

DIAGRAM H003 TYPICAL RACEWAY SUPPORT METHODS  
NTS

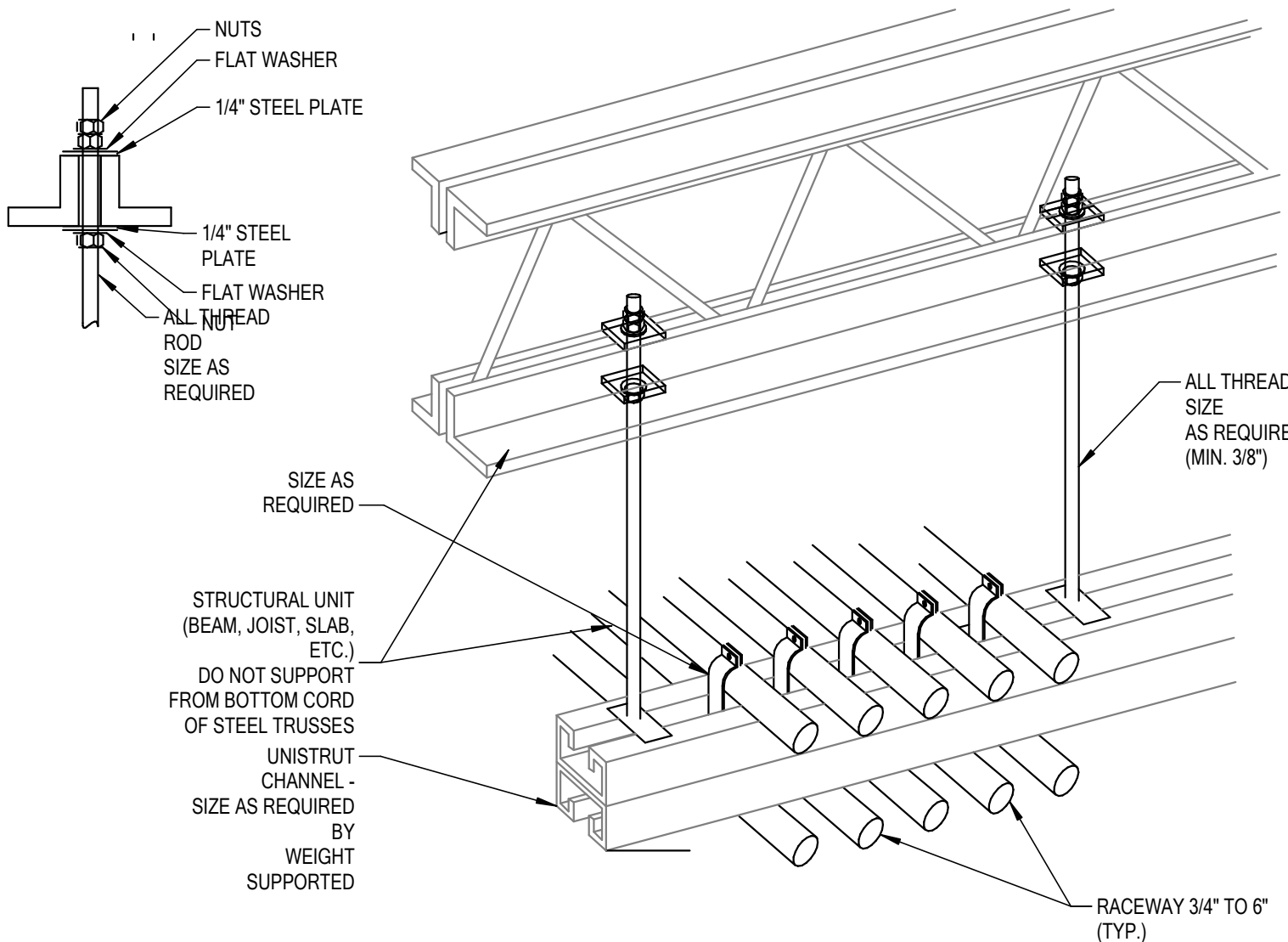


DIAGRAM H001 TYPICAL TRAPEZE CONDUIT RACK  
NTS

ABBREVIATIONS INDEX			
ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
#	NUMBER	MH	MANHOLE
AC	ALTERNATING CURRENT	MIC	MICROPHONE
A.F.F.	ABOVE FINISH FLOOR	MIN	MINIMUM
AIC	AMPS INTERRUPTING CAPACITY	MTG	MOUNTING
AM	AMPS METER	MTR	MOTOR
AMP	AMPERE	N/A	NOT APPLICABLE
ANN	ANNUNCIATOR	NC	NORMALLY CLOSED
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AUX	AUXILIARY	NEMA	NATIONAL ELECT. MANUFAC. ASSOC.
AWG	AMERICAN WIRE GAUGE	NFPA	NATIONAL FIRE PROTECTION ASSOC.
BC	BARE COPPER	N.I.C.	NOT IN CONTRACT
BFG	BELOW FINISH GRADE	NO	NORMALLY OPENED
C	CONDUIT	NOT TO SCALE	
CAB	CABINET	OS & V	OUTSIDE SCREW & YOKE
CATV	COMMUNITY ANTENNA TELEVISION	PB	PUSHBUTTON
CAV	CABLE TELEVISION	PF	POWER FACTOR
CKT	CIRCUIT	PFR	PHASE FAILURE RELAY
CLG	CEILING	PNL	PANEL
CNTR	CONTRACTOR	PT	POTENTIAL TRANSFORMER
C.O.	CONDUIT ONLY	PVC	POLYVINYL CHLORIDE CONDUIT
CRT	COMPUTER TERMINAL	(R)	RELOCATE
CT	CURRENT TRANSFORMER	RECEP	RECEPTACLE
CU	COPPER	REQ	REQUIREMENT
CW	COMPLETE WITH	RLA	RATED LOAD AMPS
DB	DECEBEL	RMP	ROCKY MOUNTAIN POWER
DC	DIRECT CURRENT	RMS	ROOT MEAN SQUARE
DWG	DRAWING	SE	SERVICE ENTRANCE
(E)	EXISTING	SPEC	SPECIFICATIONS
EC	EMPTY CONDUIT	SPKR	SPEAKER
EG	EMERGENCY GENERATOR	SS	SELECTOR SWITCH
EMT	ELECTRICAL METALLIC TUBING	SW	SWITCH
EX	EXPLOSION PROOF	SWBD	SWITCHBOARD
FACP	FIRE ALARM CONTROL PANEL	SWGR	SWITCHGEAR
FC	FOOT CANDLE	TTB	TELEPHONE TERMINAL BOARD
FT	FOOT	TTC	TELEPHONE TERMINAL CABINET
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION
GND	GROUND	TYP	TYPICAL
GRC	GALVANIZED RIGID CONDUIT	UG	UNDERGROUND
HP	HORSE POWER	UPS	UNINTERRUPTED POWER SUPPLY
HZ	HERTZ	V	VOLT (KV=KILOVOLT)
IFC	INTERNATIONAL FIRE CODE	VAR	VOLT-AMPS/REACTIVE
IG	ISOLATED GROUND	VM	VOLT METER
IMC	INTERMEDIATE METALLIC CONDUIT	W	WATTS
IN	INCH	W	WITH
J-BOX	JUNCTION BOX	WH	WATT HOUR METER
KV	KILOVOLT	WO	WITHOUT
KVA	KILOVOLT AMPERES	WP	WEATHERPROOF
KVAR	KILOVAR	XFMR	TRANSFORMER
KW	KILOWATT	XFMR SW	TRANSFER SWITCH
LRA	LOCKED ROTOR AMPS	XP	EXPLOSION PROOF
LTG	LIGHTING	1P	SINGLE-PHASE
MNF	MANUFACTURER	2P	TWO-POLE
MAX	MAXIMUM	3P	THREE-POLE
MB	MAIN BUS	4P	FOUR-POLE
MCC	MOTOR CONTROL CENTER	Ø	PHASE
MCM	1000 CIRCULAR MILLS		

### SYMBOL LEGEND

NOTES:  
 1. SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.  
 2. HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISHED FLOOR.  
 3. REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.  
 4. SUBSCRIPT INDICATES FIXTURES TO BE CONTROLLED.  
 5. NEMA TYPE 'NO' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HO' 480 V.  
 6. HEIGHT MEASURED TO TOP OF THE BOX FROM FINISHED FLOOR.  
 7. PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.  
 8. DOUBLE ARROWS INDICATES A DOUBLE FACE UNIT.  
 9. DEVICES NOTED WITH AN 'X' INDICATE TO COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.  
 10. SUBSCRIPT INDICATES NEMA CONFIGURATION.  
 11. SOLID BOX AROUND DEVICE INDICATES INSTALLED IN FLOOR. DASHED BOX AROUND DEVICE INDICATES INSTALLED IN CEILING.  
 12. COORDINATE WITH DOOR HARDWARE SUPPLIER.  
 13. FOR WATER COOLER LOCATION, SEE DIAGRAM R002. FOR ALL OTHER LOCATIONS, MOUNT AT 18" TO BOTTOM OF BOX FROM FINISHED FLOOR, OR AS NOTED.  
 14. ARROWS SHOWN ON DEVICE INDICATE AMMONG DIRECTION.  
 15. CAMERA NUMBERS ARE SHOWN INSIDE THE CAMERA SYMBOL. CAMERA TYPES ARE INDICATED IN TAG.  
 16. MOUNT ON TRACK OF OVERHEAD DOOR, 6" FROM TOP OF DOOR, UNLESS OVERHEAD DOOR IS A ROLL UP DOOR, THEN MOUNT PER MANUFACTURER'S INSTRUCTIONS.  
 17. INSTALL DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.  
 18. DASHED LINE INDICATES EQUIPMENT CLEARANCES. ARROW INDICATES FRONT OF RACK.  
 19. SPEAKER TO BE MOUNTED IN HORIZONTAL POSITION.  
 20. MOUNTING HEIGHT IS TO BOTTOM OF DISPLAY.  
 \*TYPICAL SYMBOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED ON THIS SET OF DRAWINGS.

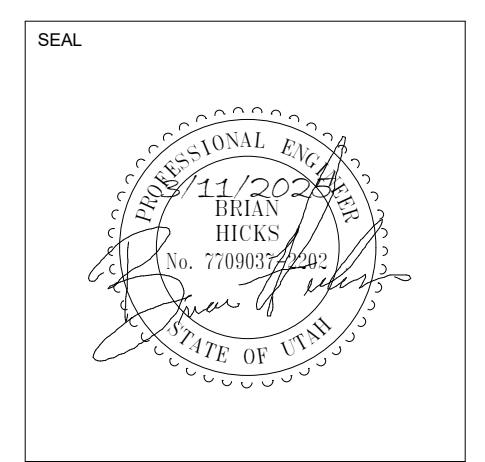
STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS			
GENERAL			
SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
—	ONE CIRCUIT, HOME RUN TO PANEL		
—	2 CIRCUIT, HOME RUN TO PANEL		
—	3 CIRCUIT, HOME RUN TO PANEL		
—	CONDUIT RUN CONCEALED IN WALL OR CEILING		
—	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
○	CONDUIT UP		
●	CONDUIT DOWN		
—	CONDUIT STUB LOCATION		CAP CONDUIT
—	CONDUIT / CIRCUIT CONTINUATION		
POWER			
⊕	ISOLATED GROUND RECEPTACLE	+18" OR AS NOTED	2. 9.
⊕	TAMPER-PROOF RECEPTACLE	+18" OR AS NOTED	2. 9.
⊕	DUPLEX RECEPTACLE WITH USB OUTLET	+18" OR AS NOTED	2. 9.
⊕	CONTROLLED DUPLEX RECEPTACLE	+18" OR AS NOTED	2. 9.
⊕	FOURPLEX RECEPTACLE EMERGENCY POWER (RED)	+18" OR AS NOTED	2. 9. 11.
⊕	CONTROLLED FOURPLEX RECEPTACLE	+18" OR AS NOTED	2. 9.
⊕	TVSS PROTECTED RECEPTACLE	+18" OR AS NOTED	2. 9.
⊕	SPECIAL PURPOSE OUTLET	+18" OR AS NOTED	2. 10. W. CAP.
⊕	CORD DROP	SEE DIAGRAM	
⊕	CORD REEL	SEE DIAGRAM	
⊕	TOMBSTONE RECEPTACLE	SEE DIAGRAM	
⊕	POWER POLE	SEE DIAGRAM	
⊕	SINGLE / DUAL PORT ELECTRICAL VEHICLE CHARGER	SEE DIAGRAM	
⊕	PLUG/MOLD	+48" OR AS NOTED	2. SEE SPEC.
⊕	FLAT PANEL DISPLAY WALL BOX TV/SS RECEPT., DATA AND OTHER DEVICES. REFER TO DIAGRAMS	AS NOTED	SEE DIAGRAM, SPEC. 28.2726
⊕	CEILING PROJECTION SYSTEM CEILING BOX	ABOVE CEILING	SEE DIAGRAM, SPEC.
⊕	DOORBELL CHIME	+90"	2.
⊕	FLOOR BOX - SEE SCHEDULE	FLOOR	SEE DIAGRAM, SPEC.
⊕	POKE THRU - SEE SCHEDULE	FLOOR	SEE DIAGRAM, SPEC.
⊕	PANELBOARD		
⊕	MAIN DISTRIBUTION PANEL		
⊕	TELEPHONE DEMARCATION BOARD		
⊕	EQUIPMENT CEILING RACK	CEILING	
⊕	EQUIPMENT 1-POST RACK / CABINET	AS NOTED	18. SEE SPEC.
⊕	EQUIPMENT 2-POST RACK	AS NOTED	18. SEE SPEC.
⊕	UTILITY METER / CT CABINET	+72"	6.

COLOR LEGEND			
Light Blue	LIGHTING FIXTURES	Light Green	POWER DEVICES
Light Purple	LIGHTING DEVICES	Light Blue	TELECOMMUNICATIONS
Light Yellow	POWER EQUIPMENT	Light Red	FIRE ALARM
Light Orange	CABLE TRAY	Light Purple	CONDUIT
Light Red		Light Green	AUDIOVISUAL
Light Blue		Light Yellow	SECURITY
Light Purple		Light Orange	NURSECALL

- ### GENERAL NOTES
- CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
  - VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
  - CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC) OF ALL EQUIPMENT FURNISHED UNDER ALL DIVISIONS, INCLUDING ALL EXISTING EQUIPMENT TO BE RE-USED. REVIEW ALL SHOP DRAWINGS AND EXISTING EQUIPMENT BEFORE BEGINNING ROUGH-IN.
  - SEE SECTION 26110 (1610) OF THE SPECIFICATION FOR REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
  - SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
  - SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
  - FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
  - THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
  - ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
  - ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
  - CONTRACTOR SHALL VERIFY FURNITURE LAYOUT PRIOR TO ANY FLOORBOX OR POKE-THRU INSTALLATION. COORDINATE EXACT LOCATION OF FLOOR BOX OR POKE-THRU WITH OWNER AND FURNITURE PROVIDER PRIOR TO ROUGH-IN.
  - CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 115' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH CONDUCTORS PER TABLE BELOW.
- | 20 AMP MINIMUM BRANCH CIRCUIT CONDUCTOR SIZING |                        |              |       |
|--|------------------------|--------------|-------|
| MAXIMUM LENGTH                                 | BRANCH CIRCUIT VOLTAGE |              | NOTES |
|  | 120 VOLT               | 277 VOLT     |       |
| CONDUCTOR LENGTH (FT)                          |                        |              |       |
| <70  | MIN. #12 AWG           | MIN. #12 AWG |       |
| 70 - 115                                       | MIN. #10 AWG           | MIN. #12 AWG |       |
| 115 - 170                                      | MIN. #8 AWG            | MIN. #10 AWG |       |
| 170 - 270                                      | MIN. #6 AWG            | MIN. #8 AWG  |       |
| 271 - 380                                      | NOTE B                 | MIN. #6 AWG  |       |
| >380   | NOTE B                 | NOTE B       |       |
- A. THESE ARE BASED ON MAXIMUM LENGTH OF CIRCUIT.  
 B. PERFORM VOLTAGE DROP CALCULATIONS AND PROVIDE CONDUCTOR SIZE TO KEEP BRANCH CIRCUIT VOLTAGE DROP LESS THAN 3% WITH A 15 AMP LOAD.  
 C. CONTRACTOR SHALL ENSURE THAT THE INSTALLATION OF EACH BRANCH CIRCUIT STAYS WITHIN 3% VOLTAGE DROP FOR A 15 AMP LOAD. IF NECESSARY CONTRACTOR SHALL INCREASE WIRE AND CONDUIT SIZE TO MEET THE STANDARD AT NO ADDITIONAL COST TO OWNER.
- ALL CONDUIT SHALL BE INSTALLED IN STRAIGHT LINES PARALLEL TO, OR AT RIGHT ANGLES TO, THE STRUCTURE OR ADJACENT BUILDING ELEMENTS. SEPARATIONS BETWEEN CONDUITS AND FASTENINGS OF CONDUITS SHALL BE NEAT AND CONSISTENT. CONDUIT SHALL BE INSTALLED AS TIGHT TO THE BOTTOM OF STRUCTURAL ELEMENTS WHEN PARALLEL TO JOISTS AS CODE WILL ALLOW. OVERALL INSTALLATION SHALL BE ACCOMPLISHED IN AN AESTHETIC AND WORKMANLIKE MANNER. NO CONDUITS SHALL BE ALLOWED TO RUN PERPENDICULAR TO THE BOTTOM CHORD OF THE JOISTS.
  - DIVISION 26 SHALL VISIT SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS. FIELD VERIFY ALL ELECTRICAL EQUIPMENT.
  - BIDDERS SHALL EXAMINE THE SITE AND THE COMPLETE SET OF PLANS AND SPECIFICATIONS COVERING THE ENTIRE PROJECT. THEY SHALL BECOME FULLY CONVERSANT WITH THE TYPE OF GENERAL CONSTRUCTION AS WELL AS ALL PERTINENT FACTS AFFECTING THE COST OF CARRYING OUT THE WORK THEY WILL CONTRACT TO PERFORM.
  - ELECTRICAL CONTRACTOR SHALL COORDINATE PROJECT PHASING WITH GENERAL CONTRACTOR AND BID AND PERFORM RESPONSIBILITIES FOR THIS PROJECT TO GENERAL CONTRACTOR EXPECTATIONS.
  - COORDINATE ELECTRICAL DEMOLITION WITH ARCHITECTURAL DRAWINGS AND GENERAL CONTRACTOR.
  - CLOSELY COORDINATE ANY REQUIRED POWER SHUTDOWNS WITH HEAD CUSTODIAN AND OWNER.
  - WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF WORK REQUIRED, THE CONTRACTOR WILL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER, NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.
  - SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF ELECTRICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING. COORDINATE THE CUTTING AND PATCHING OF BUILDING COMPONENTS TO ACCOMMODATE INSTALLATION OF ELECTRICAL EQUIPMENT AND MATERIALS.
  - DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
  - DISCONNECT AND RECONNECT ANY/FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.
  - CONTRACTOR MUST CONCEAL ALL RACEWAY THROUGHOUT THE PROJECT. SURFACE MOUNT RACEWAY IS UNACCEPTABLE EXCEPT WHERE THE USE OF PAINTED SURFACE METAL RACEWAYS (EMT) IS APPROVED SOLELY BY THE ARCHITECT. PAINT TO MATCH SURROUNDING SURFACE.
  - ALL CONCRETE CUT AND PATCH WORK REQUIRED FOR FLOOR BOXES INSTALLATION AND/OR RELOCATION OF ELECTRICAL DEVICES AND PANELS THAT REQUIRE WORK WITHIN THE FLOORS SHALL BE DONE BY ELECTRICAL CONTRACTOR. ALL CORE CUTTING FOR NEW SERVICE SHALL ALSO BE COVERED UNDER ELECTRICAL CONTRACTORS REQUIRED WORK.
  - CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE OF ALL WASTE, SURPLUS MATERIALS, RUBBISH OR DEBRIS WHICH IS CAUSED BY HIS EMPLOYEES OR RESULTING FROM HIS WORK. AFTER ALL EQUIPMENT AND DEVICES HAVE BEEN INSTALLED, REMOVE ALL LABELS, STOCKERS, STAINS, TEMPORARY COVERS, ETC. IDENTIFICATION PLATES ON ALL EQUIPMENT.
  - IT IS THE INTENT THAT THE FOREGOING WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE FURNISHED BY ELECTRICAL CONTRACTOR.
  - PROVIDE GFCI CIRCUIT BREAKERS SERVING RECEPTACLES PROVIDING POWER TO DRINKING FOUNTAINS, REFRIGERATORS, VENDING MACHINES, DISPOSALS, AND WASHING MACHINES.
  - CAREFULLY REVIEW THE ENTIRE DRAWING PACKAGE PRIOR TO PROVIDING BID, INCLUDING THE ARCHITECTURAL AND MECHANICAL DRAWINGS. NOT REVIEWING THE ENTIRE SET IS NOT ACCEPTABLE.
  - PROVIDE CONDUIT FROM DEVICE TO DEVICE IN OPEN AND/OR EXPOSED CEILINGS. CEILINGS WITH CLOUDS ARE CONSIDERED OPEN/EXPOSED CEILING. NO EXPOSED CABLES SHALL BE SEEN FROM BELOW.
  - PROVIDE WEATHERPROOF, NEMA 3R RATED EQUIPMENT FOR ALL EXTERIOR APPLICATIONS.

### SHEET INDEX

E001	ELECTRICAL SYMBOLS AND NOTES
E002	ELECTRICAL DIAGRAMS
E101	ELECTRICAL SITE PLAN



MARK	DATE	DESCRIPTION

DATE: MAR. 11 2025  
 PROJECT NO: 24179  
 DRAWN BY: BNA  
 CHECKED BY: DSB

SHEET NAME:  
**ELECTRICAL SYMBOLS AND NOTES**

SHEET NUMBER:  
**E001**

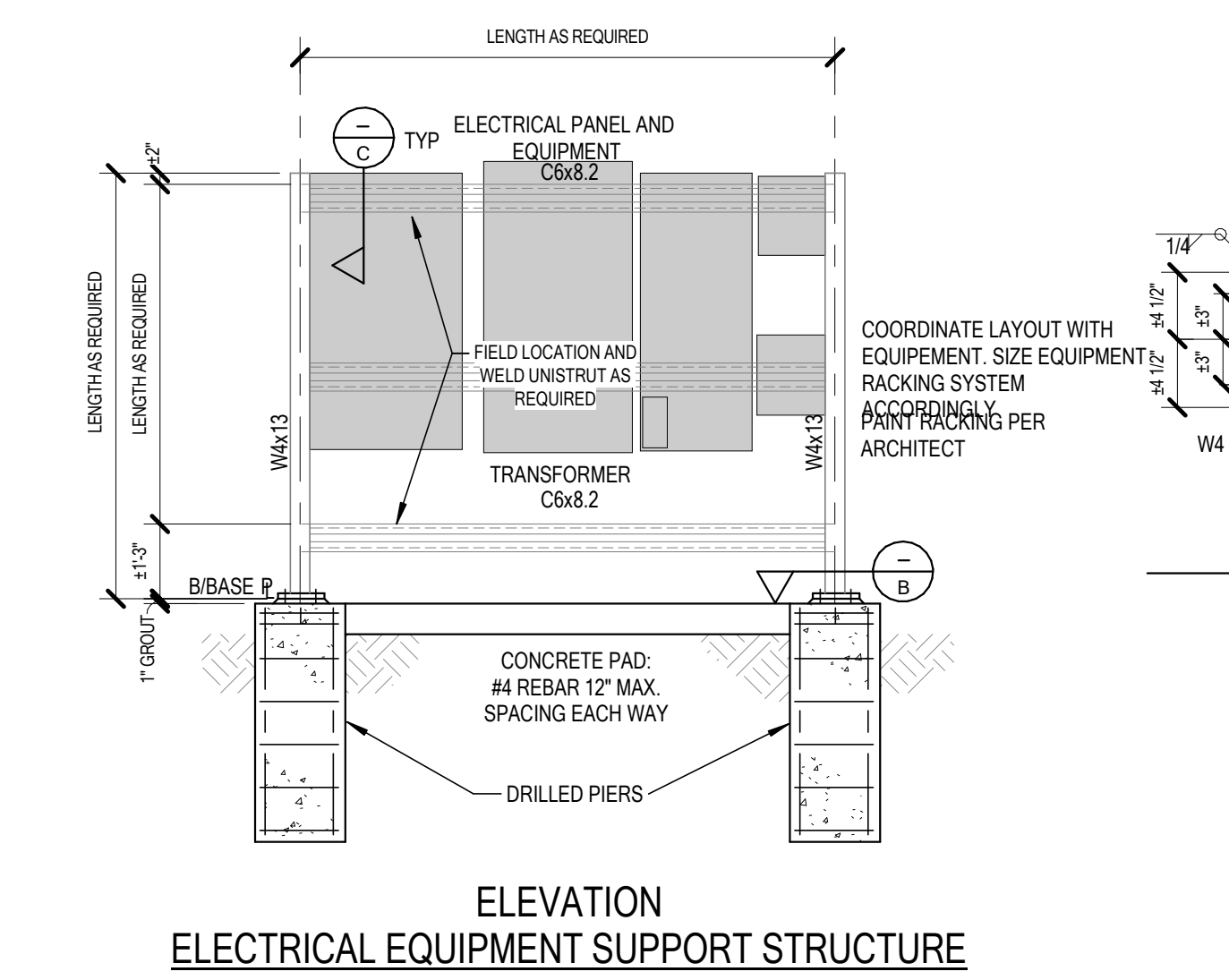


DIAGRAM Q001 ELECTRICAL ENCLOSURE MOUNTING  
NTS

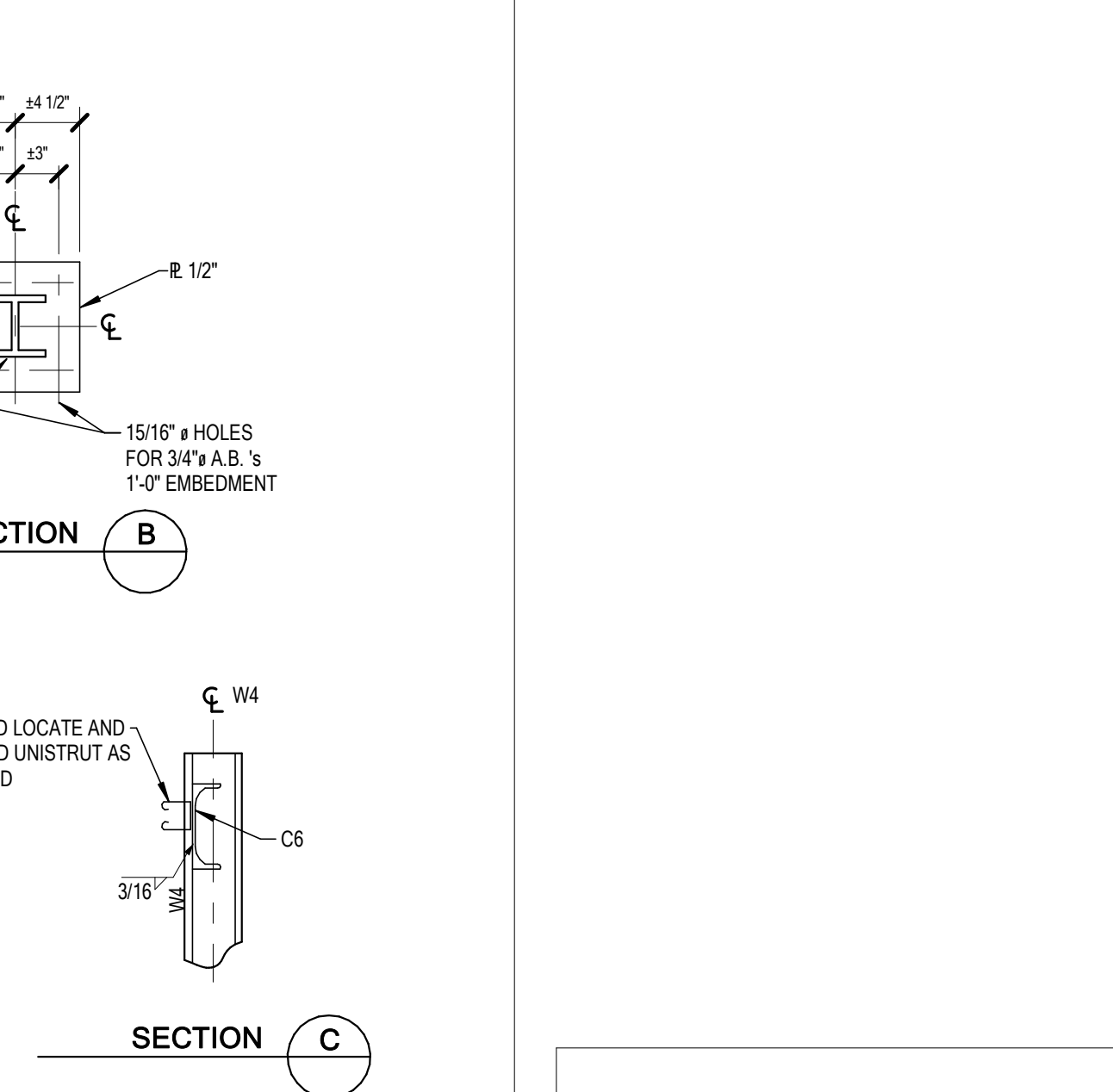


DIAGRAM U009 CONDUIT BELOW GRADE  
NTS

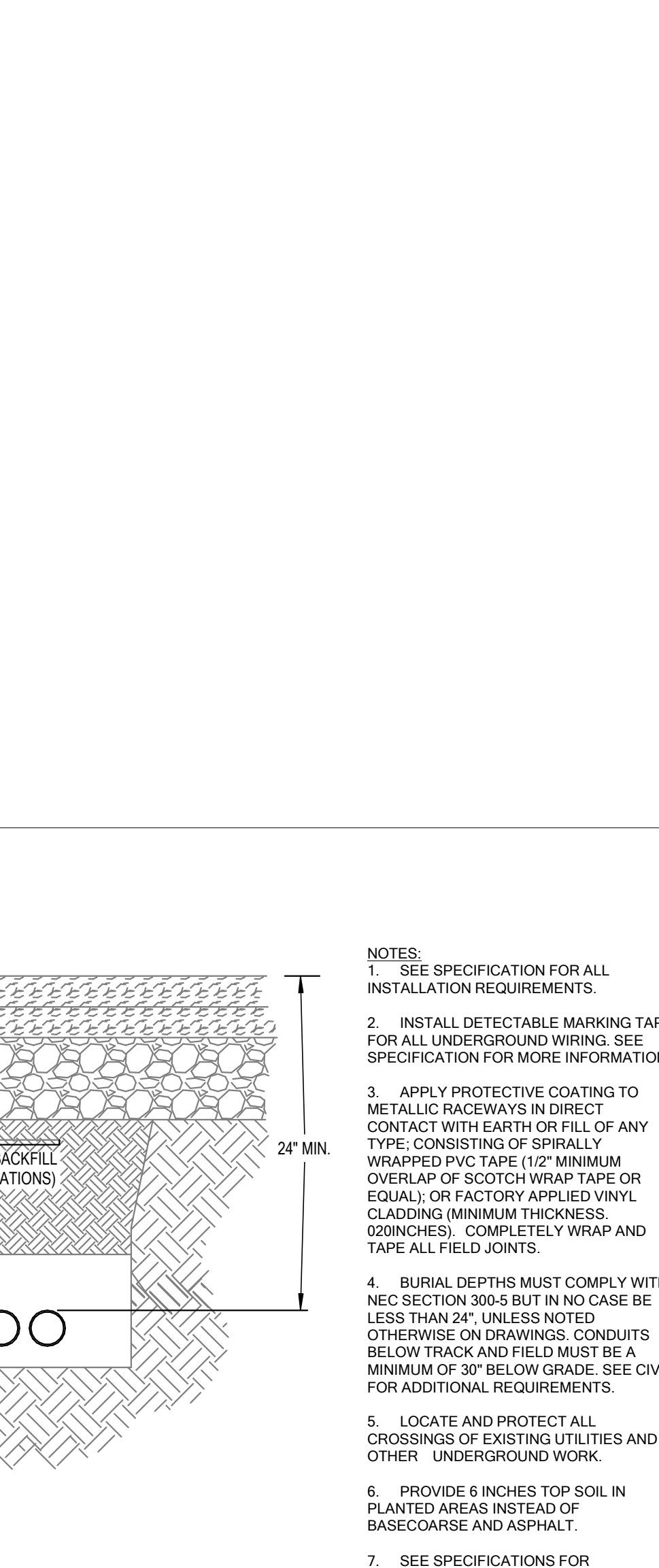
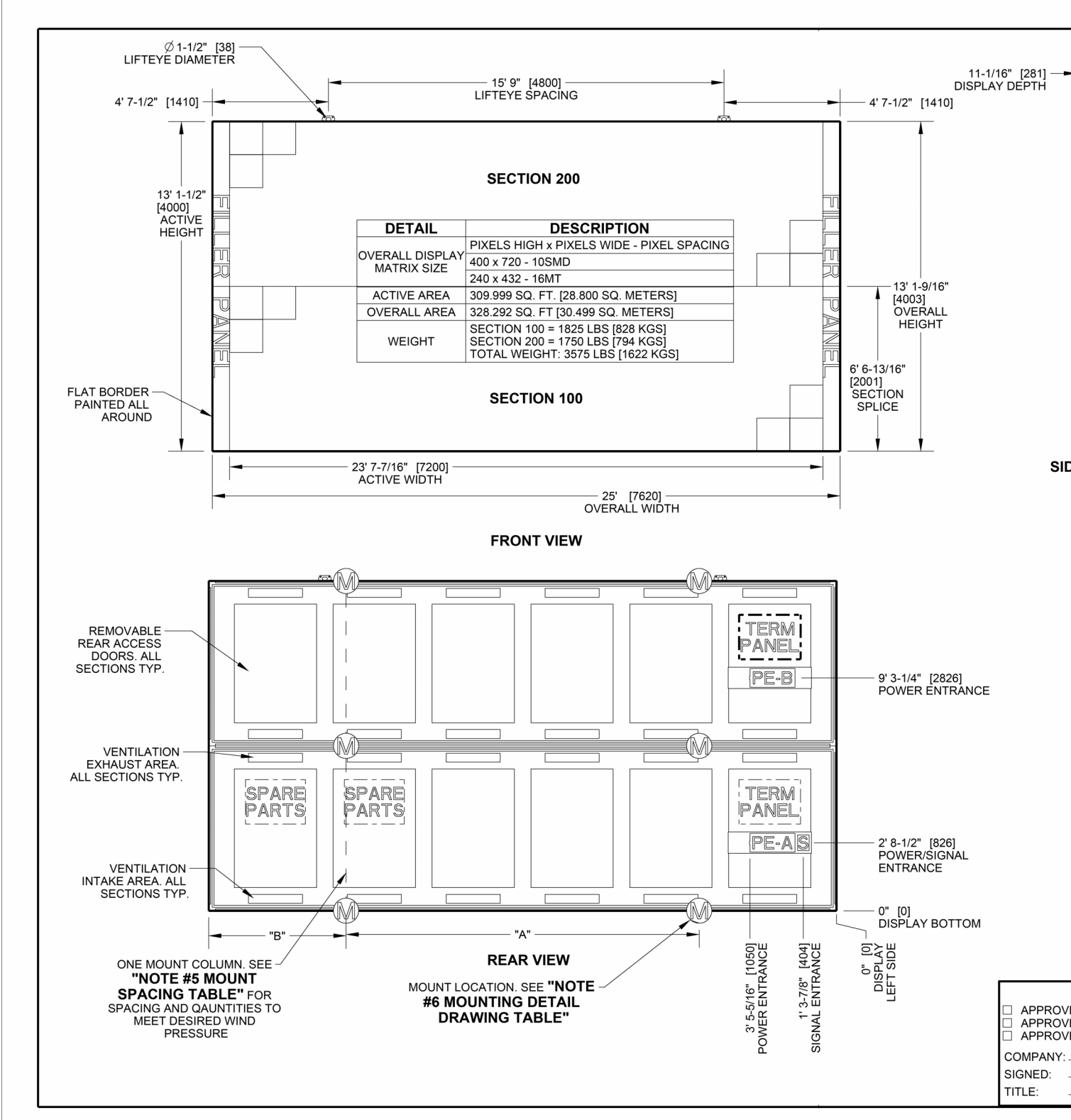
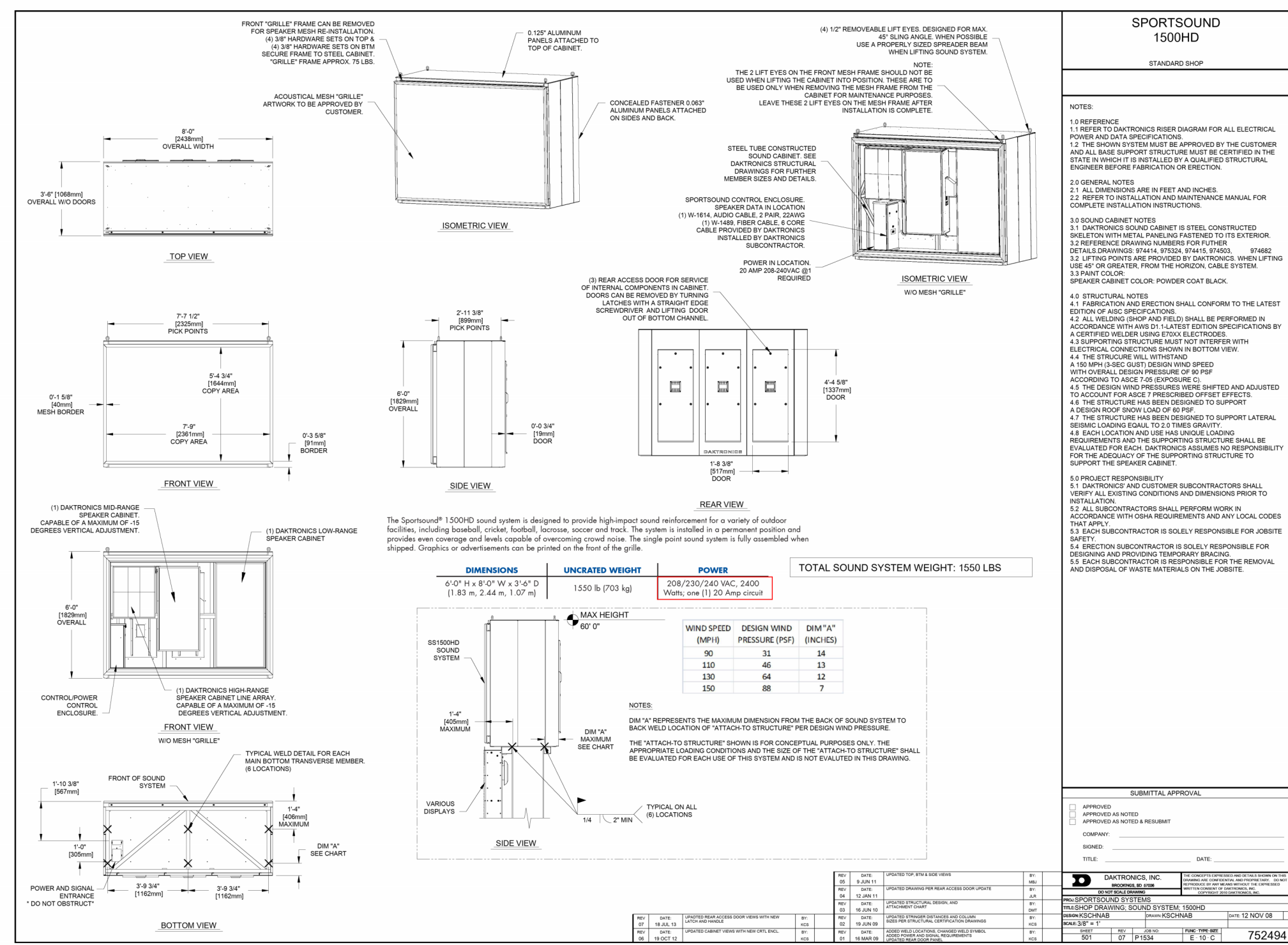


DIAGRAM L003 CONCRETE J-BOX  
NTS





NO.	DETAIL	DESCRIPTION
1	LED COLOR	RGB
2	CABINET CONSTRUCTION	DISPLAY IS ALL ALUMINA CONSTRUCTION. DISPLAY IS FRONT AND REAR ACCESSIBLE. SPARE PARTS ARE REAR ACCESS ONLY.
3	SHIPPING	DISPLAY IS SHIPPED IN SECTIONS. ASSEMBLY OF SECTIONS SHALL BE REAR ACCESS ONLY.
4	STRUCTURAL RATING	SEE DAKTRONICS FB-2036 FOR APPLICABLE DESIGN CODE.
5	ADD DESIGN WIND PRESSURE	IF MOUNT SPACINGS FALL OUTSIDE LISTED RANGE, CONTACT DAKTRONICS ENGINEERS.
6	ROCKER W/ LEDGER (BEAM MOUNT)	5214601
7	ROCKER W/ LEDGER (BEAM MOUNT)	5214602
8	ROCKER W/ LEDGER (BEAM MOUNT)	5214603
9	ROCKER W/ LEDGER (BEAM MOUNT)	5214604
10	ROCKER W/ LEDGER (BEAM MOUNT)	5214605
11	ROCKER W/ LEDGER (BEAM MOUNT)	5214606

10 SMD - PIXEL PITCH									
DISPLAY SIZE - MODEL	PIXEL COUNT	SECTION	AMPERAGE	Section Watts	Total Watts				
6x13	288x480	300	34.8	31.8	7,992				
7x12	288x480	300	43.7	41.7	8,028				
8x14	320x480	300	58.8	55.8	12,864				
9x16	360x480	300	68.8	65.8	15,624				
10x18	400x720	300	127.9	127.9	26,988				
11x19	440x720	300	147.9	147.9	29,988				
12x21	480x840	300	178.8	178.8	35,064				
13x23	520x840	300	212.8	212.8	39,144				
14x25	560x1000	300	248.8	248.8	44,184				
15x27	600x1080	300	288.8	288.8	49,908				
16x28	640x1310	300	348.8	348.8	58,184				
17x30	680x1200	300	368.8	368.8	61,184				
18x32	720x1280	300	408.8	408.8	65,984				
19x34	760x1360	300	448.8	448.8	71,184				
20x36	800x1440	300	488.8	488.8	76,184				

16 MT - PIXEL PITCH									
DISPLAY SIZE - MODEL	PIXEL COUNT	SECTION	AMPERAGE	Section Watts	Total Watts				
6x13	144x312	300	17.4	16.4	3,996				
7x12	144x312	300	21.7	20.7	4,980				
8x14	168x336	300	25.9	24.9	5,172				
9x16	192x384	300	30.1	29.1	6,060				
10x18	216x432	300	34.3	33.3	6,948				
11x19	240x456	300	38.5	37.5	7,836				
12x21	264x504	300	42.7	41.7	8,724				
13x23	288x552	300	46.9	45.9	9,612				
14x25	312x600	300	51.1	50.1	10,500				
15x27	336x648	300	55.3	54.3	11,388				
16x28	360x672	300	59.5	58.5	12,276				
17x30	384x720	300	63.7	62.7	13,164				
18x32	408x768	300	67.9	66.9	14,052				
19x34	432x816	300	72.1	71.1	14,940				
20x36	456x864	300	76.3	75.3	15,828				

NOTES:  
1. DISPLAY WILL OPERATE ON EITHER 120V/240V OR 120/208V.  
2. EACH POWER ENTRANCE WILL REQUIRE 2 HOT, 1 NEUTRAL, AND GROUND CONNECTIONS.

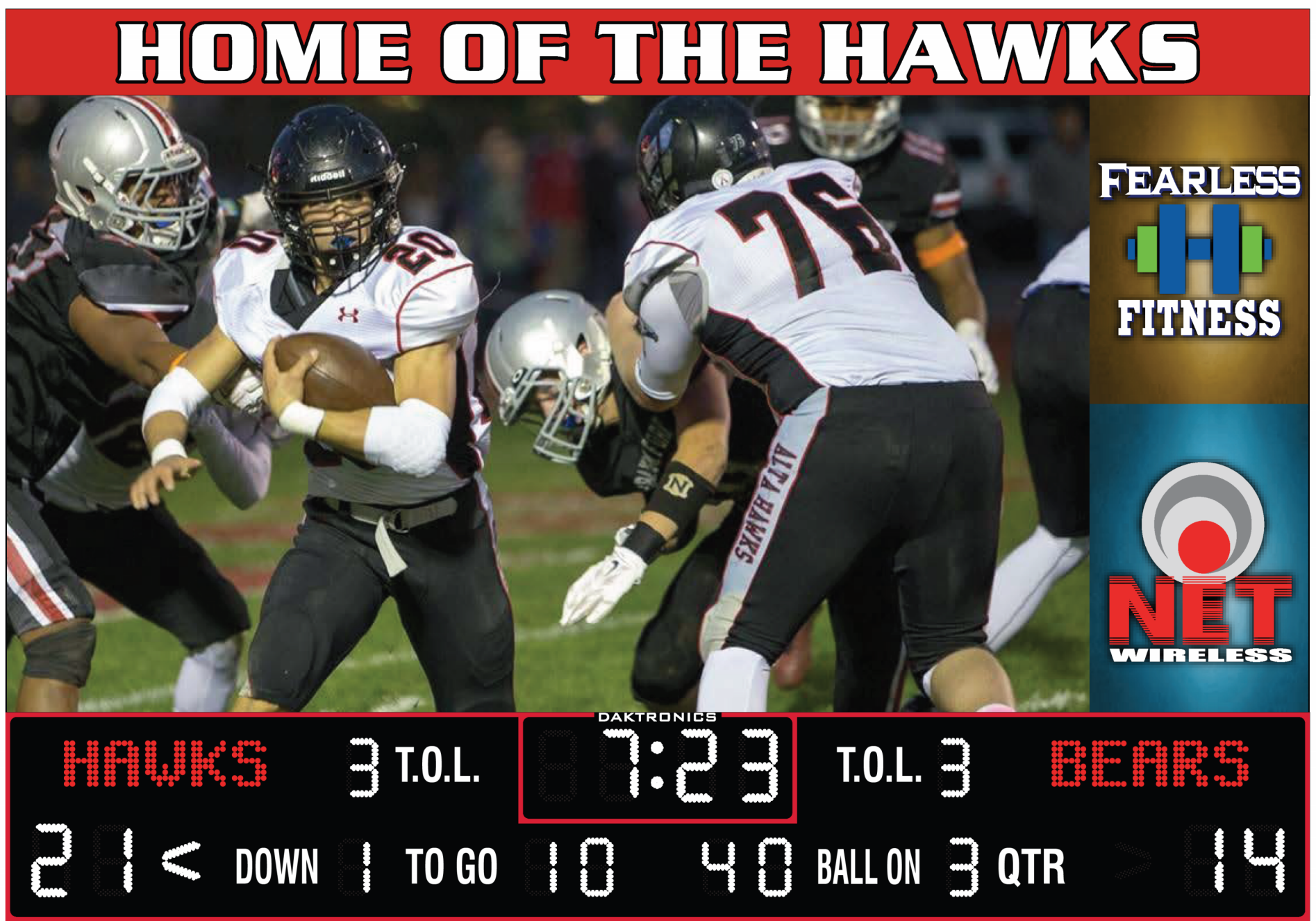
DAKTRONICS CONTACT:  
TY D. TORGERSOHN, REGIONAL SALES REPRESENTATIVE  
PHONE: 605-692-0200 EXT. 58024  
N. 605-633-0268  
ADDRESS: 201 DAKTRONICS DR. BROOKINGS, SD 57006  
SERVICESUPPORT: 1-800-325-8766

# ALTA HIGH SCHOOL

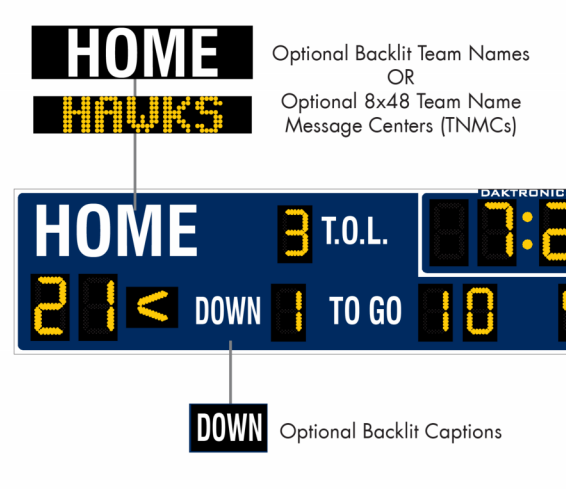
**STADIUM DISPLAY OPTION 1**  
TOP ID  
One (1) Nanlit Panel  
1.66'h x 25'w

**VIDEO DISPLAY**  
One (1) LVX 3000 Video Display  
360 x 760 - 1050MM  
Cabinet: 11.82'h x 25'w  
Active: 11.82'h x 24.94'w

**SCORING DISPLAY**  
One (1) Football Scoreboard  
FB-2036-W/V w/ TNMCs  
4'h x 25'w



## DAKTRONICS FB-2036 PRODUCT SPECIFICATIONS



This outdoor LED football scoreboard displays period time to 99:59, HOME and GUEST scores to 99, T.O.L. (time out left) to nine, and DOWN/TO GO/BALL ON/QTR (quarter) information. Arrows indicate possession. When period time is less than one minute, the scoreboard displays time to 1/10 of a second. Scoreboard shown with optional striping and amber PanView® digits.

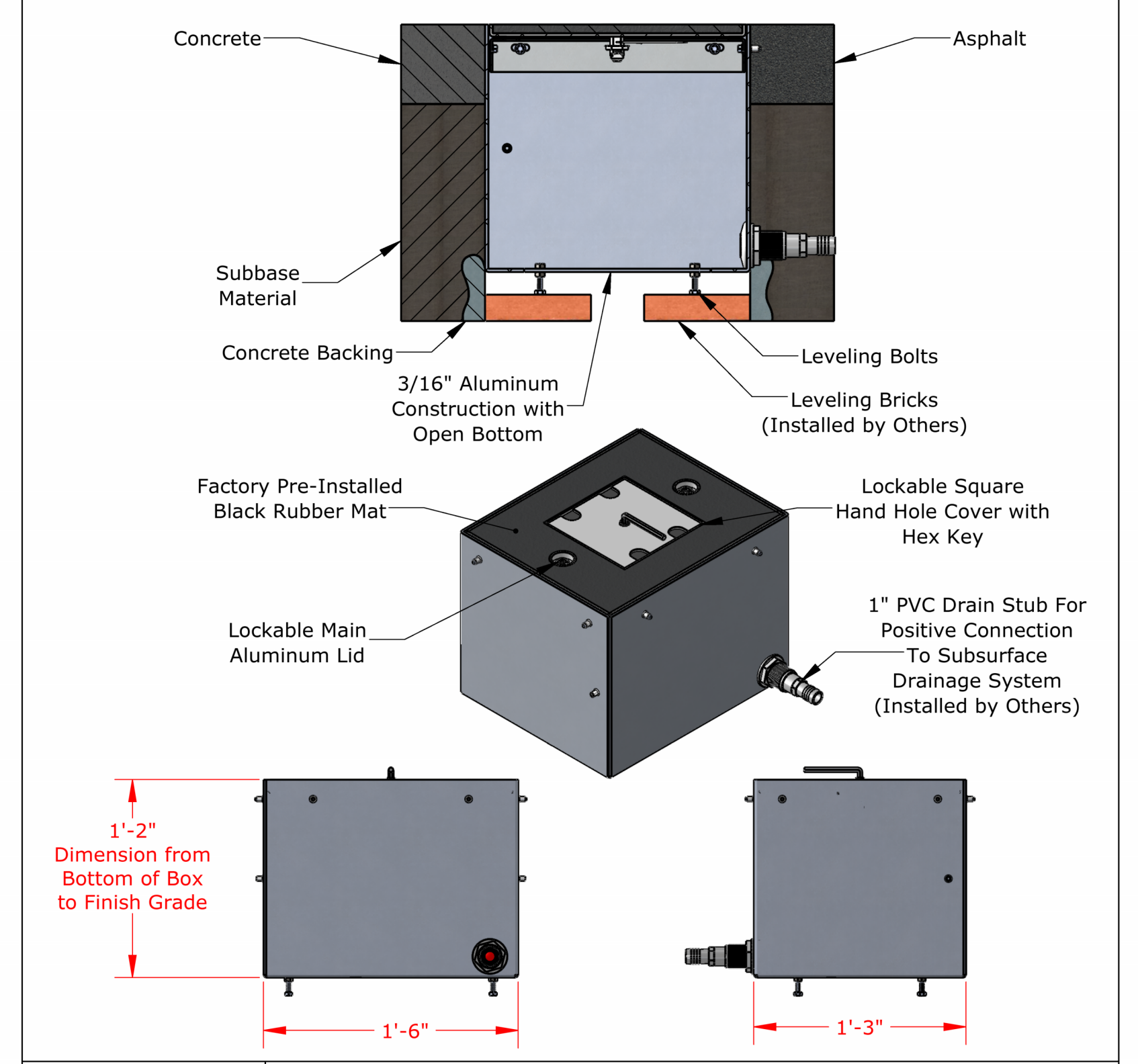
	VINYL CAPTIONS (STANDARD)	TNMCs & VINYL CAPTIONS	BACKLIT CAPTIONS
<b>POWER (120 VAC)*</b>	Red/Amber Digits 190 Watts, 1.6 Amps White Digits 400 Watts, 3.3 Amps	290 Watts, 2.4 Amps 430 Watts, 3.3 Amps	410 Watts, 3.4 Amps 620 Watts, 5.2 Amps
<b>UNCRATED WEIGHT</b>	400 lb (181 kg)	520 lb (236 kg)	584 lb (265 kg)
<b>DIMENSIONS</b>	4'-0" H x 25'-0" W x 8" D (1.22 m, 7.62 m, 203 mm)		

\*Scoreboard requires a dedicated circuit. Models with 240 VAC power at half the indicated ampereage are also offered (International Use Only).

- INDICATORS**
- Click and score digits are 1 1/2" (45.7 mm) high. All other digits are 1 1/4" (38.1 mm) high.
  - Select red, amber, or white LED digits and indicators.
  - Scoreboard may instead have mixed LED digit colors (see D224956462).
  - Scoreboard features robust weather-sealed digits (see D22495646).
  - Digits may be dimmed for night viewing.
- DISPLAY COLOR**
- Choose from 150+ colors (from Martin Senou® paint base) at no additional cost.
- OPERATING TEMPERATURES**
- Display: 32° to 122° Fahrenheit (0° to 50° Celsius)
  - Console: 32° to 130° Fahrenheit (0° to 54° Celsius)
- CAPTIONS**
- HOME and GUEST captions are 1 1/2" (38.1 mm) high.
  - All other captions are 8" (203 mm) high.
  - Standard captions are vinyl, applied to the display face.
  - Optional backlit captions consist of white letters on a black background. Team names are 1 1/4" (38.1 mm) high. All other captions are 8" (203 mm) high.
  - Optional TNMCs are 10.6" (269 mm) high.
- CONSTRUCTION**
- Alcoa aluminum alloy 5052 for excellent corrosion resistance.
- PRODUCT SAFETY APPROVAL**
- ETI-listed to UL 48, tested to CSA standards, and CE-labeled.



United States Patent #8,016,149, Issued September 13, 2011



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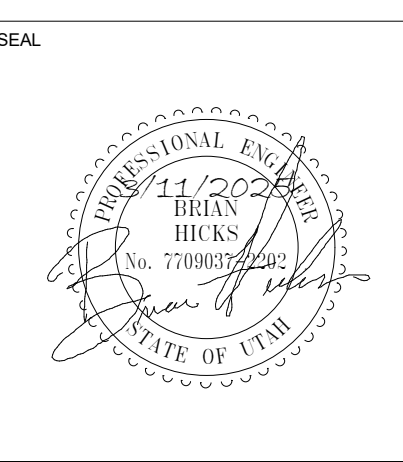
WWW.DAKTRONICS.COM E-MAIL: SALES@DAKTRONICS.COM  
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004727173 010522 Page 1 of 8



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CANYONS CITY SCHOOL DISTRICT  
ALTA HIGH SCHOOL  
FOOTBALL SCOREBOARD UPGRADE  
11055 S 1000 E, Sandy, UT 84094



MARK	DATE	DESCRIPTION

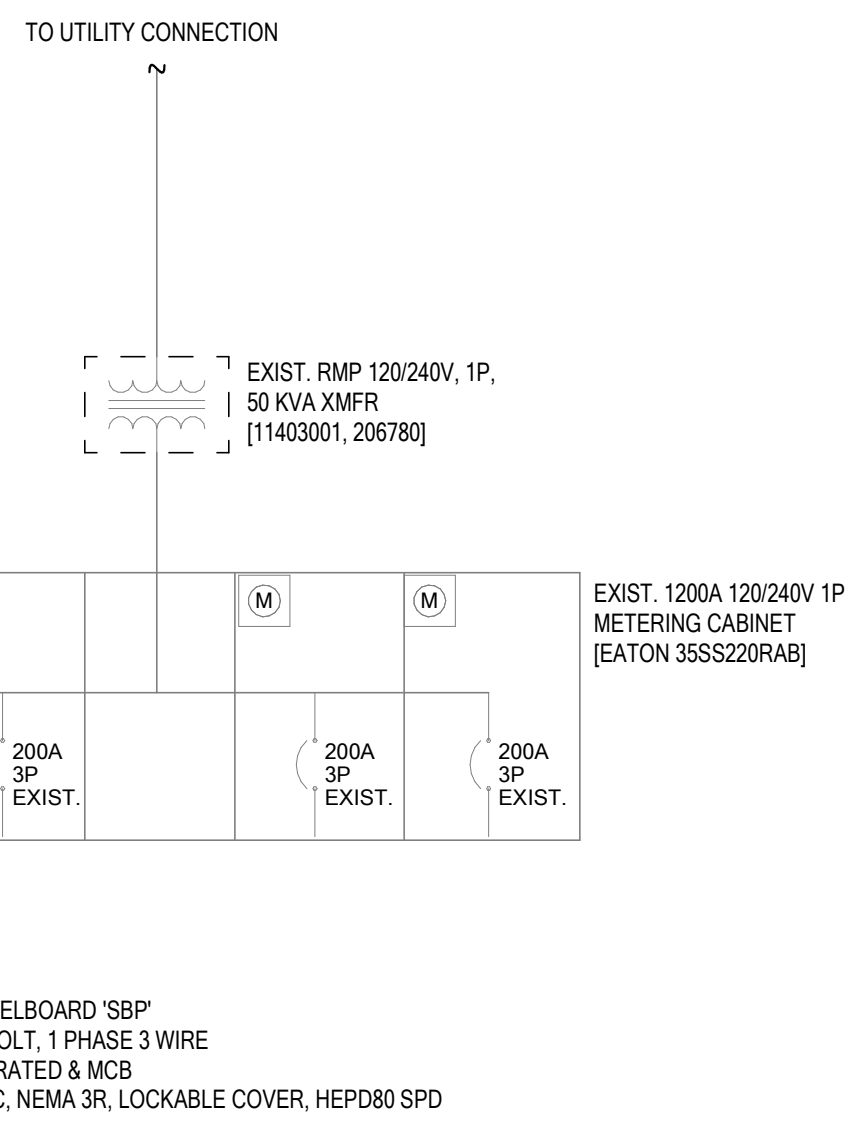
DATE: MAR. 11 2025  
PROJECT NO: 24179  
DRAWN BY: BNA  
CHKD BY: DSB

SHEET NAME: ELECTRICAL DIAGRAMS  
SHEET NUMBER: E002



**COPPER CONDUCTOR & CONDUIT SCHEDULE**

TYPE	AMP.	COND. SIZE	CONDUCTOR QUAN.	CONDUIT SIZE	INSULATION	EQ. GND. COND.
20	30	3/4"	2	10	THHN	10
30	30	3/4"	3	10	THHN	10
40	30	3/4"	4	10	THHN	10
28	40	1"	2	8	THHN	10
38	40	1"	3	8	THHN	10
48	40	1"	4	8	THHN	10
26	55	1"	2	6	THHN	8
36	55	1"	3	6	THHN	8
46	55	1"	4	6	THHN	8
24	70	1"	2	4	THHN	8
34	70	1-1/4"	3	4	THHN	8
44	70	1-1/4"	4	4	THHN	8
23	85	1-1/4"	2	3	THHN	8
33	85	1-1/4"	3	3	THHN	8
43	85	1-1/2"	4	3	THHN	8
32	95	1-1/2"	3	2	THHN	6
42	95	1-1/2"	4	2	THHN	6
31	110	1-1/2"	3	1	THHN	6
41	110	2"	4	1	THHN	6
51	88	2"	5"	1	THHN	6
31X	150	2"	3	1/0	THHN	6
41X	150	2"	4	1/0	THHN	6
51X	120	2"	5"	1/0	THHN	6
32X	175	2"	3	2/0	THHN	6
42X	175	2"	4	2/0	THHN	6
52X	140	2"	5"	2/0	THHN	6
33X	200	2"	3	3/0	THHN	6
43X	200	2"	4	3/0	THHN	6



**2 ONE-LINE DIAGRAM**

**PANELBOARD SCHEDULE**

PANEL: SDP		TYPE: NEMA 3R	VOLTS: 120/240	PHASE: 1	WIRES: 3
MOUNTING: FLUSH		LOCATION: MDP [E]	MANS: MCB		
BUSSING: ALUMINUM		FED FROM: MDP [E]	SURFEDGE LUGS		
		AMP: 150 A	DOOR-IN-DOOR		
			ISO GROUND		
			200% NEUTRAL		
			X SPD		

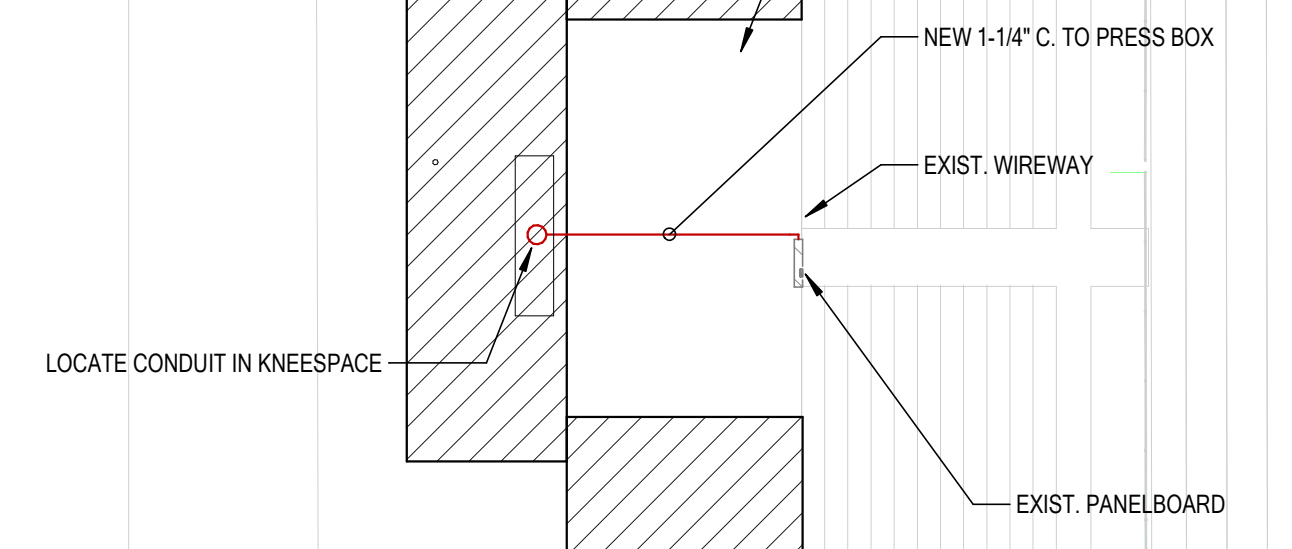
  

ITEM	AMPS	TYPE	POLE	WIRE SIZE	CIR. NO.	A	B	A	B	CIR. NO.	WIRE SIZE	POLE	TYPE	AMPS	ITEM	
SCOREBOARD LED...	70 A	--	--	2	3	1	5123	0	2	--	2	--	20 A	80A TYPE 1 SPD		
SCOREBOARD LED...	60 A	--	--	2	3	5	4142	5123	0	6	--	1	--	SPACE ONLY		
SCOREBOARD SOUND	20 A	--	--	2	12	9	1200	--	10	--	1	--	--	SPACE ONLY		
SCOREBOARD CLOCK	20 A	GF	--	1	12	13	820	1200	--	12	--	1	--	SPACE ONLY		
EXTERIOR RECEPT	20 A	--	--	1	12	15	180	--	16	--	1	--	--	SPACE ONLY		
SPARE	20 A	--	--	1	--	17	--	--	18	--	1	--	--	SPACE ONLY		
SPARE	20 A	--	--	1	--	19	0	0	20	--	1	--	--	SPARE		
SPARE	20 A	--	--	1	--	21	0	0	22	--	1	--	--	SPARE		
SPARE	20 A	--	--	1	--	23	0	0	24	--	1	--	--	SPARE		
SPARE	20 A	--	--	1	--	25	0	0	26	--	1	--	--	SPARE		
SPARE	20 A	--	--	1	--	27	0	0	28	--	1	--	--	SPARE		
SPARE	20 A	--	--	1	--	29	0	0	30	--	1	--	--	SPARE		
FEED THRU LOAD												0 VA	CONN. LOAD TOTAL		21728 VA	
TOTAL (VA)												11084	10644	TOTAL (VA)		21728
AMPS/PHASE												92 A	89 A	AMPS RMS SYM.		

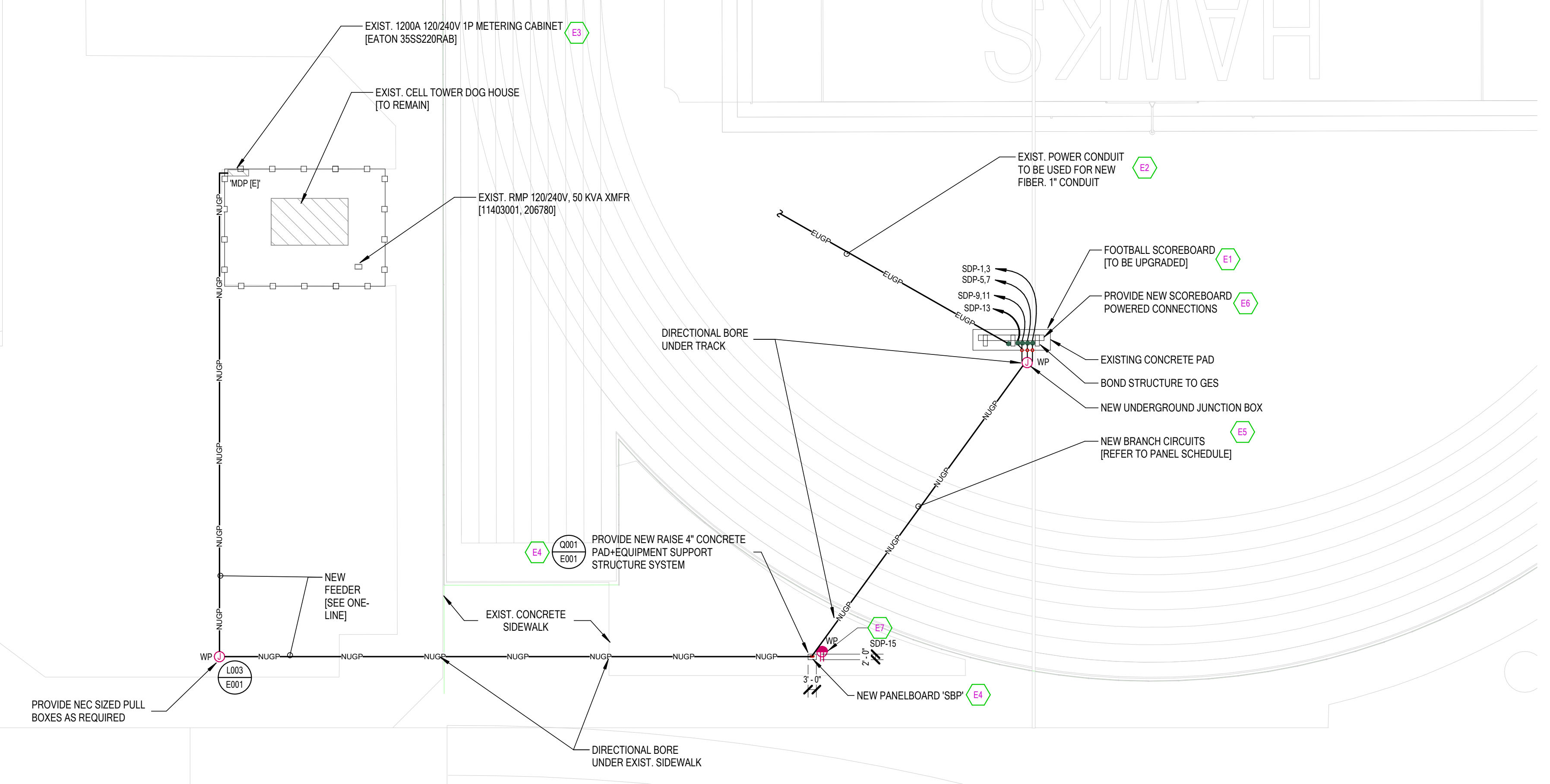
**NOTES:**  
 NEMA 3R, LOCKABLE COVER, INCLUDE EXTERIOR SPD (SQUARE D HEPD8B)  
 CIRCUIT BREAKER TYPE:  
 THERMAL MAGNETIC CIRCUIT BREAKER  
 5mA GROUND FAULT CIRCUIT BREAKER  
 ARC-FAULT CIRCUIT BREAKER  
 COMBINATION AFCI/GFI CIRCUIT BREAKER  
 30 mA EQUIPMENT GROUND FAULT CIRCUIT BREAKER  
 SHUNT TRIP CIRCUIT BREAKER

EXIST. PRESS BOX BUILDING (TO REMAIN)

EXIST. BLEACHER BUILDING



EXIST. BLEACHERS (TO REMAIN)



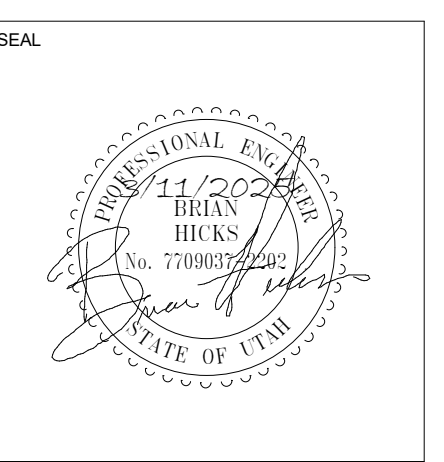
**ELECTRICAL SITE PLAN**  
 SCALE = 1" = 30'-0"

**GENERAL NOTES**

- DIVISION 26 SHALL VISIT THE SITE PRIOR TO BIDDING. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS. BIDDERS SHALL EXAMINE THE SITE AND THE COMPLETE SET OF PLANS AND SPECIFICATIONS COVERING THE ENTIRE PROJECT. THEY SHALL BECOME FULLY CONVERSANT WITH THE TYPE OF GENERAL CONSTRUCTIONS AS WELL AS ALL PERTINENT FACTS AFFECTING THE COST OF CARRYING OUT THE WORK. THEY WILL CONTRACT TO TAKE FULL RESPONSIBILITY FOR THIS PROJECT TO CONTRACT EXPECTATIONS.
- DIVISION 26 SHALL CONFIRM EXACT LOCATION OF EXISTING AND NEW EQUIPMENT WITH OWNERS. ROUGH-IN LOCATIONS ARE DIAGRAMMATICALLY SHOWN ON THE DRAWINGS. EXISTING ELECTRICAL FIXTURES, DEVICES, EQUIPMENT, CIRCUITING AND/OR CONDITIONS ARE NOT SPECIFIED UNLESS NOTED ON DRAWINGS. FINAL ROUTING OF THE CONDUITS, CIRCUITING, AND CABLING SHALL BE DETERMINED BY THE CONTRACTOR AND CLOSELY COORDINATED WITH OWNER. ALL EXISTING CONDITIONS MUST BE VERIFIED WITHOUT EXCEPTION.
- DIVISION 26 SHALL BLUE STAKE THE AREA OF NEW CONSTRUCTION PRIOR TO EXCAVATION FOR FOOTINGS, ETC. IDENTIFY BURIED ELECTRICAL SYSTEMS (UTILITIES, POWER, COMMUNICATIONS, ETC.) AND COORDINATE LOCATIONS WITH THE GENERAL CONTRACTOR. IF EXISTING ELECTRICAL SYSTEMS ARE DISTURBED (POWER, AUXILIARY, ETC.) E.C. SHALL MAKE NECESSARY REPAIRS (AS APPROVED BY DISTRICT REPRESENTATIVE) AS PART OF THIS CONTRACT.
- CONTRACTOR TO CLOSELY COORDINATE ALL NEW AND EXISTING DEVICE LOCATIONS WITH CIVIL DRAWINGS. CONTRACTOR TO VERIFY ALL FINAL GRADE REQUIREMENTS WITH CIVIL DRAWINGS.
- DEVICES & EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED, INCLUDING ALL RELATED CONDUITORS, RACEWAY, JUNCTION & SPLICE BOXES UP TO THE PANELBOARD/SWITCHBOARD. ALL CONDUITS AND BOXES THAT ARE SURFACE MOUNTED AND NO LONGER REQUIRE ACTIVE CIRCUITS SHALL BE COMPLETELY REMOVED. DEVICES TO BE REMOVED ON DRY WALL OR PLASTER TYPE WALLS THAT ARE TO REMAIN SHALL HAVE THE WALL SURFACE PATCHED TO MATCH THE EXISTING FINISH. THE CONTRACTOR SHALL IDENTIFY ALL DEMOLISHED AND ABANDONED BRANCH CIRCUITS. THESE SHALL BE NOTED AS SPARE ON PANELBOARD SCHEDULES. THIS INCLUDES IDENTIFYING EXISTING ABANDONED AND SPARE CIRCUITS THAT ARE CURRENTLY IDENTIFIED AS USED. THE CONTRACTOR SHALL FURNISH NEW TYPED DIRECTORIES FOR ALL PANELBOARDS.
- THE OWNER HAS THE RIGHT TO RETAIN ALL SALVAGEABLE MATERIAL. ANY MATERIAL THE OWNER CHOOSES NOT TO ACCEPT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR.
- FULLY COORDINATE MECHANICAL EQUIPMENT ELECTRICAL CONNECTION REMOVAL AND RELOCATION WITH THE MECHANICAL CONTRACTOR. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
- CLOSELY COORDINATE ANY REQUIRED POWER SHUTDOWNS WITH GENERAL HEAD CUSTODIAN AND OWNER.
- VERIFY ALL EQUIPMENT LOCATIONS ON AND OFF THE SITE NECESSARY FOR SERVICE CONNECTION.
- TRENCHING AND BACKFILL: LOCATE AND PROTECT EXISTING UTILITIES AND OTHER UNDERGROUND WORK IN A MANNER WHICH WILL ENSURE THAT NO DAMAGE OR SERVICE INTERRUPTIONS WILL RESULT FROM EXCAVATING AND BACKFILLING. PREPARE EXCAVATION IN A MANNER WHICH PROTECTS WALLS, FOOTINGS, AND OTHER STRUCTURAL MEMBERS FROM BEING DISTURBED OR DAMAGED IN ANY WAY. BURIAL DEPTHS MUST COMPLY WITH THE CITY OF SALT LAKE REQUIREMENTS, WHICH ARE MORE STRINGENT, UNLESS OTHERWISE NOTED OTHERWISE. PATCH AND REPAIR ROADS, PARKING AREAS, SIDEWALKS, CURBS, OTHER PAVED AREAS, PLANTING AND ANY OTHER DISTURBED AREAS CAUSED BY THE ELECTRICAL CONTRACTOR DURING CONSTRUCTION.
- BORING, TRENCHING, ASPHALT CUTTING AND PATCH WORK BY DIVISION 26. ANY CONCRETE THAT NEEDS TO BE REMOVED TO COMPLETE WORK WILL BE THE RESPONSIBILITY OF DIVISION 26. SCHEDULING OF THE TRENCHING SHALL BE COORDINATED WITH OTHER TRADES AND APPROVED BY THE OWNER.
- PROVIDE EQUIPMENT LABELING PER SPECIFICATIONS 26 0553. THE LABEL SHALL IDENTIFY THE DEVICE OR EQUIPMENT WHERE THE POWER SUPPLY ORIGINATES, AND THE SYSTEM VOLTAGE, PHASE OR LINE AND SYSTEM AT ALL TERMINATION, CONNECTION AND SPLICE POINTS. FOR EXAMPLE: FEEDER POWER SUPPLY FOR PANEL "XX" ORIGINATES AT PANEL "XX" OR SWITCHGEAR "XX", TRANSFORMER "XX", SWITCH "XX", ETC.; 120/208 VOLTS, 3-PHASE, PHASE COLOR IDENTIFICATION (OR 120/240, 277/480, ETC.).
- PROVIDE UPDATED TYPED PANELBOARD INDEXES AT EACH IMPACTED DISTRIBUTION/PANELBOARD.
- PROVIDE ALL REQUIRED LUG ADAPTERS, PIN REDUCERS, POLARIS LUG KITS, ETC. AS REQUIRED. PROVIDE NEC SIZED JUNCTION BOX AHEAD OF PANELBOARD/GEAR AS NEEDED TO LOCATED AND TERMINATE CONDUCTORS ON POLARIS LUG ADAPTERS (<10" FROM FINAL TERMINATION AT PANELBOARD), SIZE DOWN TO CONDUCTORS THAT FIT THE AVAILABLE LUGS AND/OR BREAKERS.

**SHEET KEYNOTES**

- EXISTING SCOREBOARD LOCATION. EXISTING SCOREBOARD TO BE REMOVED BY DAKTRONICS AND STRUCTURE REUSED FOR NEW LED SCOREBOARD. DISCONNECT AND REMOVE EXISTING ELECTRICAL CONNECTIONS AND EQUIPMENT TO PREPARE FOR NEW LARGE FORMAT LED SCOREBOARD. REMOVE EXISTING POWER CONDUCTORS FROM EXISTING 1" CONDUIT BACK TO WIREWAY LOCATED IN EXISTING BLEACHER BUILDING STORAGE ROOM. EXISTING 1" CONDUIT TO BE REUSED/REPURPOSED FOR NEW FIBER OPTIC CABLING.
- REWORK AND EXTEND EXISTING 1" CONDUIT PREVIOUSLY UTILIZED FOR BRANCH CIRCUIT POWER TO NEW LOW VOLTAGE FIBER OPTIC CONNECTION LOCATED AT THE NEW SCOREBOARD. EXISTING RECORD DRAWINGS INDICATED 1" CONDUIT TERMINATES IN WIREWAY LOCATED IN BLEACHER BUILDING STORAGE ROOM. DIVISION 26 TO VERIFY PATHWAY TERMINATION POINTS FROM EXISTING WIREWAY. PROVIDE 1-1/4" CONDUIT FROM WIREWAY TO PRESS BOX ABOVE THE BLEACHER BUILDING AND TERMINATE CONDUIT WITHIN EXISTING KNEESPACE WITHIN THE PRESS BOX. PROVIDE PULL STRING AND COORDINATE WITH DAKTRONICS, WHO WILL PROVIDE AND PULL IN NEW OM3 FIBER BUNDLE.
- EXISTING 1200A 120/240V 1P METERING CABINET/DISTRIBUTION EQUIPMENT (EATON) PROVIDE NEW BREAKER WITHIN EMPTY METERING SECTION (BOTTOM LEFT SECTION). COORDINATE WITH OWNER TO HAVE RMP PROVIDE NEW METER FOR NEW SERVICE AS REQUIRED. PROVIDE NEW FEEDERS AS INDICATED. TRENCH, BORE, AND ROUTE NEW FEEDER TO NEW ELECTRICAL PANELBOARD AS SHOWN. FINAL ROUTING OF THE CONDUITS, CIRCUITING, AND CABLING SHALL BE DETERMINED BY THE CONTRACTOR AND CLOSELY COORDINATED WITH OWNER. ALL EXISTING CONDITIONS MUST BE VERIFIED WITHOUT EXCEPTION (ROUTING IS DIAGRAMMATICALLY SHOWN, ADJUST AS NEEDED).
- PROVIDE NEW ELECTRICAL EQUIPMENT SUPPORT STRUCTURE AND CONCRETE HOUSEKEEPING PAD AS SHOWN. SIZE EQUIPMENT STRUCTURE AND PAD AS REQUIRED FOR EQUIPMENT. VERIFY EXACT LOCATION WITH OWNER. REFER ONE-LINE FOR ADDITIONAL INFORMATION REGARDING NEW ELECTRICAL INFRASTRUCTURE.
- PROVIDE NEW BRANCH CIRCUITS FROM THE NEW PANELBOARD AS REQUIRED FOR THE NEW LARGE-FORMAT LED SCOREBOARD. ALONG WITH A SPARE 1-1/4" CONDUIT, PERFORM A DIRECTIONAL BORE UNDER THE EXISTING TRACK AND INSTALL A NEW UNDERGROUND JUNCTION BOX NEAR THE EXISTING SCOREBOARD. MODIFY THE EXISTING ATHLETIC FIELD SYSTEM AS NEEDED TO PLACE THE JUNCTION BOX AND INSTALL NEW CONDUITS UNDER THE BOX AND TO THE NEW SCOREBOARD. PROVIDE A SPORTSFIELD SPECIALTIES CB1815 SYNTHETIC INFILL TURF-COMPATIBLE JUNCTION BOX. PROVIDE NEW INSERTS AS REQUIRED. TERMINATE INCOMING CONDUITS AND CIRCUITS WITHIN THE JUNCTION BOX AND EXTEND CONDUITS TO THE NEW SCOREBOARD AS REQUIRED. UTILIZE DIE-CAST COPPER-FREE ALUMINUM CONDUIT BODIES TO ROUTE BRANCH CIRCUITS OVER THE EXISTING SCOREBOARD CONCRETE PAD. RESTORE ANY TURF DAMAGED DUE TO BORING AND ELECTRICAL INFRASTRUCTURE INSTALLATION AS REQUIRED.
- WIRE NEW SCOREBOARD ACCORDINGLY AND PER MANUFACTURER INSTRUCTIONS. EACH POWER ENTRANCE WILL REQUIRE 1 HOT, 1 NEUTRAL, AND GROUND CONNECTIONS. VERIFY EXACT TERMINATION REQUIREMENTS WITH SHOP DRAWINGS AND DAKTRONICS.
- PROVIDE 120V WEATHER RESISTANT GFCI CONVENIENCE DUPLEX RECEPTACLE W/COVER BELOW PANELBOARD SPB.
- PROVIDE (1) NEW 150A/2P BREAKER WITHIN EXISTING METERING CABINET. COORDINATE WITH OWNER TO COORDINATE WITH RMP FOR NEW METER.



MARK	DATE	DESCRIPTION

DATE: MAR. 11 2025  
 PROJECT NO: 24179  
 DRAWN BY: BNA  
 CHECKED BY: DSB

SHEET NAME:  
**ELECTRICAL SITE PLAN**

SHEET NUMBER:  
**E101**

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