

NEW CONSTRUCTION OF CP222681 GS FOOTBALL PRACTICE FIELD LIGHTING

UNIVERSITY OF MISSOURI - COLUMBIA FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

ISSUED INFORMATION

BID DOCUMENTS 10/06/2022

DRAWING INDEX

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- V1.03 BOUNDARY & TOPOGRAPHIC SURVEY
- V1.04 BOUNDARY & TOPOGRAPHIC SURVEY
- V1.05 BOUNDARY & TOPOGRAPHIC SURVEY
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- C1.02 SITE PLAN
- C2.01 CONSTRUCTION ACCESS
- C3.01 DETAILS

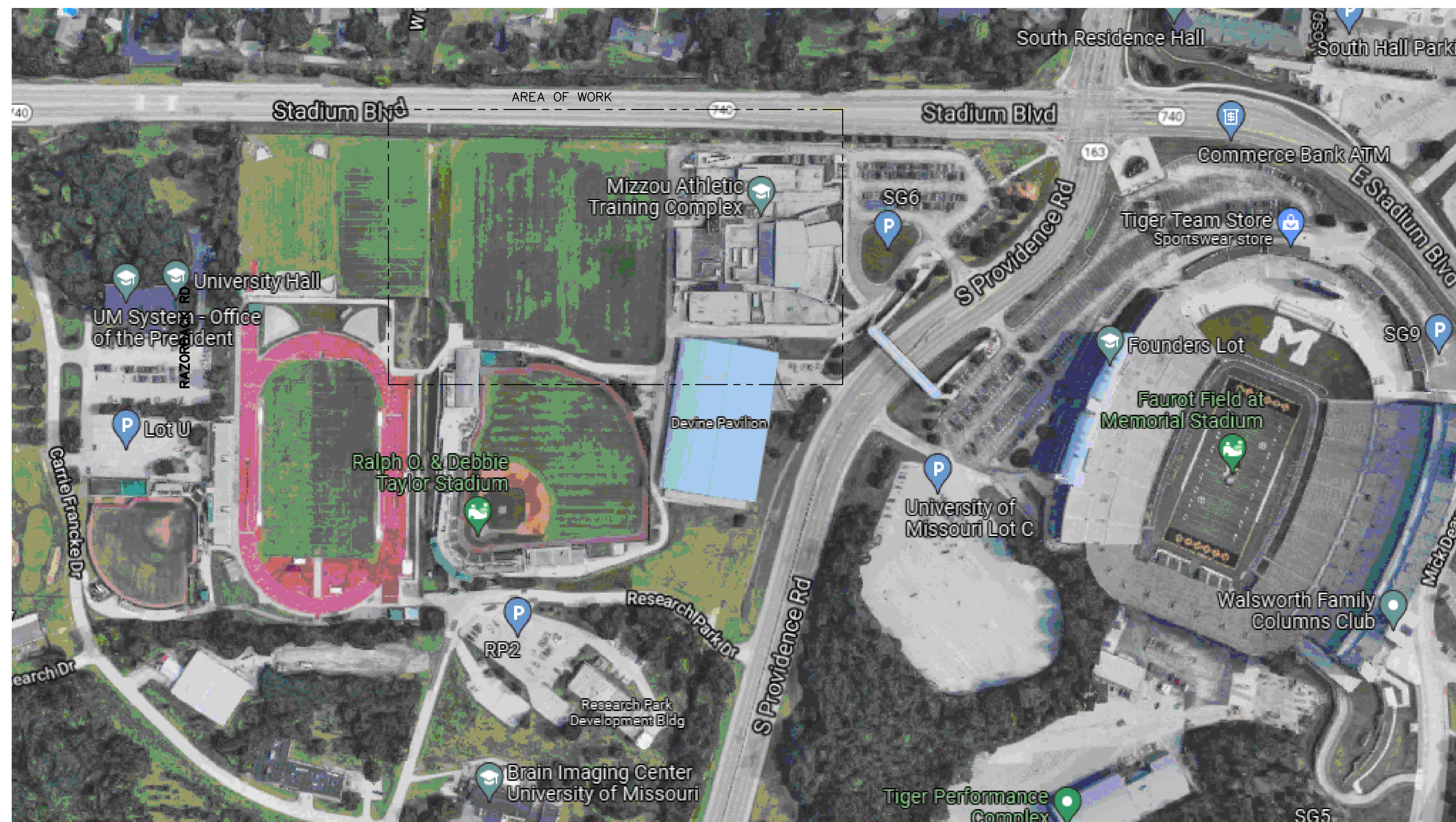
- E0 ELECTRICAL LEGEND AND NOTES
- E1 ELECTRICAL SITE PLAN
- E2 ELECTRICAL ONE-LINE DIAGRAM
- E3 PHOTOMETRIC CALCULATIONS

"I hereby certify these drawings and/or specifications have been prepared by me, or under my supervision. I further certify that to the best of my knowledge these drawings and/or specifications are as required by and in compliance with the Building Codes of the University of Missouri".

Andrea Mulvany
ELECTRICAL ENGINEER OF RECORD

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Bernard A. Roth
CIVIL ENGINEER OF RECORD



KEY PLAN

CODES:

- 2021 INTERNATIONAL BUILDING CODE
- 2021 INTERNATIONAL EXISTING BUILDING CODE
- 2020 NATIONAL ELECTRICAL CODE
- 2019 ASHRAE 90.1 ENERGY CODE

GENERAL NOTES:

1. THESE NOTES APPLY TO ALL TRADES.
2. CONTRACTOR SHALL REPAIR ALL DAMAGE TO EXISTING BUILDING, FIXTURES, AND FINISHES CAUSED BY CONTRACTOR DURING THE PERFORMANCE OF THE WORK. REPAIRS SHALL BE PERFORMED BY QUALIFIED TRADESMEN AND SHALL BE COMPLETED IN A MANNER ACCEPTABLE TO THE OWNER/ENGINEER.
3. CONTRACTOR SHALL INSPECT THE SITE PRIOR TO THE SUBMISSION OF A BID. CONTRACTOR SHALL INFORM THEMSELVES OF THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED CONCERNING THE SITE OF THE WORK, THE OBSTACLES WHICH MAY BE ENCOUNTERED, THE DEMOLITION AND TEMPORARY REMOVAL AND REINSTALLATION REQUIRED TO PROVIDE ACCESS TO THE WORK, AND ALL OTHER RELEVANT MATTERS CONCERNING THE WORK TO BE PERFORMED. CONTRACTOR SHALL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER WHICH CONTRACTOR SHOULD HAVE INFORMED THEMSELVES PRIOR TO THE SUBMISSION OF A BID.
4. THE DRAWINGS REPRESENT THE BEST INFORMATION AVAILABLE TO THE ENGINEER. ALL DIMENSIONS AND SIZES SHALL BE FIELD VERIFIED. DO NOT SCALE FROM DRAWINGS. SMALL DEVIATIONS BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS ENCOUNTERED SHALL BE RECONCILED DURING THE PERFORMANCE OF THE WORK AND SHALL NOT CONSTITUTE REASON FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
5. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER/ENGINEER AND REQUEST INSTRUCTIONS SHOULD ACTUAL CONDITIONS DEVIATE SUBSTANTIALLY FROM THOSE INDICATED ON THE DRAWINGS.
6. ALL FEES AND ANY OTHER COSTS TO UTILITY COMPANIES, MUNICIPALITIES, INSPECTORS, REVIEWING AGENCIES, ETC. ARE TO BE INCLUDED AS PART OF THIS CONTRACT.

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MO Land Surveying Corp. # 2004004672
Missouri Engineering Corp. # 2004005018



Project
CP222681 GS FOOTBALL PRACTICE FIELD LIGHTING
UNIVERSITY OF MISSOURI - COLUMBIA FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI



10/05/2022
ANDREA C. MULVANY
LICENSE # PE-2013039892
PROFESSIONAL SEAL

REVISIONS	

JOB NO: CP222681
DATE: 10-06-22
CHECKED BY: ACM
DRAWN BY: LKV

COVER SHEET

GO

GS FOOTBALL PRACTICE FIELD LIGHTING

COLUMBIA, BOONE COUNTY, MISSOURI

SITE PLAN
OCTOBER 6, 2022



UTILITY NOTES

ALL UTILITIES ARE UNIVERSITY OF MISSOURI, EXCEPT AS NOTED BELOW. THE LOCATIONS, SIZES, AND MATERIAL TYPES OF UNDERGROUND UTILITIES INDICATED ON THE PLAN, NOT VISIBLE OR APPARENT FROM THE SURFACE, ARE SHOWN IN THEIR APPROXIMATE LOCATIONS FROM A MISSOURI ONE CALL SYSTEM LOCATE, OR UTILITY COMPANY RECORDS AND WERE NOT VERIFIED IN THE FIELD. IRRIGATION LINES WERE NOT LOCATED. UNDERGROUND ELECTRIC LINES TO LIGHTS WERE NOT LOCATED.

UNIVERSITY OF MISSOURI
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CONTACT: 573-882-3094
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CHILLED WATER, SANITARY SEWER, STORM SEWER

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CONTACT: JOE STRODTMAN 573-874-6308
NONE WITHIN SURVEYED AREA

ELECTRIC
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GAS
AMEREN MISSOURI
2001 MAGUIRE BOULEVARD
COLUMBIA, MISSOURI 65201
CONTACT: TRENT SNOODGRASS 573-876-3063

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CONTACT: DIANE MCKEE 573-886-3503
MANHOLES & CONDUITS ARE CENTURYLINK,
LINES ARE UNIVERSITY OF MISSOURI AS SHOWN

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COLUMBIA, MISSOURI 65201
CONTACT: BOB BONER 573-443-1536
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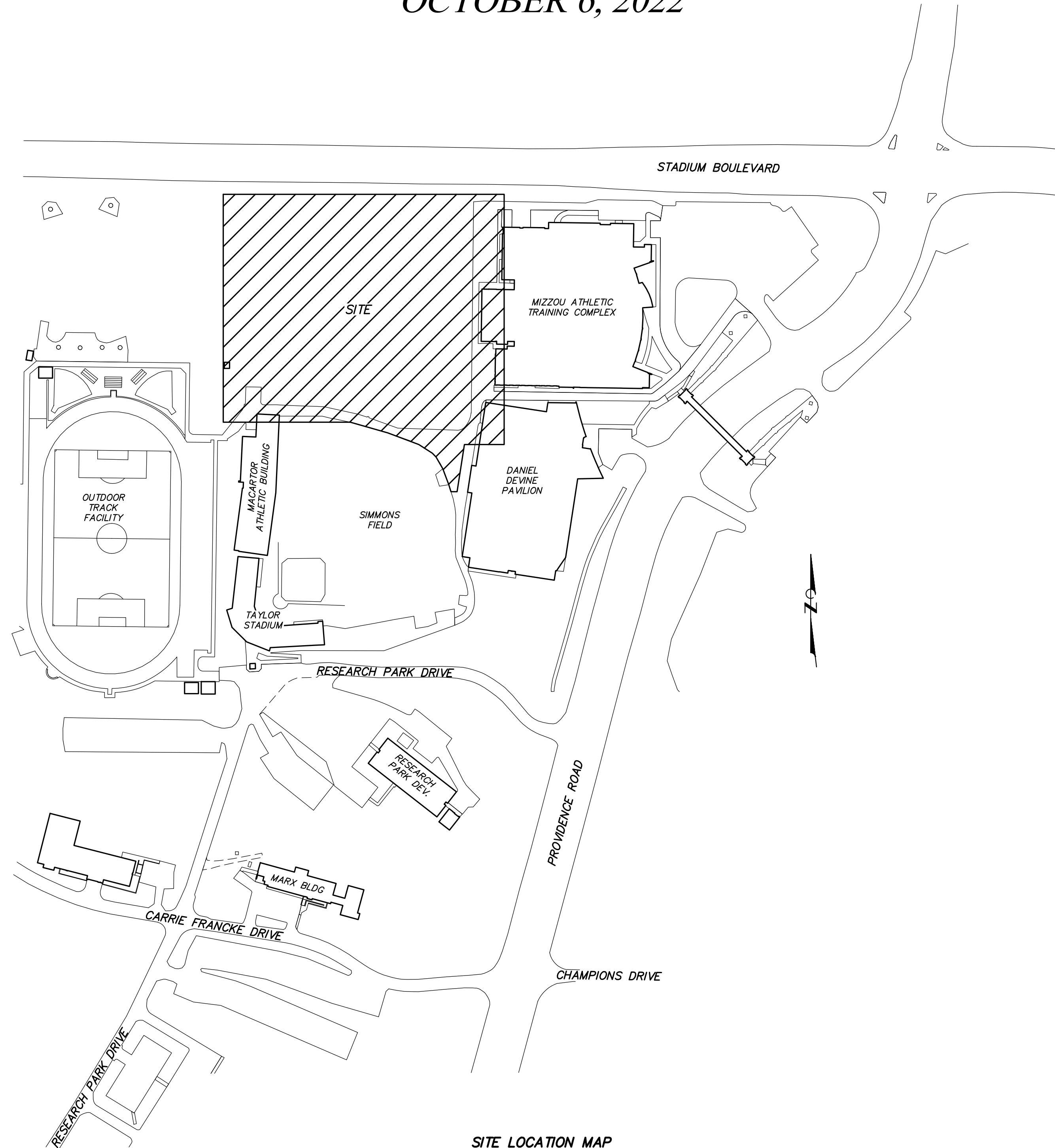
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MoDOT - CENTRAL DISTRICT
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JEFFERSON CITY, MISSOURI 65102
CONTACT: JOHN KUHLMAN 573-522-6806
STORM SEWER ALONG STADIUM BOULEVARD

STORM WATER POLLUTION PREVENTION PLAN NOTES

- NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVAL HAS BEEN RECEIVED FROM ALL GOVERNING AUTHORITIES.
- IMMEDIATELY UPON COMPLETION OF FINISH GRADING IN EACH AREA, ALL LANDSCAPING AREAS SHALL BE STABILIZED PER PLANS AND/OR SPECIFICATIONS.
- SHOULD CONSTRUCTION STOP FOR LONGER THAN 14 DAYS, THE SITE SHALL BE TEMPORARILY SEEDED.
- SITE INSPECTION SHOULD OCCUR ON A REGULAR SCHEDULE AND WITHIN 24 HOURS OF A STORM EVENT OF 0.25 INCHES OR GREATER. REGULARLY SCHEDULED INSPECTION SHALL BE A MINIMUM OF ONCE EVERY 7 CALENDAR DAYS. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE AS THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
- CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON SITE INSPECTION.
- CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS, TREES & BRUSH AND OTHER MATERIAL CREATED AS A RESULT OF THE CONSTRUCTION WORK AND THE SITE SHALL BE RETURNED TO ITS ORIGINAL CONDITION.
- ALL PERIMETER LANDSCAPED AREAS SHALL BE LEFT SIX INCHES BELOW FINISH GRADE.
- THE SITE CONTRACTOR SHALL INCLUDE MAINTENANCE AND REMOVAL OF ALL BMP'S AS PART OF THEIR CONTRACT AND SHALL BE RESPONSIBLE FOR THE PROJECT UNTIL PROJECT ACCEPTANCE BY OWNER.



SITE LOCATION MAP

NOT TO SCALE

CONSTRUCTION NOTES

- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- ALL TRAFFIC CONTROL SHALL BE PER CURRENT MUTCD REQUIREMENTS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. A TRAFFIC CONTROL PLAN WILL BE REQUIRED FOR ANY WORK WITHIN THE RIGHT-OF-WAY.
- IF A CONFLICT EXISTS BETWEEN THE CIVIL PLANS AND CIVIL SPECIFICATIONS, THE CIVIL PLANS SHALL GOVERN.
- CONTRACTOR SHALL LIMIT THEIR ACTIVITIES TO ALLOWED ACCESS ROUTES AND SITE LIMITS SHOWN ABOVE UNLESS AUTHORIZED BY OWNER.
- CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION FENCE AROUND ALL OPEN EXCAVATIONS.
- FINISH GRADES AND TOPSOIL PLACEMENT AND SEEDING WILL BE BY OWNER.

LEGEND

---	PROPERTY LINE
---	UNDERGROUND ELECTRIC LINE
---	HIGH VOLTAGE ELECTRIC LINE
---	UNDERGROUND TELECOMMUNICATIONS LINE
---	SANITARY SEWER LINE
---	SANITARY SEWER FORCE MAIN LINE
---	STORM SEWER LINE
---	STEAM LINE
---	GAS LINE
---	WATER LINE
---	FENCE
---	EXISTING CONTOUR
+	TEST BORING
△	CONTROL POINT
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
DI	DUCTILE IRON PIPE
EM	ELECTRIC METER
FH	FIRE HYDRANT
FL	FLOW LINE
GM	GAS METER
HDPPE	HIGH DENSITY POLYETHYLENE PIPE
LS	LIGHT STANDARD
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
TP	TELECOMMUNICATIONS PEDESTAL
TW	TOP OF WALL
URD	UNDERGROUND ROOF DRAIN
VCP	VITRIFIED CLAY PIPE
WM	WATER METER
WV	WATER VALVE
---	PROPOSED FIELD LIGHT
---	SILT FENCE
---	PLAYING FIELD LIMITS - AREAS OFF LIMITS

BENCH MARK

- BM - NCS BRASS PLATE STAMPED "UNIVERSITY OF MISSOURI RESET, 2005" IN A CONCRETE HEADWALL FOR A SPOTLIGHT LOCATED 30 FEET SOUTHWEST OF THE WEST COLUMN IN THE FRANCIS QUADRANGLE. ELEVATION = 743.60
- TBM 1 - CHISELED SQUARE AT THE NORTHEAST CORNER OF CONCRETE SWITCHGEAR PAD LOCATED 40 FEET NORTHWEST OF THE NORTHWEST CORNER OF MACARTOR ATHLETIC BUILDING. ELEVATION = 717.64
- TBM 2 - CHISELED "+" ON THE WEST BASE BOLT OF LIGHT STANDARD LOCATED 190 FEET SOUTHWEST OF THE NORTHWEST CORNER OF DANIEL J. DEVINE ATHLETIC PAVILION AND 60 FEET SOUTHEAST OF BASEBALL FIELD SCORE BOARD. ELEVATION = 720.70
- TBM 3 - CHISELED SQUARE AT THE NORTHWEST CORNER OF CONCRETE TRANSFORMER PAD LOCATED 100 FEET SOUTHWEST OF THE NORTHWEST CORNER OF MIZZOU ATHLETIC TRAINING COMPLEX. ELEVATION = 721.18

SURVEY CONTROL POINTS

POINT #	NORTH	EAST	ELEVATION	DESCRIPTION
CP1	1129870.80	1686622.12	720.29	MAG NAIL
CP2	1129908.28	1686402.48	720.32	MAG NAIL
CP3	1130113.76	1686495.72	719.24	MAG NAIL
CP4	1130226.17	1686499.17	719.24	MAG NAIL
CP8	1129962.67	1686750.64	721.06	DRILL HOLE
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SHEET INDEX

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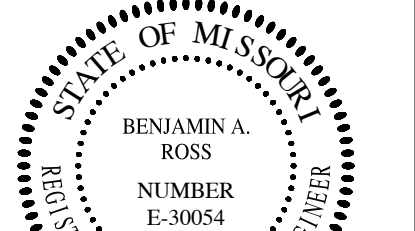
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PRACTICE FIELD
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FOR THE CURATORS OF
THE UNIVERSITY OF
MISSOURI

10/6/2022



BENJAMIN A. ROSS REGISTERED
PROFESSIONAL ENGINEER E-30054
PROFESSIONAL SEAL

REVISIONS

NO.	DATE	DESCRIPTION

JOB NO: CP220791
DATE: 10-06-22
CHECKED BY: BAR
DRAWN BY: CGH

COVER

C0.01

FOOTBALL PRACTICE FIELDS LIGHTS

COLUMBIA, BOONE COUNTY, MISSOURI
UNIVERSITY OF MISSOURI PROJECT # CP220791

SEPTEMBER 16, 2022



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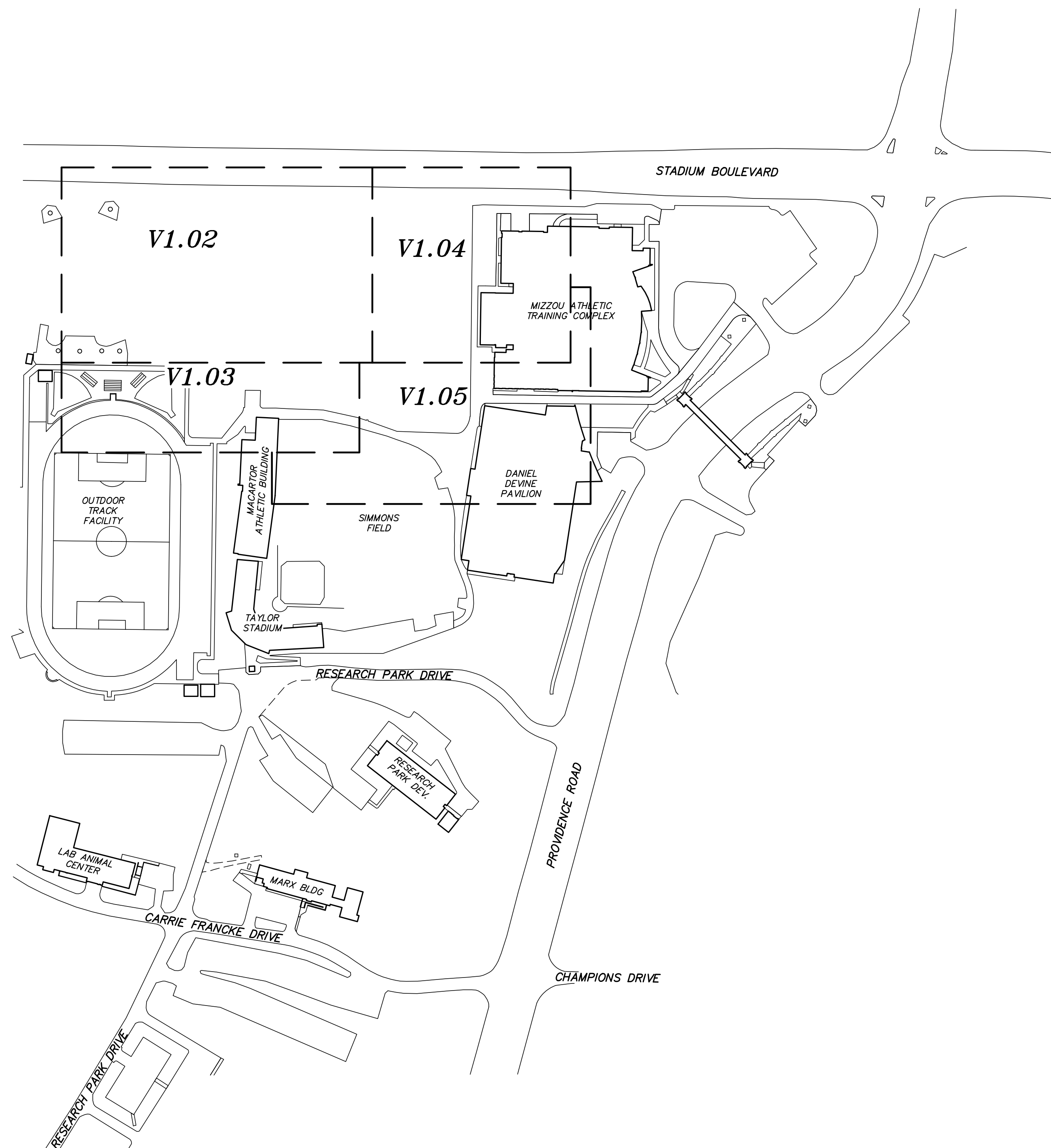
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KEY MAP

NOT TO SCALE

LEGEND

—UE—	PROPERTY LINE
—HVE—	UNDERGROUND ELECTRIC LINE
—UT—	HIGH VOLTAGE ELECTRIC LINE
—S—	UNDERGROUND TELECOMMUNICATIONS LINE
—FM—	SANITARY SEWER LINE
—SS—	SANITARY SEWER FORCE MAIN LINE
—ST—	STORM SEWER LINE
—G—	STEAM LINE
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—Y—	WATER LINE
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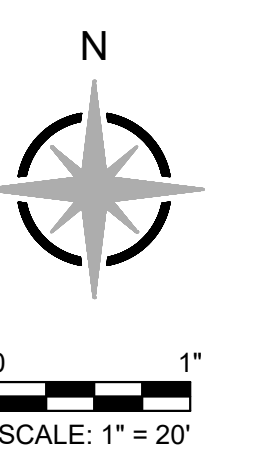
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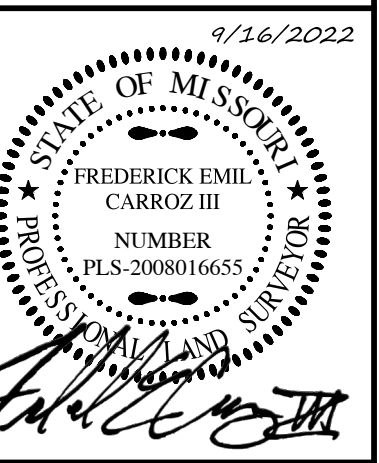


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UNIVERSITY OF MISSOURI
FOOTBALL PRACTICE FIELDS LIGHTS
COLUMBIA, BOONE COUNTY, MISSOURI
UNIVERSITY OF MISSOURI PROJECT # CP220791



FREDERICK E. CARROZ III
PROFESSIONAL LAND SURVEYOR
PLS - 2008016655

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Date
SEPTEMBER 16, 2022

Revised
Surveyed: RE Drawn: CGH

BOUNDARY & TOPOGRAPHIC SURVEY

Sheet

V1.01

1 of 5

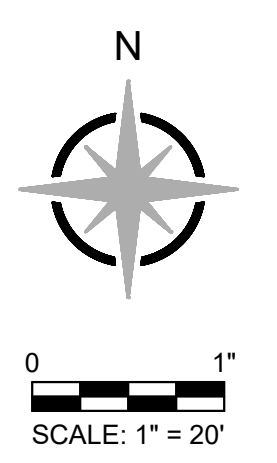
ESS&S PROJECT NO. 15358

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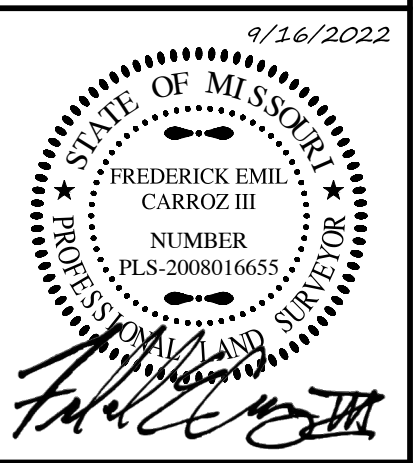
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COLUMBIA, BOONE COUNTY, MISSOURI
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FREDERICK E. CARROZ III
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Revised

Surveyed: RE Drawn: CGH

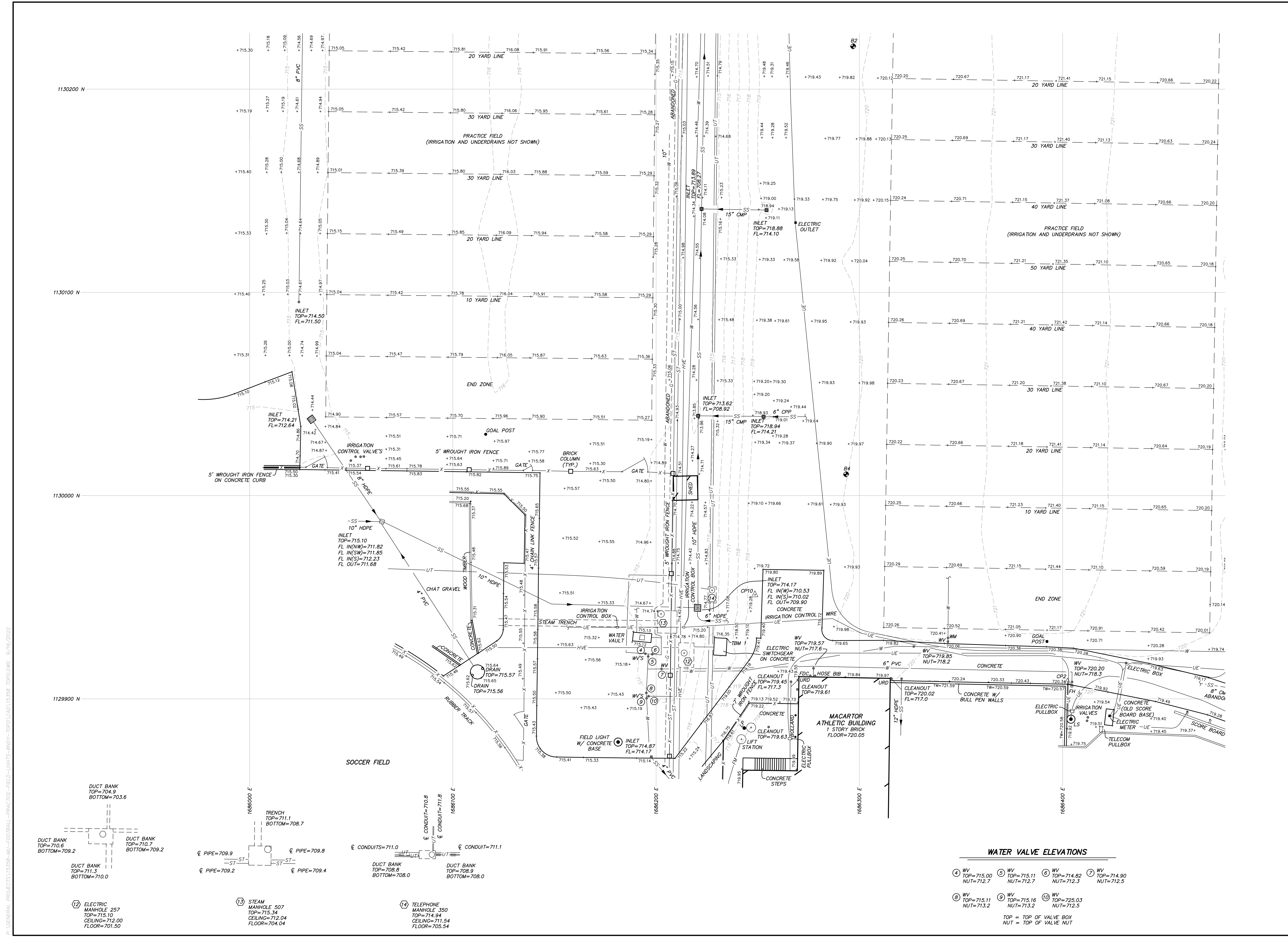
BOUNDARY & TOPOGRAPHIC SURVEY

Sheet

V1.03

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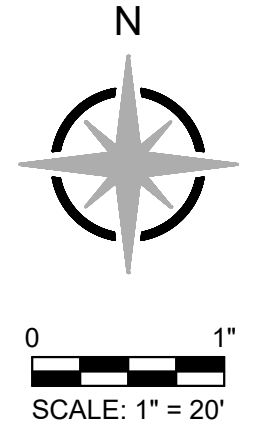


WATER VALVE ELEVATIONS

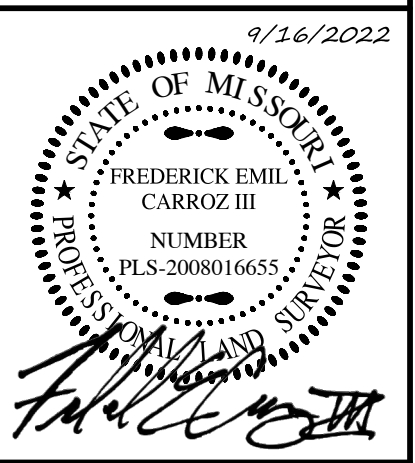
- ④ WV TOP=715.00 NUT=712.7
 - ⑤ WV TOP=715.11 NUT=712.7
 - ⑥ WV TOP=714.82 NUT=712.3
 - ⑦ WV TOP=714.90 NUT=712.5
 - ⑧ WV TOP=715.11 NUT=713.2
 - ⑨ WV TOP=715.16 NUT=713.2
 - ⑩ WV TOP=725.03 NUT=712.5
- TOP = TOP OF VALVE BOX
NUT = TOP OF VALVE NUT

- DUCT BANK TOP=704.9 BOTTOM=703.6
- DUCT BANK TOP=710.6 BOTTOM=709.2
- DUCT BANK TOP=711.3 BOTTOM=710.0
- ⑫ ELECTRIC MANHOLE 257 TOP=715.10 CEILING=712.00 FLOOR=701.50
- TRENCH TOP=711.1 BOTTOM=708.7
- ⑬ STEAM MANHOLE 507 TOP=715.34 CEILING=712.04 FLOOR=704.04
- PIPE=709.9
- PIPE=709.8
- PIPE=709.2
- PIPE=709.4
- CONDUITS=711.0
- DUCT BANK TOP=708.8 BOTTOM=708.0
- DUCT BANK TOP=708.9 BOTTOM=708.0
- CONDUIT=710.8
- CONDUIT=711.8
- CONDUIT=711.1
- ⑭ TELEPHONE MANHOLE 350 TOP=714.94 CEILING=711.54 FLOOR=705.54

P:\GENERAL PROJECTS\15358-MU-FOOTBALL-PRACTICE-FIELD-LIGHTS-TOPO.CAD\15358_TPO.DWG 9/16/2022



UNIVERSITY OF MISSOURI
FOOTBALL PRACTICE FIELDS LIGHTS
 COLUMBIA, BOONE COUNTY, MISSOURI
 UNIVERSITY OF MISSOURI PROJECT # CP220791



FREDERICK E. CARROZ III
 PROFESSIONAL LAND SURVEYOR
 PLS - 2008016655

Date
SEPTEMBER 16, 2022

Revised

Surveyed: RE Drawn: CGH

BOUNDARY & TOPOGRAPHIC SURVEY

Sheet
V1.04

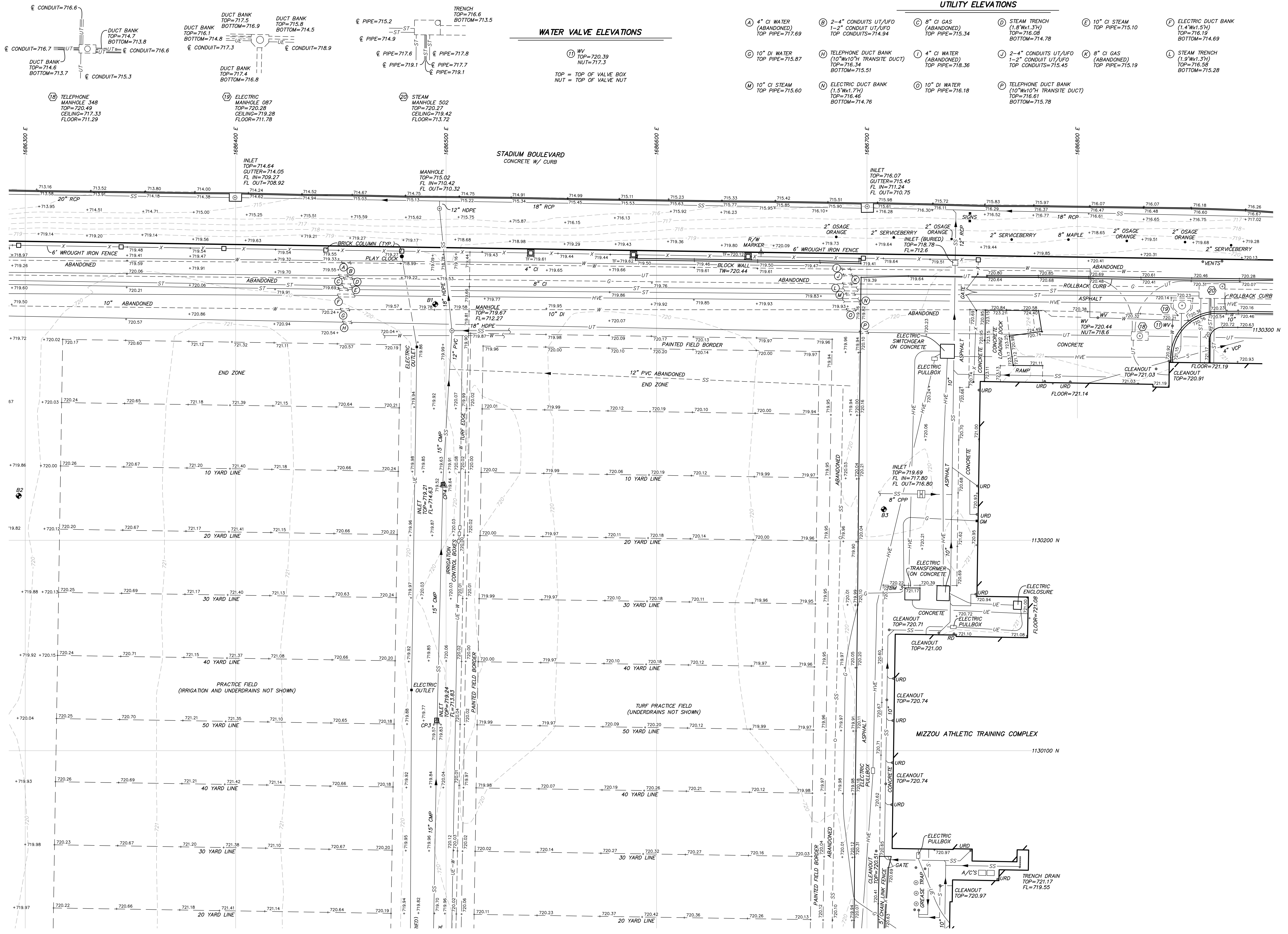
4 of 5
 ES&S PROJECT NO. 15358

UTILITY ELEVATIONS

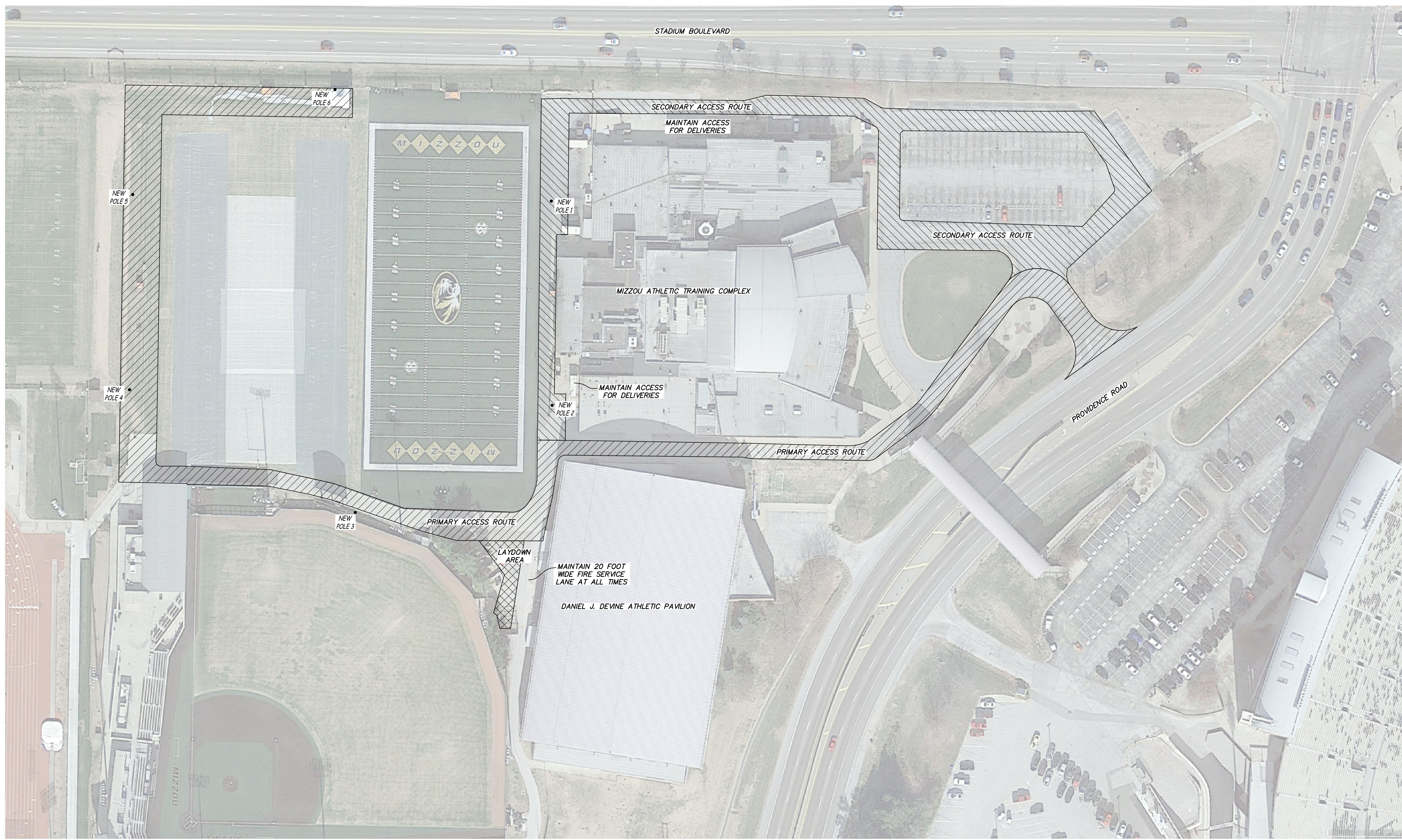
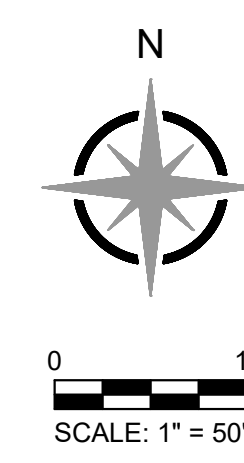
- (A) 4" CI WATER (ABANDONED) TOP PIPE=717.69
- (B) 2-4" CONDUITS UT/UF0 1-2" CONDUIT UT/UF0 TOP CONDUITS=714.94
- (C) 8" CI GAS (ABANDONED) TOP PIPE=715.34
- (D) STEAM TRENCH (1.8"Wx1.3'H) TOP=716.08 BOTTOM=714.78
- (E) 10" CI STEAM TOP PIPE=715.10
- (F) ELECTRIC DUCT BANK (1.4"Wx1.5'H) TOP=716.19 BOTTOM=714.69
- (G) 10" DI WATER TOP PIPE=715.87
- (H) TELEPHONE DUCT BANK (10"Wx10"H TRANSITE DUCT) TOP=716.34 BOTTOM=715.51
- (I) 4" CI WATER (ABANDONED) TOP PIPE=718.36
- (J) 2-4" CONDUITS UT/UF0 1-2" CONDUIT UT/UF0 TOP CONDUITS=715.45
- (K) 8" CI GAS (ABANDONED) TOP PIPE=715.19
- (L) STEAM TRENCH (1.9"Wx1.3'H) TOP=716.58 BOTTOM=715.28
- (M) 10" CI STEAM TOP PIPE=715.60
- (N) ELECTRIC DUCT BANK (1.5"Wx1.7'H) TOP=716.46 BOTTOM=714.76
- (O) 10" DI WATER TOP PIPE=716.18
- (P) TELEPHONE DUCT BANK (10"Wx10"H TRANSITE DUCT) TOP=716.61 BOTTOM=715.78

WATER VALVE ELEVATIONS

- (1) WV TOP=720.39 NUT=717.3
- TOP = TOP OF VALVE BOX
 NUT = TOP OF VALVE NUT



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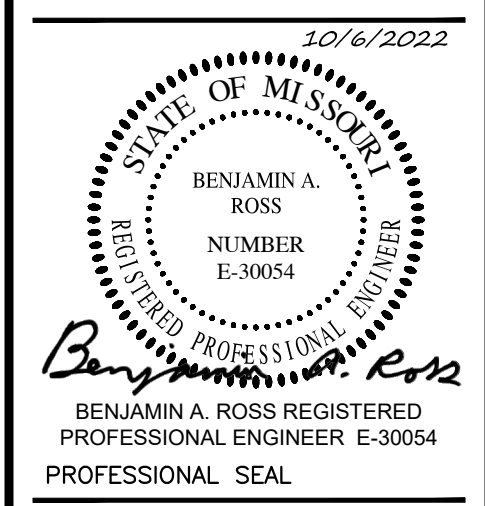
- NOTES:
1. CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO USING SECONDARY ACCESS ROUTE.
 2. SECONDARY ACCESS ROUTE SHALL REMAIN CLEAR FOR OWNER DELIVERIES AT ALL TIMES.

HENDERSON ENGINEERS
 1801 MAIN STREET, SUITE 300
 KANSAS CITY, MO 64108
 TEL 816.863.8700 FAX 816.863.8701
 WWW.HENDERSONENGINEERS.COM
 2150004561
 MO. CORPORATE NUMBER: E-556D
 12/31/22

ES&S
 Engineering Surveys & Services
 1113 Fay Street, Columbia, Mo 65201
 573-449-2668
 www.es-s-inc.com
 MO Land Surveying Corp. # 2004004672
 Missouri Engineering Corp. # 2004005018



Project
 CP222681 GS FOOTBALL PRACTICE FIELD LIGHTING
 UNIVERSITY OF MISSOURI - COLUMBIA FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI



REVISIONS

NO.	DATE	DESCRIPTION

JOB NO: CP220791
 DATE: 10-06-22
 CHECKED BY: BAR
 DRAWN BY: CGH

CONSTRUCTION ACCESS
 C2.01

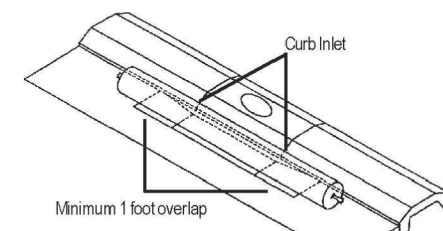


Gutterbuddy™ Specification (OR APPROVED EQUAL)
 For Curb Gutter Storm Drains

1.0 Description

1.1 This work shall consist of furnishing, placing, maintaining and removing the Gutterbuddy™ sediment control device as directed by the engineer and as shown on the contract drawings. The Gutterbuddy™ sediment control system distributed by:

ACF Environmental, Inc.
 2831 Cartwell Road
 Richmond, Virginia 23234
 Phone: 800-448-3636 • Fax: 804-743-7779
 www.acfenvironmental.com



2.0 Materials

2.1 GUTTERBUDDY™

The Gutterbuddy™ shall be synthetic filter manufactured from recycled synthetic fibers.

2.1.1 The Gutterbuddy™ will be manufactured to be 9" in diameter and are available in 4', 6', 8', 10', 12', 14' and 16' lengths and a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12) inches beyond the inlet on both ends.



3.0 Construction Sequence

3.1 General

3.1.1 Install the Gutterbuddy™ in front of the curb inlet opening. Each end of the Gutterbuddy™ should overlap the curb inlet approximately 12".

3.1.2 The Gutterbuddy™ should be cleaned if a visual inspection shows silt and debris build up around the Gutterbuddy™.

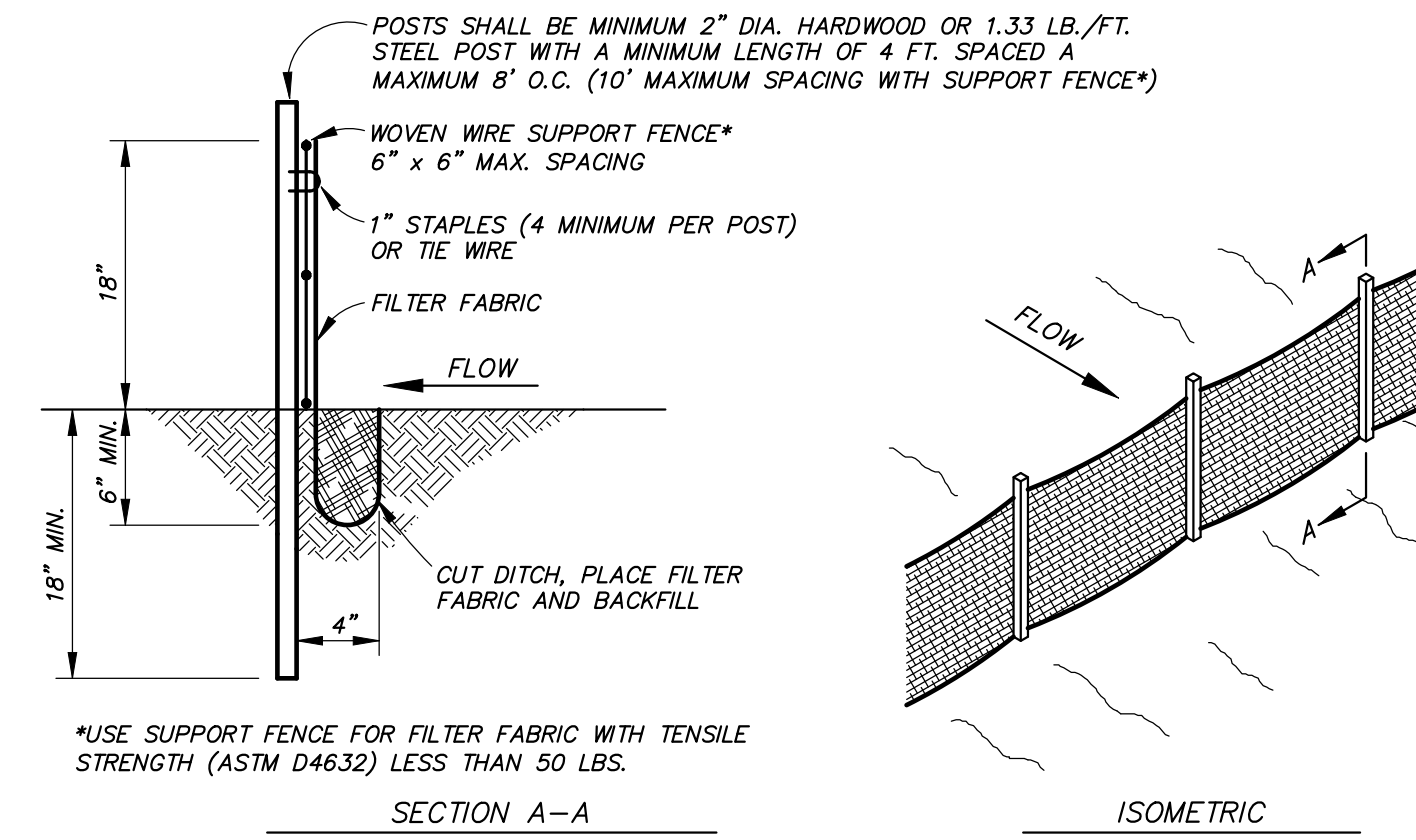
3.1.3 To remove the Gutterbuddy™, lift out of the opening.

3.1.4 The Gutterbuddy™ is reusable. Once the construction project is complete and it is no longer needed for sediment control, remove, clean and store out of the sunlight until needed on the next project.

3.1.5 Ponding is likely if sediment is not removed regularly. Inspection of Gutterbuddy™ should be on a regular basis and immediately after major rain events.

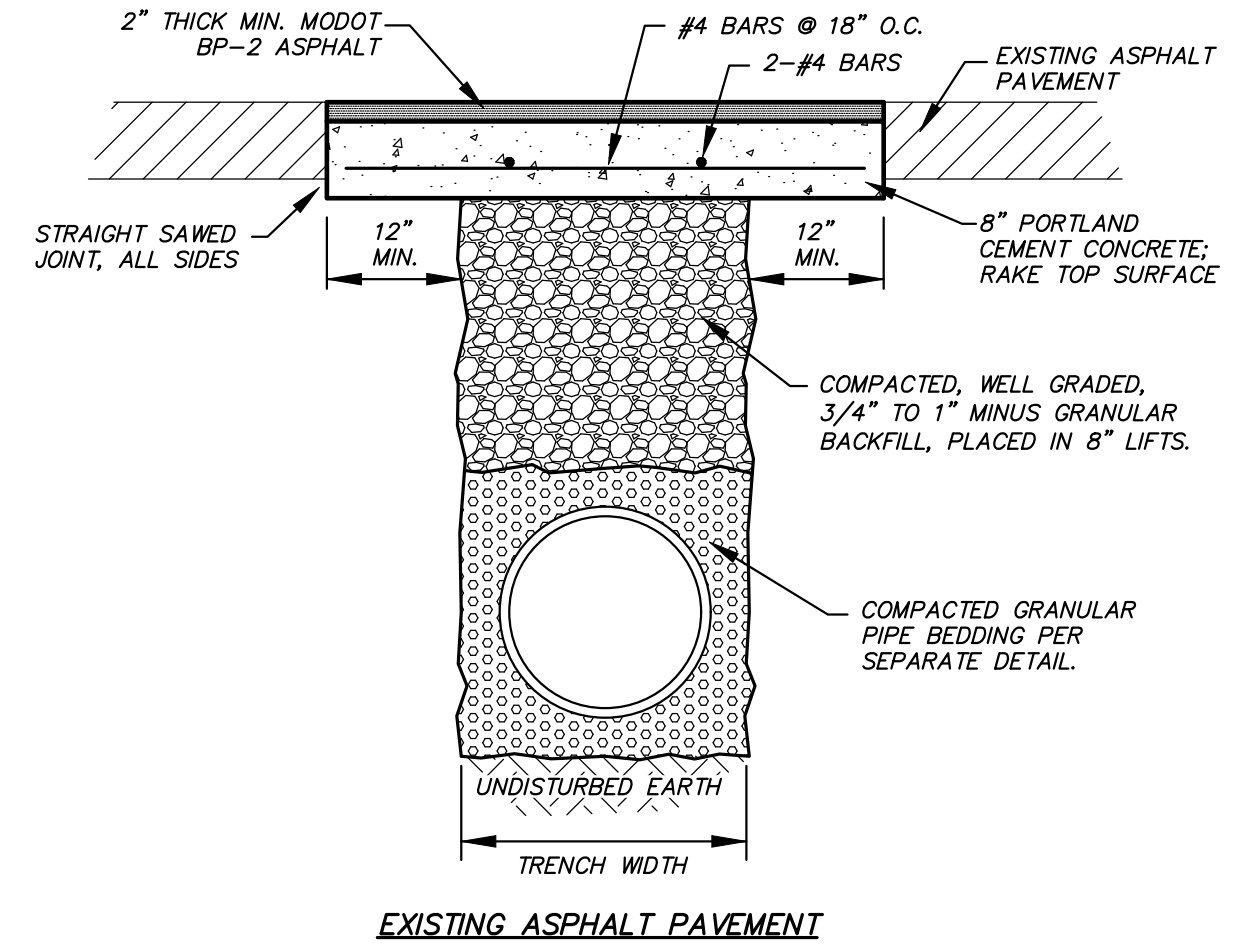
4.0 Basis of Payment

4.1 The payment for any Gutterbuddy™ used during the construction is to be included in the bid of the overall erosion and sediment control plan and priced by the linear foot.

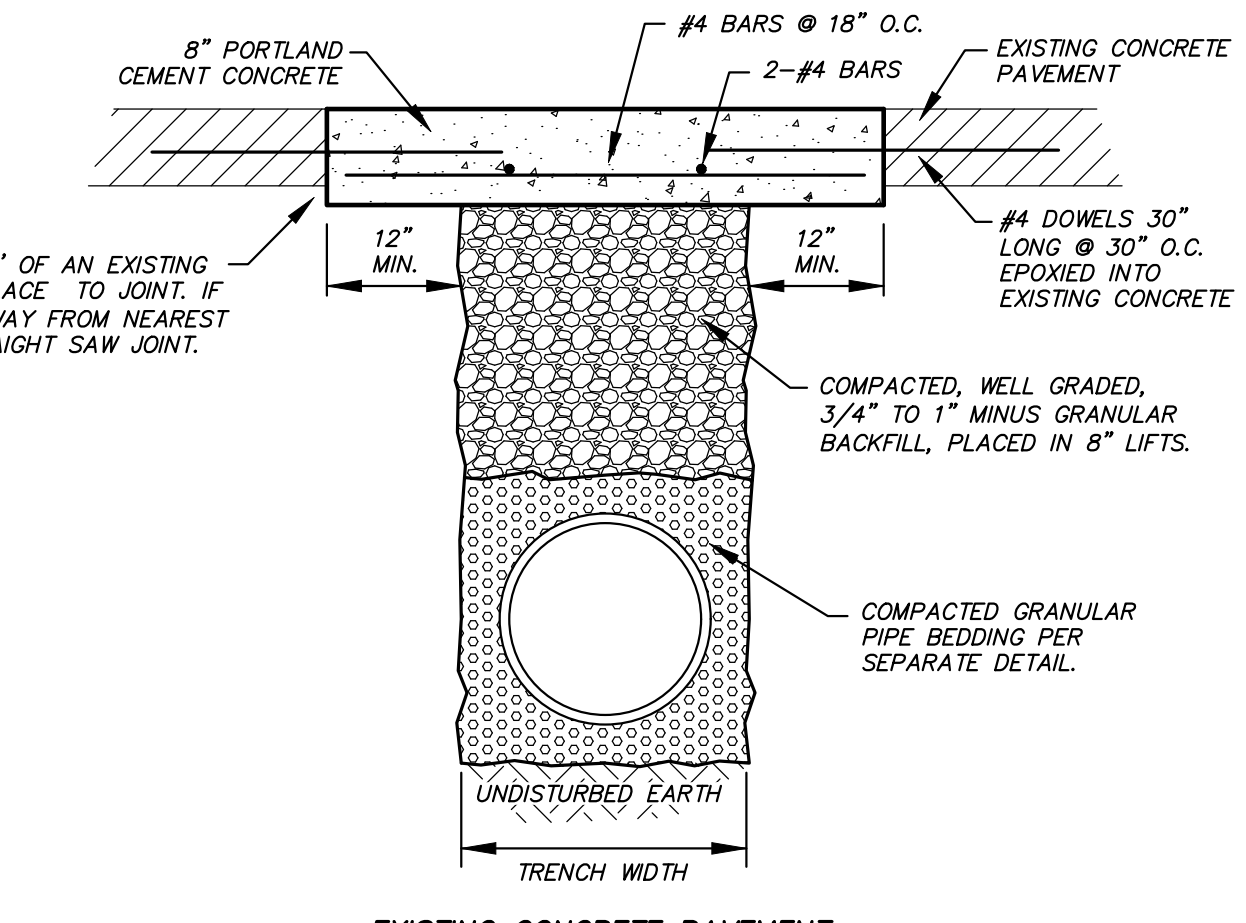


- NOTES:**
- CONTRACTOR SHALL INSTALL SILT FENCE AT TOE OF SLOPES OF ALL AREAS AFFECTED BY CONSTRUCTION PRIOR TO ANY DISTURBANCE ON THE SITE.
 - SILT FENCE SHALL REMAIN UNTIL VEGETATION HAS BEEN ESTABLISHED ON DISTURBED AREAS.
 - BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
 - SILT FENCES SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, ETC., TO VERIFY THE FABRIC IS SECURELY ATTACHED TO THE POSTS, THE POSTS ARE SECURELY IN THE GROUND, AND THE FABRIC IS SECURELY IMBEDDED IN THE GROUND TO PREVENT RUNOFF FROM GOING UNDER ANY PART OF THE FENCE.
 - CONTRACTOR SHALL REMOVE ALL SILT FENCES WHEN ALL DISTURBED AREAS ARE COVERED WITH A MINIMUM 80% VEGETATION. SEED AND MULCH ALL AREAS DISTURBED DURING REMOVAL.

SILT FENCE DETAIL
 NOT TO SCALE



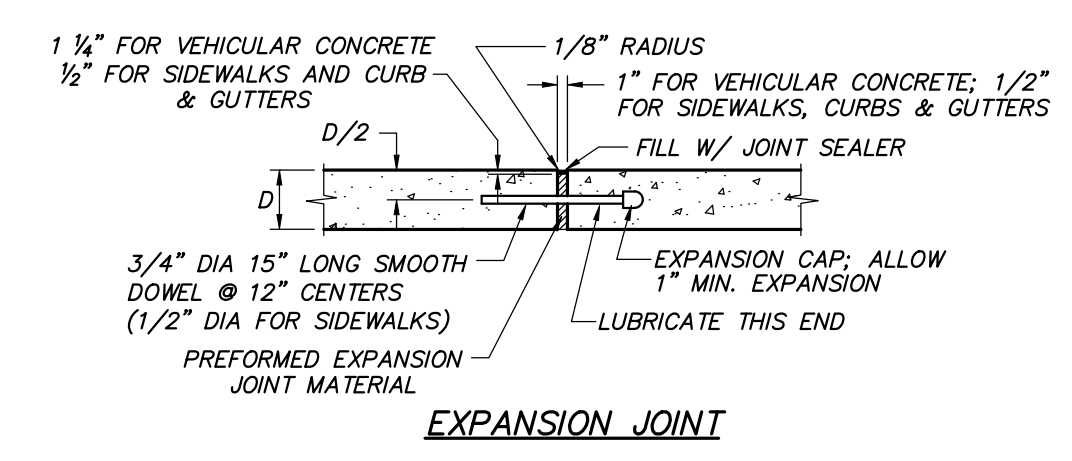
EXISTING ASPHALT PAVEMENT



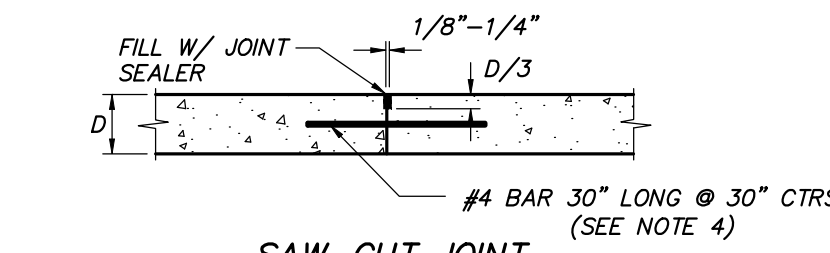
EXISTING CONCRETE PAVEMENT

- NOTES:**
- CONCRETE SHALL BE 4,000 PSI WITH 6% AIR.
 - REINFORCEMENT SHALL BE GRADE 60.
 - A MINIMUM OF 5' OF CONCRETE CURB AND GUTTER SHALL BE REPLACED, WHERE THE REPAIR WILL BE WITHIN 5' OF A JOINT, REPLACE CONCRETE CURB AND GUTTER TO THE JOINT. NO SECTION OF CONCRETE CURB AND GUTTER SHALL BE LESS THAN 5' LONG.
 - CLEAN GRANULAR MATERIAL IS NOT SUITABLE TRENCH BACKFILL.

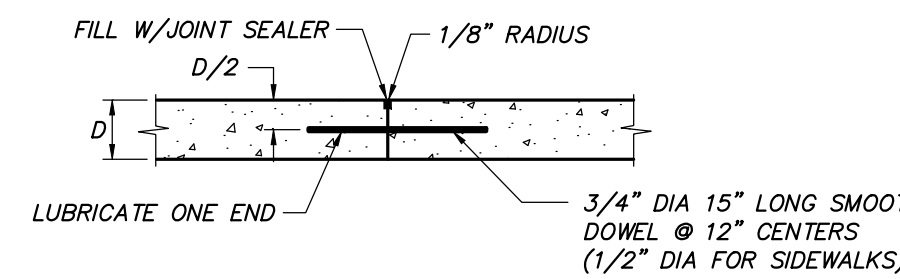
TRENCH PATCHING WITHIN PAVED AREAS
 NOT TO SCALE



EXPANSION JOINT



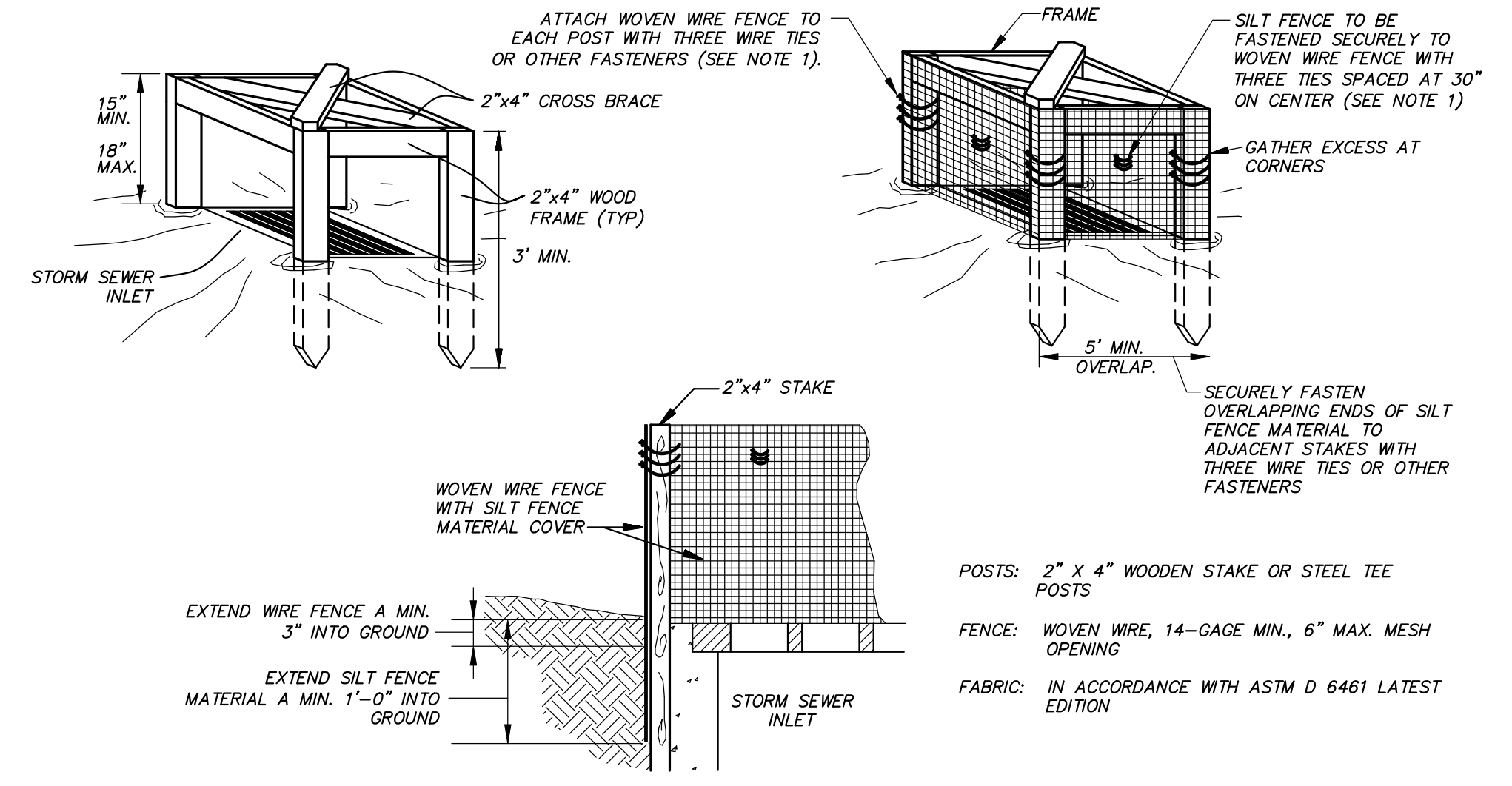
SAW-CUT JOINT



CONSTRUCTION JOINT

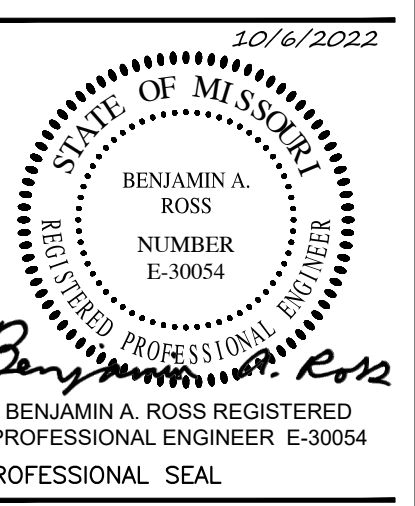
- NOTES:**
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL SUBMIT A PAVEMENT JOINT PLAN OF ALL CONCRETE PAVEMENT FOR APPROVAL.
 - CONCRETE PAVEMENT SHALL HAVE SAW-CUT OR CONSTRUCTION JOINTS EVERY 10 FEET FOR 4 INCH THICK PAVEMENT, 12 FEET FOR 5 INCH THICK PAVEMENT, AND 15 FEET FOR 6 INCH THICK PAVEMENT OR GREATER. PANELS SHALL BE CUT SUCH THAT PANELS ARE NEARLY SQUARE AND DO NOT EXCEED 1.4 LENGTH TO WIDTH RATIO. EXPANSION JOINTS SHALL BE PROVIDED AT ALL FIXED STRUCTURES, SUCH AS: LIGHT STANDARD FOUNDATIONS, SEWER STRUCTURES, BUILDINGS, WALLS, BOTTOM OF STAIRS, ROOF DRAINS, ETC., AND EVERY 150 FEET MAXIMUM. DOWEL BARS SHALL BE PROVIDED AT TRANSVERSE JOINTS IN ALL HEAVY DUTY PAVEMENT DRIVE AISLES.
 - THIS DETAIL APPLIES TO ALL CONCRETE PAVEMENT FOR PARKING LOTS, DRIVE/ACCESS AISLES, CURBS & GUTTERS, AND SIDEWALKS.
 - INCLUDE BAR WITH TRANSVERSE SAW-CUT JOINTS FOR HEAVY DUTY PAVEMENT. OMIT BAR WITH SAW-CUT JOINTS FOR STANDARD DUTY PAVEMENT AND SIDEWALKS.
 - PROVIDE CONSTRUCTION JOINT AT END OF DAYS WORK OR IF CONCRETE PLACEMENT IS SUSPENDED FOR MORE THAN 30 MINUTES.
 - SAW-CUT JOINTS SHALL BE CUT WITHIN 12 HOURS OF INITIAL SET OF CONCRETE. RAVELED JOINTS WILL NOT BE ACCEPTED.
 - ELASTOMERIC POLYURETHANE JOINT SEALANT IS REQUIRED FOR ALL JOINTS AND SHALL BE LIGHT GRAY IN COLOR.
 - OMIT DOWEL BARS FOR EXPANSION JOINTS AT BUILDINGS, LIGHT STANDARDS, AND ROOF DRAINS.

CONCRETE PAVEMENT JOINTS
 NOT TO SCALE



- ATTACH THE WOVEN WIRE FENCE TO EACH POST AND THE GEOTEXTILE TO THE WOVEN WIRE FENCE (SPACED EVERY 30") WITH THREE WIRE TIES OR OTHER FASTENERS, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART.
- WHEN TWO SECTIONS OF SILT FENCE MATERIAL ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED ACROSS TWO POSTS.
- MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. DEPTH OF ACCUMULATED SEDIMENTS MAY NOT EXCEED ONE-THIRD THE HEIGHT OF THE FABRIC. MAINTENANCE CLEANING MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ONE-THIRD THE HEIGHT OF THE SILT FENCE MATERIAL.
- ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT.

SILT FENCE INLET PROTECTION
 NOT TO SCALE



REVISIONS

NO.	DATE	DESCRIPTION

JOB NO: CP220791
 DATE: 10-06-22
 CHECKED BY: BAR
 DRAWN BY: CGH

ELECTRICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED

STANDARD MOUNTING HEIGHTS	ANNOTATION
AUDIBLE APPLIANCE (CENTERLINE)	84"
ALARM (TOP OF DEVICE)	48"
ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"
CONTROLS (TOP OF DEVICE)	48"
DATA WALL OUTLET	SAME AS ADJACENT DEVICE, UNO
EXIT SIGN (WALL MOUNTED)	92"
FIRE ALARM ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (TOP OF DISPLAY)	60"
INTERCOM (TOP OF DEVICE)	48"
PULL STATION (TOP OF DEVICE)	48"
RECEPTACLE	48"
RECEPTACLE (ABOVE COUNTER)	48" ABOVE BACKSPASH/COUNTER, 40" MAX
RECEPTACLE (CLOCK) (CENTERLINE)	84"
RECEPTACLE (EQUIPMENT ROOMS) (TOP OF DEVICE)	48"
RECEPTACLE (EXTERIOR)	24"
RECEPTACLE (GARAGES)	24"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS) (TOP OF DEVICE)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	48"
SAFETY SWITCH (TOP OF DEVICE)	48"
STARTER (TOP OF DEVICE)	48"
SWITCH (TOP OF DEVICE)	48"
TELEPHONE WALL OUTLET (TOP OF DEVICE)	48"
TELECOMMUNICATIONS BACKBOARD	48"
TELEVISION OUTLET	REFER TO DRAWINGS
VISIBLE APPLIANCE (CENTERLINE)	84"

INSTALL DEVICES/OUTLET BOXES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG TO BOTTOM, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

AF	AMPERE FUSE SIZE	MFR	MANUFACTURER
AFC	ABOVE FINISHED CEILING	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LINES ONLY
AFG	ABOVE FINISHED GRADE	MLV	MAGNETIC LOW-VOLTAGE
AHJ	AUTHORITY HAVING JURISDICTION	MOC	MAXIMUM OVERCURRENT
AHU	AIR HANDLING UNIT	MTD	MOUNTED
AIC	AMPERE INTERRUPTING CAPACITY	NA	NOT APPLICABLE
AS	AMPERE SWITCH SIZE	NF	NON-FUSED
AT	AMPERE TRIP SETTING	NL	NIGHT LIGHT (24HR ON)
ATS	AUTOMATIC TRANSFER SWITCH	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY (CSA, ETL, NSF, UL)
AV	AUDIO VISUAL	OS	OCCUPANCY SENSOR
BAS	BUILDING AUTOMATION SYSTEM	P	POLE
BKR	BREAKER	PART	PARTIAL CIRCUIT
CAT	CATEGORY	PHØ	PHASE
CATV	CABLE TELEVISION SYSTEM	PHL	PANEL
CCTV	CLOSED CIRCUIT TELEVISION	PNLB	PANELBOARD
CD	CANDELA	PROVIDE	FURNISH AND INSTALL
CMT	CIRCUIT	PT	POTENTIAL TRANSFORMER
CODE	APPLICABLE CODE ADOPTED BY JURISDICTION	QTY	QUANTITY
CT	CURRENT TRANSFORMER	RREL	RELOCATE
CTR	CENTER	RPT	RECEPTACLE
CTRL	CONTROL/CONTROLLED	RLA	RUNNING LOAD AMPS
CVD	CUMULATIVE VOLTAGE DROP	RTU	ROOF TOP UNIT
DD	DEMOLITION	SCOR	SHORT CIRCUIT CURRENT RATING
DPDT	DOUBLE-POLE, DOUBLE-THROW	SD	SMOKE DETECTOR
DPST	DOUBLE-POLE, SINGLE-THROW	SF	SURGE PROTECTIVE DEVICE
ET/REX	EXISTING TO REMAIN	SPDT	SINGLE-POLE, DOUBLE-THROW
EC	ELECTRICAL CONTRACTOR	SPST	SINGLE-POLE, SINGLE-THROW
EF	EXHAUST FAN	SSBJ	SUPPLY-SIDE BONDING JUMPER
EM	EMERGENCY	ST	SHUNT TRIP
EMS	ENERGY MANAGEMENT SYSTEM	SWBD	SWITCHBOARD
ELV	ELECTRONIC LOW-VOLTAGE	SWGR	SWITCHGEAR
EWV	ELECTRIC WATER COOLER	TBB	TELECOMMUNICATIONS BONDING BACKBONE
FAMP	FIRE ALARM ANNUNCIATOR PANEL	TBD	TO BE DETERMINED
FACP	FIRE ALARM CONTROL PANEL	TGB	TELECOMMUNICATIONS GROUND BUS BAR
FCA	FAULT CURRENT AMPS AVAILABLE	TL	TWISTLOCK
FCU	FAN COIL UNIT	TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
FF	FINISHED FLOOR	TX/FMR	TRANSFORMER
FLA	FULL LOAD AMPS	TYP	TYPICAL
FLR	FLOOR	UF	UNDER FLOOR
GC	GENERAL CONTRACTOR	UG	UNDERGROUND
GEC	GROUNDING ELECTRODE CONDUCTOR	UIS	UNDERSLAB
GES	GROUNDING ELECTRODE SYSTEM	UH	UNIT HEATER
GFR	GROUND FAULT RELAY	UNO	UNLESS NOTED OTHERWISE
G	GROUND	UPS	UNINTERRUPTIBLE POWER SUPPLY
IG	ISOLATED GROUND	VD	VOLTAGE DROP
ISC	SHORT CIRCUIT CURRENT	VFD	VARIABLE FREQUENCY DRIVE
JBU-BOX	JUNCTION BOX	VS	VACUANCY SENSOR
LF	LINEAR FEET	W	WIRE
LRA	LOCKED ROTOR AMPS	W/	WITH
LTLT/LTS	LIGHTING TRAYS	WP	WEATHER PROOF
MAU	MAKE-UP AIR UNIT	WR	WEATHER RESISTANT
MAX	MAXIMUM	WT	WATERTIGHT
MCA	MINIMUM CIRCUIT AMPACITY	XP	EXPLOSION-PROOF
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		

LINE TYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINE TYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINE TYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASING DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINE TYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
-----	-----
DEMOLISH	FUTURE

SIGNALING

	SIGNALING BELL
	SIGNALING BUZZER
	LV TRANSFORMER

ANNO	DESCRIPTION
1	MECHANICAL OR FIRE PROTECTION PLAN NOTE CALLOUT
1	PLUMBING PLAN NOTE CALLOUT
1	ELECTRICAL OR FIRE ALARM PLAN NOTE CALLOUT
1	TECHNOLOGY PLAN CALLOUT
1	PLUMBING EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
1	EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
CU 1	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
1	CONNECTION POINT OF NEW WORK TO EXISTING
1	DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
1	SECTION CUT DESIGNATION
1	DEDICATED EQUIPMENT ACCESS TILE
1	ACCESS PANEL

CIRCUITING & WIRING

	HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.
	INDICATES RELAY NUMBER
	CIRCUIT CONCEALED
	CONDUIT CONCEALED (EMERGENCY)
	CONDUIT IN UNDER FLOOR/GROUND CONSTRUCTION
	EXPOSED CONDUIT
	EXPOSED CONDUIT (EMERGENCY)
	FLEXIBLE CONDUIT
	LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)
	CONDUIT TURNING DOWN
	CONDUIT TURNING UP
	CONNECTION POINT OR EQUIPMENT TERMINATION
	EQUIPMENT TERMINATION

CONDUCTOR TICK MARK LEGEND

WHERE TICK MARKS ARE SHOWN, THE FOLLOWING SHALL GOVERN:

	SWITCHED HOT (PHASE) CONDUCTORS (SHOWN TRAILING NEUTRAL)
	NEUTRAL (GROUNDED) CONDUCTOR
	UNSWITCHED HOT (PHASE) CONDUCTORS (SHOWN LEADING NEUTRAL)

NOTE: HASH MARKS INDICATE QUANTITY OF CONDUCTORS

EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION OR BARE)

ISOLATED GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION WITH YELLOW TRACER)

BRANCH CIRCUIT CONDUCTOR TABLE

WHERE TICK MARKS ARE NOT SHOWN, THE FOLLOWING SHALL GOVERN:

# OF POLES	HOT (PHASE)*	NEUTRAL (GROUNDED)**	GROUNDING***
1P	(1)	(1) UNO	(1)
2P	(2)	(1) UNO	(1)
3P	(3)	(1) UNO	(1)

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT (SWITCHED, UNSWITCHED, ETC.) AS INDICATED THROUGHOUT CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

** REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL (GROUNDED) CONDUCTORS. DO NOT CIRCUIT AS A MULTI-WIRE BRANCH CIRCUIT, UNO.

*** PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE INDICATED.

REFER TO SPECIFICATIONS, PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR ADDITIONAL CIRCUITING REQUIREMENTS.

LIGHTING	DESCRIPTION
	LIGHT FIXTURE
	A = LOWER CASE LETTER IS SWITCH IDENTIFIER
	A = UPPER CASE LETTER INDICATES LIGHT FIXTURE TYPE
	W = WALL MOUNT
	> = ARROW INDICATES AIMING DIRECTION
	LIGHT FIXTURE CIRCUITED AS A NIGHT LIGHT (NL)
	EMERGENCY LIGHT FIXTURE WITH EMERGENCY LIGHTING BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
	NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
	LIGHT FIXTURE WITH DUAL BALLASTS CIRCUITED SEPARATELY (SHADING IMPLIES EMERGENCY LIGHT FIXTURE)
	LIGHTING TRACK (# INDICATES RELAY NUMBER)
	MIRROR LIGHTS
	EXTERIOR PARKING LIGHT LIGHT FIXTURE
	EXTERIOR PEDESTRIAN POST TOP LIGHT FIXTURE
	EXTERIOR LIGHT BOLLARD LIGHT FIXTURE
	EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED, FACE HATCHED
	EMERGENCY LIGHTING UNIT EQUIPMENT WITH BATTERY PACK - CEILING/WALL MOUNTED
	AFA (AREA FOR EVACUATION ASSISTANCE) SIGN - CEILING/WALL MOUNTED, ARROWS AS INDICATED

REFER TO LIGHT FIXTURE SCHEDULE FOR MORE INFORMATION.

POWER EQUIPMENT

	ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNT)
	ELECTRICAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED
	PLYWOOD TERMINAL BOARD FOR TELEPHONE SYSTEM, UNO. SIZE AS NOTED
	SWITCHBOARD OR MOTOR CONTROL CENTER ON HOUSEKEEPING PAD
	ELECTRICAL DISTRIBUTION PANELBOARD
	TRANSFORMER
	DISCONNECT SWITCH - "2000/150/3R" DENOTES AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING, NF= NON-FUSED, CB= CIRCUIT BREAKER (2000/3CB), NO VALUE (2000/3/150) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING
	COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER "30/3/15/1/10R" DENOTES AMPERES/POLE/FUSE/NEMA STARTER SIZE/NEMA ENCLOSURE RATING, NF= NON-FUSED, CB= CIRCUIT BREAKER (30/3CB/1), NO VALUE (30/3/15/1/10) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 ENCLOSURE RATING
	MAGNETIC MOTOR STARTER, NEMA SIZE AS NOTED, 3-POLE, UNO
	VARIABLE FREQUENCY DRIVE
	INDICATING LIGHT
	EMERGENCY POWER OFF BUTTON
	STOP-START PUSH BUTTON CONTROL STATION
	HAND-OFF-AUTO PUSH BUTTON CONTROL STATION
	MUSHROOM-TYPE PUSH BUTTON
	OVERHEAD PADDLE FAN

BOXES, LIGHTING CONTROL & WIRING DEVICES	DESCRIPTION
	SWITCH LETTER DESIGNATIONS AS FOLLOWS: BLANK = SINGLE POLE 2 = TWO POLE 3 = THREE-WAY 4 = FOUR-WAY A = UPPER CASE LETTER INDICATES LIGHT FIXTURE TYPE D = DIMMER F = FAN SPEED CONTROL FH = FRACTIONAL HORSEPOWER MANUAL CONTROLLER IH = INTEGRAL HORSEPOWER MANUAL CONTROLLER K = KEYS LW = LOW VOLTAGE / DIGITAL M = MANUAL MOTOR STARTER DISCONNECT OS = OCCUPANCY SENSOR P = SPST PILOT LIGHT WP = WEATHER PROOF # = REFER TO LIGHTING CONTROL DEVICE SCHEDULE
	AUTOMATIC LOAD CONTROL RELAY
	BRANCH CIRCUIT TRANSFER SWITCH
	CEILING / WALL MOUNTED OCCUPANCY SENSOR (# INDICATES TYPE PER SCHEDULE)
	CORNER 90 DEGREE SENSING
	ONE-DIRECTION SENSING, CEILING/WALL MOUNT
	CEILING MOUNT, TWO-DIRECTION SENSING
	CEILING MOUNT, FOUR-DIRECTION SENSING
	CONTACTOR (SIZE, COIL VOLTAGE AND NUMBER OF POLES AS INDICATED)
	TRACK-MOUNTED CURRENT LIMITER (# INDICATES AMPERAGE)
	DAYLIGHT SENSOR (# INDICATES TYPE PER SCHEDULE)
	LIGHTING CONTROLS PROCESSOR AND/OR EQUIPMENT
	POWER PACK (# INDICATES TYPE PER SCHEDULE)
	PHOTOELECTRIC SWITCH
	ROOM CONTROLLER (# INDICATES TYPE PER SCHEDULE)
	TIME SWITCH
	SIMPLEX RECEPTACLE - NEMA 5-20R, UNO
	DUPLEX RECEPTACLE - NEMA 5-20R, UNO
	DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R, UNO
	SPECIAL RECEPTACLE - NEMA TYPE AS NOTED
	TWIST-LOCK TYPE RECEPTACLE
	BLANK FACE GFCI FEED THROUGH DEVICE
	GFCI TYPE RECEPTACLE*
	ISOLATED GROUND TYPE RECEPTACLE*
	EMERGENCY RECEPTACLE*
	RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPASH*
	RECEPTACLE INSTALLED IN CEILING*
	RECEPTACLE INSTALLED IN FLOOR*
	RECEPTACLE INSTALLED VIA DROP CORD*
	ADDITIONAL RECEPTACLE LETTER DESIGNATIONS AS FOLLOWS: C = AUTOMATICALLY CONTROLLED CH = CLOCK HANGER TYPE G = RPT PROTECTED BY GFCI CIRCUIT BREAKER OR UPSTREAM GFCI DEVICE H = HORIZONTALLY MOUNTED S = MANUALLY SWITCHED SP / TYS = SURGE PROTECTION TR = TAMPER RESISTANT TV = TELEVISION USB = USB/DUPLEX WP = WEATHER PROOF COVER WR = WEATHER RESISTANT
	MULTI-OUTLET ASSEMBLY
	TELEPHONE OUTLET
	DATA OUTLET
	MULTI-SERVICE OUTLET, TELEPHONE AND DATA
	ABOVE COUNTER, TYP
	WALL, TYP
	FLOOR, TYP
	MULTI-SERVICE FLOOR POLE WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
	POKE THROUGH, A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
	THERMOSTAT
	CEILING/FLOOR MOUNT JUNCTION/OUTLET BOX
	WALL MOUNT JUNCTION/OUTLET BOX

* SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE. WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE DEVICE TYPES.

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR MORE INFORMATION.

ELECTRICAL ONE-LINE & RISER DIAGRAM	DESCRIPTION
	SWITCH (RATING AS INDICATED)
	DRAWOUT CIRCUIT BREAKER (RATINGS AS INDICATED)
	FUSED SWITCH (RATING, POLES AND FUSE TYPE AS INDICATED)
	COMBINATION FUSED SWITCH/STARTER AND STARTER SIZE
	CIRCUIT BREAKER (RATINGS AS INDICATED)
	COMBINATION CIRCUIT BREAKER/STARTER AND STARTER SIZE
	PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
	ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
	TRANSFORMER (TYPE AND RATINGS AS INDICATED)
	SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
	AUTOMATIC TRANSFER SWITCH (RATINGS AS INDICATED)
	AUTOMATIC TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
	GENERATOR (RATINGS AS INDICATED)
	INDICATES CONNECTION TO GROUNDING ELECTRODE SYSTEM IF GENERATOR IS CONNECTED AS A SEPARATELY DERIVED SOURCE
	COMBINATION DIGITAL VOLT METER/AMMETER
	CIRCUIT IDENTIFICATION (REFER TO CIRCUIT SCHEDULE)
	GROUND FAULT RELAY
	PHASE FAILURE RELAY
	KIRK-KEY INTERLOCK (# INDICATES KEY PAIR)
	SHUNT TRIP
	AMMETER (RANGE AS SPECIFIED OR REQUIRED)
	VOLTMETER (RANGE AS SPECIFIED OR REQUIRED)
	UTILITY METER (AS REQUIRED BY REQUIRED)
	AMMETER SWITCH
	VOLTMETER SWITCH
	WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
	CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
	POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
	SURGE-PROTECTIVE DEVICE
	GROUND CONNECTION
	GROUND CONNECTION WITH TEST WELL
	GROUND ROD
	LIGHTNING ARRESTER
	CAPACITOR
	CONTACT (OPEN OR CLOSED)
	HEATER
	MOTOR
	BLOCK LOAD KW OR KVA
	FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET

* SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE. WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE DEVICE TYPES.

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR MORE INFORMATION.

CALL OUTS

ENLARGED PLAN CALLOUT

NOT IN SCOPE

APPLICABLE ELECTRICAL CODES:

NOTE: PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE, (NFPA 70)

BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE

ENERGY CODE: 2019 ASHRAE 90.1, WITH LOCAL AMENDMENTS

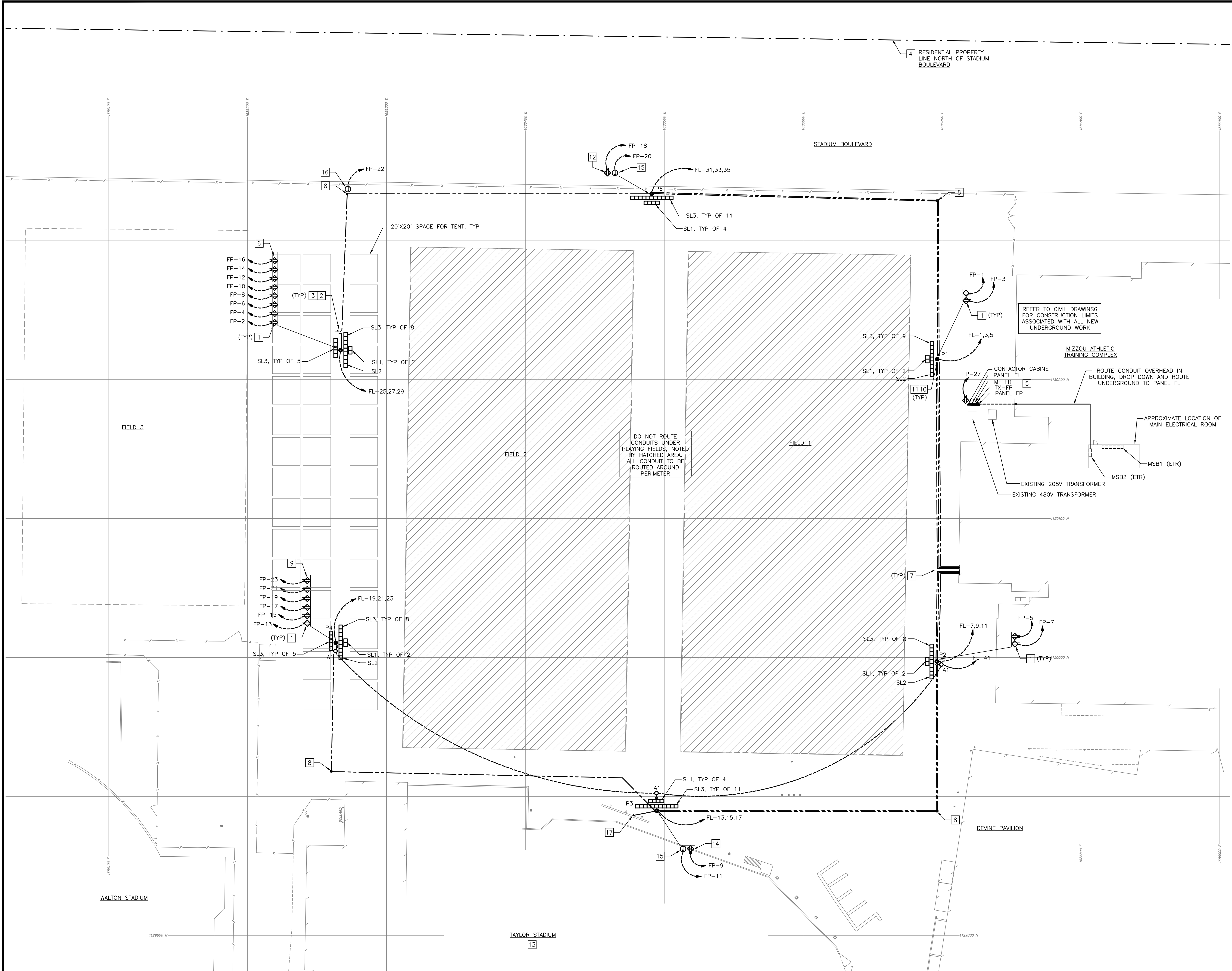
SITE ELECTRICAL GENERAL NOTES:

- REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE THE EXACT LOCATION OF ALL SITE LIGHTING POLES, SIGNAGE, UNDERGROUND UTILITIES, CONDUITS, CIRCUITRY, TRANSFORMERS AND OTHER EQUIPMENT WITH CIVIL DRAWINGS, LANDSCAPING DRAWINGS AND OWNER PRIOR TO INSTALLATION.
- COORDINATE ALL SITE ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURER INFORMATION AND OTHER TRADES AND ADJUST ELECTRICAL PROVISIONS AS REQUIRED TO MEET REQUIREMENTS.
- SITE ELECTRICAL CONDUITS SHALL BE 1" MINIMUM, UNLESS NOTED OTHERWISE, WHERE PRACTICABLE. ALL SITE ELECTRICAL CONDUITS SHALL BE INSTALLED A MINIMUM OF 33" (OR FROST DEPTH) BELOW GRADE, UNLESS NOTED OTHERWISE. COORDINATE EXACT CONDUIT ROUTING WITH EXISTING OBSTRUCTIONS AND OTHER TRADES AND ADJUST AS NECESSARY.
- CAP AND MARK ALL UNDERGROUND CONDUITS PROVIDED FOR FUTURE USE AND INCLUDE PULL STRINGS. PROVIDE DIMENSIONED LOCATIONS OF TERMINATION POINTS ON AS-BUILT DRAWINGS AND SUBMIT TO OWNER.
- MINIMUM WIRE SIZE FOR SITE ELECTRICAL CIRCUITS SHALL BE #10 AWG CU, UNLESS NOTED OTHERWISE. ALL SITE ELECTRICAL BRANCH CIRCUIT WIRING SHALL BE SIZED SUCH THAT THE MAXIMUM BRANCH CIRCUIT VOLTAGE DROP IS LESS THAN 3 PERCENT. FEEDER CIRCUITS TO SPORTS LIGHTING POLES SHALL BE SIZED SUCH THAT THE MAXIMUM VOLTAGE DROP IS LESS THAN 5 PERCENT.
- PROVIDE SPLICE AND PULL BOXES FOR SITE LIGHTING AND SITE ELECTRICAL POWER TO LIMIT MAXIMUM CONDUIT RUN TO 300'. DO NOT EXCEED 3 BENDS FOR ANY SINGLE RUN. PLACE BOXES IN A PLANTER AREA CLEAR OF VEGETATION WHEREVER PRACTICABLE AND CO-LOCATE WITH LOW VOLTAGE BOXES. (COORDINATE EXACT LOCATION WITH CIVIL, LANDSCAPE CONTRACTOR AND OWNER). BOXES SHALL BE SUITABLE FOR LOCATION AND PROPERLY SIZED FOR QUANTITY AND SIZE OF CONDUITS IN AND OUT AND SHALL BE MARKED "ELECTRICAL". NOT ALL OF THESE BOXES ARE SHOWN ON SITE ELECTRICAL



GENERAL NOTES:

1. REFER TO SHEET ED FOR GENERAL NOTES.
- KEYNOTES:**
- 1 TWO (2) WEATHER RESISTANT GFCI DUPLEX RECEPTACLES WITH WEATHER-PROOF IN-USE COVERS IN BASE OF SPORTS LIGHTING POLE AT +24" AFG. RECEPTACLES TO BE PROVIDED WITH SPORTS LIGHTING POLE AND BE MOUNTED ADJACENT TO EACH OTHER ON THE SIDE FACING AWAY FROM FIELDS 1 AND 2.
- 2 P# REPRESENTS POLE DESIGNATION. POLE TO BE FURNISHED BY SPORTS LIGHTING MANUFACTURER.
- 3 REFER TO CIVIL DRAWINGS FOR EXACT LOCATION OF POLE.
- 4 SPORTS LIGHTING MANUFACTURER SHALL INCLUDE LIGHTING CALCULATIONS FOR SPILL AND GLARE ON STADIUM BOULEVARD IN SHOP DRAWING SUBMITTAL PACKAGE. SHIELDING SHALL BE UTILIZED TO LIMIT LIGHT SPILL TO A MAXIMUM OF 0.1 FOOT-CANDLES AT THE RESIDENTIAL PROPERTY LINE ON THE NORTH SIDE OF STADIUM BOULEVARD. REFER TO SPEC 265668 FOR ADDITIONAL INFORMATION.
- 5 REFER TO DETAIL 2, E2 FOR ELEVATION VIEW.
- 6 TWO (2) WEATHER RESISTANT GFCI DUPLEX RECEPTACLES WITH WEATHER-PROOF IN-USE COVERS ADJACENT TO EACH OTHER ON (4) SIDES OF THE POLE, (2) FACING THE FIELD, (2) AWAY FROM THE FIELD, AND (2) ON THE OTHER TWO SIDES.
- 7 PROVIDE (1) 1-1/2" CONDUIT (WITH PULL STRING) TO EACH SPORTS LIGHTING POLE (6 TOTAL) FOR FUTURE USE. COORDINATE LOCATION IN MISSOURI ATHLETIC TRAINING COMPLEX (MATC) WHERE CONDUIT STUB-UPS SHALL ENTER BUILDING. STUB-UP CONDUIT WITHIN 6" OF SPORTS LIGHTING POLE, CAP AND MARK FOR FUTURE USE.
- 8 PROVIDE 12"x12"x12" PULL BOX AT LOCATION AS SHOWN.
- 9 TWO (2) WEATHER RESISTANT GFCI DUPLEX RECEPTACLES WITH WEATHER-PROOF IN-USE COVERS ADJACENT TO EACH OTHER ON (3) SIDES OF THE POLE, (2) AWAY FROM THE FIELD AND (2) ON EITHER SIDE, WITH NONE FACING THE FIELD.
- 10 PROVIDE BLACK PAD WITH UNIVERSITY LOGO TO PROTECT FROM IMPACT WITH SPORTS LIGHTING POLE. PADDING SHALL BE APPROVED BY THE UNIVERSITY.
- 11 SPORTS LIGHTING POLE SHALL BE PROVIDED WITH EMPTY SINGLE GANG JUNCTION BOX FOR FUTURE DATA.
- 12 ONE (1) WEATHER RESISTANT GFCI DUPLEX RECEPTACLES WITH WEATHER-PROOF IN-USE COVERS IN BASE OF SPORTS LIGHTING POLE AT +24" AFG. RECEPTACLE TO BE PROVIDED WITH SPORTS LIGHTING POLE AND BE MOUNTED ON THE WEST SIDE OF THE POLE.
- 13 AREA IS "SPILL-LIGHT CRITICAL", REFER TO SPECIFICATION 265668 EXTERIOR ATHLETIC FIELD LIGHTING, SECTION 1.5(B)(8) FOR ADDITIONAL INFORMATION. AREA SHALL ALSO HAVE LIMITED GLARE, REFER TO SECTION 1.5(B)(9) OF THE SAME SPECIFICATION.
- 14 ONE (1) WEATHER RESISTANT GFCI DUPLEX RECEPTACLES WITH WEATHER-PROOF IN-USE COVERS IN BASE OF SPORTS LIGHTING POLE AT +24" AFG. RECEPTACLE TO BE PROVIDED WITH SPORTS LIGHTING POLE AND BE MOUNTED ON THE SIDE FACING AWAY FROM FIELDS 1 AND 2.
- 15 PROVIDE CONNECTION FOR OWNER FURNISHED FIXED DIGIT SCOREBOARD MOUNTED TO SPORTS LIGHTING POLE. REF 2/E2 FOR ADDITIONAL INFORMATION.
- 16 PROVIDE CONDUIT AND WIRE AS INDICATED TO IN-GRADE PULL BOX FOR FUTURE SCOREBOARD TO BE INSTALLED NORTHEAST OF FIELD 3.
- 17 PROVIDE 1" CONDUIT (WITH PULL STRING) FROM NEARBY PULL BOX AT LIGHT FIXTURE POLE FOR DATA CABLING TO EXISTING PLAY CLOCK MOUNTED TO BASEBALL SCOREBOARD. ROUTE CONDUIT VERTICALLY UP EXISTING SCOREBOARD SUPPORT. INSTALL OWNER FURNISHED CABLING AS REQUIRED.



1 PRACTICE FIELD LIGHTING PLAN
 1" = 32'-0"



10/05/2022
 ANDREA C. MULVANY
 LICENSE # PE-2013039892
 PROFESSIONAL SEAL

REVISIONS

NO.	DATE	DESCRIPTION

JOB NO: CP222681
 DATE: 10-06-22
 CHECKED BY: ACM
 DRAWN BY: LKV

ELECTRICAL SITE PLAN

PANELBOARD: FL (NEW)		FED FROM: MSB2		LINE-SIDE LUGS: MECHANICAL EQUIPMENT GROUND BUS										
BUS AMPS: 250A		AIC RATING: FCA +10% MINIMUM FULLY RATED		MOUNTING: SURFACE										
MAIN SIZE/TYPE: M-LO		SERVICES: FIELD LIGHTING		LOCATION: PRACTICE FIELDS										
VOLTS/PHASE: 480Y/277V, 3PH, 4W		SECTION: 1												
CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE NO.	BKR NO.	P	BKR NO.	WIRE NO.	VOLTAMPS/PHASE			DESCRIPTION	CKT NO.
		A	B	C						A	B	C		
C1	3 POLE P1	5,666	5,666	5,666	10	30	3	1				SPACE	2	
	5											SPACE	4	
	7	5,666										SPACE	8	
C1	9 POLE P2		5,666		10	30	3	1				SPACE	10	
	11			5,666								SPACE	12	
	13	7,423										SPACE	14	
C1, V.D.	15 POLE P3		7,423		6	35	3	1				SPACE	16	
	17			7,423								SPACE	18	
	19	8,616										SPACE	20	
C1, V.D.	21 POLE P4		8,616		4	40	3	1				SPACE	22	
	23			8,616								SPACE	24	
	25	8,616										SPACE	26	
C1, V.D.	27 POLE P5		8,616		4	40	3	1				SPACE	28	
	29			8,616								SPACE	30	
	31	7,423										SPACE	32	
	33		7,423		8	35	3	1				SPACE	34	
C1, V.D.	35 POLE P6			7,423								SPACE	36	
	37	2,320			10	30	2	1				SPACE	38	
	39	2,080										SPACE	40	
C2	41 SECURITY LIGHTING			408	10	20	1	3	30	10		SPD	42	
SUBTOTAL		45,730	45,490	43,818										
TOTAL PHASE A - VA		45,730	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF						
TOTAL PHASE B - VA		45,490	COOLING (C)	1.00	REFRIG (F)	1.00								
TOTAL PHASE C - VA		43,818	HEATING (H)	0	SIGNAGE (S)	1.25								
TOTAL PNLBD - VA		135,038	LIGHTING (L)	130,638	KITCHEN (K)	1.00								
AMPS		162	RECEPTACLES (R)	3,780	EXISTING (E)	1.00								
AMPS		162	MOTORS (M)	1.00	LRG MOTOR	1.25								
AMPS		162	SUPP HEAT (U)	1.00	SHOW WND (W)	1.25								
AMPS		162	MISC EQUIP (Z)	620	LTG TRACK	1.00								

PANELBOARD: FP (NEW)		FED FROM: TX-FP		LINE-SIDE LUGS: MECHANICAL EQUIPMENT GROUND BUS										
BUS AMPS: 100A		AIC RATING: FCA +10% MINIMUM FULLY RATED		MOUNTING: SURFACE										
MAIN SIZE/TYPE: 80A MCB		SERVICES: FIELD POWER		LOCATION: PRACTICE FIELDS										
VOLTS/PHASE: 120/240V, 1PH, 3W		SECTION: 1												
CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE NO.	BKR NO.	P	BKR NO.	WIRE NO.	VOLTAMPS/PHASE			DESCRIPTION	CKT NO.
		A	B	C						A	B	C		
	1 POLE P1 RECEPT A	180	180	180	10	20	1	1	20	6	180	POLE P5 RECEPT A	2	
	3 POLE P1 RECEPT B		180								180	POLE P5 RECEPT B	4	
	5 POLE P2 RECEPT A	180			10	20	1	1	20	6	180	POLE P5 RECEPT C	6	
	7 POLE P2 RECEPT B		180								180	POLE P5 RECEPT D	8	
	9 POLE P3 RECEPT A	180			10	20	1	1	20	6	180	POLE P5 RECEPT E	10	
	11 POLE P3 SCOREBOARD		140		10	20	1	1	20	6	180	POLE P5 RECEPT F	12	
	13 POLE P4 RECEPT A	180			6	20	1	1	20	6	180	POLE P5 RECEPT G	14	
	15 POLE P4 RECEPT B		180		6	20	1	1	20	6	180	POLE P5 RECEPT H	16	
	17 POLE P4 RECEPT C	180			6	20	1	1	20	10	180	POLE P6 RECEPT A	18	
	19 POLE P4 RECEPT D		180		6	20	1	1	20	10	140	POLE P6 SCOREBOARD	20	
	21 POLE P4 RECEPT E	180			6	20	1	1	20	10	140	FIELD 3 SCOREBOARD (FUTURE)	22	
	23 POLE P4 RECEPT F		180		6	20	1	1	20			SPARE	24	
	25 SPARE		180		12	20	1	1	20			SPARE	26	
	27 MAINTENANCE		180		12	20	1	1	20			SPARE	28	
	29 LIGHTING CONTROLS		200		12	20	1	1	20			SPARE	30	
SUBTOTAL		1,280	1,220						1,040	860				
TOTAL PHASE A - VA		2,320	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF						
TOTAL PHASE B - VA		2,080	COOLING (C)	1.00	REFRIG (F)	1.00								
TOTAL PHASE C - VA		1,400	HEATING (H)	0	SIGNAGE (S)	1.25								
TOTAL PNLBD - VA		4,400	LIGHTING (L)	1.25	KITCHEN (K)	1.00								
AMPS		18	RECEPTACLES (R)	3,780	EXISTING (E)	1.00								
AMPS		18	MOTORS (M)	1.00	LRG MOTOR	1.25								
AMPS		18	SUPP HEAT (U)	1.00	SHOW WND (W)	1.25								
AMPS		18	MISC EQUIP (Z)	620	LTG TRACK	1.00								

BUILDING ELECTRICAL SERVICE LOAD SUMMARY			
BUILDING OCCUPANCY TYPE:	B	SERVICE DESCRIPTION:	
BUILDING SQUARE FOOTAGE:	101,000	480Y/277V, 3PH	
LOAD DESCRIPTION	Connected KVA	Demand Factor	Demand KVA
EXISTING PEAK DEMAND LOAD @ 0.9 pf*	420.00	125%	525.00
RECEPTACLES	4.14	100%/50%	4.14
EXTERIOR LIGHTING	130.64	125%	163.30
EXISTING LOAD TO BE DELETED	0.00	100%	0.00
TOTAL LOAD	554.88		692.64
TOTAL AMPACITY	667.53		833.11
SERVICE AMPACITY	1000		1000.00
SPARE CAPACITY			AMPS
*PER METERING REPORT WITH PEAK DEMAND OF: 378 KW Aug-2021			

- FEEDER SCHEDULE:**
- 42 40A (2)#8, (1)#10G, 1/2" C
 - 254 250A (4)-250kcmil, (1)#4G, 2-1/2" C
 - ES1004 EXISTING 1000A (3) 3" C, EACH W/(4)-400kcmil
 - G8 GND, #8 COPPER GROUND, 3/4" C
 - T83 80A (3)#4, (1)#8SBJ, 1" C
- ONELINE DIAGRAM KEYED NOTES:**
- INSTALL INSTRUMENT CLASS UTILITY METER FOR FIELD LIGHTING. METER SHALL BE FURNISHED BY UNIVERSITY OF MISSOURI ENERGY MANAGEMENT. INSTALL PER UNIVERSITY REQUIREMENTS.
 - DEMOLISH EXISTING CIRCUIT BREAKER FOR "DOCK LEVELER" IN MSB2.
 - INSTALL NEW ABB TMAX XT4 RETROFIT KIT FOR SPECTRA PANELBOARDS. INSTALL IN TOP SECTION OF MSB2 ONCE 20A/3P CIRCUIT BREAKER FOR "DOCK LEVELER" HAS BEEN REMOVED.

ELECTRIC UTILITY CONTACT NOTE:
 UTILITY COMPANY: UNIVERSITY OF MISSOURI
 UTILITY CONTACT: MU ENERGY MANAGEMENT
 PHONE: (573) 882-3094

FAULT CURRENT GENERAL NOTE (ESTIMATE):
 THE MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF 17,449A IS BASED ON AN INFINITE BUS CALCULATION AT THE UTILITY TRANSFORMER. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE. ESTIMATED DESIGN VALUE IS BASED ON THE FOLLOWING:
 UTILITY TRANSFORMER SECONDARY VOLTAGE: 480Y/277V 3Ø, 4W
 UTILITY TRANSFORMER SIZE: 750KVA, Z=5.17%

ARC FLASH GENERAL NOTE:
 PERFORM ARC FLASH ANALYSIS. PREPARE AND SUBMIT WRITTEN REPORT TO OWNER AND INSTALL LABELING IN COMPLIANCE WITH ARTICLE 130 OF NFPA 70E PER AIA A104 16.2.8 AND SPECIFICATION 26.05.73.

- ONE-LINE DIAGRAM GENERAL NOTES:**
- THE FEEDER LENGTHS SHOWN ON THE ONE-LINE DIAGRAM ARE FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW. THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
 - FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATIONS.
 - FEEDER SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRG, IMC AND RMC. ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - BRANCH CIRCUIT SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRG, IMC AND RMC. ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 60 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - INSTALL FEEDERS OVERHEAD AS HIGH AS PRACTICABLE AND ORTHOGONALLY ALONG BUILDING STRUCTURE, UNLESS NOTED OTHERWISE. COORDINATE FINAL ROUTING WITH OTHER TRADES.
 - PROVIDE SCHEDULE 80 PVC FOR ALL UNDERGROUND CONDUIT 1" AND SMALLER. PROVIDE SCHEDULE 40 PVC FOR ALL UNDERGROUND CONDUIT LARGER THAN 1".
 - PROVIDE A PERMANENT LABEL ON FRONT OF EQUIPMENT ENCLOSURE. REFER TO SPECIFICATIONS FOR LABEL REQUIREMENTS. LABEL SHALL READ AS FOLLOWS (INCLUDE RESPECTIVE NAMES IN BLANKS):
 SERVICE EQUIPMENT LABEL:
 LINE 1: NOMINAL VOLTAGE AND FREQUENCY IN HERTZ
 LINE 2: SERVICE EQUIPMENT BUS RATING IN AMPS
 LINE 3: SCOR OF SERVICE EQUIPMENT IN AMPS
 LINE 4: MAXIMUM AVAILABLE FAULT CURRENT IN AMPS
 LINE 5: DATE CALCULATED
 EXAMPLE:
 208Y/120V, 60HZ
 800A
 SCOR = 65,000A
 MAX AVAILABLE FAULT CURRENT = 58,815A
 CALCULATED: 01/01/2018

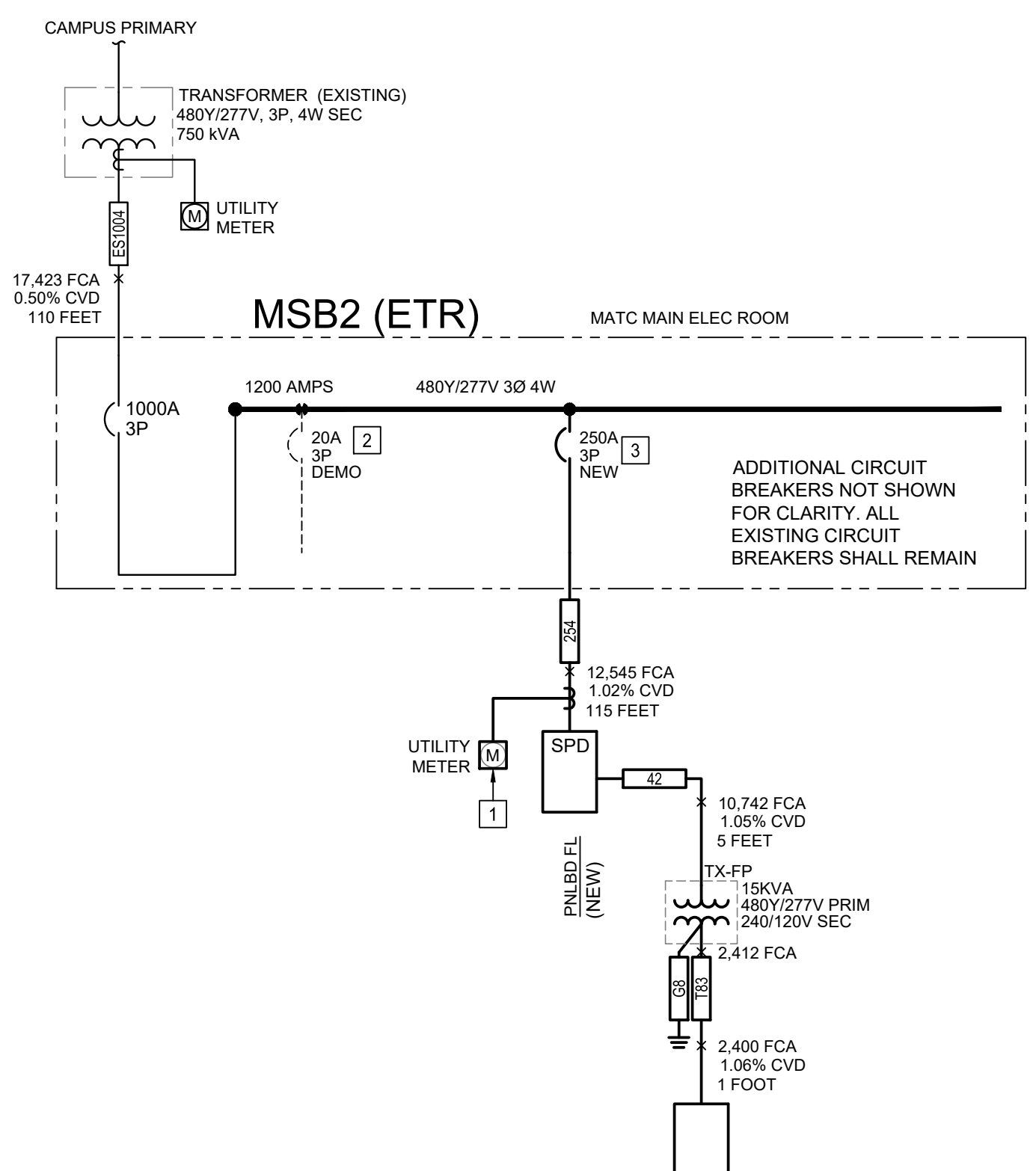
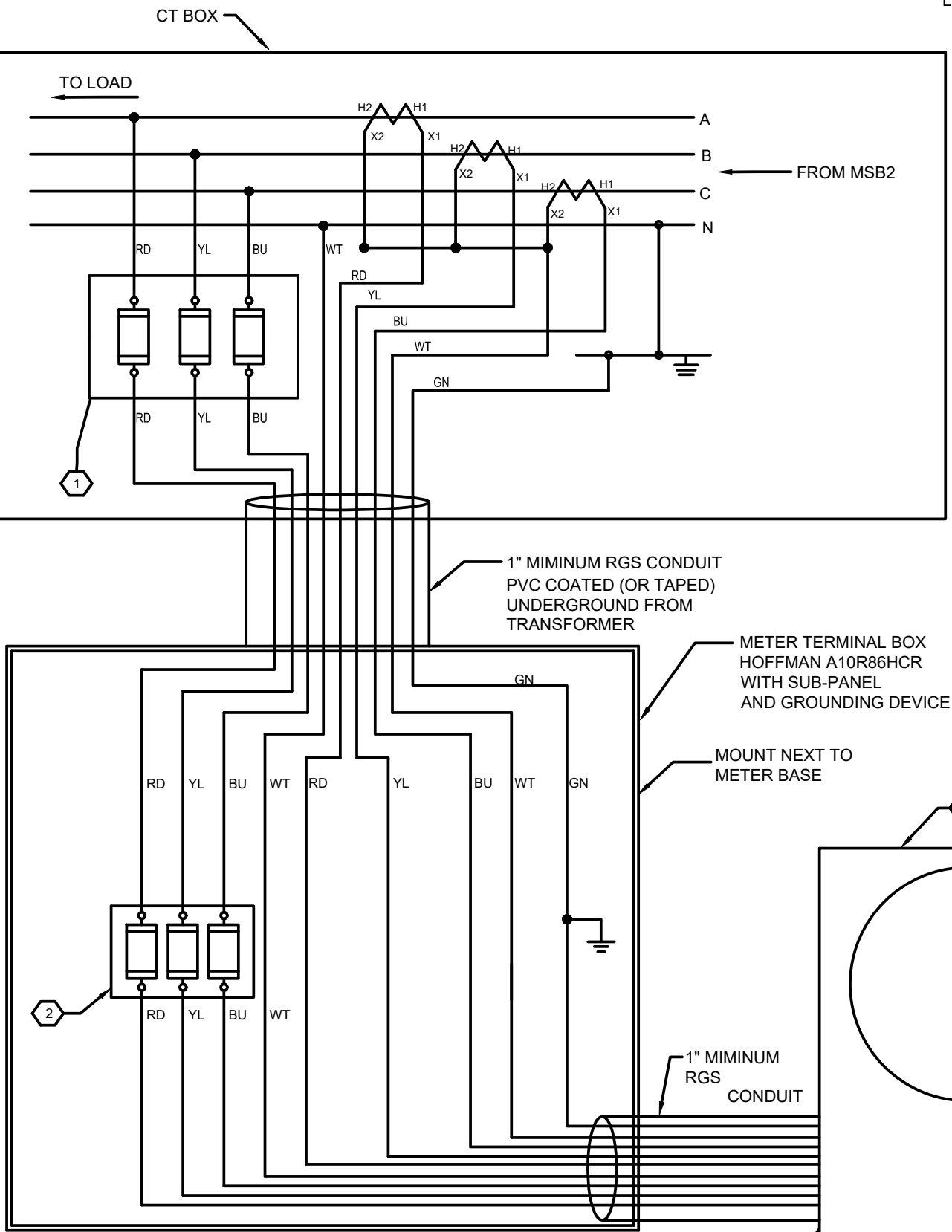
HENDERSON ENGINEERS
 1801 MAIN STREET, SUITE 300
 KANSAS CITY, MO 64108
 TEL 816.663.8700 FAX 816.663.8701
 WWW.HENDERSONENGINEERS.COM

Engineering Surveys & Services
 1113 Fay Street, Columbia, Mo 65201
 573-449-2646
 www.ess-inc.com

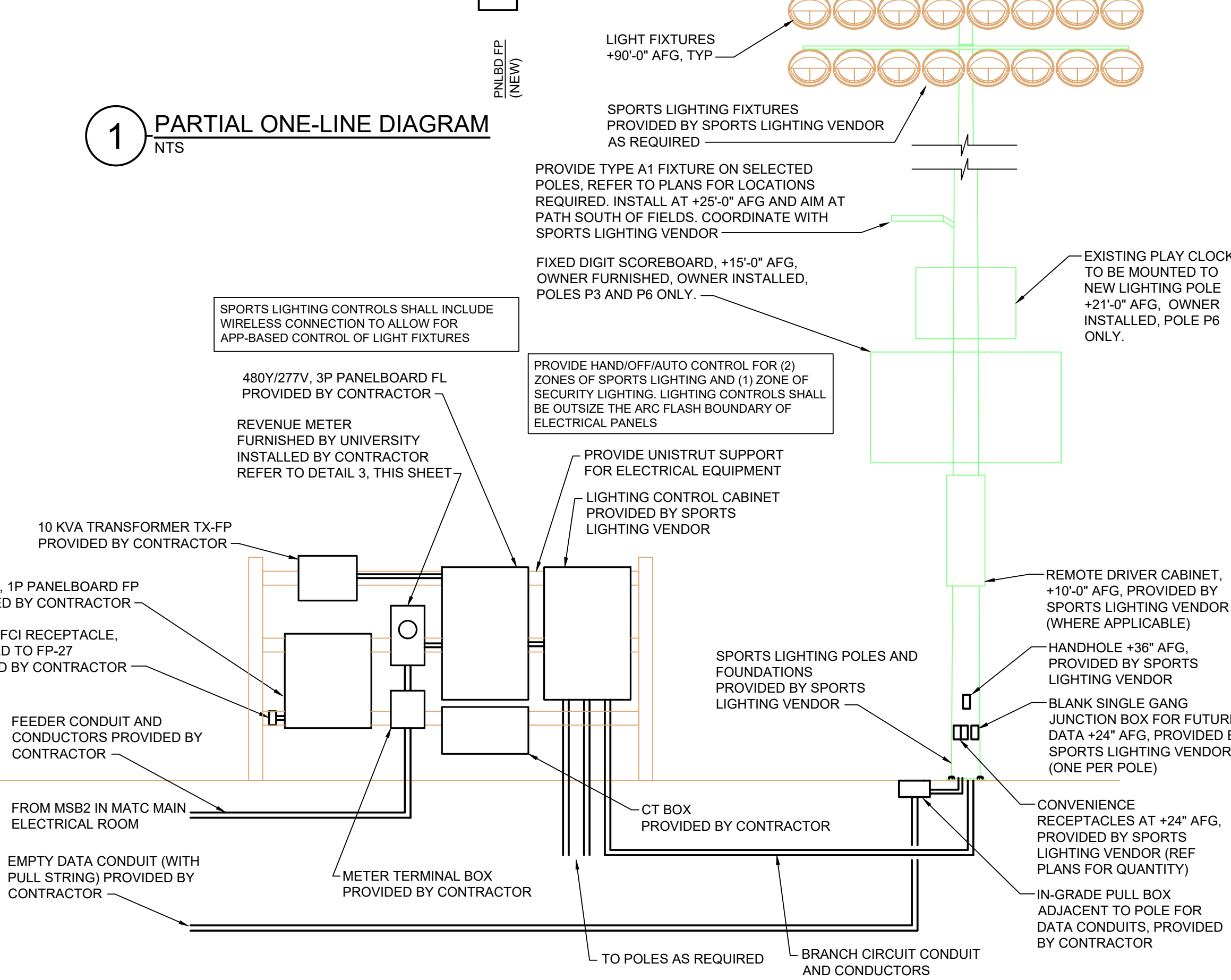
MO Land Surveying Corp. # 2004004672
 Missouri Engineering Corp. # 2004005018

Project CP222681 GS FOOTBALL PRACTICE FIELD LIGHTING

UNIVERSITY OF MISSOURI - COLUMBIA FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI



- NOTES:**
- CONTRACTOR TO PROVIDE AND INSTALL CT'S, FUSE BLOCKS AND FUSES, TERMINAL BOX, METER BASE, AND WIRE.
 - OWNER TO TERMINATE ALL WIRING
 - INSTALL METER TERMINAL BOX NEAR METER BASE. COORDINATE WITH OWNER BOX SHALL BE NEMA 3R RATED WITH HINGED LOCKING COVER.
 - INSTALL METER BASE AS SHOWN IN DETAIL 2, THIS SHEET.
 - METER BASE PREFERRED TO BE LOCATED SUCH THAT WIRING IS LIMITED TO 50 FT OR LESS.
- 1 PARTIAL ONE-LINE DIAGRAM**
- COOPER BUSSMAN FUSE BLOCK BMM603-3C WITH CYR-COM NON-INDICATING COVER, 3ØA 600V INSTALLED IN CT BOX. FUSE: BUSSMAN KTK-15
 - COOPER BUSSMAN FUSE BLOCK BMM603-3C WITH CYR-COM NON-INDICATING COVER, 3ØA 600V INSTALLED IN METER TERMINAL BOX. FUSE: BUSSMAN KTK-2
 - MILBANK METER BASE CATALOG #UC7445-XL, 13 TERMINAL, PRE-WIRED WITH TEST SWITCH (OR EQUAL)



LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER / MODEL #	APPROVED ALTERNATES	LAMPING / LIGHT SOURCE	DIMMING TYPE	VOLTAGE	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
A1	MCGRAW-EDISON GLEON-SM4D-750-U-LT2	GARDCO PUREFORM SERIES LITHONIA D-SERIES HUBBELL RAR1 SERIES	LED 70 CRI, 5000K 30,714 LUMENS 50,000 HRS	NON-DIM	277	258	258	15-1/2" WIDE X 4" TALL X 22" DEEP LED AREA LIGHT WITH MOUNTING ARM UL LISTED FOR WET LOCATIONS AND IP66 RATED. FULL CUTOFF WITH TYPE 2 DISTRIBUTION. MOUNT TO SPORTS LIGHTING POLE AT 30'-0" AFG, COORDINATE WITH SPORTS LIGHTING POLE VENDOR. MATCH COLOR TO SPORTS LIGHTING FIXTURES.	

SPORTS LIGHT FIXTURE SCHEDULE

TYPE	LAMPING / LIGHT SOURCE	DIMMING TYPE	VOLTAGE	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
SL1	LED	NONE	480	575	700	575W SPORTS LIGHT FIXTURE BASIS OF DESIGN: MUSCO PRE-APPROVED EQUALS: EPHEBUS, SPORTSBEAMS	
SL2	LED	NONE	480	1170	1440	1200W SPORTS LIGHT FIXTURE BASIS OF DESIGN: MUSCO PRE-APPROVED EQUALS: EPHEBUS, SPORTSBEAMS	
SL3	LED	NONE	480	1430	1770	1500W SPORTS LIGHT FIXTURE BASIS OF DESIGN: MUSCO PRE-APPROVED EQUALS: EPHEBUS, SPORTSBEAMS	

GENERAL NOTES:
 A. OUTDOOR FIELD LIGHTING IS A DELEGATED DESIGN. REFER TO SPECIFICATION 265668 FOR ADDITIONAL INFORMATION. LIGHT FIXTURE SELECTIONS AND LOCATIONS ARE BASED ON BASIS OF DESIGN

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10/05/2022

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REVISIONS

NO.	DATE	BY	DESCRIPTION

JOB NO: CP222681
 DATE: 10-06-22
 CHECKED BY: ACM
 DRAWN BY: LKV

ELECTRICAL ONE-LINE DIAGRAM

E2

