CLIMBING FACILITIES DURING
 INSTALLATION.

STRUCTURAL NOTES:

- RAMAKER SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. STRUCTURAL CALCULATIONS WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE AND ANTENNA MOUNTS FOR THE DEPLOYMENT OF THE EQUIPMENT. CONTRACTOR TO COORDINATE WITH THE PROJECT MANAGER TO OBTAIN A COPY.
- CONTRACTOR MUST COMPLY WITH STRUCTURAL ANALYSIS AND MOUNT ANALYSIS RECOMMENDATIONS FOR ALL NEW LOADING.



PROPOSED ANTENNA LAYOUT
SCALE: 1" = 5' 2



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ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
SITE ELEVATION

SCALE:
AS NOTED

PROJECT NUMBER: 60498
 SHEET NUMBER: VW ANT-1

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Added

700	1900	AWS	Make	Atoll Model	Item Description	Centerline	Tip Height	Azimuth	Inst. Type	Quantity	Item ID
			Ericsson	AIR6419		120	121.2	0(1) 120(2) 240(3)	PHYSICAL	3	
LTE	LTE	LTE	COMMSCOPE	NHH-65B-R2B	HEX PORT, AWS/PCS/700/850, 6 FT, 65 HBW,	120	123	0(1) 120(2) 240(3)	PHYSICAL	6	1900056292

Removed

700	1900	AWS	Make	Atoll Model	Item Description	Centerline	Tip Height	Azimuth	Inst. Type	Quantity	Item ID
-----	------	-----	------	-------------	------------------	------------	------------	---------	------------	----------	---------

No data available.

Retained

700	1900	AWS	Make	Atoll Model	Item Description	Centerline	Tip Height	Azimuth	Inst. Type	Quantity	Item ID
-----	------	-----	------	-------------	------------------	------------	------------	---------	------------	----------	---------

No data available.

ANTENNA SUMMARY

SCALE: NTS

1

Added

Equipment Type	Location	700	1900	AWS	Make	Atoll Model	Item Description	Cable Length	Cable Size	Install Type	Quantity	Item ID
RRU	Tower				ERICSSON INC	AIR6419_B77D	AIR 6419 B77D Radio Unit			PHYSICAL	0	1900483699
RRU	Tower		LTE	LTE	ERICSSON INC	4890	DB Radio 4890HP B2+B66- Rem Radio Unit			PHYSICAL	3	1900483775
RRU	Tower	LTE			ERICSSON INC	4490	DB Radio 4490HP B5+B13- Rem Radio Unit			PHYSICAL	3	1900483084
Hybrid Cable	Tower				COMMSCOPE-001	HFT1206-24SV4-xxxG			1-5/8 inch	PHYSICAL	3	
Alarm	Tower				RAYCAPINC-001	3315-ALM-RS485	RETROFIT FOR THE 60VP DIST BOX			PHYSICAL	3	000000001900070
OVP Box	Tower				RAYCAPINC-001	RVZDC-3315-PF-48	TOWER TOP AND BASE POWER PROTECTION FIBE			PHYSICAL	3	000000001900422

Removed

Equipment Type	Location	700	1900	AWS	Make	Atoll Model	Item Description	Cable Length	Cable Size	Install Type	Quantity	Item ID
----------------	----------	-----	------	-----	------	-------------	------------------	--------------	------------	--------------	----------	---------

No data available.

Retained

Equipment Type	Location	700	1900	AWS	Make	Atoll Model	Item Description	Cable Length	Cable Size	Install Type	Quantity	Item ID
----------------	----------	-----	------	-----	------	-------------	------------------	--------------	------------	--------------	----------	---------

EQUIPMENT SUMMARY

SCALE: NTS

2



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A 9/10/24 REVISED UTILITY NOTES

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PROJECT TITLE:

BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:

ANTENNA INFORMATION

SCALE: NONE

PROJECT NUMBER 60498
SHEET NUMBER VW ANT-2

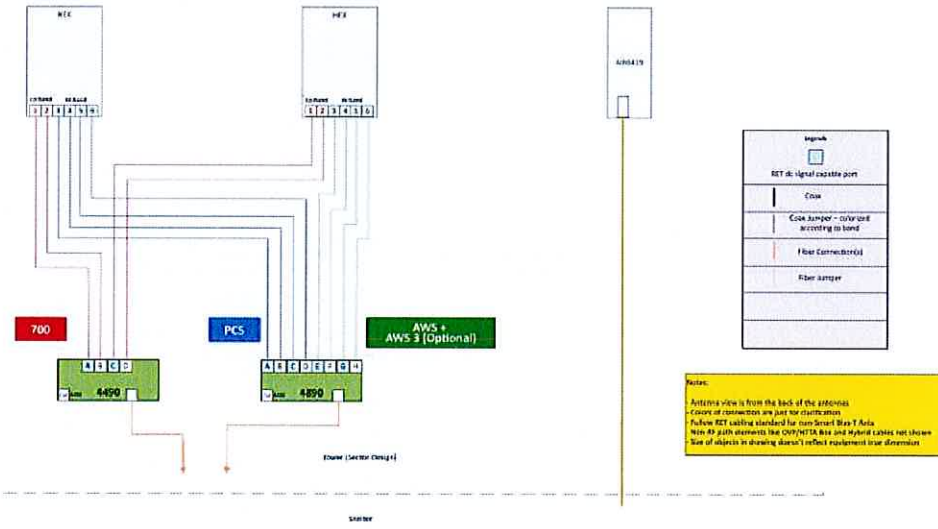
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RF EMISSIONS REPORT REQUIRED

YES NO
 DATE OF REPORT: _____

Alpha, Beta, Gamma



CABLE DIAGRAM
SCALE: NTS 1

SECTOR	AT GROUND		AT STRUCTURE		TOTAL (±)
	HOR (±)	VER (±)	HOR (±)	RAYCAP CL (±)	
ALPHA	10'	10'	20'	120'	160'
BETA	10'	10'	20'	120'	160'
GAMMA	10'	10'	20'	120'	160'

NOTE TO RF, G.C. & IMPLEMENTATION:
 RAYCAP CHART IS CURRENTLY BEING UPDATED BY VERIZON WIRELESS. PRIOR TO FINAL AND CONSTRUCTION, CHART TO BE INSERTED. GC TO NOTIFY VERIZON WIRELESS IF THIS NOTE IS STILL ON THE DRAWINGS PRIOR TO CONSTRUCTION.

Raycap Layout - Raycap Per Sector					
POWER					
3	700 RRU			6	700 RRU2/A2
2	PCSLT RRU			5	PCSLT RRU2/A2
1	AWS RRU			4	AWS RRU2/A2
FIBER					
1	AWS RRU	2	AWS RRU2/A2	3	PCSLT RRU
		4	PCSLT RRU/A2	5	700 RRU
				6	700 RRU/A2
7	8	9	10	11	12

RAYCAP TABLE
SCALE: NTS 2



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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
ANTENNA INFORMATION

SCALE: NONE

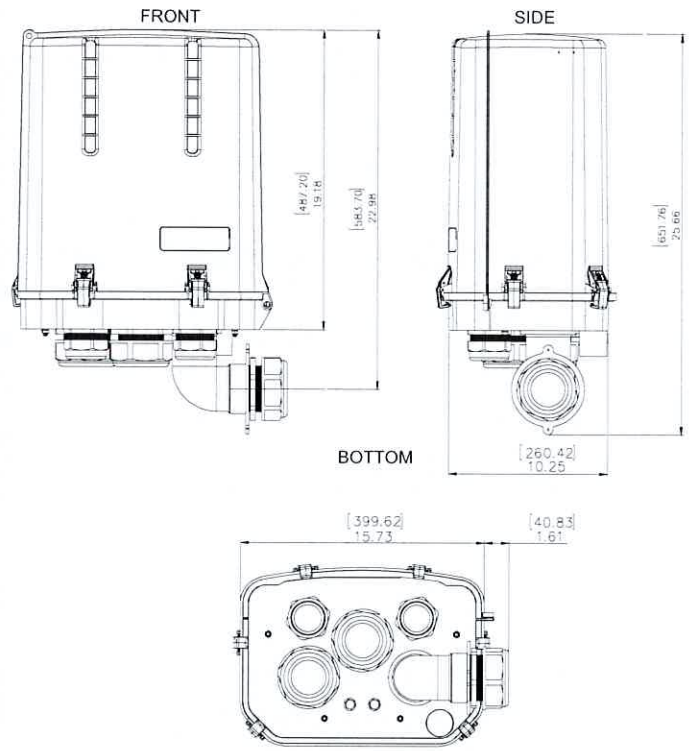
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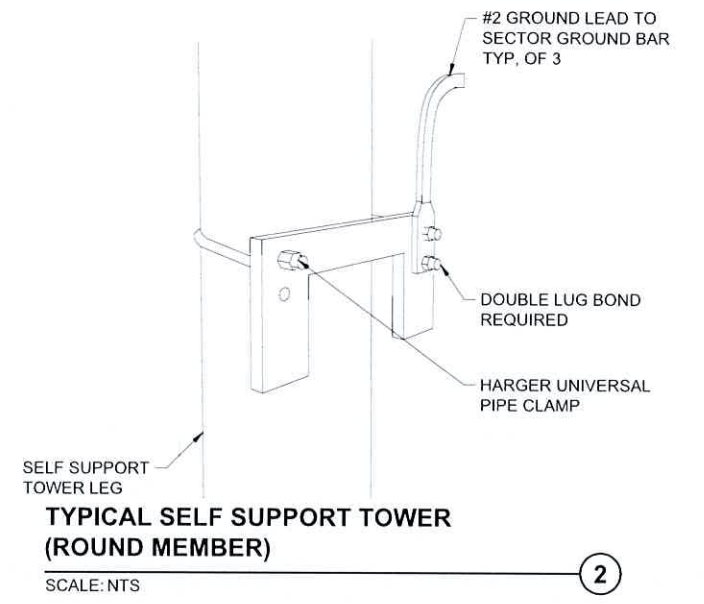
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EQUIPMENT:	RAYCAP JUNCTION BOX
MODEL #:	RVZDC-3315-PF-48
ALARM BOARD UPGRADE:	RAYCAP 3315-ALM-RS485
SPECIFICATIONS:	DC SURGE PROTECTION FOR RRU/INTEGRATED ANTENNA RADIO HEAD
APPLICATION:	TOWER / BASE / ROOFTOP / ROOFTOP DISTRIBUTION MODELS
WEIGHT:	32LBS (14.51 KG)

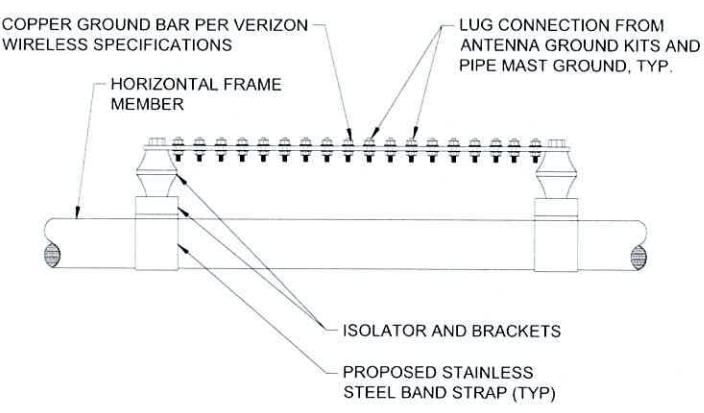
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INCHES



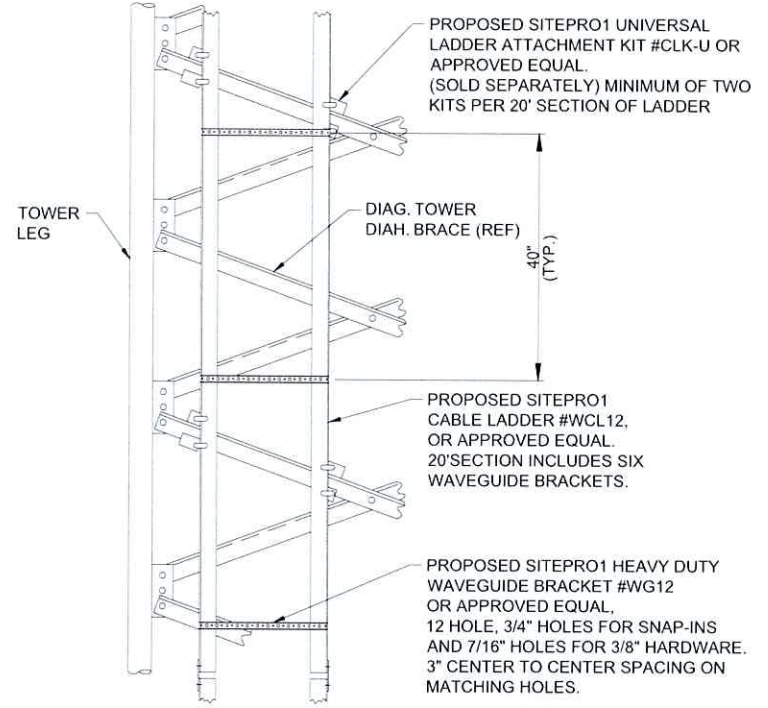
RAYCAP JUNCTION BOX DETAIL
SCALE: NTS



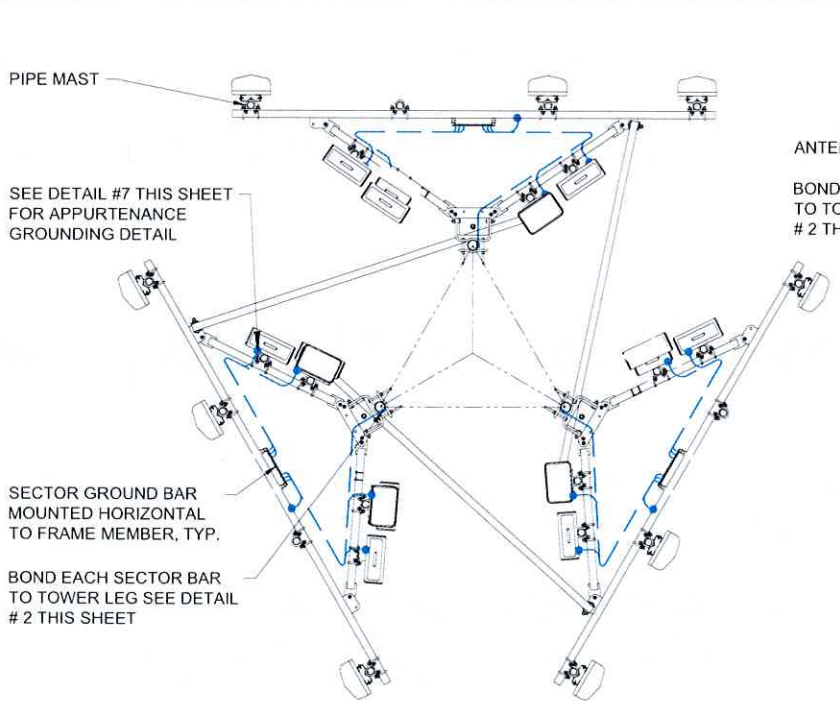
TYPICAL SELF SUPPORT TOWER (ROUND MEMBER)
SCALE: NTS



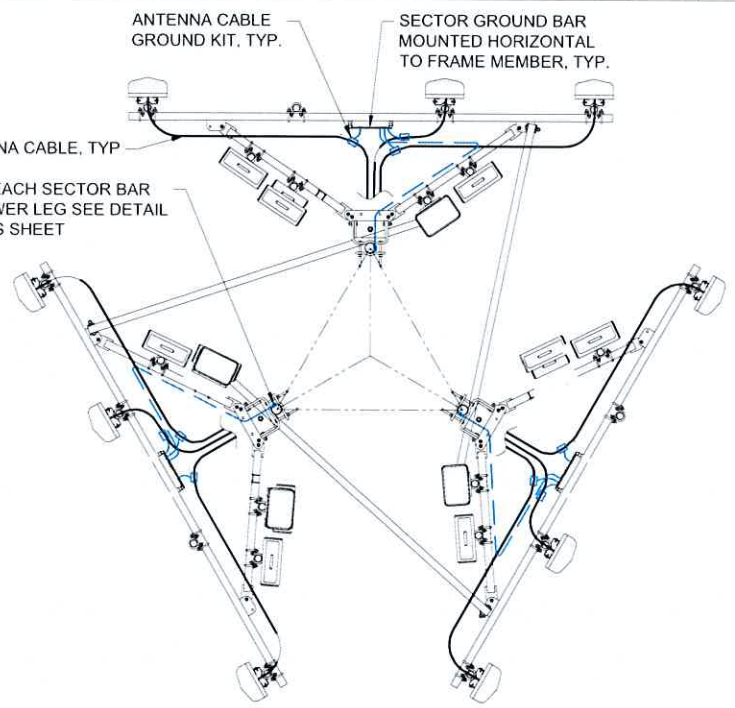
TYPICAL GROUND BAR AT SECTOR
SCALE: NTS



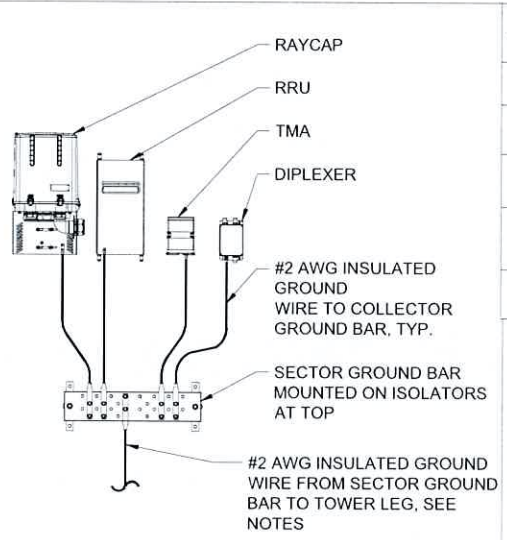
TYPICAL TRANSMISSION LINE HANGER
SCALE: NTS



TYPICAL EQUIPMENT GROUNDING AT ANTENNA ELEVATION
SCALE: NTS



TYPICAL ANTENNA CABLE GROUNDING AT ANTENNA ELEVATION
SCALE: NTS



THIS DETAIL IS CONCEPTUAL TO DEMONSTRATE GROUNDING AT THE ANTENNA LEVEL. VERIFY EQUIPMENT, MOUNTING FRAME, AND AZIMUTH WITH ANT-1 SHEET & ECR.

TYPICAL APPURTENANCE GROUNDING AT ANTENNA LEVEL
SCALE: NTS

APPROVED UL LISTED GROUND CLAMPS	
APPLICATION	UL LISTED HARGER PART #
METAL FLANGE	213, 213T, 213TTP
PIPE MEMBER	CPC SERIES (SIZED TO FIT DIAMETER OF PIPE)
LARGER PIPE MEMBER	UPC SERIES (UNIVERSAL PIPE CLAMP) SIZED TO FIT DIAMETER OF PIPE
TO TOWER LEG	HARGER UNIVERSAL PIPE CLAMP

- NOTES:
1. THE BOND BETWEEN THE SECTOR BAR AND THE TOWER IS TO BE MECHANICALLY BONDED TO TOWER LEG. THE MECHANICAL BOND IS TO BE A UL APPROVED MECHANICAL CONNECTION CLAMP.
 2. GROUND CONNECTIONS MUST BE DOUBLE HOLE CONNECTION. SPECIAL EXCEPTION ONLY TO EQUIPMENT THAT WILL NOT ALLOW FOR A DOUBLE HOLE CONNECTION.



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 Date:

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ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
SITE DETAILS

SCALE: NONE
 PROJECT NUMBER: 60498
 SHEET NUMBER: VW ANT-3

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COMMSCOPE NHH-65B-R2B
 DIMENSIONS (HXWXD):
 96" X 11.9" X 7.10"
 WEIGHT (LBS): 51.6.0

COMMSCOPE ANTENNA DETAIL

SCALE: NTS

1

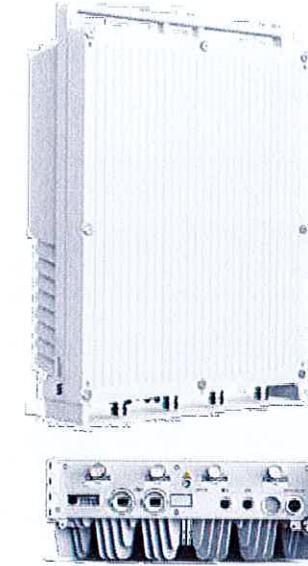


ERICSSON - AIR6419
 DIMENSIONS (HXWXD):
 31.3" X 16.1" X 9.8"
 WEIGHT (LBS): 71.0

ERICSSON ANTENNA DETAIL

SCALE: NTS

2

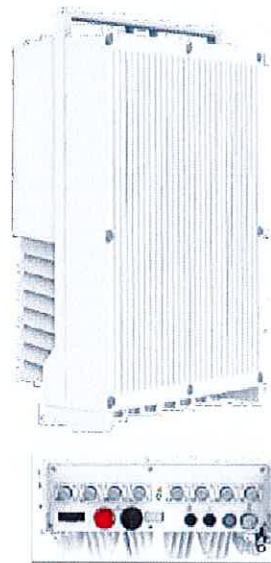


ERICSSON RRUS 4490HP 44B5 44B13 C
 DIMENSIONS, HXWXD: 20.6" X 15.7" X 7.0"
 WEIGHT, WITHOUT MOUNTING KIT: ~68.4 LBS (~31 KG)

ERICSSON 4490 RRU DETAIL

SCALE: NTS

3



ERICSSON RRUS 4890HP 48B2 48B66 S
 DIMENSIONS, HXWXD: 20.6" X 15.7" X 7.2"
 WEIGHT, WITHOUT MOUNTING KIT: ~69.5 LBS (~31.5 KG)

ERICSSON 4890 RRU DETAIL

SCALE: NTS

4

NOT USED

SCALE: NTS

5

NOT USED

SCALE: NTS

6



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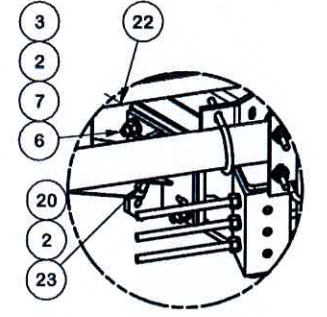
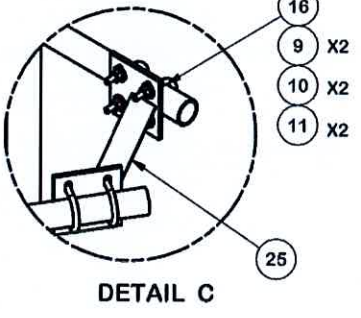
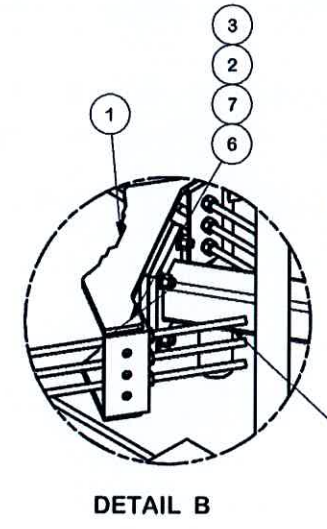
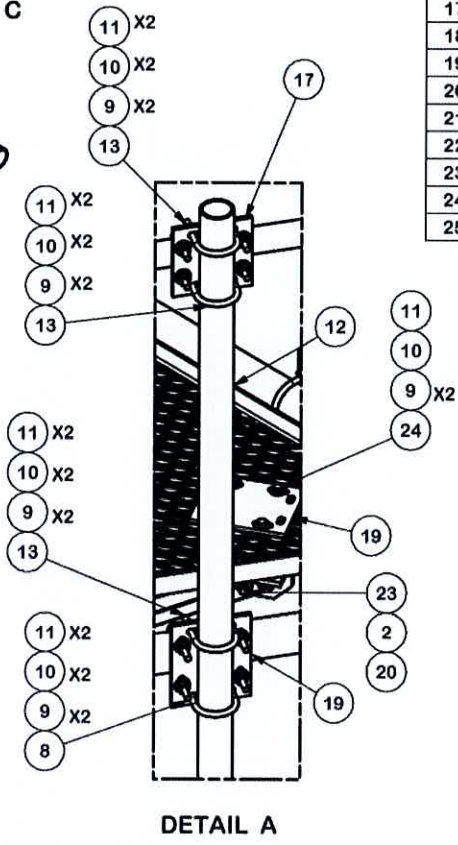
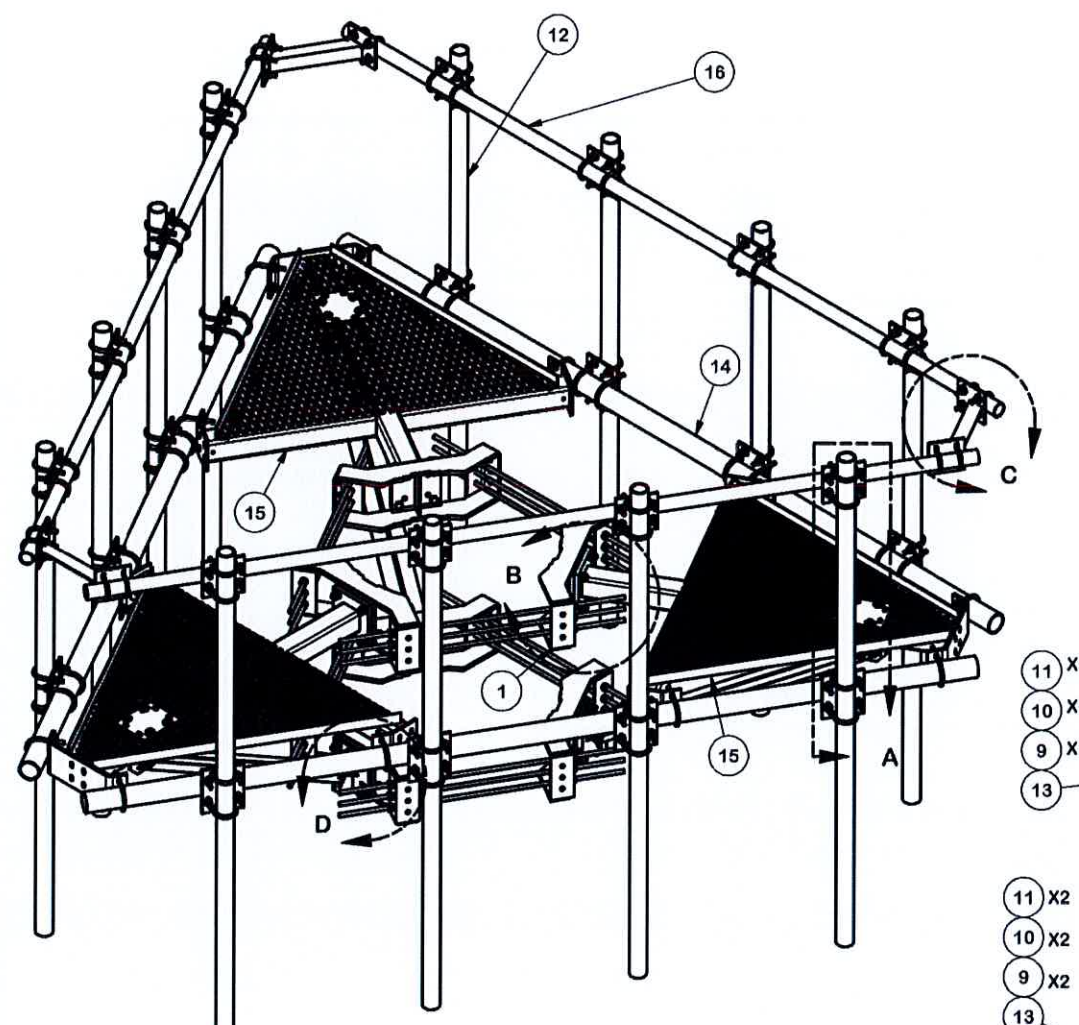
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 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
ANTENNA INFORMATION

SCALE: NONE

PROJECT NUMBER: 60498
 SHEET NUMBER: VW ANT-3A

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PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8" HDG A325 HEX NUT		0.13	7.79
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
5	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
6	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.54
7	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
8	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
9	264	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.00
10	252	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.50
11	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.05
12	12	P3096	2-7/8" X 96" (2-1/2" SCH 40) GALVANIZED PIPE	96 in	49.24	590.88
13	48	X-UB1300	1/2" X 3" X 5" X 2" U-BOLT (HDG.)		0.70	33.45
14	3	P3150	3-1/2" X 150" (3" SCH 40) GALVANIZED PIPE	150 in	94.80	284.40
15	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.31
16	3	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	137.31
17	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
18	36	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	22.51
19	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
20	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
21	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
22	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
23	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
24	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	4.91
25	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2669.03

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
C	RELOCATED MOUNT PIPE POSITIONS	4488	JET	5/23/2021
B	CHANGED X-253992 TO X-TBW		CEK	9/20/2018
A	REPLACED HCP WITH X-AHCP	4488	CEK	7/14/2014

TOLERANCE NOTES
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
 DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING ($\pm 0.030"$)
 ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION 12' 6" LOW PROFILE PLATFORM WITH TWELVE 2-7/8" ANTENNA MOUNTING PIPES, AND SUPPORT RAIL	
CPD NO. 4488	DRAWN BY CEK 3/24/2014
CLASS 81	SUB 02
DRAWING USAGE CUSTOMER	CHECKED BY BMC 7/14/2014

SITE PRO 1
 A valmont COMPANY

Engineering Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

PART NO. RMQP-4096-HK	PAGE 1 OF 3
DWG. NO. RMQP-4096-HK	

ANTENNA MOUNTING DETAILS
 SCALE: NTS 1



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MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

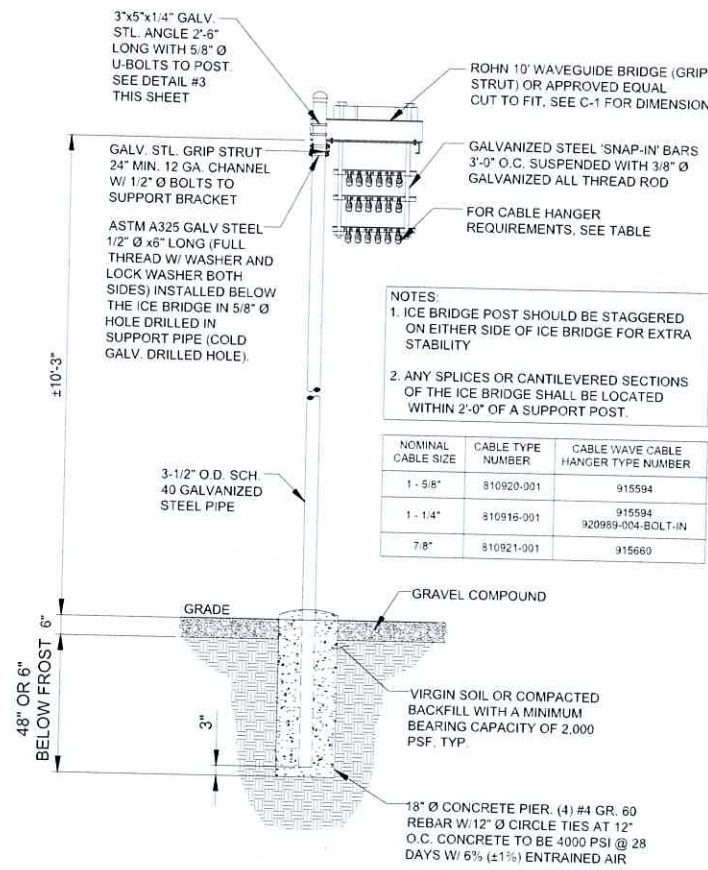
PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

ANTENNA MOUNTING DETAILS

SCALE: NONE

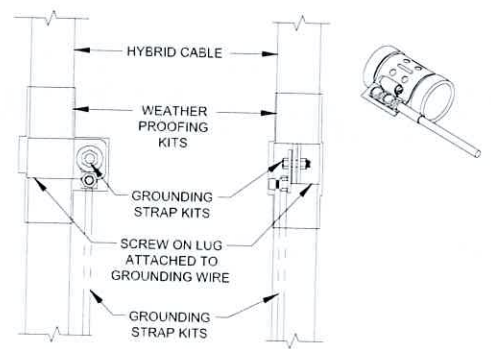
PROJECT NUMBER: 60498
 SHEET NUMBER: VW ANT-3B

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ICE BRIDGE DETAIL
SCALE: NTS

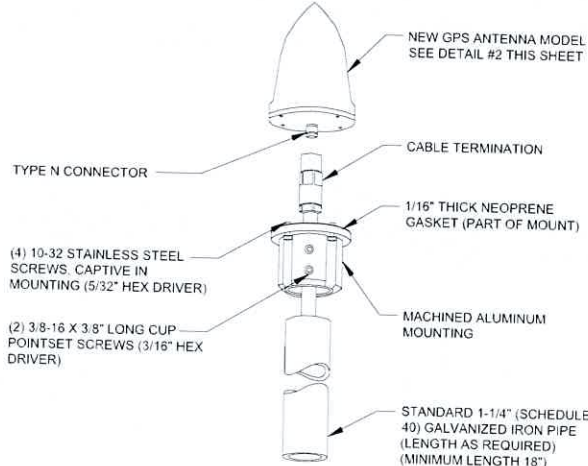
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - THIS DETAIL IS TYPICAL FOR EACH CABLE WHERE IT IS SPECIFIED TO BE GROUNDED.
 - CABLE TO BE GROUNDED AT ANTENNA LEVEL AND PRIOR TO ENTERING SHELTER ENTRY PANEL.
 - CABLE ALSO TO BE GROUNDED TO GROUND BAR AT TOWER BASE IF APPLICABLE.
 - USE ONLY TIN PLATED GROUNDING KITS.



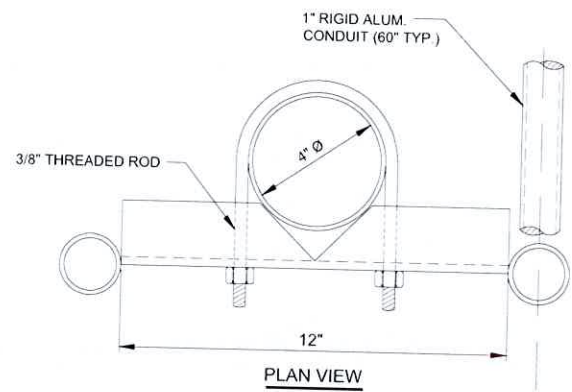
COAX/ HYBRID GROUND KIT DETAIL
SCALE: NTS

NOT USED
SCALE: NTS

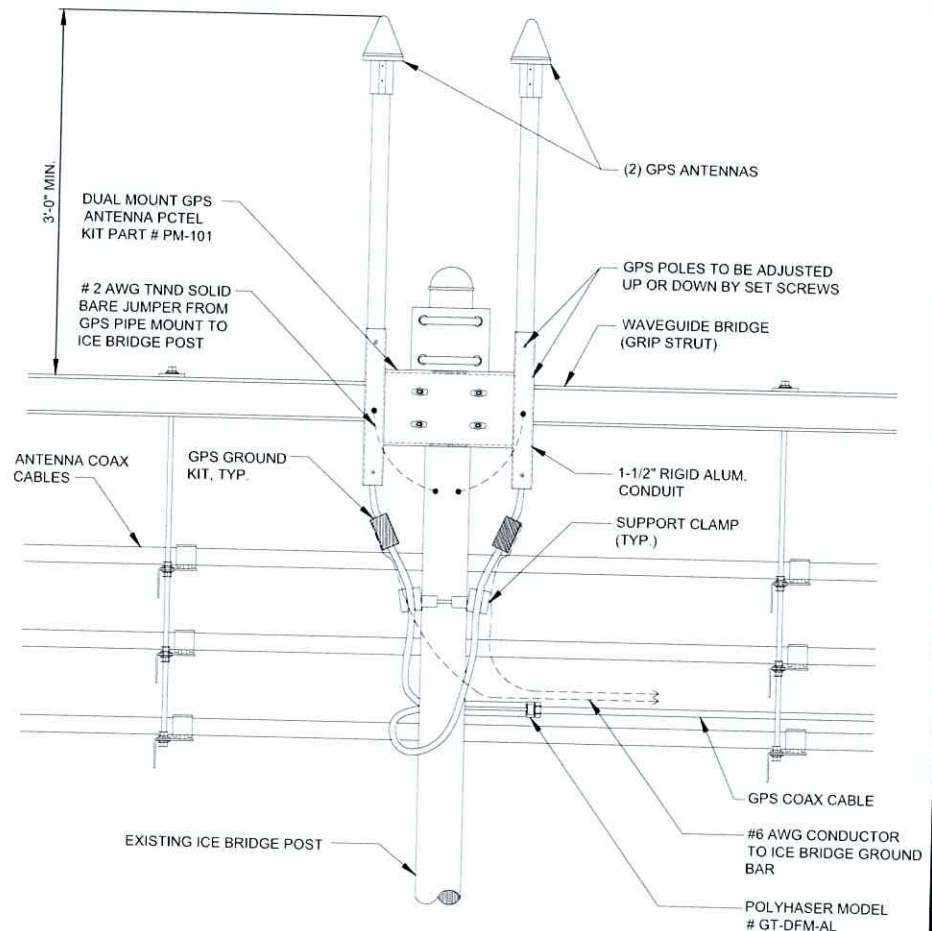
- NOTE:**
INSTALL EACH GPS ON THE CLOSEST ICE BRIDGE POSTS TO SHELTER (TYP. AT 2 LOCATIONS).



TYPICAL GPS DETAIL
SCALE: NTS



GPS MOUNTING DETAIL
SCALE: NTS



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ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

BUSINESS DRIVE

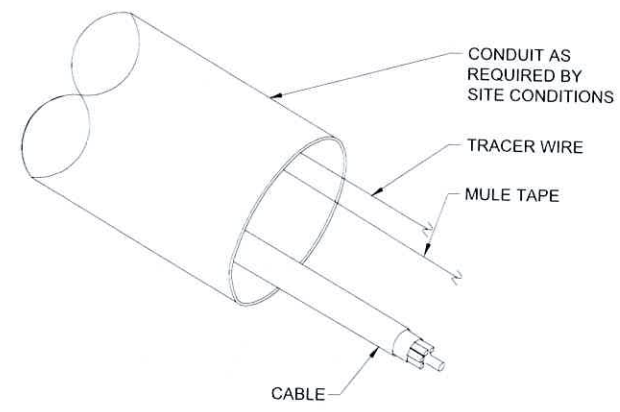
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SITE DETAILS

SCALE: NONE

PROJECT NUMBER: 60498

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NOTE:
 1) TRACER WIRE TO BE PLACED IN BOTH POWER AND FIBER CONDUITS
 2) GROUND TRACER WIRE AT POLE VIA BEAM CLAMP AT EQUIPMENT. DO NOT BOND TRACER WIRE AT BOTH ENDS.

TRACER WIRE DETAIL
 SCALE: NTS

COORDINATION WITH UTILITY COMPANY
 THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANIES FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS

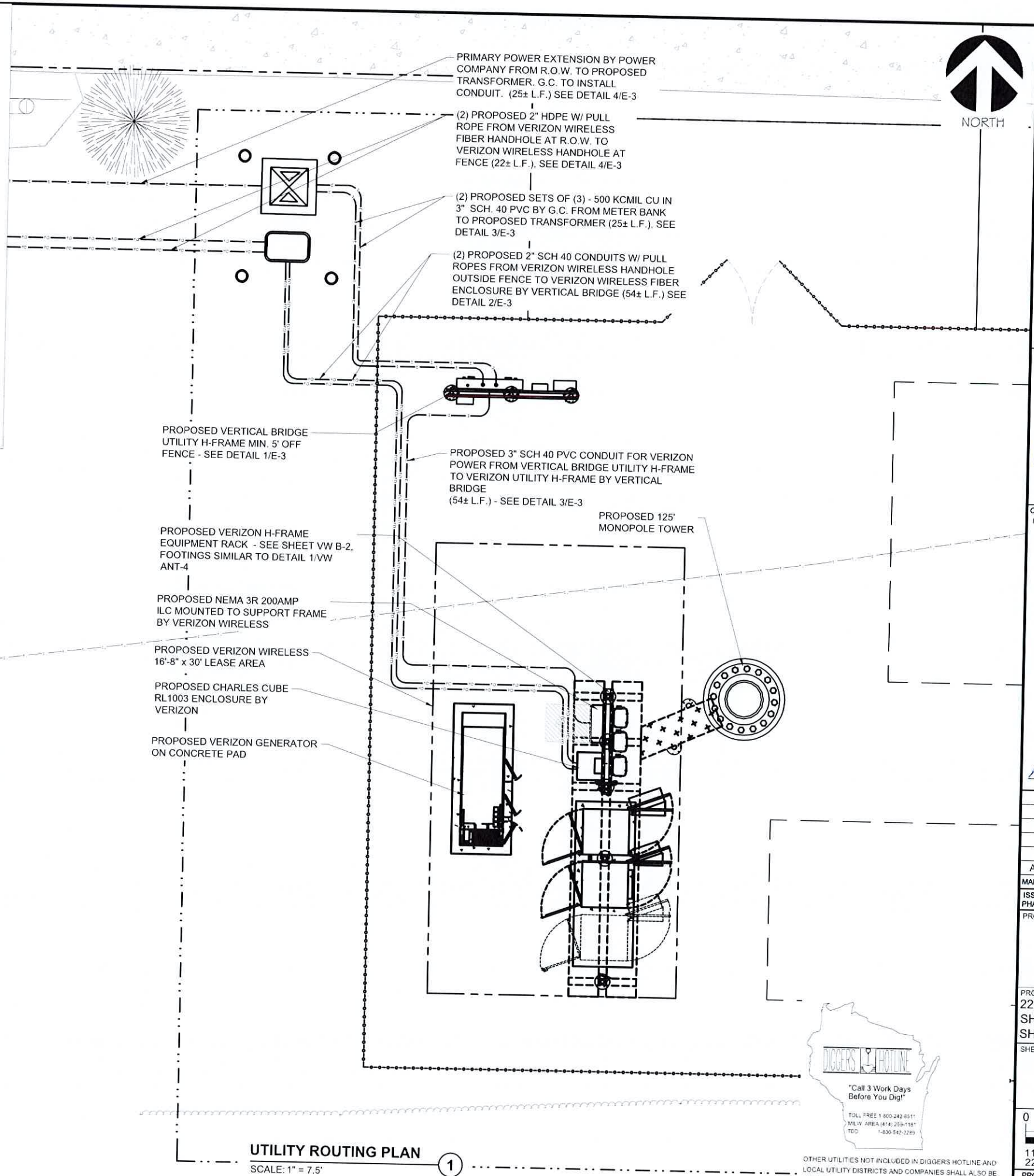
- CONDUITS AND WIRING**
1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
 2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
 4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING.
 5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

CODES AND STANDARDS

ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
 NEC NATIONAL ELECTRICAL CODE, LATEST ADOPTED EDITION
 NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
 NFPA NATIONAL FIRE PROTECTION ASSOCIATION
 UL UNDERWRITERS LABORATORIES, INC.

UTILITY PROVIDER INFORMATION

POWER COMPANY: ALIANT ENERGY PHONE: (800) 255-4268
 FIBER COMPANY: AT&T PHONE: (855) 781-7542



UTILITY ROUTING PLAN
 SCALE: 1" = 7.5'



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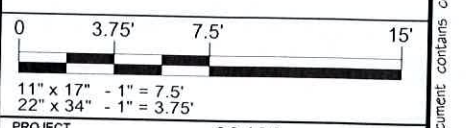
MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
UTILITY ROUTING PLAN

PROJECT NUMBER: 60498
 SHEET NUMBER: VW F-1

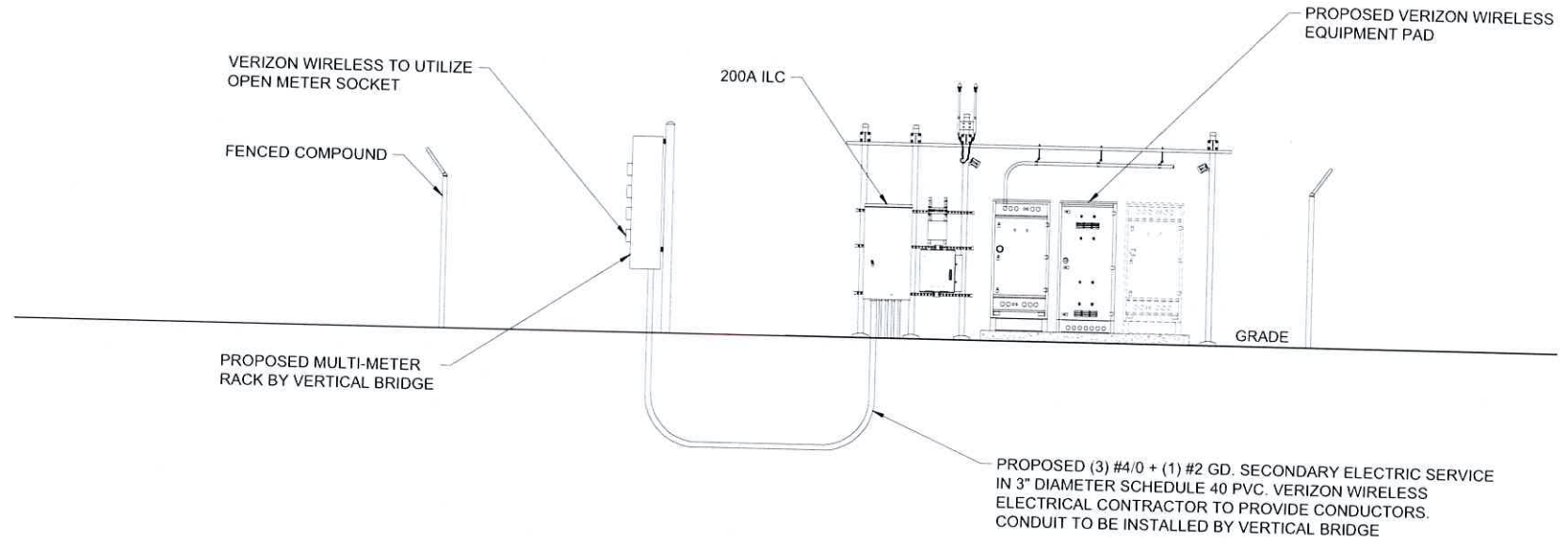


OTHER UTILITIES NOT INCLUDED IN DIGGERS HOTLINE AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTIFIED

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DESIGN PENDING
POWER COORDINATION



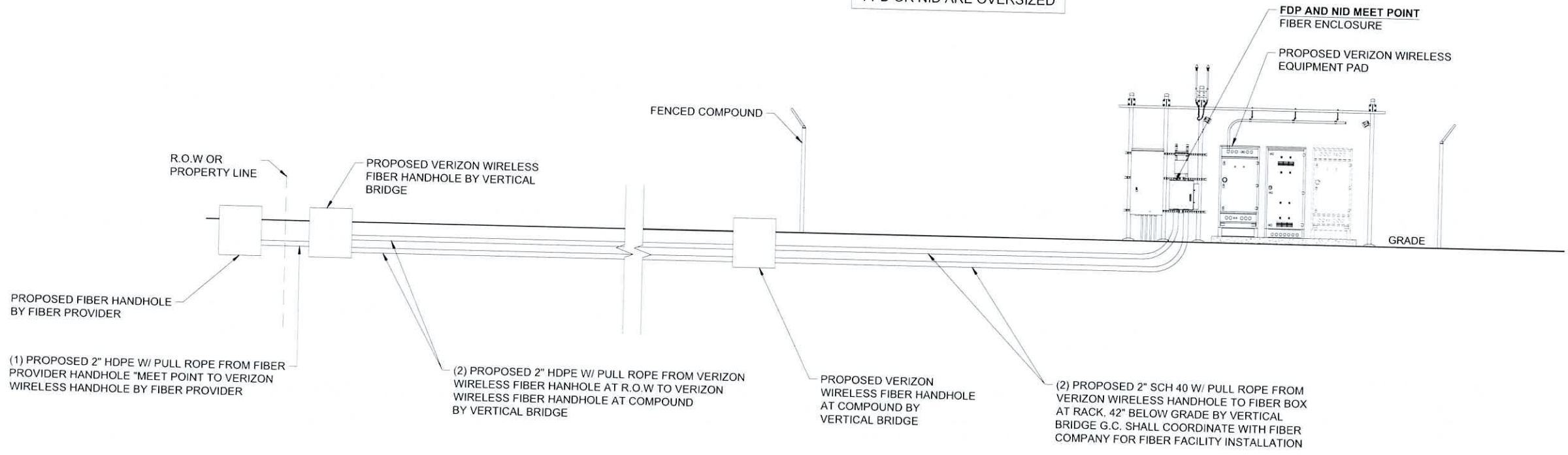
ELECTRICAL SERVICE: 200 AMP 120/240V SINGLE PHASE 3 WIRE

POWER RISER DIAGRAM 1
SCALE: NTS

CONTRACTOR SHALL BUILD INTO THE PRICE OF THE BID THE COST OF TWO (2) MOBILIZATIONS:
 1) POWER/FIBER PERMIT PULLED PRIOR TO BUILDING PERMIT AND PRELIMINARY WORK (SMART JACK ON A STICK, ETC) COMPLETED PRIOR TO GENERAL CONSTRUCTION
 2) RETURN TO COMPLETE GENERAL ELECTRICAL CONSTRUCTION

DESIGN PENDING
FIBER COORDINATION

NOTE:
ADDITIONAL COORDINATION REQUIRED WITH VERIZON IF FPD OR NID ARE OVERSIZED



NOTE: VERIFY FIBER ROUTING REQUIREMENTS WITH FIBER COMPANY

FIBER RISER DIAGRAM 2
SCALE: NTS



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ISSUE PHASE: PRELIMINARY DATE ISSUED: 06/25/2024
 PROJECT TITLE: BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE: UTILITY RISER DIAGRAMS

SCALE: NONE

PROJECT NUMBER: 60498
 SHEET: 1 OF 1

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NOTES:

- 1) SEE DETAILS ON EXISTING GROUND GRID AND GENERATOR GROUND GRID FOR REQUIRED GROUNDING SYSTEM.
- 2) NEW AUTOMATIC TRANSFER SWITCH, INSTALLED AND WIRED BY E.C. CONNECT EXTERNAL GROUND LUG AND GROUNDING CONDUCTOR THAT WAS REMOVED FROM MANUAL TRANSFER SWITCH.
- 3) E.C. MUST LOCATE GROUND GRID INSTALLED FOR NEW EQUIPMENT PAD & PROVIDE THE ATTACHMENT OF THE GENERATOR GROUND TO THE EQUIPMENT GRID FOR SINGLE POINT GROUNDING.
- 4) E.C. TO EXTEND #2 TINNED SOLID COPPER GROUND CONDUCTORS FROM (2) LOCATIONS ON GENERATOR FRAME (SEE MANUFACTURERS RECOMMENDATIONS) PROVIDE GROUND LUGS ON GENERATOR AS REQUIRED. EXTEND #1/0 STRANDED GROUND CONDUCTOR AND CONNECT TO COPPER CLAD GROUND RODS VIA HEAVY DUTY EXOTHERMIC TERMINATIONS AND THEN EXTENDED AND ATTACH TO BUILDING GROUND GRID VIA EXOTHERMIC TERMINATIONS.
- 5) NEW GENERATOR FURNISHED BY LESSEE. INSTALLED AND WIRED BY E.C. DELIVERED AND SET BY CONTRACTOR.
- 6) E.C. MUST MONITOR DC POWER WHEN ON BATTERY BACK-UP DURING PORTIONS OF CONSTRUCTION. IF LEVEL FALLS BELOW RECOMMENDED LEVEL 2256 DC, E.C. MUST TURN ON THE MAIN POWER. THE CELL SITE CANNOT GO OFF LINE AT ANYTIME.



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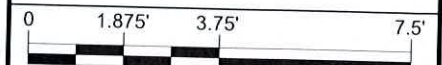
Michael L. Pinske
Signature: _____ Date: 9/30/2024

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ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

BUSINESS DRIVE

PROJECT INFORMATION
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

GENERATOR UTILITY ROUTING PLAN



11" x 17" - 1" = 3.75"
22" x 34" - 1" = 1.875"
PROJECT NUMBER: 60498
SHEET: 1 OF 1

- (2) BELDEN CAT-5 CABLE FROM GENERATOR TO ILC IN 1" HEAVY WALL CONDUIT. CABLES AND CONDUITS TO CONTINUE FROM ILC TO EQUIPMENT CABINET. LEAVE 25' SPOOLED IN ALARM BOX (CONDUIT FROM GENERATOR TO ILC TO BE INSTALLED BY VERTICAL BRIDGE. CONDUIT FROM ILC TO CABINET TO BE INSTALLED BY VERIZON G.C.)
- (3) #3/0 THHN/THWN & (1) #2 GREEN GROUND CONDUCTOR FROM GENERATOR TO ILC IN 2-1/2" H.W. CONDUIT (CONDUITS TO BE INSTALLED BY VERTICAL BRIDGE)
- (2) #12 THHN SOLID COPPER CONDUCTORS FROM GENERATOR TO ATS IN 3/4" HEAVY WALL CONDUIT (CONDUITS TO BE INSTALLED BY VERTICAL BRIDGE)
- (4) #12 THHN/THWN & (1) #12 GREEN GROUND IN 1" RIGID H.W. CONDUIT FROM ILC TO GENERATOR. (CONDUITS TO BE INSTALLED BY VERTICAL BRIDGE)
- PROPOSED 4' X 10' CONCRETE PAD FOR VERIZON GENERATOR PROVIDED BY VERTICAL BRIDGE. SEE SHEET C-9.
- CONDUIT STUB UP AREA. SEE/ COORDINATE WITH MANUFACTURER'S SPECIFICATIONS, SEE SHEET VW EX-1
- PROPOSED 4'X11' CONCRETE PAD FOR VERIZON EQUIPMENT PROVIDED BY VERTICAL BRIDGE. SEE SHEET C-8.

NEW ELECTRIC CONDUIT FROM DISCONNECT TO ILC FOR "NORMAL" POWER MODE (CONDUITS TO BE INSTALLED BY VERTICAL BRIDGE), SEE DETAIL 2 & SHEET E-1.

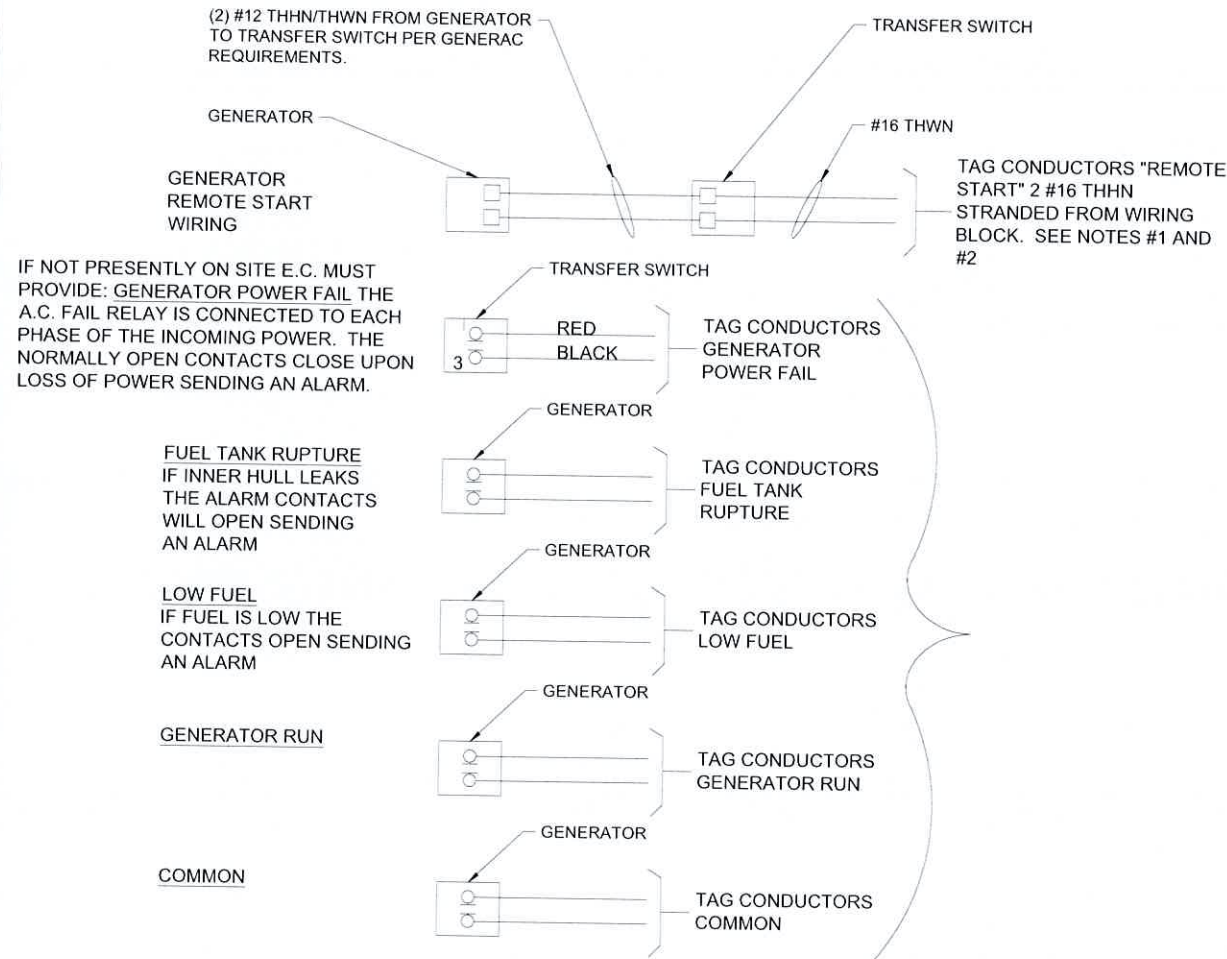
- PROPOSED NEMA 3R 200 AMP ILC MOUNTED TO H-FRAME (BY VERIZON WIRELESS G.C.)
- PROPOSED CHARLES CUBE RL1003 ENCLOSURE BY VERIZON
- (2) #16 THWN. LEAVE 25' OF #16 IN ALARM BOX (BY VERIZON WIRELESS G.C.)
- PROPOSED VERIZON H-FRAME EQUIPMENT RACK - SEE SHEET VW B-2. FOOTINGS SIMILAR TO DETAIL 1/VW ANT-4

GENERATOR UTILITY ROUTING PLAN

SCALE: 1" = 3.75'

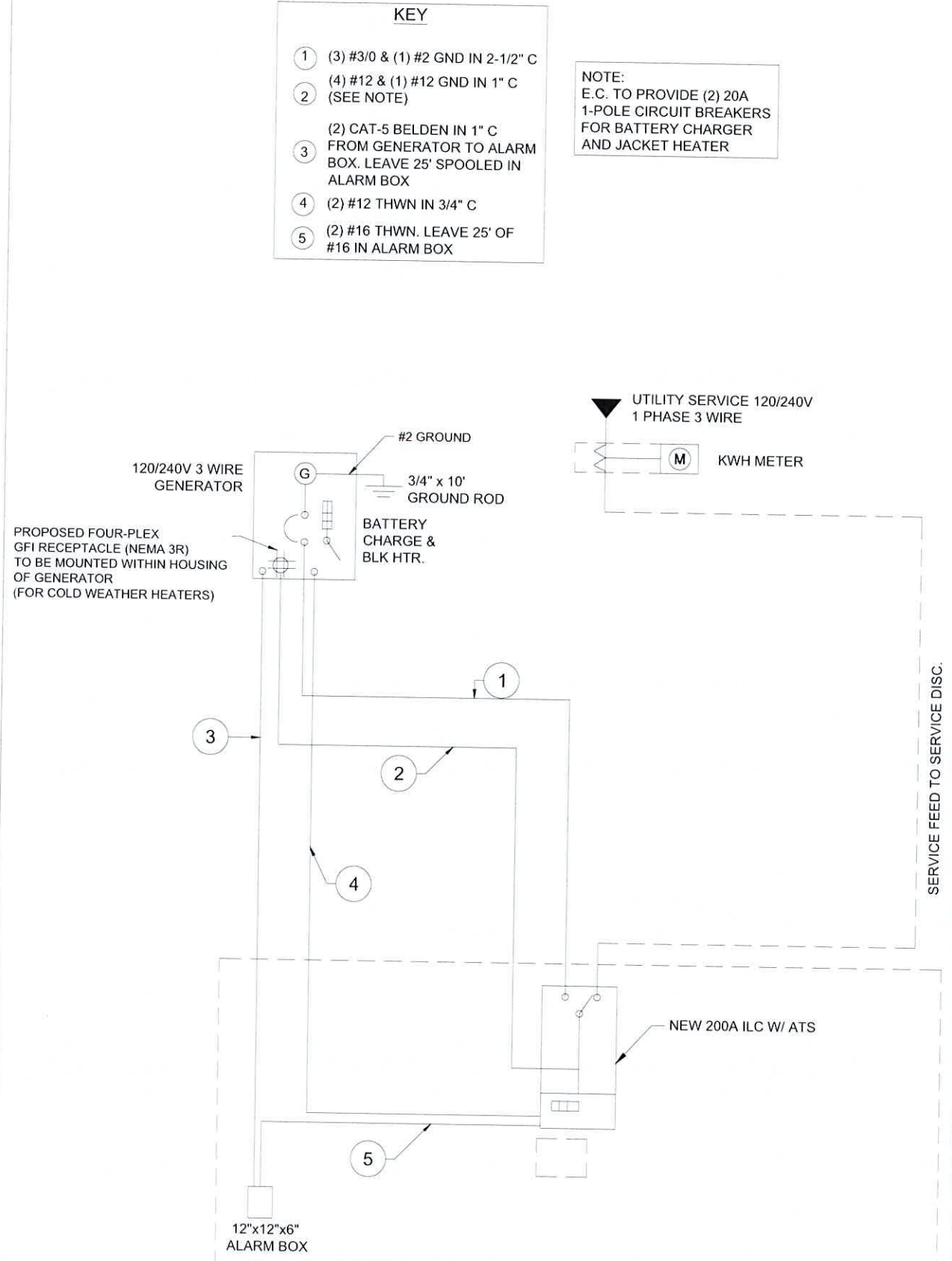
NOTE:
CONTRACTOR TO VERIFY ROUTES WITH LOCAL UTILITY COMPANY PRIOR TO INSTALLATION.

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ALARM WIRING
SCALE: NTS

- NOTES:**
- E.C. TO PULL A #16 AWG SOLID RED AND A #16 AWG SOLID BLACK FROM THE TRANSFER SWITCH TO ALARM WIRING BLOCK FOR REMOTE START.
 - E.C. TO PULL ALL ALARM LEADS TO EXISTING ALARM WIRING BLOCK. LEAVE A MINIMUM OF 24" PIGTAILS AT ALARM WIRING BLOCK AND TAG CONDUCTORS AS INDICATED. TERMINATIONS ON ALARM POINT WIRING BLOCK BY OTHERS. CONDUCTORS CAN BE RUN EXPOSED. THEY SHALL BE NEATLY BUNDLED USING NYLON TIES AND SUPPORTED AT 2'-0" INTERVALS FOR A NEAT INSTALLATION.



NEW SINGLE LINE DIAGRAM
SCALE: NTS



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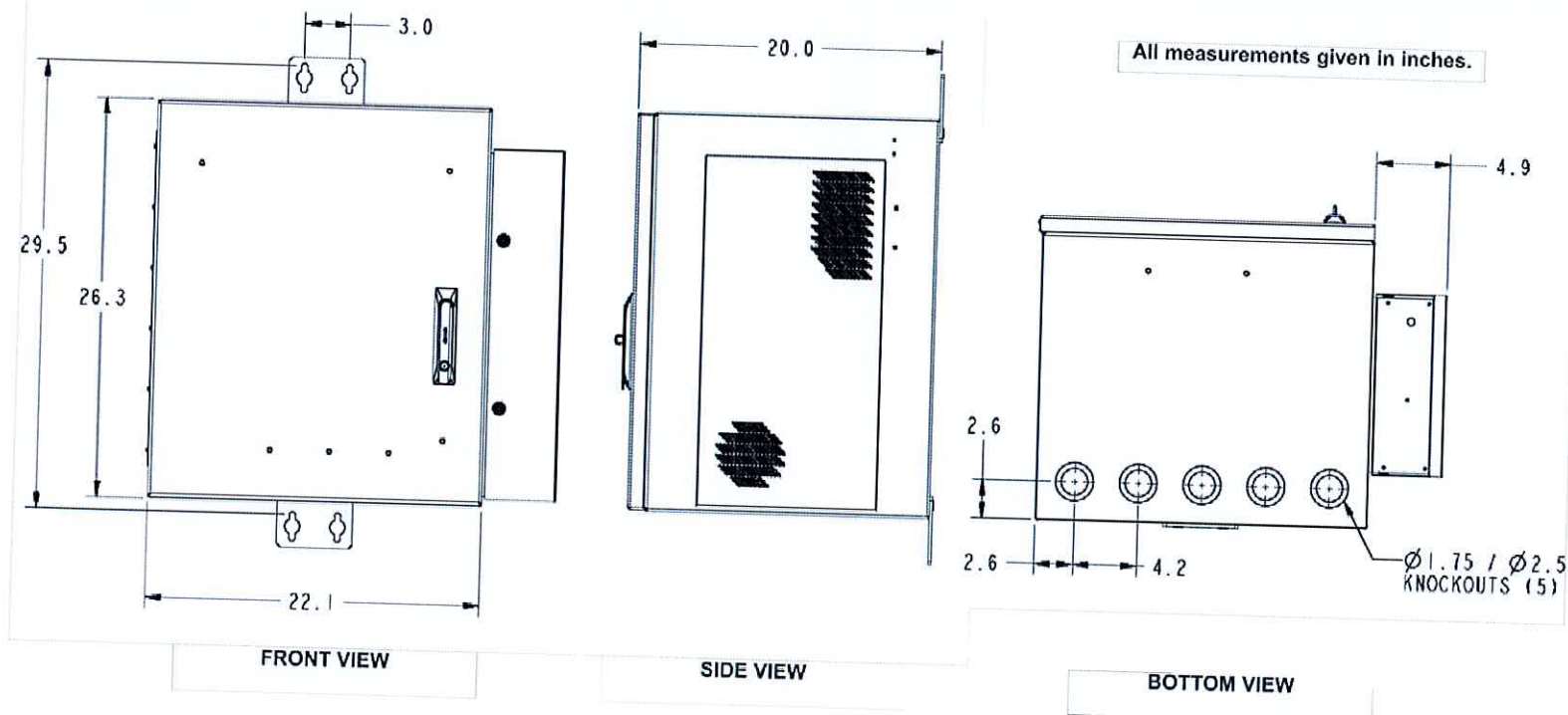
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A	9/10/24	REVISED UTILITY NOTES
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024
PROJECT TITLE:		
BUSINESS DRIVE		
PROJECT INFORMATION:		
2219 SAUK TRAIL RD SHEBOYGAN, WI 53083 SHEBOYGAN COUNTY		
SHEET TITLE:		
GENERATOR SINGLE LINE DIAGRAM & ALARM WIRING		
SCALE: NONE		
PROJECT NUMBER	60498	
SHEET NUMBER	VW F-1C	

Charles Universal Broadband Enclosures (CUBE) RL1000 Series Backhaul Cabinets



CUBE Accessories	CI Part #
Pole Mount Kit	97-CABPMTKIT
H-Frame Hardware Kit	97-001971-A
Slide-Out Tray	97-001990-A
10" Plinth Kit	97-002127-A

INNOVATIVE ENCLOSED SOLUTIONS™ Charles Industries, Ltd. Phone: (847) 806-6300 Fax: (847) 806-6231 Web: www.charlesindustries.com

OVERALL DIMENSION	26"H X 22"W X 20"D
RACK SPACE	14RU
RACK WIDTH	19" EIA STANDARD
HOLE SPACING ON RACKS	1" TAPPED 12-24
BONDING & GROUNDING	(1) 8 POSITION, 2-HOLE GROUND BARS
FUSE PANEL	(1) WALLMOUNT 10 POSITION GMT TYPE
CABLE ENTRANCE	(5) 1.75/2.5" DOUBLE KNOCKOUTS
COLOR	OFF-WHITE
CONSTRUCTION	WELDED ALUMINUM
WEIGHT (EMPTY)	80 LBS.
MOUNTING	WALL OR H-FRAME, POLE MOUNT WITH OPTIONAL KIT
THERMAL MANAGEMENT	17 W/F HEAT EXCHANGER, 24 VDC POWER
MANUFACTURER	CHARLES INDUSTRIES
MODEL	CUBE-RL1003
DIMENSIONS	26.3" X 22.1" X 20.0" (H X W X D)
ACCESSORIES:	
POLE MOUNT KIT	97-CABPMTKIT
H-FRAME HARDWARE KIT	97-001971-A
SLIDE OUT TRAY	97-001991-A
10" PLINTH KIT	97-002127-A



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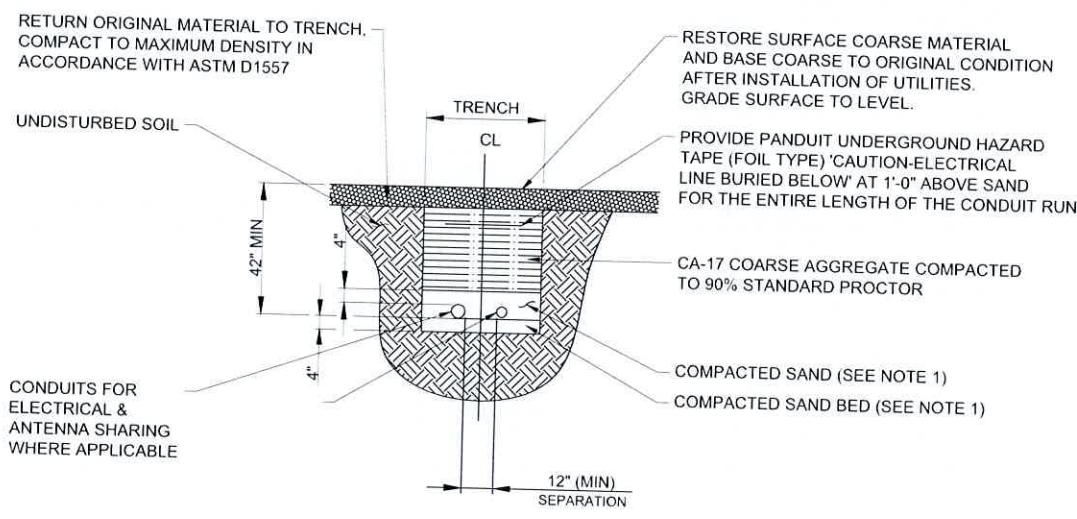
PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
FIBER CABINET SPEC SHEET

SCALE: NONE

PROJECT NUMBER: 60498

- NOTES:**
- LEAN CONCRETE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND.
 - BURY CONDUITS 42" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER.
 - CONDUIT SIZE, TYPE, QUANTITY, AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.



UTILITY TRENCH DETAIL
SCALE: NTS

VERIZON WIRELESS PANEL "A" SCHEDULE

MAIN: 400 VOLTAGE: 120/240 PHASE: 1 WIRE: 3

TO AUTOMATIC TRANSFER SWITCH →

DESCRIPTION	BRKR.	WATTS	S/G	A	B	S/N	WATTS	BRKR.	DESCRIPTION
RECTIFIER 1	40/2	1250	1			2	1250	40/2	RECTIFIER 5
			1250	3		4	1250	40/2	RECTIFIER 6
RECTIFIER 2	40/2	1250	5			6	1250	40/2	RECTIFIER 7
			1250	7		8	1250	40/2	RECTIFIER 8
RECTIFIER 3	40/2	1250	9			10	1250	40/2	SPACE
			1250	11		12	1250	40/2	SPACE
RECTIFIER 4	40/2	1250	13			14	1250	40/2	SPACE
			1250	15		16	1250	40/2	SPACE
SPACE			17			18		20/1	SPACE
SPACE			19			20		20/1	SPACE
SPACE			21			22			SPACE
SPACE			23			24			SPACE
SPACE			25			26			SPACE
SPACE			27			28			SPACE
SPACE			29			30			SPACE
SPACE			31			32			SPACE
SPACE			33			34			SPACE
SPACE			35			36			SPACE
LIGHTS	20/1		37			38	360	20/1	GFCI RECEPTACLE *
SMOKE DETECTORS	20/1		39			40	1200	20/1	EQUIPMENT
EMERG LIGHTS/ EQUIP	20/1		41			42	1000	20/1	GEN. GFCI RECEPTACLE *
									SURGE ARRESTOR
SUBTOTALS:		6000 5000					8360 6200		
TOTAL:									23.56kW (98.2A)

SURFACE MOUNTED NEMA 3R w/ DOOR
22K AIC BREAKERS
(CONTRACTOR SHALL VERIFY AIC RATINGS W/ LOCAL POWER CO.)

- NOTE:**
- VERIZON WIRELESS EQUIPMENT ENGINEERING TO SUPPLY BREAKER FOR RADIO AND POWER CABINETS
 - GENERAL CONTRACTOR TO SUPPLY BREAKERS NOTED WITH " * "

PANEL BOARD SCHEDULE
SCALE: NTS



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Signature: *Michael L. Pinsky* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE: PRELIMINARY DATE ISSUED: 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
ELECTRICAL DETAILS

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: 1/1

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS THE NATIONAL ELECTRICAL CODE (N.E.C.), AND ALL APPLICABLE LOCAL CODES.
2. WIRING RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE N.E.C.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE N.E.C.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH N.E.C. & OSHA
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE, ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE NOTED.
11. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER) 600 V, OIL RESISTANT THHN OR THHN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR LOCATION USED, UNLESS OTHERWISE SPECIFIED.
12. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE)
13. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND N.E.C.
14. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
15. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
16. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
17. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED; IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREWS FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND N.E.C.
21. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL) AND RATED NEMA 1 (OR BETTER).
22. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

23. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED; OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
24. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
26. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY

GROUNDING NOTES

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE N.E.C.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT & PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE N.E.C. REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE N.E.C., SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
7. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
8. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
9. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
10. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
11. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
12. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
13. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
14. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS, IF REQUIRED BY EQUIPMENT INSTALLATION INSTRUCTIONS (NEC 110-3 (B)).
15. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
16. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TOT HE GROUND RING, IN ACCORDANCE WITH THE N.E.C.
17. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH (1) #2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
18. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE SUED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.



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Michael L. Pinske 9/30/2024
Signature: Date:

A 9/10/24 REVISED UTILITY NOTES

MARK	DATE	DESCRIPTION
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:

BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:

**ELECTRICAL AND
GROUNDING NOTES**

SCALE: NONE

PROJECT NUMBER 60498
SHEET NUMBER VW F-3

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KEYED NOTES

- | KEY | DESCRIPTION |
|-----|--|
| 1 | SYSTEM GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS. A THREE POINT SYSTEM RESISTANCE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH VERTICAL BRIDGE SPECIFICATIONS. |
| A. | PERFORM THREE TESTS AT EACH SITE. |
| B. | CONTRACTOR SHALL PROVIDE A WRITTEN REPORT CONSISTING OF THE FOLLOWING: SITE NAME, ADDRESS AND IDENTIFICATION NUMBER, DESCRIPTION OF SITE SOIL AND MOISTURE CONDITION, DESCRIPTION OF WEATHER, MODEL NUMBER OF TESTING EQUIPMENT, DATE OF LAST CALIBRATION, SITE SKETCH SHOWING LOCATION OF TEST PROBES AND ALL FIELD DATA COLLECTED (READINGS, RANGE, TEST, MILLIAMPS, ETC.) |
| C. | CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES PERFORMING SYSTEM RESISTANCE TESTS OR IF MEASUREMENTS ARE ABOVE 5 OHMS. THE CONSTRUCTION MANAGER SHALL PROVIDE INSTRUCTION TO THE CONTRACTOR TO INSTALL ADDITIONAL GROUNDING MEASURES TO MEET THE 5 OHM REQUIREMENT. |
| 2 | PROPOSED TOWER GROUND RING BURIED TO A DEPTH OF 30" OR 6" BELOW THE FROST LINE, WHICHEVER IS GREATER. |
| 3 | BOND PROPOSED TOWER TO TOWER GROUND RING (3 PLACES TOTAL). |
| 4 | SERVICE ENTRANCE GROUND ROD. |
| 5 | BOND GROUND RING(S) TO SITE CORNER POST (TYP. x 4). |
| 6 | BOND GATE POST TO PROPOSED GROUND RING (TYP. x 2). |
| 7 | BOND FLEXIBLE JUMPER TO GATE (TYP. x 2). |
| 8 | BOND PROPOSED H-FRAME TO GROUND RING (TYP. x 8). |

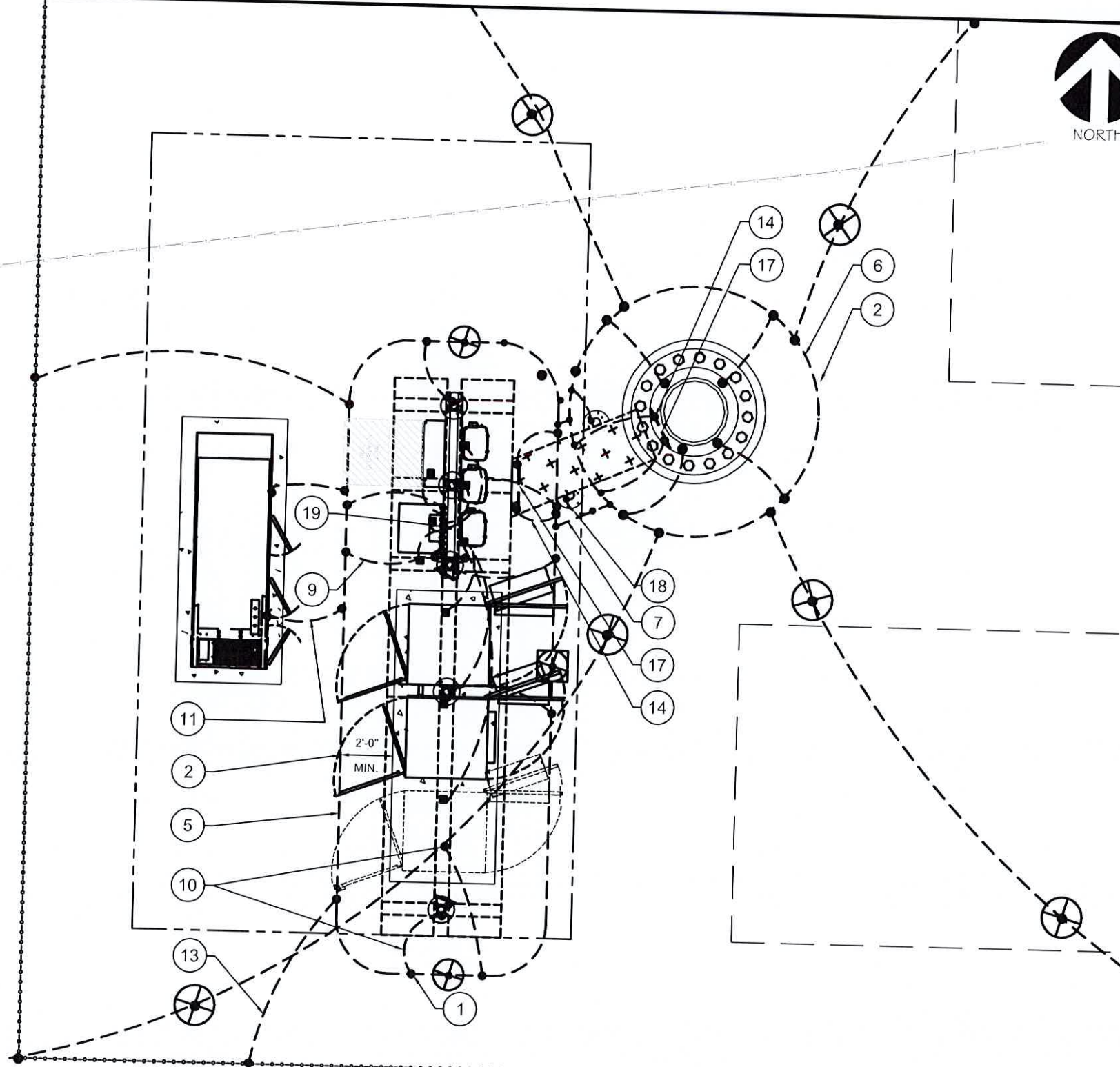
EXTERIOR GROUNDING NOTES:

- GROUNDING SHALL CONFORM WITH VERTICAL BRIDGE STANDARDS AND PER FEDERAL, STATE AND LOCAL CODES. IN THE EVENT OF A CONFLICT, MEET THE MOST STRINGENT REQUIREMENT.
- GROUND RODS PAST METER SHALL BE COPPER CLAD STEEL 5/8 INCH DIAMETER X 10 FEET IN LENGTH (MIN.)
- ALL GROUND CONDUCTORS PAST METER SHALL BE #2 AWG SOLID BARE TINNED COPPER. MINIMUM BEND RADIUS FOR CONDUCTOR SHALL BE 8 INCHES.
- GROUND RODS SHALL BE SPACED NOT MORE THAN 16'-0" AND NOT LESS THAN 6'-0" APART EXCEPT FOR THE TOWER GROUND RING WHICH SHALL COMPLY WITH TIA/EIA 222 (REV G).
- CONTRACTOR SHALL ADD ADDITIONAL RODS AND CONDUCTORS OR APPROVED GROUND ENHANCING MATERIAL TO ACHIEVE LESS THAN 5 OHMS RESISTANCE TO GROUND.
- MAINTAIN 2'-0" (TOWER) AND 3'-0" (SHELTER) BETWEEN GROUND RINGS AND FOUNDATIONS.
- ALL GROUNDING INSTALLATIONS SHALL BE INSPECTED AND APPROVED BY ANY JURISDICTION HAVING INSPECTION & APPROVAL AUTHORITY (IF REQUIRED) AND VERTICAL BRIDGE BEFORE PLACING ANY BACKFILL.
- ALL GROUNDING SPLICES AND CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS (CADWELD OR EQUIVALENT). COAT ALL WELDS WITH A ZINC RICH PAINT.

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED.

SYMBOLS LEGEND

- | | | | |
|--|------------------------|--|-----------------------|
| | GROUND ROD WITH ACCESS | | MECHANICAL CONNECTION |
| | GROUND ROD | | GROUND BAR |
| | EXOTHERMIC CONNECTION | | GROUND WIRE |
| | VZW GROUND LEAD | | |



VERIZON WIRELESS GROUNDING PLAN

SCALE: 1" = 5'

NOTE:
SEE GROUNDING DETAILS ON SHEET E-5



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Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE: PRELIMINARY DATE ISSUED: 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
SITE GROUNDING & NOTES

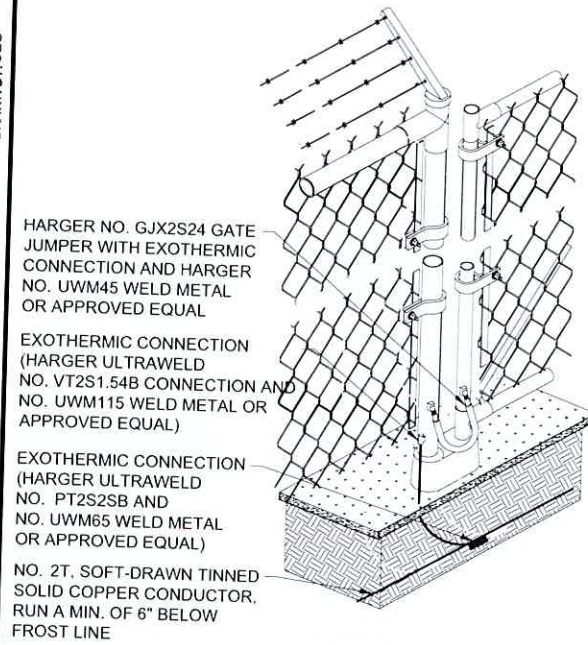


11" x 17" - 1" = 5"
22" x 34" - 1" = 2.5"

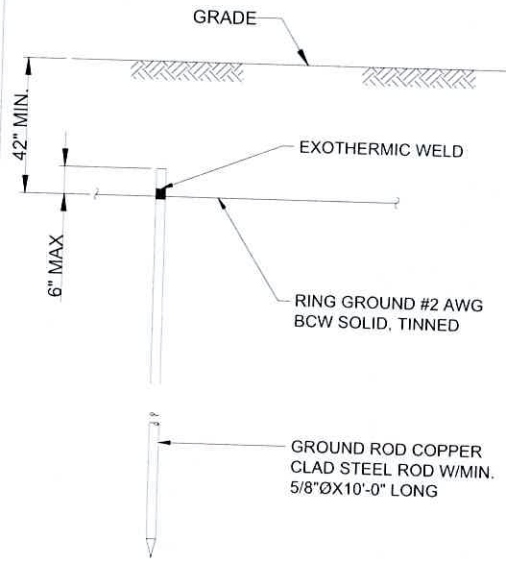
PROJECT NUMBER: 60498
SHEET: 1 OF 4

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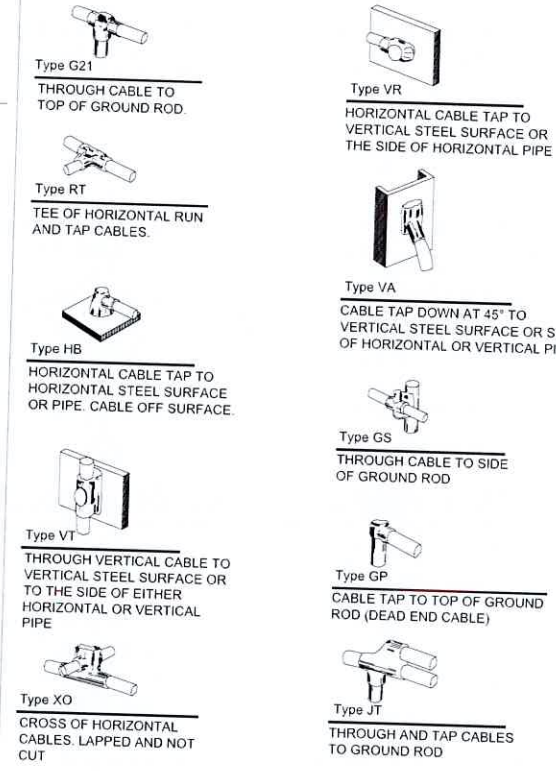


FENCE GROUNDING DETAIL
SCALE: NTS



NOTE:
GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.

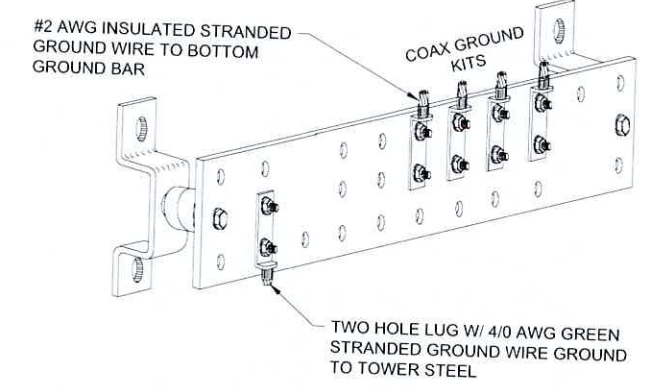
GROUND ROD DETAIL
SCALE: NTS



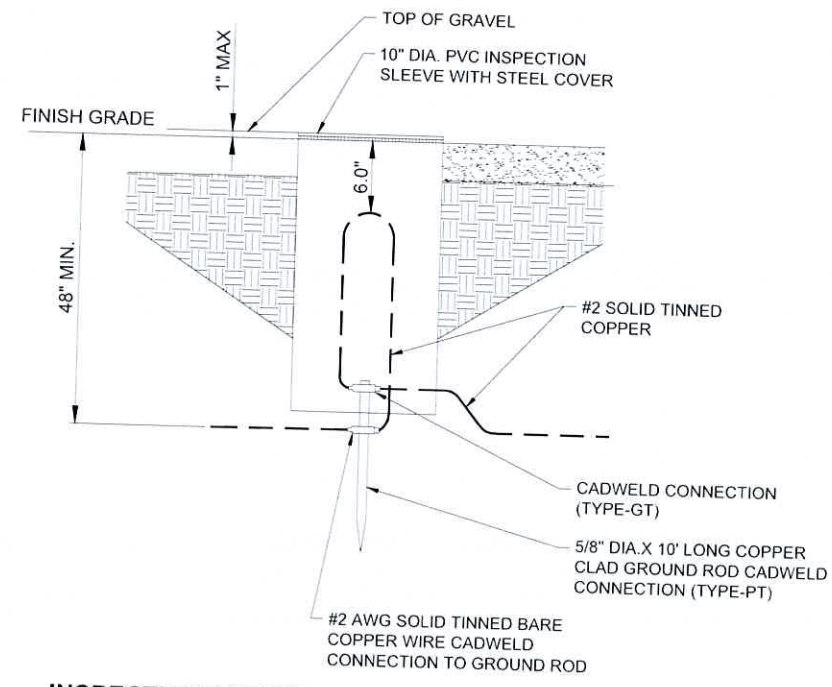
EXOTHERMIC WELD DETAIL
SCALE: NTS

NOTES:

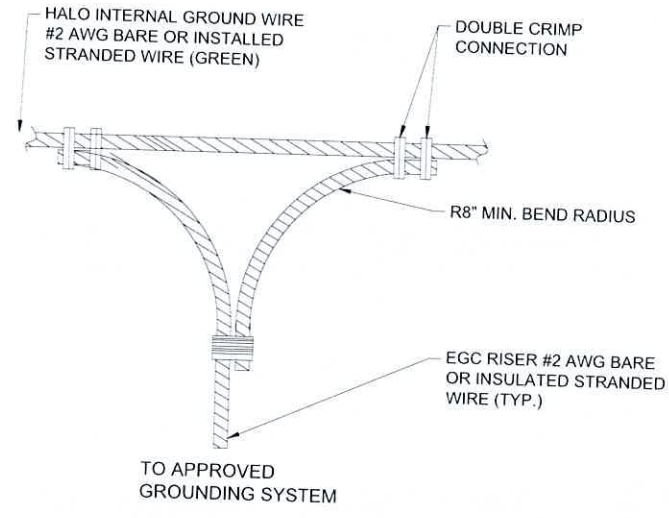
1. PROPOSED HARGER 2x14.5" GROUND BAR (PN/ TGBR14214.5VER) MOUNT DIRECTLY TO TOWER STEEL.
2. INSULATORS TO BE NEWTON CAT. NO. 3015-8 OR APPROVED EQUAL
3. 5/8" LOCK WASHERS; NEWTON CAT. NO. A-6056 OR APPROVED EQUAL
4. 5/8" - 11 X 1" M.M.C.S. BOLTS; NEWTON CAT. NO. 3012-1 OR APPROVED EQUAL
5. COAT ALL SURFACES WITH 'KOPER SHIELD' BEFORE MATING
6. ALL HARDWARE TO BE STAINLESS STEEL UNLESS OTHERWISE NOTED
7. NUTS TO FACE OUT



GROUND COLLECTOR BAR
SCALE: NTS



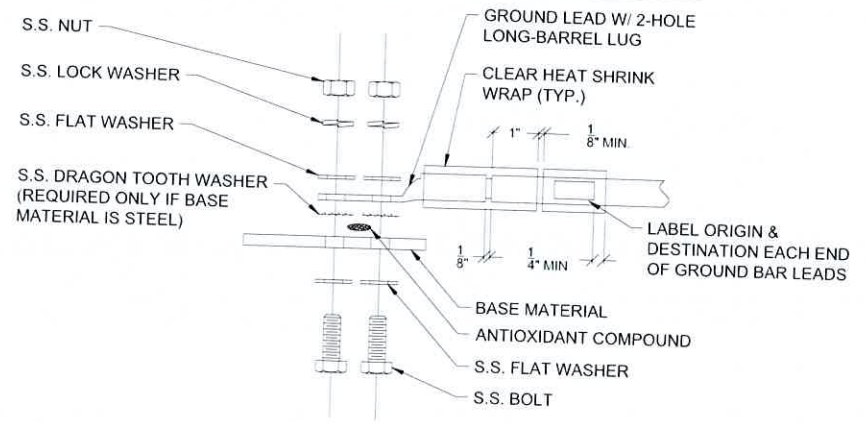
INSPECTION SLEEVE DETAIL
SCALE: NTS



HALO NON-DIRECTIONAL GROUND RING SPLICE DETAIL
SCALE: NTS

NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.
3. GROUND BARS, INSTALL BOLT HEAD TOWARD WALL ENCLOSURES, INSTALL BOLT HEAD ON OUTSIDE OF ENCLOSURE



GROUND LIG INSTALLATION DETAIL
SCALE: NTS



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ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

PROJECT NUMBER: 60498

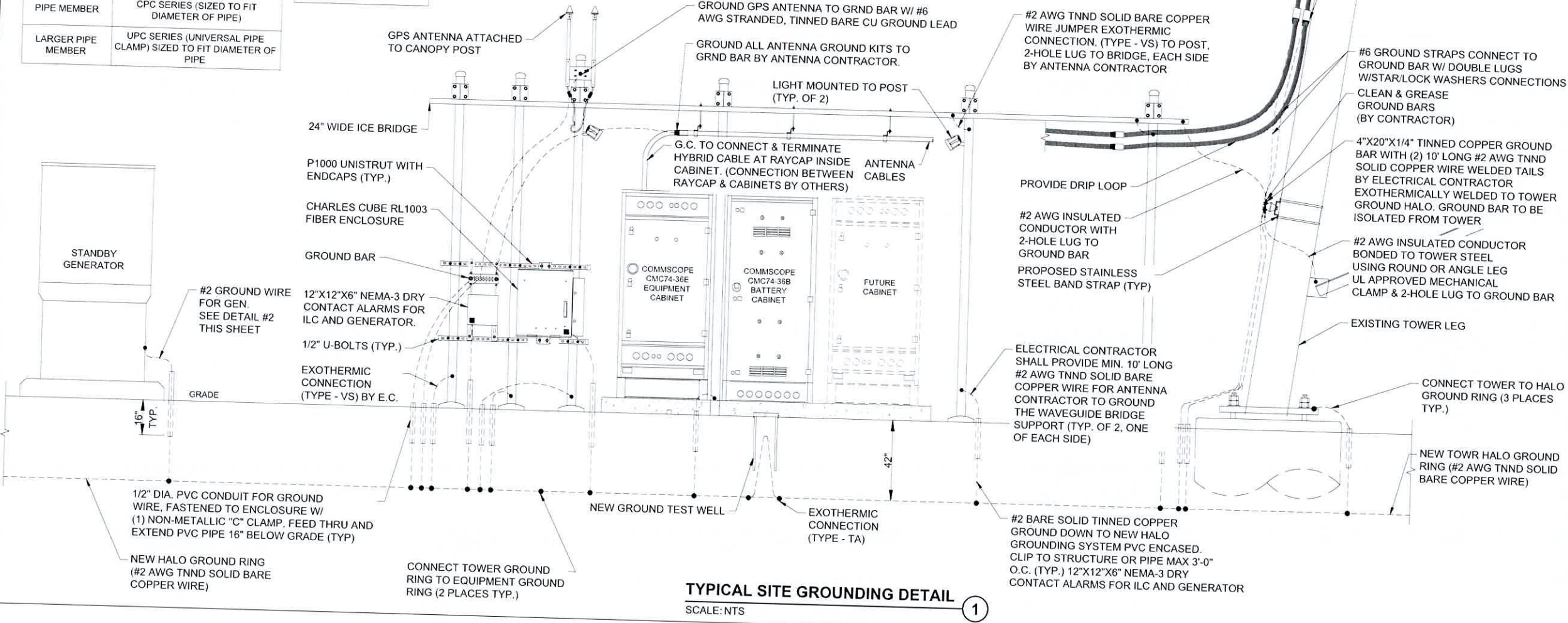
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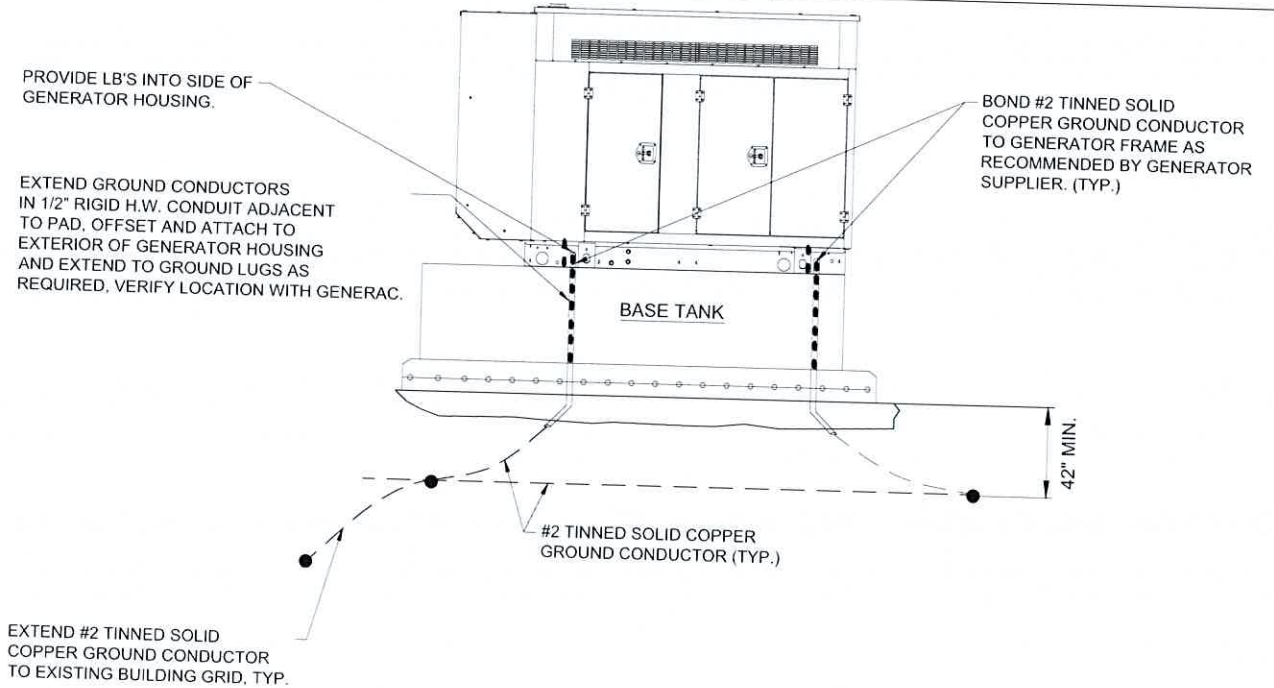
APPROVED UL LISTED GROUND CLAMPS	
APPLICATION	UL LISTED HARGER PART #
METAL FLANGE	213, 213T, 213TTP
PIPE MEMBER	CPC SERIES (SIZED TO FIT DIAMETER OF PIPE)
LARGER PIPE MEMBER	UPC SERIES (UNIVERSAL PIPE CLAMP) SIZED TO FIT DIAMETER OF PIPE

NOTE:
ANTENNA CABLES SHALL BE GROUNDED AT THE ANTENNA HEIGHT OF TOWER

NOTE:
ALL CABINET GROUND CONNECTION BY OTHERS.



TYPICAL SITE GROUNDING DETAIL 1
SCALE: NTS



GENERATOR GROUNDING DETAIL 2
SCALE: NTS



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SHEBOYGAN COUNTY

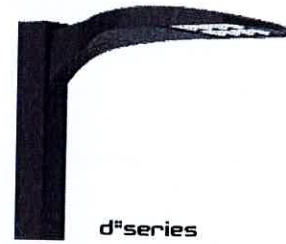
SHEET TITLE:
GROUNDING & ELECTRICAL DETAILS

SCALE: NONE

PROJECT NUMBER: 60498
SHEET: 1

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D-Series Size 0 LED Area Luminaire



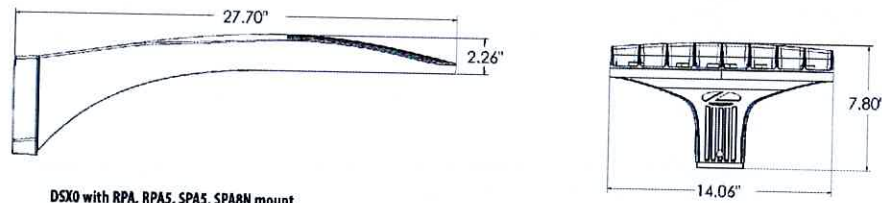
Catalog Number _____
 Notes _____
 Type _____

File in this key on notes on this page to see all descriptive characters.

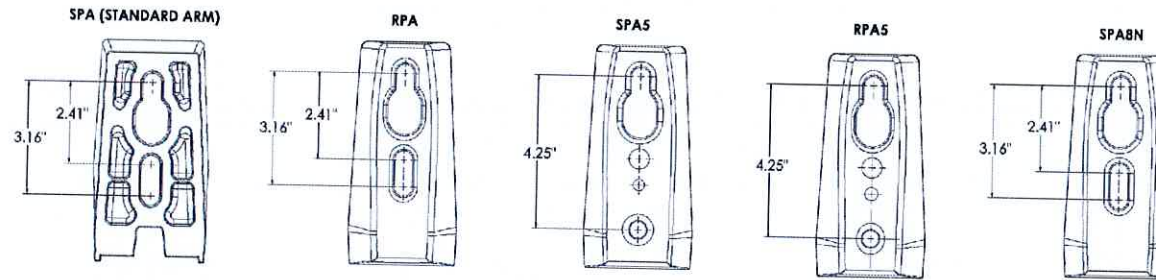
Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.



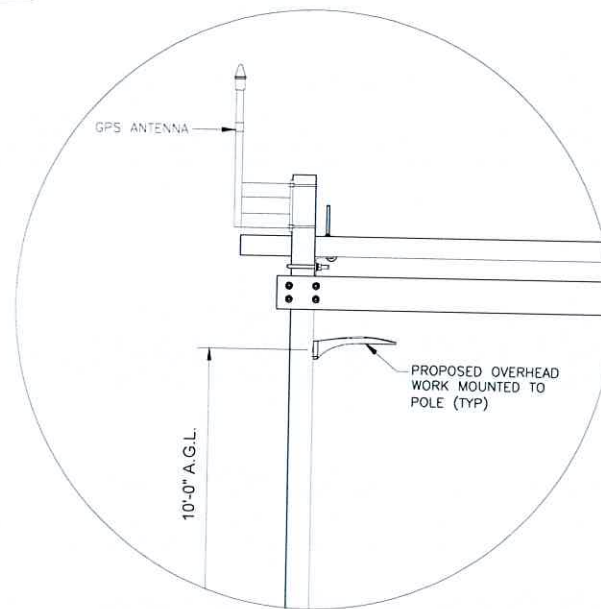
DSX0 with RPA, RPA5, SPAS, SPA8N mount
 Weight: 25 lbs



External Glare Shield (EGS)

EGSR

NOTE:
 THE PURPOSE OF THE LIGHTING IS FOR WORKER SAFETY DURING EMERGENCY MAINTENANCE. THE LIGHT WILL BE PLACED ON MOTION SENSORS. THE EXTERNAL GLARE SHIELD (EGS) IS REQUIRED TO BE INSTALLED ON THE LIGHT FIXTURE. THE LIGHT FIXTURE WILL BE MOUNTED TO THE SOUTHEAST EQUIPMENT CANOPY SUPPORT POLE.

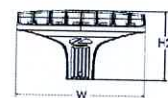
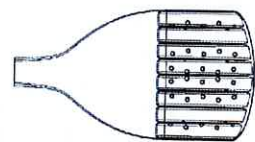


MOUNTING DETAIL

SCALE: N/A

Specifications

- EPA: 0.44 ft² (0.04 m²)
- Length: 26.18" (66.5 cm)
- Width: 14.06" (35.7 cm)
- Height H1: 2.26" (5.7 cm)
- Height H2: 7.46" (18.9 cm)
- Weight: 23 lbs (10.4 kg)



Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

Series	LEDs	Color temperature ¹	Color Rendering Index ²	Distribution	Voltage	Mounting
DSX0 LED	Forward optics P1 P5 P2 P6 P3 P7 P4 Rotated optics P10 ¹ P12 ¹ P11 ¹ P13 ¹	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare ³ T4M Type IV medium T4LG Type IV low glare ³ TFTM Forward throw medium TSM Type V medium TSLG Type V low glare TSW Type V wide BLC3 Type III backlight control ¹ BLC4 Type IV backlight control ¹ LCCO Left corner cutoff ³ RCCO Right corner cutoff ³	MVOLT (120V-277V) ⁴ HVOLT (347V-480V) ^{5,6} XVOLT (277V-480V) ^{1,8}	Shipped included SPA Square pole mounting (#8 drilling, 3.5" min. SQ pole) RPA Round pole mounting (#8 drilling, 3" min. RND pole) SPAS Square pole mounting (#5 drilling, 3" min. SQ pole) ⁷ RPAS Round pole mounting (#5 drilling, 3" min. RND pole) ⁷ SPA8N Square narrow pole mounting (#8 drilling, 3" min. SQ pole) WBA Wall bracket ¹⁰ MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options	Other options	Finish required
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2%. ^{14, 15, 16, 17} PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2%. ^{14, 16, 17} PER NEMA twist-lock receptacle only (controls ordered separately) ¹⁴ PERS Five-pin receptacle only (controls ordered separately) ^{14, 17}	PER7 Seven-pin receptacle only (controls ordered separately) ^{14, 16} FAO Field adjustable output ^{14, 17} BL30 Bi-level switched dimming, 30% ^{14, 15} BL50 Bi-level switched dimming, 50% ^{14, 15} DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) ¹⁷	Shipped installed HS Houseside shield (black finish standard) ¹⁰ L90 Left rotated optics ¹ R90 Right rotated optics ¹ CCE Coastal Construction ²¹ HA 50°C ambient operation ²² Shipped separately EGSR External Glare Shield (reversible, field install required, matches housing finish) BSDB Bird Spikes (field install required)
		DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLTXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white



One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
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DSX0-LED
 Rev. 03/15/23
 Page 1 of 9

LIGHT FIXTURE

SCALE: N/A

1



CELLCO PARTNERSHIP
 d/b/a VERIZON WIRELESS



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Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.



Michael L. Pinske
 Signature: _____ Date: 9/30/2024

A 9/10/24 REVISED UTILITY NOTES

MARK	DATE	DESCRIPTION
ISSUE PHASE	PRELIMINARY	DATE ISSUED 06/25/2024

PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

SHEET TITLE:
LIGHTING SPECIFICATIONS

SCALE: NONE

PROJECT NUMBER: 60498

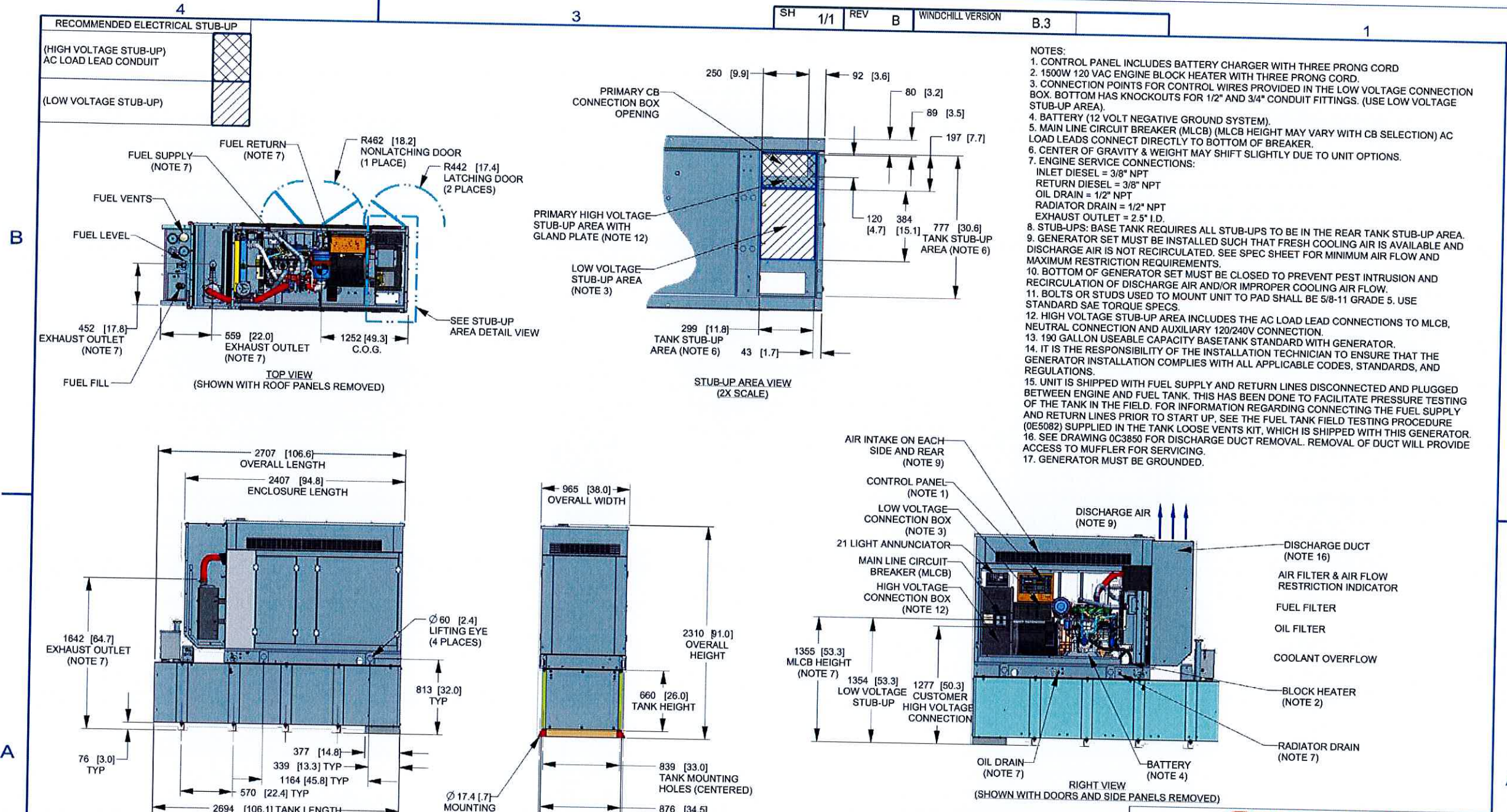
SHEET NUMBER: VW E-7

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GENERATOR TYPE: DIESEL (PENDING ENVIRONMENTAL VERIFICATION)
MAKE: GENERAC
MODEL #: SD030-1PE-190JT - STANDARD GENERAC SD030 30kw DIESEL - 190 GALLON

SH	1/1	REV	B	WINDCHILL VERSION	B.3
----	-----	-----	---	-------------------	-----



DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

WEIGHT DATA: (INCLUDES FUEL TANK)
GENERATOR: 1358 [2995]
GENERATOR WITH SHIPPING SKID: 1424 [3139]
WEIGHT: KG [LBS]
DIMENSIONS: MM [INCHES]



TITLE			
INSTALL D2.2L G22 30KW SSS L2A Y02 EXT			
ISSUE DATE: 12/18/17			
SIZE	CAGE NO	DWG NO	REV
B	N/A	10000019074	B
SCALE	WT-KG	SEE ABOVE	SHEET
0.025			1 of 1

INSTALLATION DRAWING

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Certification & Seal
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.



Signature: *Michael L. Pinske* Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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PROJECT TITLE:
BUSINESS DRIVE

PROJECT INFORMATION:
2219 SAUK TRAIL RD
SHEBOYGAN, WI 53083
SHEBOYGAN COUNTY

SHEET TITLE:
GENERATOR CUT-SHEET

SCALE: NONE

PROJECT NUMBER: 60498
SHEET NUMBER: VW FX-1

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GENERATOR TYPE: DIESEL (PENDING ENVIRONMENTAL VERIFICATION)
 MAKE: GENERAC
 MODEL #: SD030-1PE-190JT - STANDARD GENERAC SD030 30kw DIESEL - 190 GALLON



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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.



Michael L. Pinske
Signature: _____ Date: 9/30/2024

MARK	DATE	DESCRIPTION
A	9/10/24	REVISED UTILITY NOTES

ISSUE PHASE	PRELIMINARY	DATE ISSUED	06/25/2024
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BUSINESS DRIVE

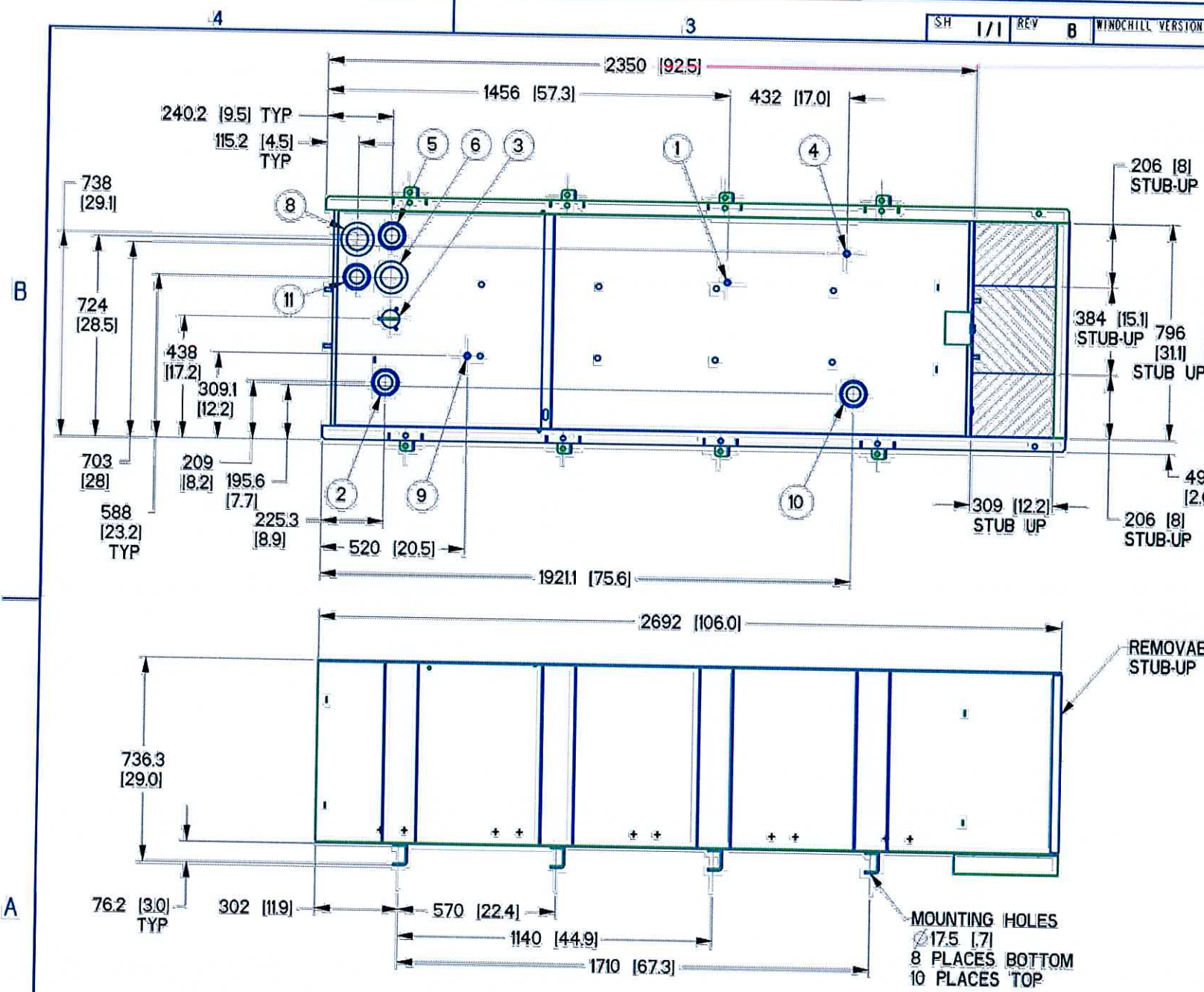
PROJECT INFORMATION:
 2219 SAUK TRAIL RD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

GENERATOR CUT-SHEET

SCALE: NONE

PROJECT NUMBER: 60498
 SHEET NUMBER: VW FX-2

SH 1/1 REV B WINDCHILL VERSION 8.2



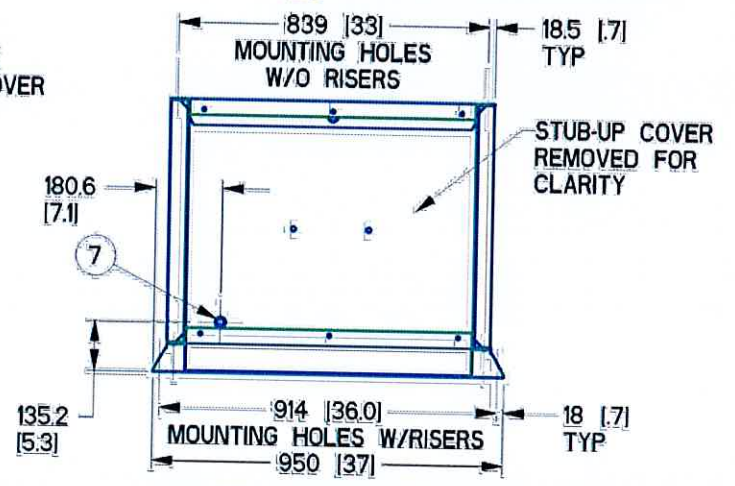
I/N	TANK FITTING	PROVIDING FUNCTION
1	3/8" NPT COUPLING	FUEL SUPPLY
2	2" NPT WELD FLANGE	FUEL FILL
3		FUEL LEVEL
4	3/8" NPT COUPLING	FUEL RETURN
5	2" NPT WELD FLANGE	VENT
6	3" NPT WELD FLANGE	INNER EMERGENCY VENT
7	1/2" NPT HALF COUPLING	RUPTURE BASIN LEAK SENSOR
8	3" NPT WELD FLANGE	OUTER EMERGENCY VENT
9	3/8" NPT COUPLING	5 GALLON SPILL/FILL DRAIN
10	2" NPT WELD FLANGE	90% FUEL SWITCH
11	2" NPT WELD FLANGE	RUPTURE BASIN ALARM

LOW VOLTAGE STUB-UP
 HIGH VOLTAGE STUB-UP

TANK P/N	10000016357
TOTAL CAPACITY	757 [200]
USABLE CAPACITY	720 [190]
EST. DRY WEIGHT	420 [924]

CAPACITY: LITER [GALLONS]
 WEIGHT: KILOGRAMS [POUNDS]
 LENGTH: MM [INCH]

UL #142 / ULC-S601 LISTED



TITLE
 INSTALL D2.2L BASETANK
 190G A EXT Y02 MDEQ

ISSUE DATE:	
SIZE	B
CAGE NO	N/A
DWG NO	10000019086
REV	B
SCALE	0.063
WT-KG	0.000
SHEET	1 of 1

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DRAWING CREATED FROM PRO/ENGINEER 3D FILE. ECO MODIFICATION TO BE APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING



SURVEYOR'S NOTES

- 1) ALL EASEMENTS AND/OR LEASE AREAS SHOWN AND NOT LABELED AS EXISTING SHALL BE PENDING UNTIL RECORDED.
- 2) AN ATTEMPT WAS MADE TO LOCATE ALL PROPERTY CORNERS AND MONUMENTS. WHERE NO MONUMENTS WERE FOUND, THE PROPERTY LINE WAS DRAWN BASED ON RECORDED AND/OR FILED DOCUMENTS.
- 3) NOT TO BE USED AS CONSTRUCTION DRAWINGS.
- 4) LOCATION OF UTILITIES EXISTING ON OR SERVING THE SURVEYED PROPERTY WAS DETERMINED BY OBSERVED EVIDENCE. EVIDENCE FROM PLANS PROVIDED TO THE SURVEYOR OR MARKINGS PURSUANT TO A UTILITY LOCATE REQUESTED BY THE SURVEYOR. WISCONSIN DIGGER'S HOTLINE UTILITY LOCATE NUMBER 20242123159.
- 5) FIELDWORK WAS PERFORMED BY RAMAKER & ASSOCIATES AND REVIEWED BY TRENT D. NELSON, WISCONSIN SURVEYOR NUMBER 3132-8.
- 6) THE PURPOSE OF THIS SURVEY IS TO ESTABLISH AND DESCRIBE A LEASE AREA AND ASSOCIATED EASEMENTS FOR TELECOMMUNICATIONS EQUIPMENT. THIS IS NOT A BOUNDARY SURVEY OF THE PARENT PARCEL & THEREFORE RESETTING MISSING PROPERTY IRONS IS OUTSIDE THE SCOPE OF THE WORK BEING PERFORMED.
- 7) AT TIME OF SURVEY, THERE WERE NO ENCROACHMENTS AFFECTING THE 'THE TOWERS, LLC' LEASE AREA OR ASSOCIATED EASEMENTS.
- 8) THE 'THE TOWERS, LLC' LEASE AREA AND ASSOCIATED EASEMENTS LIE WITHIN THE PARENT PARCEL.
- 9) THE 'THE TOWERS, LLC' 30' WIDE ACCESS & 12' WIDE UTILITY EASEMENTS TERMINATES AT THE PUBLIC RIGHT-OF-WAY OF SAUK TRAIL ROAD.
- 10) PARENT PARCEL DESCRIPTION FROM RECORDED AND/OR FILED DOCUMENTS.
- 11) THIS MAP WAS PREPARED WITH THE AID OF A TITLE REPORT BY TOWER TITLE, LLC, FILE NUMBER: VTB-180142-C, DOCUMENT DATE: 04/25/2024.
- 12) BEARINGS ARE REFERENCED TO THE NORTH LINE OF THE NW1/4 OF SECTION 34, T15N, R23E, MEASURED TO BEAR N89°50'03"W BY GPS GRID USING THE WISCONSIN COUNTY COORDINATE SYSTEM, SHEBOYGAN COUNTY, U.S. FOOT.
- 13) VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988.
- 14) F.E.M.A. FLOOD PANEL MAP NUMBER 55117C0351F, ZONE X, AREA OF MINIMAL FLOOD HAZARD.

TITLE REPORT REVIEW

PREPARED BY: TOWER TITLE, LLC
 COMMITMENT NUMBER: VTB-180142-C
 COMMITMENT DATE: 04/25/2024

SCHEDULE B - PART II EXCEPTIONS:

- 1-9. THE EXCEPTION DESCRIBES THE PARENT PARCEL SHOWN HERE WITHIN.
10. ANY AND ALL MATTERS DISCLOSED ON THE MAP ENTITLED "SOUTH SHEBOYGAN" RECORDED IN (BOOK) 1 (PAGE) 83, IN SHEBOYGAN COUNTY, WISCONSIN. (EXISTING SOUTH SHEBOYGAN ADDITION IS SHOWN ON SURVEY)

LEGEND

- SECTION CORNER
- 1" IRON PIPE, FOUND
- POINT OF COMMENCEMENT
- RECORDED AS INFO
- PARENT PARCEL BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING LOT LINE
- LEASE AREA
- EASEMENT SIDELINE
- EASEMENT CENTERLINE
- SECTION LINE
- QUARTER SECTION LINE
- QUARTER-QUARTER SECTION LINE
- EXISTING ASPHALT
- EXISTING CONCRETE

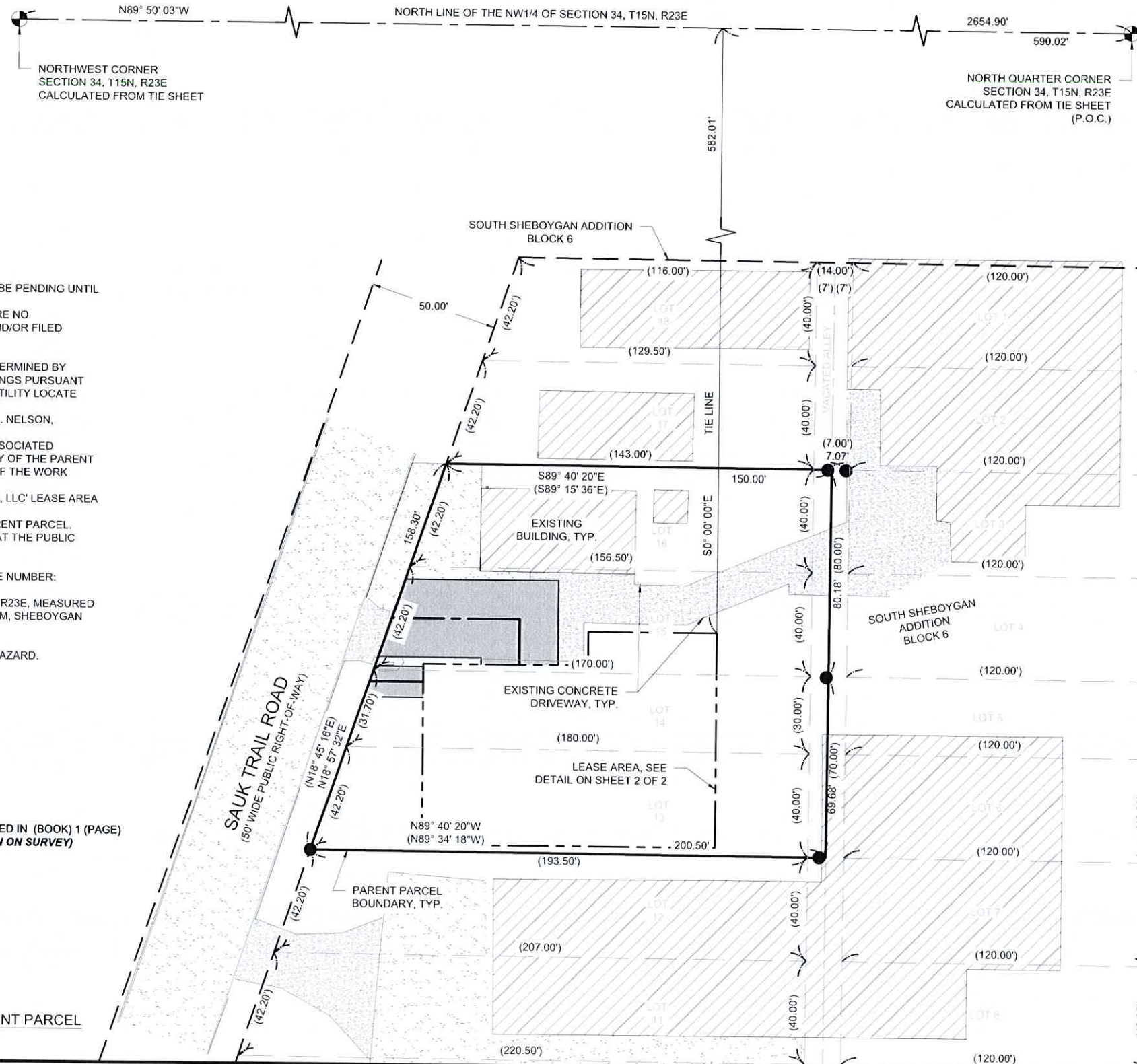


PARENT PARCEL DESCRIPTION PER TITLE REPORT

LOTS 13, 14, 15 AND 16, BLOCK 6, SOUTH SHEBOYGAN ADDITION, ACCORDING TO THE RECORDED PLAT THEREOF, IN THE CITY OF SHEBOYGAN, SHEBOYGAN COUNTY, WISCONSIN, AND THE WEST 1/2 OF THE VACATED NORTH-SOUTH ALLEY ADJACENT TO THE EAST SIDE OF SAID LOTS.

PARCEL ID#: 59281425610

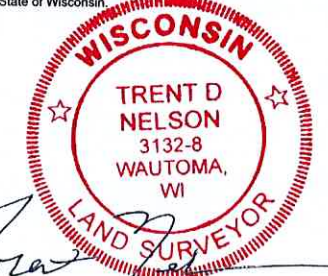
THIS BEING THE SAME PROPERTY CONVEYED TO MATTHEW J. DROSS AND LISA A. DROSS, HUSBAND AND WIFE FROM TIMOTHY T. KACHELMEIER, A SINGLE PERSON IN A WARRANTY DEED DATED MARCH 29, 2013, AND RECORDED APRIL 2, 2013, AS INSTRUMENT NO. 1965755, IN SHEBOYGAN COUNTY, WISCONSIN.



THE TOWERS, LLC



Certification & Seal:
 I hereby certify to: Vertical Bridge REIT, LLC, a Delaware limited liability company, its subsidiaries, and their respective successors and/or assigns; and (ii) Toronto Dominion (Texas) LLC, as Administrative Agent, for itself and on behalf of the lenders parties from time to time to that certain Second Amended and Restated Loan Agreement dated June 17, 2016 with Vertical Bridge Holdco, LLC, as borrower, and Vertical Bridge Holdco Parent, LLC, as parent, as may be amended, restated, modified or renewed, their successors and assigns as their interests may appear; and Tower Title, LLC; that this Survey Document was prepared and the related Survey Work was performed by me or under my direct personal supervision and that I am a duly Licensed Land Surveyor under the Laws of the State of Wisconsin.



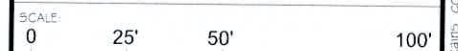
Trent D. Nelson, PLS
 License Number: 3132-8

REV	DATE	DESCRIPTION	DATE ISSUED
ISSUE PHASE	FINAL		07/11/2024

PROJECT TITLE:
 BUSINESS DRIVE
 THE TOWERS, LLC
 US-WI-5737

PROJECT ADDRESS:
 2219 SAUK TRAIL ROAD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

LEASE SURVEY



SCALE:
 11" x 17" - 1" = 50'
 22" x 34" - 1" = 25'

PROJECT NUMBER: 60498
SHEET NUMBER: 1 OF 2

LEASE AREA METES & BOUNDS DESCRIPTION

A PORTION OF LAND LOCATED IN LOTS 13,14 AND 15 OF BLOCK 6 OF SOUTH SHEBOYGAN ADDITION LOCATED IN THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (NE1/4-NW1/4) OF SECTION THIRTY-FOUR (34), TOWNSHIP FIFTEEN (15) NORTH, RANGE TWENTY-THREE (23) EAST, CITY OF SHEBOYGAN, SHEBOYGAN COUNTY, WISCONSIN AND BEING FURTHER DESCRIBED AS FOLLOWS:

COMMENCING AT A CALCULATED MONUMENT LOCATING THE NORTH CORNER OF SAID SECTION 34; THENCE N89°50'03"W, 590.02 FEET ALONG THE NORTH LINE OF THE NW1/4 OF SAID SECTION 34; THENCE S0°00'00"E, 582.01 FEET TO THE POINT OF BEGINNING; THENCE N90°00'00"W, 50.00 FEET; THENCE S0°00'00"W, 13.00 FEET; THENCE N90°00'00"W, 64.00 FEET; THENCE S0°00'00"E, 70.00 FEET; THENCE N90°00'00"E, 114.00 FEET; THENCE N0°00'00"E, 83.00 FEET TO THE POINT OF BEGINNING. SAID LEASE AREA CONTAINS 8,630 SQUARE FEET (0.20 ACRES) AND IS SUBJECT TO ANY AND ALL EASEMENTS OR AGREEMENTS, RECORDED OR UNRECORDED.

30' WIDE ACCESS EASEMENT CENTERLINE DESCRIPTION

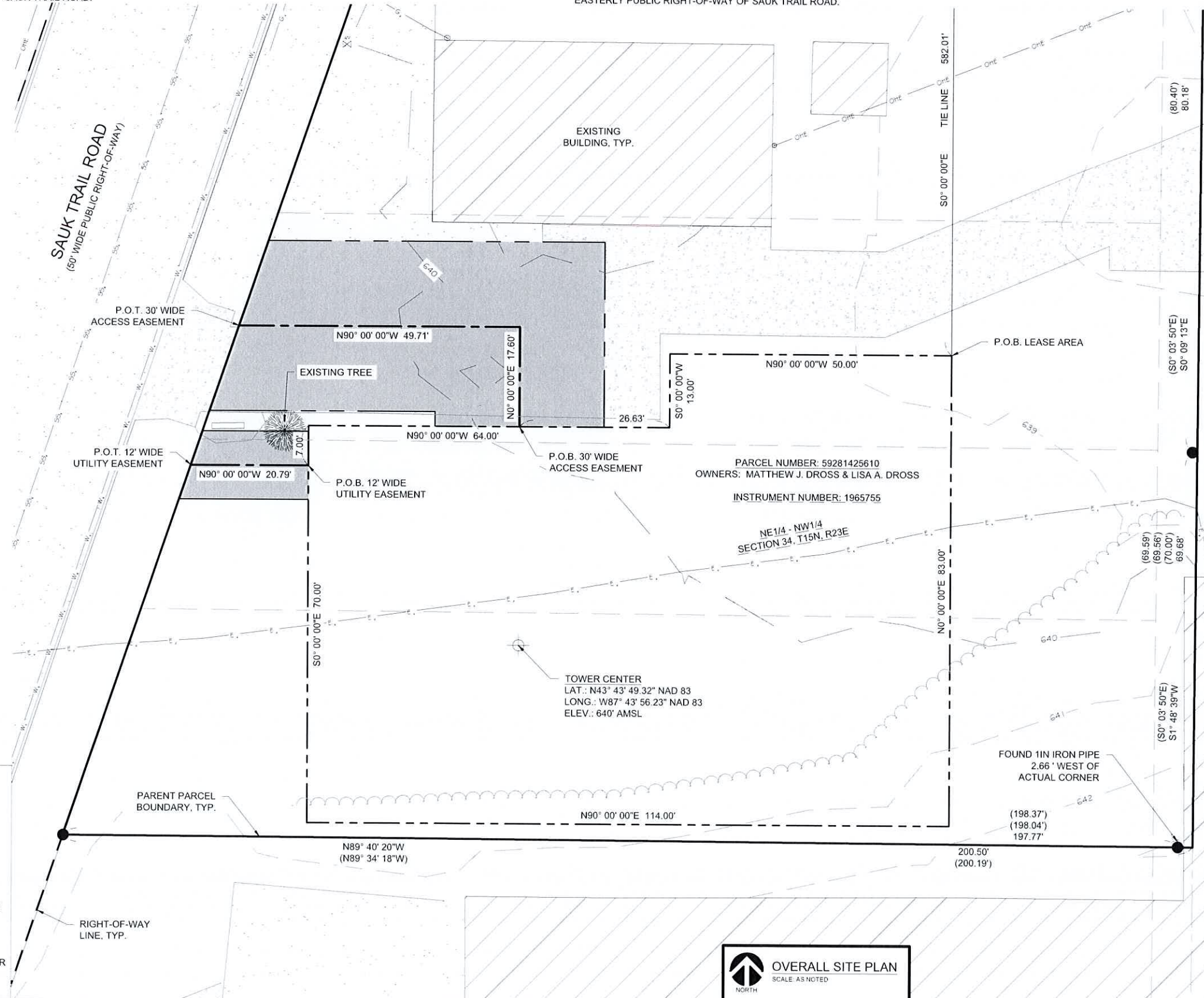
A PORTION OF LAND LOCATED IN LOT 15 OF BLOCK 6 OF SOUTH SHEBOYGAN ADDITION LOCATED IN THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (NE1/4-NW1/4) OF SECTION THIRTY-FOUR (34), TOWNSHIP FIFTEEN (15) NORTH, RANGE TWENTY-THREE (23) EAST, CITY OF SHEBOYGAN, SHEBOYGAN COUNTY, WISCONSIN AND WHOSE CENTERLINE IS FURTHER DESCRIBED AS FOLLOWS:

COMMENCING AT A CALCULATED MONUMENT LOCATING THE NORTH CORNER OF SAID SECTION 34; THENCE N89°50'03"W, 590.02 FEET ALONG THE NORTH LINE OF THE NW1/4 OF SAID SECTION 34; THENCE S0°00'00"E, 582.01 FEET TO THE NORTHEAST CORNER OF THE AFOREMENTIONED LEASE AREA; THENCE N90°00'00"W, 50.00 FEET; THENCE S0°00'00"W, 13.00 FEET; THENCE N90°00'00"W, 26.63 FEET TO THE POINT OF BEGINNING; THENCE N0°00'00"E, 17.60 FEET; THENCE N90°00'00"W, 49.71 FEET TO EASTERLY PUBLIC RIGHT-OF-WAY OF SAUK TRAIL ROAD AND THE POINT OF TERMINATION. SAID ACCESS EASEMENT CENTERLINE CONTAINS 67.31 LINEAR FEET, MORE OR LESS, AND IS SUBJECT TO ANY AND ALL EASEMENTS OR AGREEMENTS, RECORDED OR UNRECORDED. SIDELINES OF SAID EASEMENT SHALL BE LENGTHENED OR SHORTENED TO TERMINATE AT THE EASTERLY PUBLIC RIGHT-OF-WAY OF SAUK TRAIL ROAD.

12' WIDE UTILITY EASEMENT CENTERLINE DESCRIPTION

A PORTION OF LAND LOCATED IN LOTS 14 AND 15 OF BLOCK 6 OF SOUTH SHEBOYGAN ADDITION LOCATED IN THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (NE1/4-NW1/4) OF SECTION THIRTY-FOUR (34), TOWNSHIP FIFTEEN (15) NORTH, RANGE TWENTY-THREE (23) EAST, CITY OF SHEBOYGAN, SHEBOYGAN COUNTY, WISCONSIN AND WHOSE CENTERLINE IS FURTHER DESCRIBED AS FOLLOWS:

COMMENCING AT A CALCULATED MONUMENT LOCATING THE NORTH CORNER OF SAID SECTION 34; THENCE N89°50'03"W, 590.02 FEET ALONG THE NORTH LINE OF THE NW1/4 OF SAID SECTION 34; THENCE S0°00'00"E, 582.01 FEET TO THE NORTHEAST CORNER OF THE AFOREMENTIONED LEASE AREA; THENCE N90°00'00"W, 50.00 FEET; THENCE S0°00'00"W, 13.00 FEET; THENCE N90°00'00"W, 64.00 FEET TO THE NORTHWEST CORNER OF THE AFOREMENTIONED LEASE AREA; THENCE S0°00'00"E, 7.00 FEET ALONG THE WEST LINE OF THE AFOREMENTIONED LEASE AREA TO THE POINT OF BEGINNING; THENCE N90°00'00"W, 20.79 FEET TO EASTERLY PUBLIC RIGHT-OF-WAY OF SAUK TRAIL ROAD AND THE POINT OF TERMINATION. SAID ACCESS EASEMENT CENTERLINE CONTAINS 20.79 LINEAR FEET, MORE OR LESS, AND IS SUBJECT TO ANY AND ALL EASEMENTS OR AGREEMENTS, RECORDED OR UNRECORDED. SIDELINES OF SAID EASEMENT SHALL BE LENGTHENED OR SHORTENED TO BEGIN AT THE WEST LINE OF THE AFOREMENTIONED LEASE AREA AND TERMINATE AT THE EASTERLY PUBLIC RIGHT-OF-WAY OF SAUK TRAIL ROAD.



LEGEND

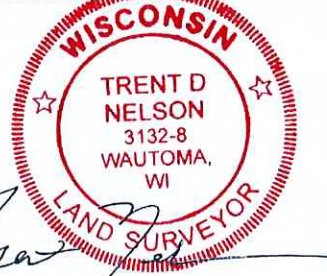
	1 INCH IRON PIPE, FOUND POINT OF BEGINNING
	POINT OF TERMINATION RECORDED AS INFO.
	PARENT PARCEL BOUNDARY
	EXISTING RIGHT-OF-WAY
	EXISTING LOT LINE
	LEASE AREA
	EASEMENT SIDELINE
	EASEMENT CENTERLINE
	SECTION LINE
	QUARTER SECTION LINE
	QUARTER-QUARTER SECTION LINE
	EXISTING TREELINE
	EXISTING OVERHEAD ELECTRIC
	EXISTING BURIED ELECTRIC
	EXISTING BURIED NATURAL GAS
	EXISTING BURIED WATER
	EXISTING BURIED SANITARY SEWER
	EXISTING WATER VALVE
	EXISTING ASPHALT
	EXISTING CONCRETE



THE TOWERS, LLC



Certification & Seal:
 I hereby certify to: Vertical Bridge REIT, LLC, a Delaware limited liability company, its subsidiaries, and their respective successors and/or assigns; and (ii) Toronto Dominion (Texas) LLC, as Administrative Agent, for itself and on behalf of the lenders parties from time to time to that certain Second Amended and Restated Loan Agreement dated June 17, 2016 with Vertical Bridge Holdco, LLC, as borrower, and Vertical Bridge Holdco Parent, LLC, as parent, as may be amended, restated, modified or renewed, their successors and assigns as their interests may appear; and Tower Title, LLC; that this Survey Document was prepared and the related Survey Work was performed by me or under my direct personal supervision and that I am a duly Licensed Land Surveyor under the Laws of the State of Wisconsin.



Trent D. Nelson, PLS
 License Number: 3132-8

REV	DATE	DESCRIPTION	DATE ISSUED
ISSUE	FINAL		07/11/2024

PROJECT TITLE:
BUSINESS DRIVE THE TOWERS, LLC US-WI-5737

PROJECT ADDRESS:
 2219 SAUK TRAIL ROAD
 SHEBOYGAN, WI 53083
 SHEBOYGAN COUNTY

LEASE SURVEY

SCALE:
 0 10' 20' 40'

11" x 17" - 1" = 20'
 22" x 34" - 1" = 10'

PROJECT NUMBER: 60498
 SHEET NUMBER: 2 OF 2