

BBU/RRH  
HYBRID & COAX CABLES  
MW/FIBER EQ.  
FIBER  
OVER/IELEC. EQ.  
POWER/GROUNDING  
ACCESS/UTILITY EASEMENT  
GEN. CONST./UTILITY EASEMENT  
LEASE AREA  
EXISTING EASEMENT  
ANTENNAS  
PENETRATIONS



SITE NAME: **DEN KENTON - B**  
PROJECT: SMR - LS6  
SITE I.D.#: 616125875  
PROJECT #: 17269998  
LOCATION #: 5000377687  
SITE ADDRESS: 11000 E. YALE AVE.  
AURORA, CO 80014

VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

DEN KENTON - B

SITE I.D.

616125875

11000 E. YALE AVE.  
AURORA, CO 80014

CONSULTANT

EXISTING CONDITIONS



PROJECT DESCRIPTION

- NEW 20'-0"H EXTENSION TO EXISTING 50'-0"H CANISTER MONOPOLE
- REMOVE AND REPLACE (6) EXISTING ANTENNAS WITH (6) NEW VERIZON WIRELESS ANTENNAS WITHIN MONOPOLE
- RELOCATE EXISTING EQUIPMENT AND ADD NEW EQUIPMENT WITHIN NEW EQUIPMENT SCREEN
- NEW BATTERY CABINET AND NEW BATTERIES

ATTACHMENTS:

STRUCTURAL ANALYSIS  
BY: AHOLA ENGINEERING LLC  
DATED: (PENDING)

STRUCTURAL AMA  
BY: AHOLA ENGINEERING LLC  
DATED: (PENDING)

PE LETTER  
BY: AHOLA ENGINEERING LLC  
DATED: 10/14/24

PROJECT TEAM

**OWNER**  
11000 DONG SIK KIM LLC  
DAVID  
11000 E. YALE  
AURORA, CO 80014  
PHONE: 303.520.7867

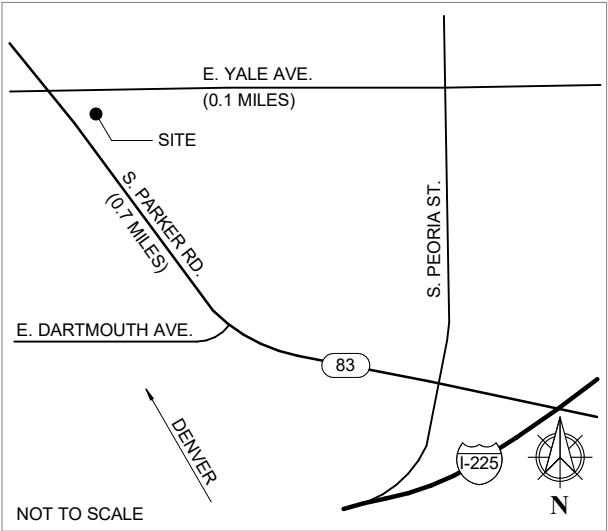
**CLIENT**  
VERIZON WIRELESS  
CONSTRUCTION ENGINEER  
ANDREW COLE  
10000 PARK MEADOWS DR.  
SUITE 300  
LONE TREE, CO 80124  
PHONE: 303.827.6279

**RF ENGINEER**  
VERIZON WIRELESS  
HAMAD MUNEEB  
10000 PARK MEADOWS DR.  
SUITE 300  
LONE TREE, CO, 80124  
PHONE: 720.202.9025

**SITE ACQUISITIONIST**  
KAPPA CONSULTING, LLC  
KELLY HARRISON  
CELL: 303.748.0599

**ARCHITECT**  
CSAI  
SEAN PENDLETON, NCARB  
5935 S. ZANG STREET  
SUITE 280  
LITTLETON, CO 80127  
CELL: 303.519.4707  
OFFICE: 303.932.9974

VICINITY MAP



DIRECTIONS

- FROM DENVER
- HEAD SOUTH ON I-25 TOWARD COLORADO SPRINGS
  - EXIT 203 TO EVANS AVE.
  - TURN LEFT ON E. EVANS AVE.
  - CONTINUE ON E. ILIFF AVE.
  - TURN RIGHT ON S. PARKER RD.
  - TURN LEFT ON E. YALE AVE.
  - TAKE FIRST RIGHT
  - SITE WILL BE ON THE LEFT

PROJECT DATA

JURISDICTION	CITY OF AURORA
APN	1973-35-2-40-002
ZONING DESIGNATION	MU-C
<u>OUTDOOR EQUIPMENT</u>	
OCCUPANCY GROUP	U
CONSTRUCTION TYPE	N/A
FULLY SPRINKLERED	N/A
NO. STORIES	OUTDOOR EQUIPMENT

GOVERNING CODES:

2021 IBC, 2021 IFC, 2021 IMC, 2021 IECC, 2023 NEC

COORDINATES FROM 1A

SITE COORDINATES: 39°39'59.98"N, 104°51'36.46"W  
GRADE ELEVATION: 0'-0" AGL, 5571'-0" AMSL  
OVERALL STRUCTURE HEIGHT: 70'-0" AGL, 5641' AMSL  
FAA APPROVED HEIGHT: T.B.D.

DRAWING INDEX

SHEET	DESCRIPTION
T1.00	TITLE SHEET
T1.10	PROJECT PHOTOS
G1.00	GENERAL NOTES
G1.10	BATTERY HAZMAT REVIEW
G1.20	BATTERY HAZMAT REVIEW CONT.
LS1	TOPOGRAPHIC SURVEY
LS2	TOPOGRAPHIC SURVEY
A1.00	SITE PLAN & HYBRID CABLE DIAGRAM
A1.10	ENLARGED SITE PLAN
A1.20	ENLARGED EQUIPMENT AREA PLAN
A2.00	ANTENNA PLANS & NOTES
A3.00	ELEVATIONS
A4.00	DETAILS
A5.00	GROUNDING SCHEMATIC
S1.00	STRUCTURAL NOTES
S1.10	STRUCTURAL NOTES
S2.00	RRH ENCLOSURE PLANS
S3.00	RRH ENCLOSURE SECTION

NOTE:  
DRAWINGS PREPARED PER RFDS PROVIDES BY  
VERIZON WIRELESS 01/16/25

BATTERY UPGRADE DATA			
BATTERY UPGRADE REQUIRED	YES	NOTES	ATTACHMENTS
		RE: G1.10 &A2.00	N/A
STRUCTURAL LOADING REQUIRED	NO	CONC. SLAB ON GRADE	N/A
EME COMPLIANCE			
EXISTING POSTING	COMPLIANT	BY	DATE
	T.B.D.	T.B.D.	T.B.D.
UPGRADES	NEEDED	BY	DATE
	(PENDING)	(PENDING)	(PENDING)
CONTRACTOR PMI REQUIREMENTS			
VzW LOCATION CODE (PSLC)		283326	
MOUNT MODIFICATION REQUIRED		YES	
VzW APPROVED SMART KIT VENDORS			
REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS			

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



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TITLE SHEET

T1.00



6 - EQUIPMENT CABINETS



5 - RACK OVP



4 - EQUIPMENT AREA



3 - EQUIPMENT WITHIN MONOPOLE



2 - NEW RRH ENCLOSURE AREA



1 - MONOPOLE BASE

verizon

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1st REVIEW   ETO   2nd REVIEW   SGP

CSAi

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PROJECT PHOTOS

T1.10



6 - NOT USED

CABINET VENTILATION NOTE:

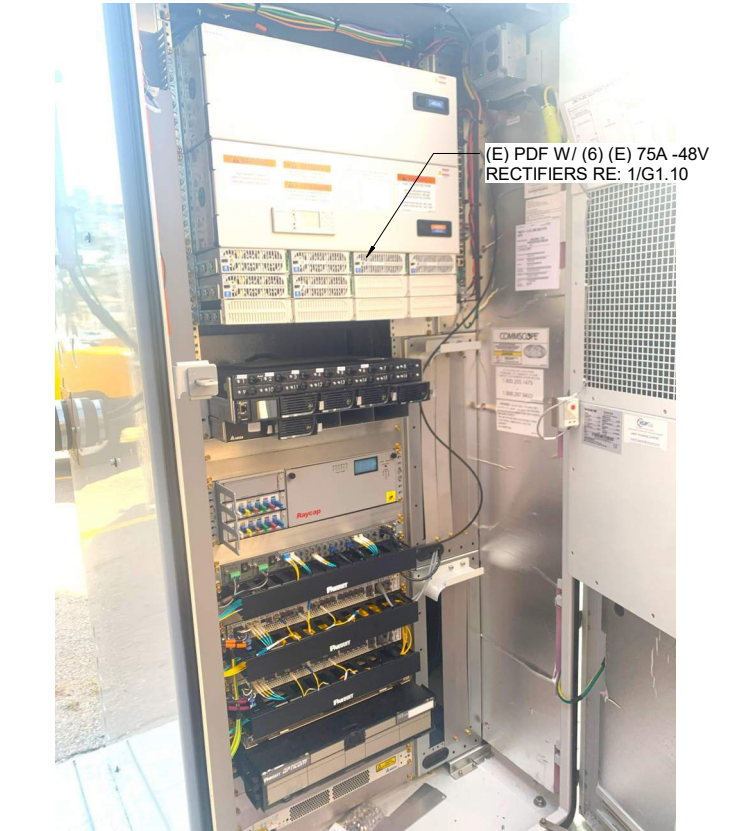
**1206.2.8.7 OUTDOOR INSTALLATIONS.**  
STATIONARY STORAGE BATTERY SYSTEMS LOCATED OUTDOORS SHALL COMPLY WITH SECTIONS 1206.2.8.7 THROUGH 1206.2.8.7.4, IN ADDITION TO ALL APPLICABLE REQUIREMENTS OF SECTION 1206.2. INSTALLATIONS IN OUTDOOR ENCLOSURES OR CONTAINERS THAT CAN BE OCCUPIED FOR SERVICING, TESTING, MAINTENANCE AND OTHER FUNCTIONS SHALL BE TREATED AS BATTERY STORAGE ROOMS.  
**EXCEPTION:** STATIONARY BATTERY ARRAYS IN NONCOMBUSTIBLE CONSTRAINERS SHALL NOT BE REQUIRED TO BE SPACED 3 FEET (914 MM) FROM THE CONTAINER WALLS.

**1206.2.8.7.1 SEPARATION.**  
STATIONARY STORAGE BATTERY SYSTEMS LOCATED OUTDOORS SHALL BE SEPARATED BY MINIMUM 5 FEET (1524 MM) FROM THE FOLLOWING:  
1. LOT LINES.  
2. PUBLIC WAYS.  
3. BUILDINGS.  
4. STORED COMBUSTIBLE MATERIALS.  
5. HAZARDOUS MATERIALS.  
6. HIGH-PILED STOCK.  
7. OTHER EXPOSURE HAZARDS.  
**EXCEPTION:** THE FIRE CODE OFFICIAL IS AUTHORIZED TO APPROVE SMALLER SEPARATION DISTANCES IF LARGE-SCALE FIRE AND FAULT CONDITION TESTING CONDUCTED OR WITNESSED AND REPORTED BY AN APPROVED TESTING LABORATORY IS PROVIDED SHOWING THAT A FIRE INVOLVING THE SYSTEM WILL NOT ADVERSELY IMPACT OCCUPANT EGRESS FROM ADJACENT BUILDINGS, ADVERSELY IMPACT ADJACENT STORED MATERIALS OR STRUCTURES.

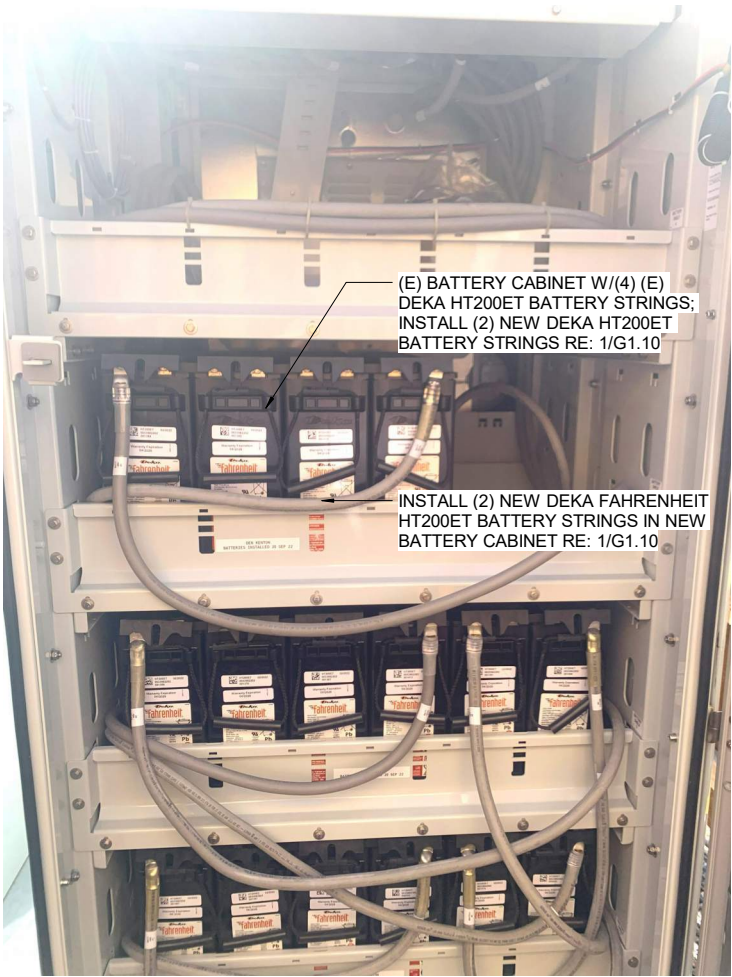
**1206.2.8.7.2 MEANS OF EGRESS.**  
STATIONARY STORAGE SYSTEMS LOCATED OUTDOORS SHALL BE SEPARATED FROM ANY MEANS OF EGRESS AS REQUIRED BY THE FIRE CODE OFFICIAL TO ENSURE SAFE EGRESS UNDER FIRE CONDITIONS, BUT NOT LESS THAN 10 FEET (3048 MM).  
**EXCEPTION:** THE FIRE CODE OFFICIAL IS AUTHORIZED TO APPROVE LESSER SEPARATION DISTANCES IF LARGE-SCALE FIRE AND FAULT CONDITION TESTING CONDUCTED OR WITNESSED AND REPORTED BY AN APPROVED TESTING LABORATORY IS PROVIDED SHOWING THAT A FIRE INVOLVING THE SYSTEM WILL NOT ADVERSELY IMPACT OCCUPANT EGRESS.

**1206.8.7.3 SECURITY OF OUTDOOR AREAS.**  
OUTDOOR AREAS IN WHICH STATIONARY STORAGE BATTERY SYSTEMS ARE LOCATED SHALL BE SECURED AGAINST UNAUTHORIZED ENTRY AND SAFEGUARDED IN AN APPROVED MANNER.

5 - EXTERIOR BATTERY NOTES



4 - EQUIPMENT PHOTOS



KILOWATT CAPACITY AT THIS INSTALLATION

72.96 KILOWATT HOURS

IFC 1207  
REQUIRED

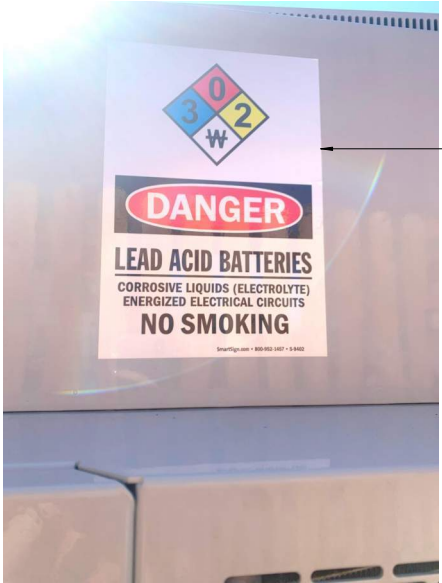
ELECTROLYTE CAPACITY AT THIS INSTALLATION

82.88 GALLONS

IFC 1207  
REQUIRED

(IFC 1207.1.1) STATIONARY AND VALVE REGULATED LEAD-ACID BATTERY SYSTEMS AND NICKEL CADMIUM BATTERY SYSTEMS CONTAINING MORE THAN 70 KILOWATT HOURS OR 50 GALLONS OF LEAD-ACID BATTERY ELECTROLYTE SHALL COMPLY WITH IFC 1207 AS NOTED BELOW:

3 - BATTERY HAZMAT REVIEW



2 - BATTERY SIGNAGE

PDF INFORMATION	
RECTIFIERS	CONVERTERS
TYPE: GE INFINITY MODEL: AC/48V (6) RECTIFIERS (6) SPACES	TYPE: GE INFINITY MODEL: DC/24V (N/A) CONVERTERS (N/A) SPACES
BATTERY INFORMATION - KILOWATT HOURS	
(DEKA HT200ET) EACH CELL HAS A CAPACITY OF (190) AMP-HOURS AND (12) VOLTS PER CELL (32) CELLS IN THIS OCCUPANCY RESULTING IN (72.96) KILOWATT HOURS	
BATTERY INFORMATION - ELECTROLYTE GALLONS	
(DEKA HT200ET) EACH CELL HAS AN IMMOBILIZE ELECTROLYTE CAPACITY OF (2.59) GALLONS EACH. (32) CELLS IN THIS OCCUPANCY RESULTING IN (82.88) GALLONS TOTAL	
(E) BATTERIES DATE INSTALLED: 09/20/22	
NEW BATTERIES DATE INSTALLED: T.B.D.	

1 - ESS DATA BLOCK

verizon

VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
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CONSTRUCTION

BATTERY HAZMAT  
REVIEW

G1.10

**1207.4 GENERAL INSTALLATIONS REQUIREMENTS**  
STATIONARY AND MOBILE ESS SHALL COMPLY WITH THE REQUIREMENTS OF SECTIONS 1207.4.1 THROUGH 1207.4.12.

**1207.4.2 WORKING CLEARANCES**  
ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRICAL EQUIPMENT TO PERMIT READY AND SAFE OPERATION AND MAINTENANCE OF SUCH EQUIPMENT IN ACCORDANCE WITH NFPA 70 AND THE MANUFACTURER'S INSTRUCTION.

**1207.4.5 VEHICLE IMPACT PROTECTION**  
WHERE ESS ARE SUBJECT TO IMPACT BY A MOTOR VEHICLE, INCLUDING FORK LIFTS, VEHICLE IMPACT PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 312.

**1207.4.6 COMBUSTION STORAGE**  
COMBUSTION MATERIALS SHALL NOT BE STORED IN ESS ROOMS, AREAS OR WALK-IN UNITS. COMBUSTION MATERIALS IN OCCUPIED WORK CENTERS COVERED BY SECTION 1207.4.10 SHALL BE STORED AT LEAST 3 FEET (914 MM) FROM ESS CABINETS.

**1207.4.8 SIGNAGE**  
APPROVED SIGNS SHALL BE PROVIDED ON OR ADJACENT TO ALL ENTRY DOORS FOR ESS ROOMS OR AREAS AND ON ENCLOSURES OF ESS CABINETS AND WALK IN UNITS LOCATED OUTDOORS, ON ROOFTOPS OR IN OPEN PARKING GARAGES. SIGNS DESIGNATED TO MEET BOTH THE REQUIREMENTS OF THIS SECTION AND NFPA 70 SHALL BE PERMITTED. THE SIGNAGE SHALL INCLUDE THE FOLLOWING OR EQUIVALENT.

1. "ENERGY STORAGE SYSTEM," "BATTERY STORAGE SYSTEM," "CAPACITOR ENERGY STORAGE SYSTEM" OR THE EQUIVALENT.
2. THE IDENTIFICATION OF THE ELECTROCHEMICAL ESS TECHNOLOGY PRESENT.
3. "ENERGIZED ELECTRICAL CIRCUITS."
4. WHERE WATER-REACTIVE ELECTROCHEMICAL ESS ARE PRESENT, THE SIGNAGE SHALL INCLUDE "APPLY NO WATER."
5. CURRENT CONTACT INFORMATION, INCLUDING PHONE NUMBER, FOR PERSONAL AUTHORIZED TO SERVICE THE EQUIPMENT AND FOR FIRE MITIGATION PERSONNEL REQUIRED BY SECTION 1207.1.6.1.

**1207.4.9 SECURITY OF INSTALLATIONS**  
ROOMS, AREAS AND WALK-IN UNITS IN WHICH ELECTROCHEMICAL ESS ARE LOCATED SHALL BE SECURED AGAINST UNAUTHORIZED ENTRY AND SAFEGUARDED IN AN APPROVED MANNER. SECURITY BARRIERS, FENCES, LANDSCAPING AND OTHER ENCLOSURES SHALL NOT INHIBIT THE REQUIRED AIR FLOW TO OR EXHAUST FROM THE ELECTROCHEMICAL ESS AND ITS COMPONENTS.

**1207.4.12 WALK-IN UNITS**  
WALK-IN UNITS SHALL BE ENTERED ONLY FOR INSPECTION, MAINTENANCE AND REPAIR OF ESS UNITS AND ANCILLARY EQUIPMENT, AND SHALL NOT BE OCCUPIED FOR OTHER PURPOSES.

**1207.5.4 FIRE DETECTION**  
AN APPROVED AUTOMATIC SMOKE DETECTION SYSTEM OR RADIANT ENERGY-SENSING FIRE DETECTION SYSTEM COMPLYING WITH SECTION 907.2 SHALL BE INSTALLED IN ROOMS, INDOOR AREAS, AND WALK-IN UNITS CONTAINING ELECTROMECHANICAL ESS. AN APPROVED RADIANT ENERGY-SENSING FIRE DETECTION SYSTEM SHALL BE INSTALLED TO PROTECT OPEN PARKING GARAGE AND ROOFTOP INSTALLATIONS. ALARM SIGNALS FROM DETECTION SYSTEMS SHALL BE TRANSMITTED TO A CENTRAL STATION, PROPRIETARY OR REMOTE STATION SERVICE IN ACCORDNICE WITH NFPA 72, OR WHERE APPROVED TO A CONSTANTLY ATTENDED LOCATION.

**1207.5.4.1 SYSTEM STATUS**  
WHERE REQUIRED BY THE FIRE CODE OFFICIAL, VISIBLE ANNUNCIATION SHALL BE PROVIDED ON CABINET EXTERIORS OR IN OTHER APPROVED LOCATIONS TO INDICATE THAT POTENTIALLY HAZARDOUS CONDITIONS ASSOCIATED WITH THE ESS EXIST.

**1207.5.6 MAXIMUM ENCLOSURE SIZE**  
OUTDOOR WALK-IN UNITS HOUSING ESS SHALL NOT EXCEED 53 FEET BY 8 FEET BY 9.5 FEET HIGH NOT INCLUDING BOLT-ON HVAC RELATED EQUIPMENT, AS APPROVED. OUTDOOR WALK IN UNITS EXCEEDING THESE LIMITATIONS SHALL BE CONSIDERED INDOOR INSTALLATIONS AND COMPLY WITH THE REQUIREMENTS IN SECTION 1207.7

**1207.5.8 MEANS OF EGRESS**  
ESS LOCATED OUTDOORS AND IN OPEN PARKING GARAGES SHALL BE SEPARATED FROM ANY MEANS OF EGRESS AS REQUIRED BY THE *FIRE CODE OFFICIAL* TO ENSURE SAFE EGRESS UNDER FIRE CONDITIONS, BUT IN NO CASE LESS THAN 10 FEET (3048 MM).

**EXCEPTIONS:**  
THE *FIRE CODE OFFICIAL* IS AUTHORIZED TO APPROVE A REDUCED SEPARATION DISTANCE IF LARGE-SCALE FIRE TESTING COMPLYING WITH SECTION 1207.1.5 IS PROVIDED THAT SHOWS THAT A FIRE INVOLVING THE ESS WILL NOT ADVERSELY IMPACT OCCUPANT EGRESS.

**1207.6.2.3 COMMUNICATIONS UTILITIES**  
THE REQUIREMENTS OF SECTION 1207.6.2 SHALL APPLY ONLY WHEN THE AGGREGATE CAPACITY OF MULTIPLE VESSELS EXCEEDS 1,000 GALLONS (3785 L) FOR LEAD ACID AND NICKEL-CADMUM BATTERY SYSTEMS OPERATING AT LESS THAN 50 VAC AND 60 VDC THAT ARE LOCATED AT FACILITIES UNDER THE EXCLUSIVE CONTROL OF COMMUNICATIONS UTILITIES, AND THOSE FACILITIES COMPLY WITH NFPA 76 IN ADDITION TO APPLICABLE REQUIREMENTS OF THIS CODE.

**1207.6.4 SAFETY CAPS**  
VENTED BATTERIES AND OTHER ESS SHALL BE PROVIDED WITH FLAME-ARRESTING SAFETY CAPS.

**1207.6.5 THERMAL RUNAWAY**  
WHERE REQUIRED BY TABLE 1207.6 OR ELSEWHERE IN THIS CODE, BATTERIES AND OTHER ESS SHALL BE PROVIDED WITH A LISTED DEVICE OR OTHER APPROVED METHOD TO PREVENT, DETECT AND MINIMIZE THE IMPACT OF THERMAL RUNAWAY.

**1207.8.1 REMOTE OUTDOOR INSTALLATIONS**  
FOR THE PURPOSE OF TABLE 1207.8, REMOTE OUTDOOR INSTALLATIONS INCLUDE ESS LOCATED MORE THAN 100 FEET (30,480 MM) FROM BUILDINGS, LOT LINES, PUBLIC WAYS, STORED COMBUSTIBLE MATERIALS, HAZARDOUS MATERIALS, HIGH PILED STOCK AND OTHER EXPOSURE HAZARDS.

**1207.8.2 INSTALLATIONS NEAR EXPOSURES**  
FOR THE PURPOSE OF TABLE 1207.8, INSTALLATIONS NEAR EXPOSURES INCLUDE ALL OUTDOOR ESS INSTALLATIONS THAT DO NOT COMPLY WITH SECTION 1207.8.1 REMOTE OUTDOOR LOCATION REQUIREMENTS.

**1207.8.3 CLEARANCE TO EXPOSURES**  
ESS LOCATED OUTDOORS SHALL BE SEPARATED BY MINIMUM 10 FEET (3048 MM) FROM THE FOLLOWING EXPOSURES:

1. LOT LINES
  2. PUBLIC WAYS
  3. BUILDINGS
  4. STORED COMBUSTIBLE MATERIALS
  5. HAZARDOUS MATERIALS
  6. HIGH-PILED STOCK
  7. OTHER EXPOSURE HAZARDS
- EXCEPTIONS:**
1. CLEARANCES ARE PERMITTED TO BE REDUCED TO 3 FEET (914 MM) WHERE A 1-HOUR FREE-STANDING *FIRE BARRIER* SUITABLE FOR EXTERIOR USE AND EXTENDING 5 FEET (1524 MM) ABOVE AND 5 FEET (1524 MM) BEYOND THE PHYSICAL BOUNDARY OF THE ESS INSTALLATION IS PROVIDED TO PROTECT THE EXPOSURE.
  2. CLEARANCES TO BUILDINGS ARE PERMITTED TO BE REDUCED TO 3 FEET (914 MM) WHERE NONCOMBUSTIBLE EXTERIOR WALLS WITH NO OPENINGS OR COMBUSTIBLE OVERHANGS ARE PROVIDED ON THE WALL ADJACENT TO THE ESS AND THE FIRE-RESISTANCE RATING OF THE EXTERIOR WALL IS A MINIMUM OF 2 HOURS.
  3. CLEARANCES TO BUILDINGS ARE PERMITTED TO BE REDUCED TO 3 FEET (914 MM) WHERE A WEATHERPROOF ENCLOSURE CONSTRUCTED OF NONCOMBUSTIBLE MATERIALS IS PROVIDED OVER THE ESS, AND IT HAS BEEN DEMONSTRATED THAT A FIRE WITHIN THE ENCLOSURE WILL NOT IGNITE COMBUSTIBLE MATERIALS OUTSIDE THE ENCLOSURE BASED ON LARGE-SCALE FIRE TESTING COMPLYING WITH SECTION 1207.1.5.

**1207.9.3 CLEARANCE TO EXPOSURES**  
ESS LOCATED ON ROOFTOPS AND IN OPEN PARKING GARAGES SHALL BE SEPERATED BY A MINIMUM OF 10 FEET FROM THE FOLLOWING EXPOSURES:

1. BUILDINGS, EXCEPT THE BUILDING ON WHICH ESS IS MOUNTED
  2. ANY PORTION OF THE BUILDING ON WHICH A ROOFTOP SYSTEM IS MOUNTED THAT IS ELEVATIED ABOVE THE ROOFTOP ON WHICH THE SYSTEM IS INSTALLED
  3. LOT LINES
  4. PUBLIC WAYS
  5. STORED COMBUSTIBLE MATERIALS
  6. LOCATIONS WHERE MOTOR VEHICLES CAN BE PARKED
  7. HAZARDOUS MATERIALS
  8. OTHER EXPOSURE HAZARDS
- 1207.9.4 FIRE SUPPRESSION SYSTEMS**  
ESS LOCATED IN WALK-IN UNITS ON ROOFTOPS OR IN WALK-IN UNITS IN OPEN PARKING GARAGES SHALL BE PROVIDED WITH AUTOMATIC FIRE SUPPRESSION SYSTEMS WITHIN THE ESS ENCLOSURE IN ACCORDANCE WITH 1207.5.5. AREAS CONTAINING ESS OTHER THAN WALK-IN UNITS IN OPEN PARKING STRUCTURS ON LEVELS NOT OPEN ABOVE TO THE SKY SHALL BE PROVIDED WITH AN AUTOMATIC FIRE SUPRESSION SYSTEM COMPLYING WITH SECTION 1207.5.5.
- EXCEPTION:**  
A FIRE SUPRESSION SYSTEM IS NOT REQUIRED IN OPEN PARKING GARAGES IF LARGE-SCALE FIRE TESTING COMPLYING WITH SECTION 1207.1.5 IS PROVIDED THAT SHOWS THAT A FIRE WILL NOT IMPACT THE EXPOSURES IN SECTION 1207.9.3.

**1207.9.5 ROOFTOP INSTALLATIONS**  
ESS AND ASSOCIATED EQUIPMENT THAT ARE LOCATED ON ROOFTOPS AND NOT ENCLOSED BY BUILDING CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:

1. STAIRWAY ACCESS TO THE ROOF FOR EMERGENCY RESPONSE AND FIRE DEPARTMENT PERSONNEL SHALL BE PROVIDED EITHER THROUGH A BULKHEAD FROM THE INTERIOR OF THE BUILDING OR A STAIRWAY ON THE EXTERIOR OF THE BUILDING.
2. SERVICE WALKWAYS AT LEAST 5 FEET (1,524 MM) IN WIDTH SHALL BE PROVIDED FOR SERVICE AND EMERGENCY PERSONNEL FROM THE POINT OF ACCESS TO THE ROOF TO THE SYSTEM.
3. ESS AND ASSOCIATED EQUIPMENT SHALL BE LOCATED FROM THE EDGE OF THE ROOF A DISTANCE EQUAL TO AT LEAST THE HEIGHT OF THE SYSTEM, EQUIPMENT OR COMPONENT BUT NOT LESS THAN 5 FEET (1,524 MM).
4. THE ROOFING MATERIALS UNDER AND WITHIN 5 FEET (1,524 MM) HORIZONTALLY FROM AN ESS OR ASSOCIATED EQUIPMENT SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A CLASS A RATING WHEN TESTED IN ACCORDANCE WITH ASTM E108 OR UL 790.
5. A CLASS I STANDPIPE OUTLET SHALL BE INSTALLED AT AN APPROVED LOCATION ON THE ROOF LEVEL OF THE BUILDING OR IN THE STAIRWAY BULKHEAD AT THE TOP LEVEL.
6. THE ESS SHALL BE THE MINIMUM OF 10 FEET (3,048 MM) FROM THE FIRE SERVICE ACCESS POINT ON THE ROOFTOP.

**1207.9.6 OPEN PARKING GARAGES**  
ESS AND ASSOCIATED EQUIPMENT THAT ARE LOCATED IN OPEN PARKING GARAGES SHALL COMPLY WITH ALL OF THE FOLLOWING:

1. ESS SHALL NOT BE LOCATED WITHIN 50 FEET (15,240 MM) OF AIR INLETS FOR BUILDING HVAC SYSTEMS.

**EXCEPTION:** THIS DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 25 FEET (7,620 MM) IF THE AUTOMATIC FIRE ALARM SYSTEM MONITORING THE RADIANT-ENERGY SENSING DETECTORS DE-ENERGIZES THE VENTILATION SYSTEM CONNECTED TO THE AIR INTAKES UPON DETECTION OF FIRE.

2. ESS SHALL NOT BE LOCATED WITHIN 25 FEET (7,620 MM) OF EXITS LEADING FROM THE ATTACHED BUILDING WHERE LOCATED ON A COVERED LEVEL OF THE PARKING STRUCTURE NOT DIRECTLY OPEN TO THE SKY ABOVE.
3. AN APPROVED FENCE WITH A LOCKED GATE OR OTHER APPROVED BARRIER SHALL BE PROVIDED TO KEEP THE GENERAL PUBLIC AT LEAST 5 FEET (1,524 MM) FROM THE OUTER ENCLOSURE OF THE ESS.

**NO SMOKING SIGNS** SHALL BE PROVIDED ON DOORS LEADING INTO BATTERY ROOMS. PLACARDS SHALL BE PROVIDED ACCORDING TO NFPA 704. PLACARDS POSTED ON THE INTERIOR OF THE FACILITY SHALL BE A MINIMUM 10 INCHES EACH SIDE AND PLACARDS POSTED ON THE EXTERIOR SHALL BE A MINIMUM 15 INCHES EACH SIDE.

THE PROPOSED / EXISTING VERIZON WIRELESS ESS IS EXEMPT FROM THE FOLLOWING SECTIONS UNDER THE FOLLOWING EXCEPTION LISTED IN THOSE SECTIONS: "LEAD ACID AND NICKEL-CADMUM BATTERY SYSTEMS OPERATING AT LESS THAN 50 VAC AND 60 VDC THAT ARE LOCATED AT FACILITIES UNDER THE EXCLUSIVE CONTROL OF COMMUNICATIONS UTILITIES, AND THOSE FACILITIES COMPLY WITH NFPA 76." THE PROPOSED / EXISTING ESS OPERATES AT +24 / -48 VDC. "50 VAC" IS A CLAUSE TAKEN FROM THE NEC THAT DATES BACK MANY YEARS FOR THE USE OF LOW VOLTAGE COPPER LAN LINE SYSTEMS AND HAS BEEN DISREGARDED. FOR FURTHER ICC CLARIFICATION CONTACT ELIZABETH FIRE MARSHAL KARA GERCZYNSKI (303) 646-3800 WHO SITS ON THE IFC CODE REVIEW COUNCIL:

**1207.1.2 PERMIT**  
**1207.2.1 COMMISSIONING**  
**1207.3.1 ENERGY STORAGE SYSTEM LISTINGS**  
**1207.3.7 RETROFITS**  
**1207.4.1 ELECTRICAL DISCONNECTS**  
**1207.5.1 SIZE AND SEPARATION**  
**1207.5.2 MAXIMUM ALLOWABLE QUANTITIES**  
**1207.5.3 ELEVATION**  
**1207.5.5 FIRE SUPPRESSION SYSTEMS**  
**TABLE 1207.6 ESS TECHNOLOGY SPECIFIC REQUIREMENTS**  
**1207.6.2 SPILL CONTROL & NEUTRALIZATION**  
**TABLE 1207.7 INDOOR ESS INSTALLATIONS**



VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

DEN KENTON - B

SITE I.D.

616125875  
11000 E. YALE AVE.  
AURORA, CO 80014

CONSULTANT

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
OFFICE: 303.932.9974

PRELIMINARY  
NOT FOR  
CONSTRUCTION

BATTERY HAZMAT  
REVIEW CONT.

G1.20

SURVEYOR NOTES

- ALL TITLE INFORMATION IS BASED UPON A COMMITMENT FOR TITLE INSURANCE PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, ORDER NO.: 5509-3111563 EFFECTIVE DATE: 04/25/2024.
- SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE.
- THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.
- SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

PROJECT META DATA

- ELEVATIONS SHOWN HEREON ARE REPRESENTED IN *NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)* ESTABLISHED FROM GPS DERIVED ELLIPSOID HEIGHTS, APPLYING GEOID 12B SEPARATIONS CONSTRAINING TO NGS CORS STATIONS PROVIDED IN THE "ONLINE POSITIONING USER SERVICE" (OPUS) SOLUTION FOR THIS SPECIFIC SITE.
- BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM *ARIZONA STATE PLANE COORDINATE ZONE CENTRAL*, DETERMINED BY GPS OBSERVATIONS.
- FIELD WORK FOR THIS PROJECT WAS PERFORMED ON XX/XX/XX.

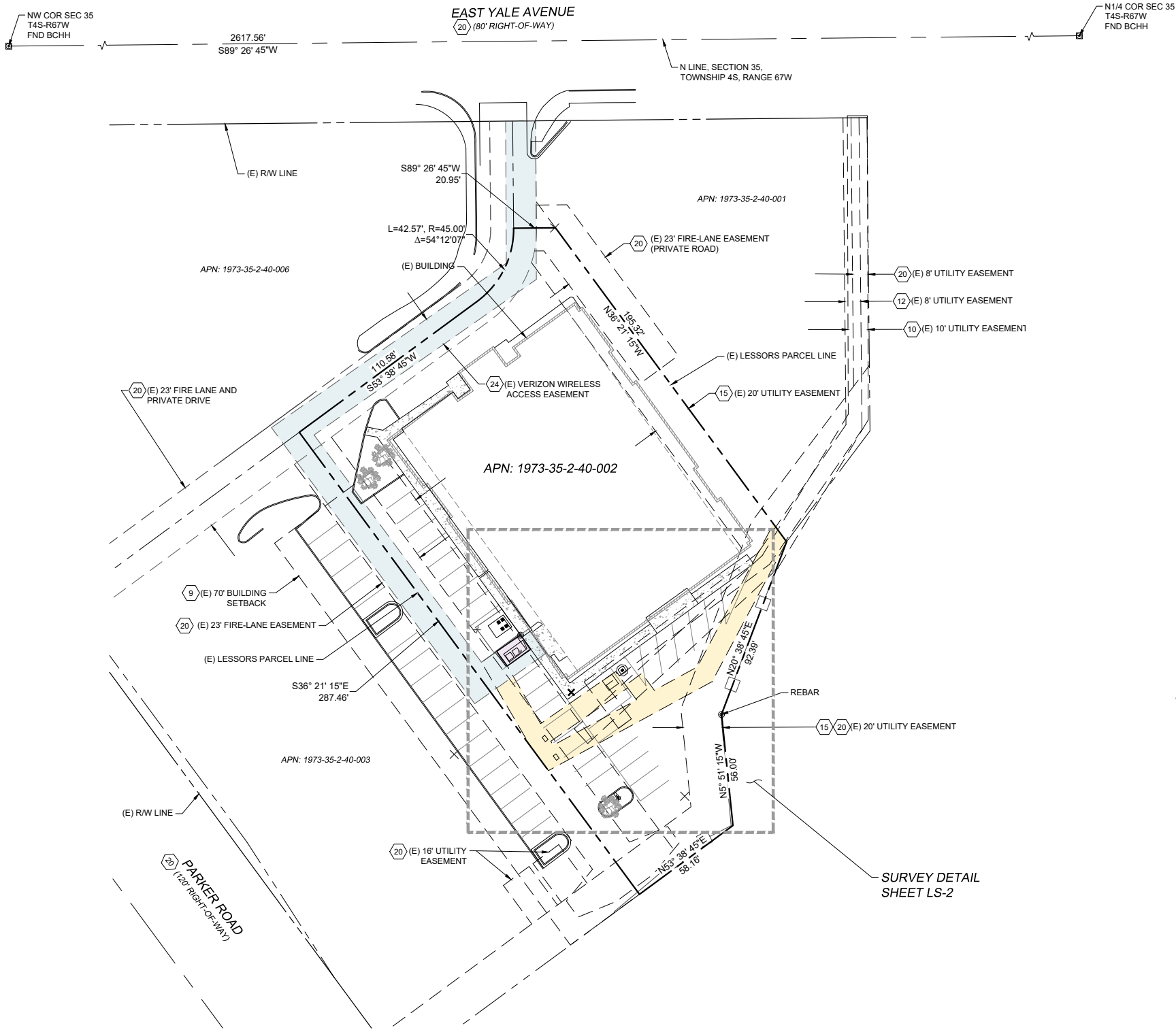
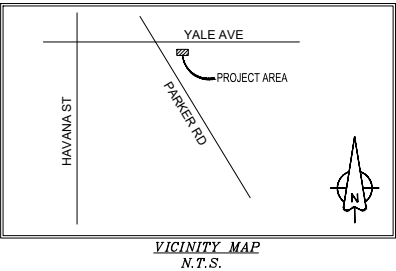
FLOOD ZONE DESIGNATION

THE PROPOSED LEASE PREMISES SHOWN HEREON APPEAR TO BE WITHIN FLOOD ZONE "X" AS DELINEATED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FIRM MAP NO. 08005C0186K DATED 12/17/2010.

FLOOD ZONE "X" IS DEFINED AS: AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN; DETERMINED TO BE OUTSIDE THE 1% AND 0.2% ANNUAL CHANCE FLOODPLAINS.

LESSOR'S LEGAL DESCRIPTION (APN:1973-35-2-40-002)

LOT 2, BLOCK 1, INTERNATIONAL CENTER SUBDIVISION FILING NO. 1, COUNTY OF ARAPAHOE, STATE OF COLORADO.



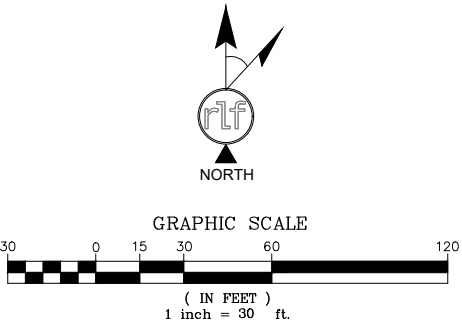
SCHEDULE B EXCEPTIONS (COMMITMENT NO. 5509-3111563)

- TERMS, CONDITIONS AND PROVISIONS OF DECLARATION OF EASEMENTS RECORDED APRIL 4, 1974 IN BOOK 2225 AT PAGE 328.
- UTILITY EASEMENT AS GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO IN INSTRUMENT RECORDED SEPTEMBER 13, 1974, IN BOOK 2274 AT PAGE 659.
- UTILITY EASEMENT AS GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO IN INSTRUMENT RECORDED AUGUST 2, 1974, IN BOOK 2263 AT PAGE 36.
- EASEMENTS, CONDITIONS, RESTRICTIONS, AND RESERVATIONS ON THE RECORDED PLAT OF THE SHORES-FILING NO. 6 RECORDED JULY 5, 1973 IN MAP BOOK 24 PAGE 85.
- EASEMENTS, CONDITIONS, COVENANTS, RESTRICTIONS, RESERVATIONS AND NOTES ON THE PLAT OF INTERNATIONAL CENTER SUBDIVISION FILING NO. 1 RECORDED APRIL 5, 1995 UNDER RECEPTION NO. 32335.
- TERMS, AGREEMENTS, PROVISIONS, CONDITIONS, OBLIGATIONS, EASEMENTS, AND RESTRICTIONS, IF ANY, AS CONTAINED IN MEMORANDUM OF LAND LEASE AGREEMENT RECORDED MAY 29, 2019 AT RECEPTION NO. D9049955 AND FIRST AMENDMENT TO LAND LEASE AGREEMENT RECORDED MAY 18, 2021 AT RECEPTION NO. E1080614 AND SECOND AMENDMENT TO LAND LEASE AGREEMENT RECORDED MAY 31, 2022 AT RECEPTION NO. E2059494.

ITEMS 1-8, 10-14, 16-19 AND 21-23, AND 25-30 OF THE CLIENT PROVIDED TITLE REPORT DO NOT CONTAIN GRAPHICALLY PLOTTABLE EASEMENTS, SETBACKS, RESTRICTIONS OR OTHER ENCUMBRANCES, AND/OR BLANKET IN NATURE OR DO NOT AFFECT SUBJECT SITE. THE SURVEYOR CANNOT GUARANTEE THAT NON-PLOTTABLE ENCUMBRANCES DO NOT EXIST THAT MAY AFFECT THE SUBJECT LEASED PREMISES.

LEGEND

- BRASS CAP IN HANDHOLE (BCHH)
- ELECTRIC METER
- ELECTRIC SWITCH
- ELECTRIC CABINET
- FIBER VAULT
- TELEPHONE PULL BOX
- LIGHT POST
- ANTENNA
- GAS METER
- WATER VALVE
- SANITARY SEWER MANHOLE
- DECIDUOUS TREE
- BOLLARD/POST
- POSITION OF GEODETIC COORDINATES
- PROPERTY LINE
- PROPERTY LINE (OTHER)
- RIGHT-OF-WAY LINE
- SECTION LINE
- EASEMENT LINE
- IRON FENCE
- WIRE FENCE
- U/G ELECTRIC LINE
- U/G FIBER OPTIC LINE
- U/G GAS LINE
- WATER LINE



verizon

8350 EAST CRECENT PARKWAY ST, 200  
GREENWOOD VILLAGE, CO 80111



FIELD BY:	DLS/PAC
DRAWN BY:	GAC
CHECKED BY:	RLF

REVISIONS

NO.	DATE	DESCRIPTION
0	06/04/24	TITLE REVIEW



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PROJECT No.  
**2400431**  
SITE NAME:  
DEN KENTON

SITE ADDRESS:  
11000 E YALE AVE  
AURORA, CO 80014

SHEET TITLE:  
**BOUNDARY DETAIL**

SHEET NO. <b>LS-1</b>	REVISION:
--------------------------	-----------

VERIZON WIRELESS ACCESS EASEMENT LEGAL DESCRIPTION  
A PORTION OF LOTS 1 THRU 4, BLOCK 1, INTERNATIONAL CENTER SUBDIVISION  
FILING NO. 1, COUNTY OF ARAPAHOE, STATE OF COLORADO DESCRIBED AS  
FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 3; THENCE NORTH 89°26'45"  
EAST ALONG THE NORTH LINE OF LOT 3, 11.51 FEET; THENCE SOUTH 00°16'31" EAST,  
79.45 FEET; THENCE SOUTH 55°00'00" WEST, 135.91 FEET; THENCE SOUTH 36°21'11"  
EAST, 141.43 FEET; THENCE NORTH 54°41'53" EAST, 9.39 FEET; THENCE SOUTH  
35°54'53" EAST, 9.00 FEET; THENCE NORTH 54°41'44" EAST, 14.50 FEET; THENCE  
NORTH 35°55'41" WEST, 9.00 FEET; THENCE NORTH 54°41'33" EAST, 4.92 FEET;  
THENCE SOUTH 36°03'04" EAST, 15.00 FEET; THENCE SOUTH 54°41'53" WEST, 43.73  
FEET; THENCE NORTH 36°21'11" WEST, 171.75 FEET; THENCE NORTH 55°00'00" EAST,  
143.60 FEET; THENCE NORTH 00°16'31" WEST, 71.22 FEET; THENCE NORTH 89°26'45"  
EAST, 3.49 FEET TO THE POINT OF BEGINNING.

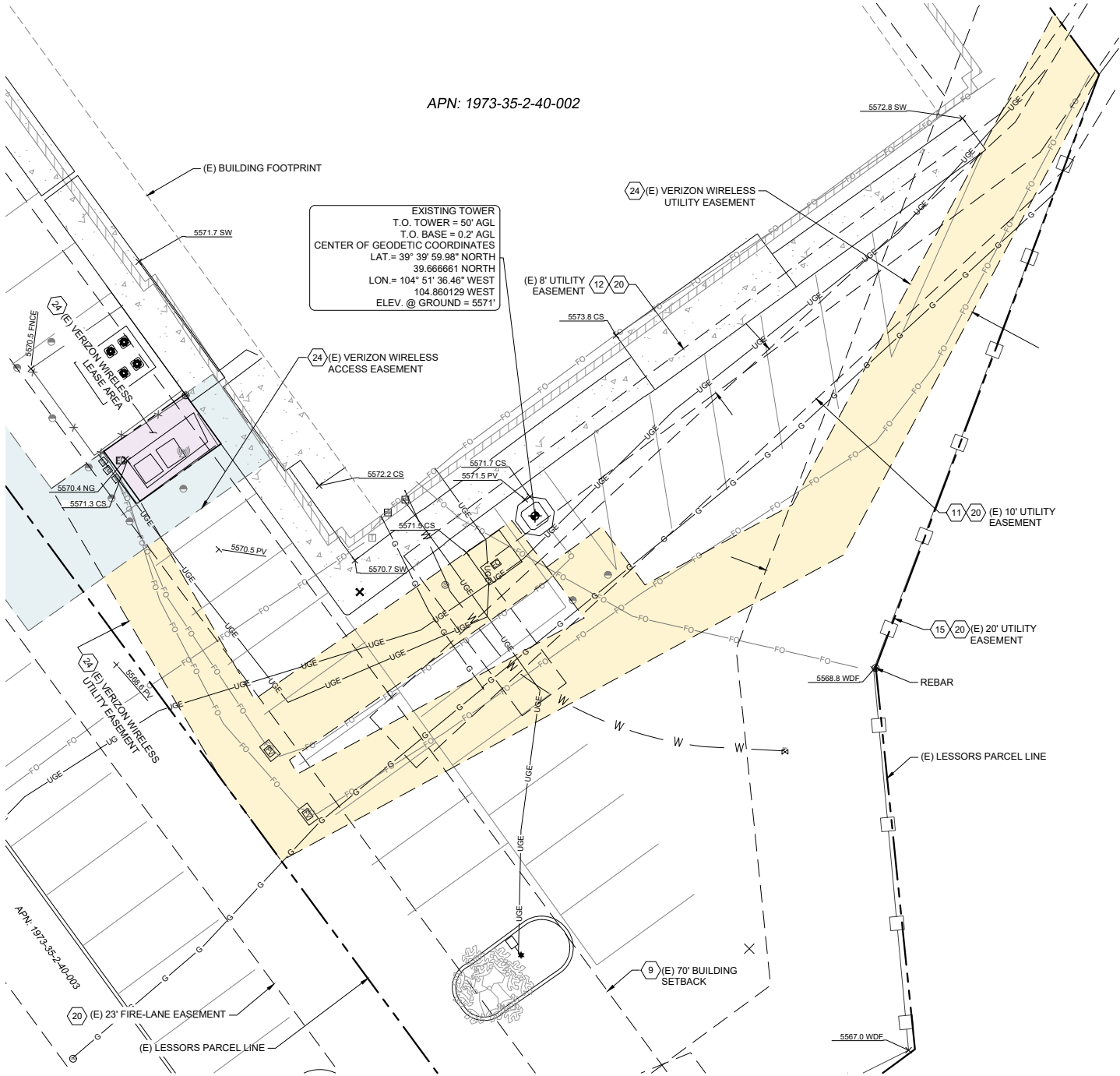
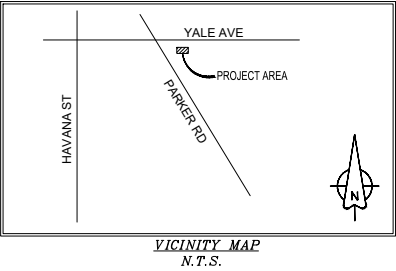
VERIZON WIRELESS LEASE AREA LEGAL DESCRIPTION  
A PORTION OF LOT 2, BLOCK 1, INTERNATIONAL CENTER SUBDIVISION FILING NO. 1,  
COUNTY OF ARAPAHOE, STATE OF COLORADO DESCRIBED AS FOLLOWS:  
A PORTION OF LOTS 1 THRU 4, BLOCK 1, INTERNATIONAL CENTER SUBDIVISION  
FILING NO. 1, COUNTY OF ARAPAHOE, STATE OF COLORADO DESCRIBED AS  
FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID LOT 3; THENCE NORTH  
89°26'45" EAST ALONG THE NORTH LINE OF LOT 3, 11.51 FEET; THENCE SOUTH  
00°16'31" EAST, 79.45 FEET; THENCE SOUTH 55°00'00" WEST, 135.91 FEET; THENCE  
SOUTH 36°21'11" EAST, 141.43 FEET; THENCE NORTH 54°41'53" EAST, 9.39 FEET TO  
THE POINT OF BEGINNING;

THENCE SOUTH 35°54'53" EAST, 9.00 FEET; THENCE NORTH 54°41'44" EAST, 14.50  
FEET; THENCE NORTH 35°55'41" WEST, 9.00 FEET; THENCE SOUTH 54°41'53" WEST,  
14.50 FEET TO THE POINT OF BEGINNING.

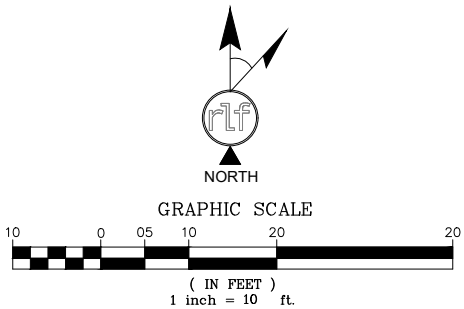
VERIZON WIRELESS UTILITY EASEMENT LEGAL DESCRIPTION  
A PORTION OF LOT 2, BLOCK 1, INTERNATIONAL CENTER SUBDIVISION FILING NO. 1,  
COUNTY OF ARAPAHOE, STATE OF COLORADO DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 2 FROM WHICH AN ANGLE  
POINT IN THE EASTERLY LINE OF SAID LOT 2 BEARS SOUTH 20°38'45" WEST, 92.39  
FEET; THENCE SOUTH 28°02'42" WEST, 79.42 FEET; THENCE SOUTH 61°27'19" WEST,  
93.31 FEET TO THE SOUTHWESTERLY LINE OF SAID LOT 2; THENCE ALONG SAID  
SOUTHWESTERLY LINE, NORTH 36°21'15" WEST, 15.27 FEET; THENCE DEPARTING  
SAID SOUTHWESTERLY LINE, NORTH 30°14'57" WEST, 48.62 FEET; THENCE NORTH  
54°41'53" EAST, 9.39 FEET; THENCE SOUTH 35°54'53" EAST, 9.00 FEET;  
THENCE SOUTH 30°00'11" EAST, 33.37 FEET; THENCE NORTH 55°13'07" EAST, 45.74  
FEET; THENCE SOUTH 36°33'15" EAST, 10.17 FEET; THENCE SOUTH 55°13'07" WEST,  
46.91 FEET; THENCE SOUTH 30°00'11" EAST, 2.36 FEET; THENCE NORTH 61°27'19"  
EAST, 47.62 FEET; THENCE NORTH 36°33'15" WEST, 9.20 FEET; THENCE NORTH  
53°38'06" EAST, 10.00 FEET; THENCE SOUTH 36°33'15" EAST, 10.58 FEET; THENCE  
61°27'19" EAST, 24.47 FEET; THENCE NORTH 28°02'42" EAST, 81.21 FEET; THENCE  
SOUTH 36°21'15" EAST, 11.09 FEET TO THE POINT OF BEGINNING;



LEGEND

- BRASS CAP IN HANDHOLE (BCHH)
- ELECTRIC METER
- ELECTRIC SWITCH
- ELECTRIC CABINET
- FIBER VAULT
- TELEPHONE PULL BOX
- LIGHT POST
- ANTENNA
- GAS METER
- WATER VALVE
- SANITARY SEWER MANHOLE
- DECIDUOUS TREE
- BOLLARD/POST
- POSITION OF GEODETIC COORDINATES
- PROPERTY LINE
- PROPERTY LINE (OTHER)
- RIGHT-OF-WAY LINE
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- WIRE FENCE
- U/G ELECTRIC LINE
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- U/G GAS LINE
- WATER LINE



**verizon**  
8350 EAST CRECENT PARKWAY ST, 200  
GREENWOOD VILLAGE, CO 80111



FIELD BY:	DLS/PAC
DRAWN BY:	GAC
CHECKED BY:	RLF

REVISIONS

NO.	DATE	DESCRIPTION
0	06/04/24	TITLE REVIEW



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USED FOR ANY OTHER PROJECT WITHOUT WRITTEN  
AUTHORIZATION OF RLF CONSULTING, LLC.

PROJECT No.  
**2400431**  
SITE NAME:  
**DEN KENTON**

SITE ADDRESS:  
**11000 E YALE AVE  
AURORA, CO 80014**

SHEET TITLE:  
**AS-BUILT SURVEY**

SHEET NO.  
**LS-2**  
REVISION:



	RACK OVP @ CABINETS TO MAIN OVP @ ANTENNAS					MAIN OVP TO RRH CONNECTION				
	RACK OVP @ CABINETS	12x24 HYBRID CABLE		MAIN OVP @ ANTENNAS		HYBRID FEEDER CABLE	AWS/PCS RRH	700/850 RRH	LS6	
SECTOR	QTY.	LENGTH	QTY.	TOTAL WEIGHT	QTY.	LENGTH	QTY.	QTY.	QTY.	QTY.
'ALPHA'	(1) (E) 12 POS.	N/A	(1) (E) 12X24	N/A	(1) (E) 12 POS.	14'-0"	(3)	(E)	(E)	(1)
'BETA'						14'-0"	(3)	(E)	(E)	(1)
'GAMMA'						14'-0"	(3)	(E)	(E)	(1)
<div>NOTE:</div> <div>1. REFER TO A2.00 FOR NEW ANTENNA CONFIGURATION.</div> <div>2. USE LOW PIM HARDWARE WITHIN 10'-0" OF LS6 ANTENNAS.</div> <div>3. G.C. TO VERIFY ANTENNA &amp; EQUIPMENT PART NUMBERS THROUGH VERIZON WIRELESS PROVIDED RFDS.</div>										

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW   ETO   2nd REVIEW   SGP



5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
OFFICE: 303.932.9974

**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

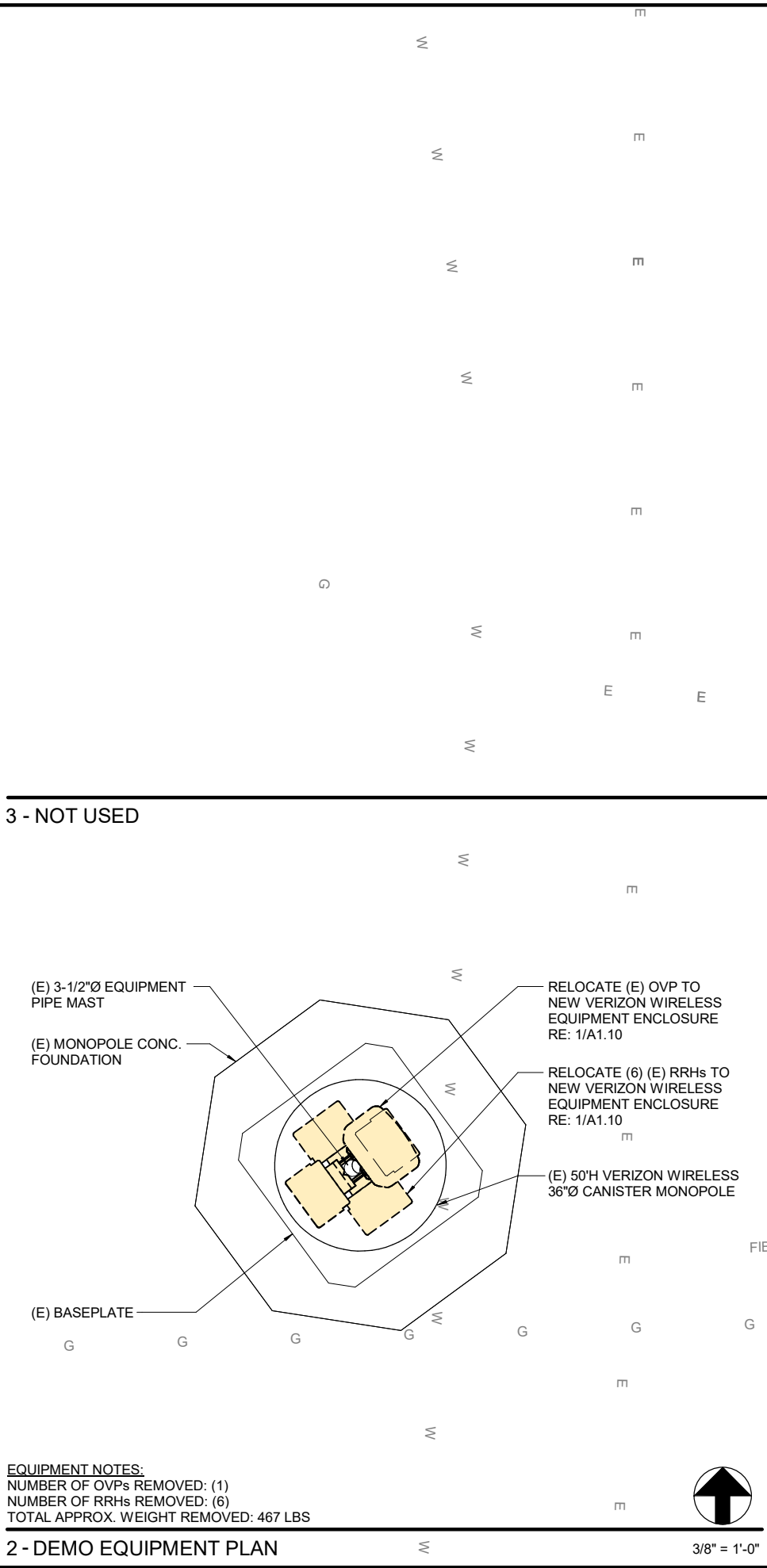
## SITE PLAN & HYBRID CABLE DIAGRAM

# A1.00



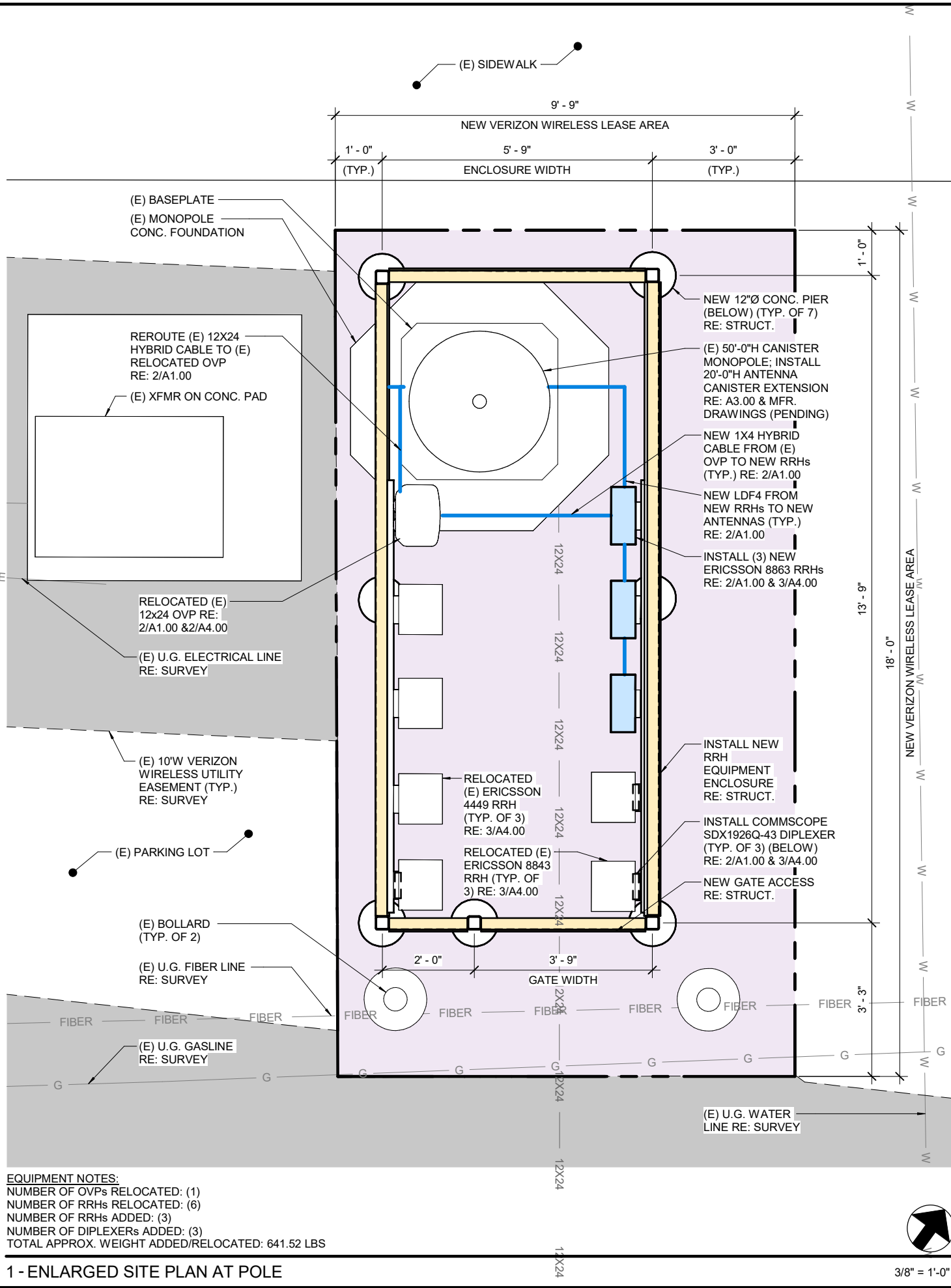
1" = 50'-0"

BBU/RRH  
HYBRID & COAX CABLES  
MW/FIBER EQ.  
FIBER  
OVP/IELEC. EQ.  
POWER/GROUNDING  
ACCESS/UTILITY EASEMENT  
GEN. CONST./UTILITY EASEMENT  
LEASE AREA  
EXISTING EASEMENT  
ANTENNAS  
PENETRATIONS



EQUIPMENT NOTES:  
NUMBER OF OVPs REMOVED: (1)  
NUMBER OF RRHs REMOVED: (6)  
TOTAL APPROX. WEIGHT REMOVED: 467 LBS

2 - DEMO EQUIPMENT PLAN



EQUIPMENT NOTES:  
NUMBER OF OVPs RELOCATED: (1)  
NUMBER OF RRHs RELOCATED: (6)  
NUMBER OF RRHs ADDED: (3)  
NUMBER OF DIPLEXERS ADDED: (3)  
TOTAL APPROX. WEIGHT ADDED/RELOCATED: 641.52 LBS

1 - ENLARGED SITE PLAN AT POLE

**verizon**

VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

**DEN KENTON - B**

SITE I.D.

**616125875**

11000 E. YALE AVE  
AURORA, CO 80014

CONSULTANT

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



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LITTLETON, COLORADO 80127  
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**PRELIMINARY  
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CONSTRUCTION**

ENLARGED SITE PLAN

**A1.10**



VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

**DEN KENTON - B**

SITE I.D.

**616125875**

11000 E. YALE AVE.  
AURORA, CO 80014

CONSULTANT

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C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



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LITTLETON, COLORADO 80127  
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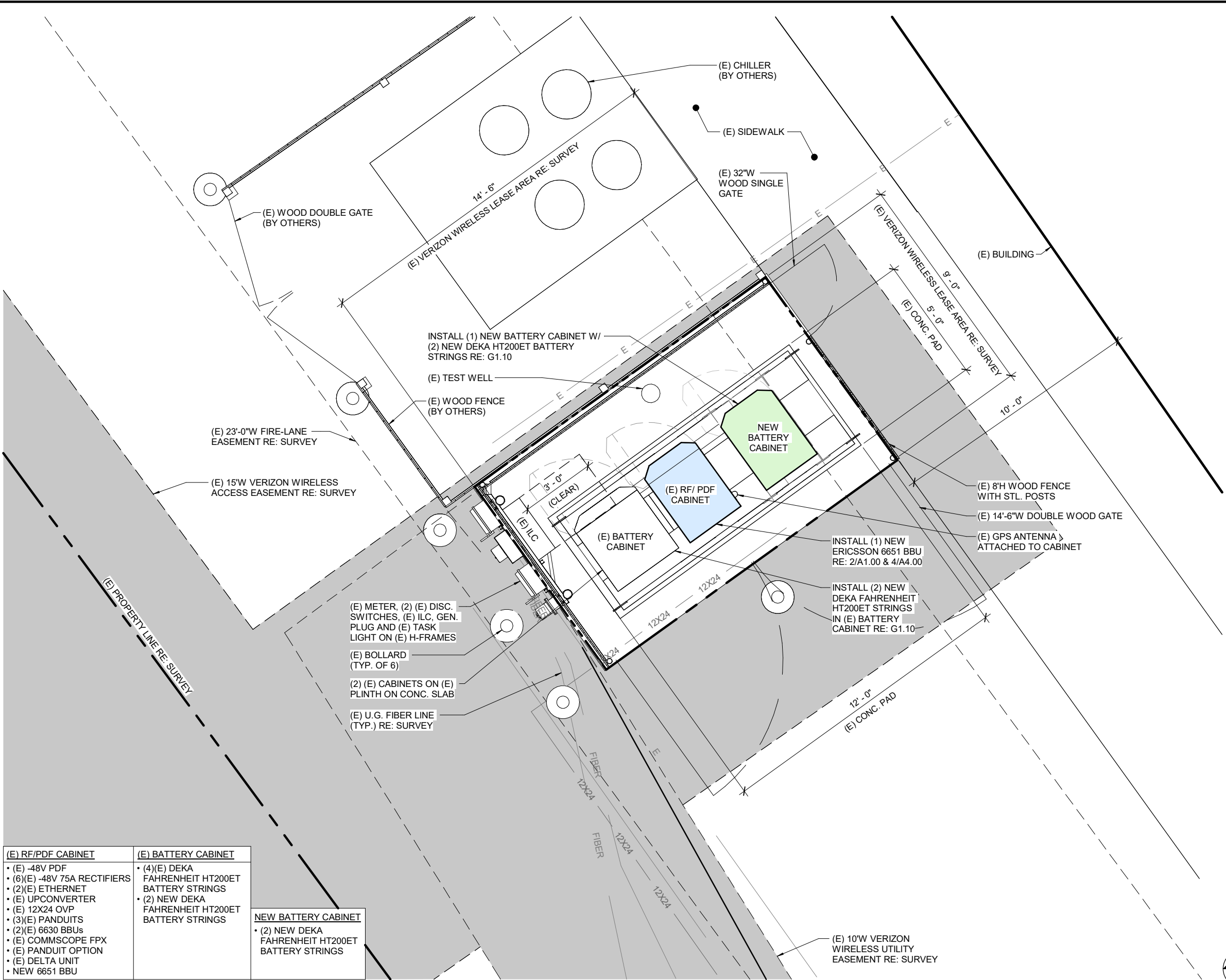
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

ENLARGED EQUIPMENT  
AREA PLAN

**A1.20**



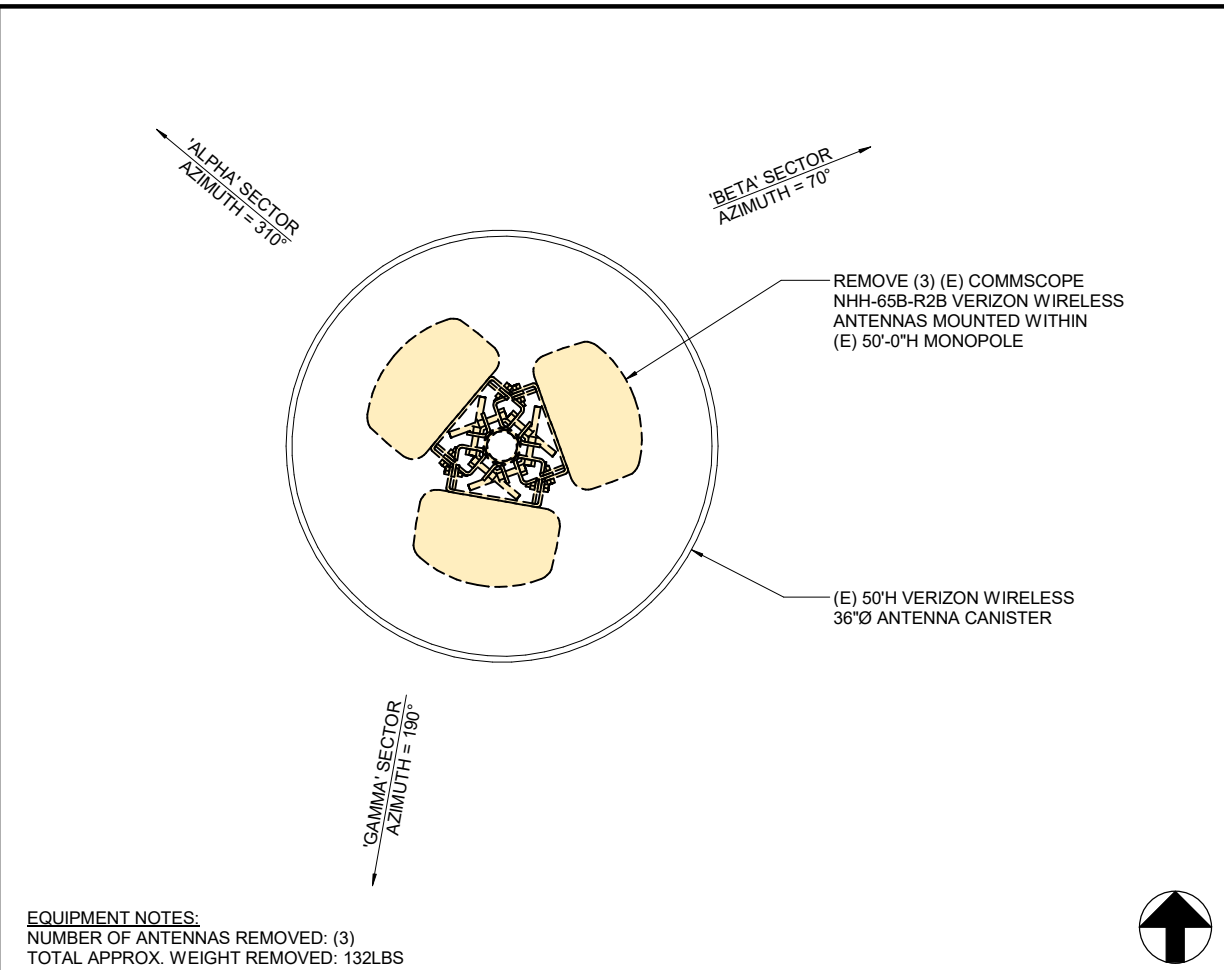
1/4" = 1'-0"



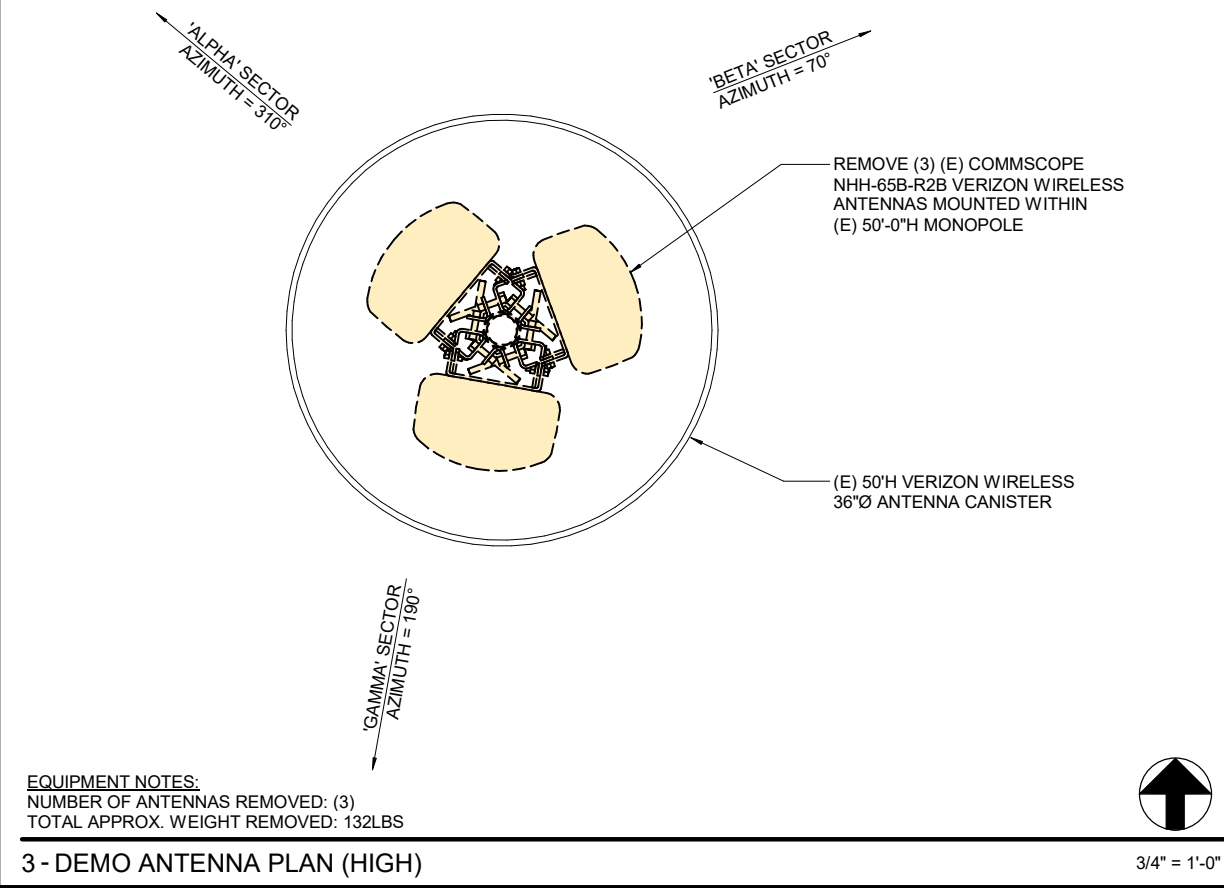
(E) RF/PDF CABINET	(E) BATTERY CABINET
<ul style="list-style-type: none"><li>• (E) -48V PDF</li><li>• (6)(E) -48V 75A RECTIFIERS</li><li>• (2)(E) ETHERNET</li><li>• (E) UPCONVERTER</li><li>• (E) 12X24 OVP</li><li>• (3)(E) PANDUITS</li><li>• (2)(E) 6630 BBUs</li><li>• (E) COMMSCOPE FPX</li><li>• (E) PANDUIT OPTION</li><li>• (E) DELTA UNIT</li><li>• NEW 6651 BBU</li></ul>	<ul style="list-style-type: none"><li>• (4)(E) DEKA FAHRENHEIT HT200ET BATTERY STRINGS</li><li>• (2) NEW DEKA FAHRENHEIT HT200ET BATTERY STRINGS</li></ul>

NEW BATTERY CABINET
<ul style="list-style-type: none"><li>• (2) NEW DEKA FAHRENHEIT HT200ET BATTERY STRINGS</li></ul>

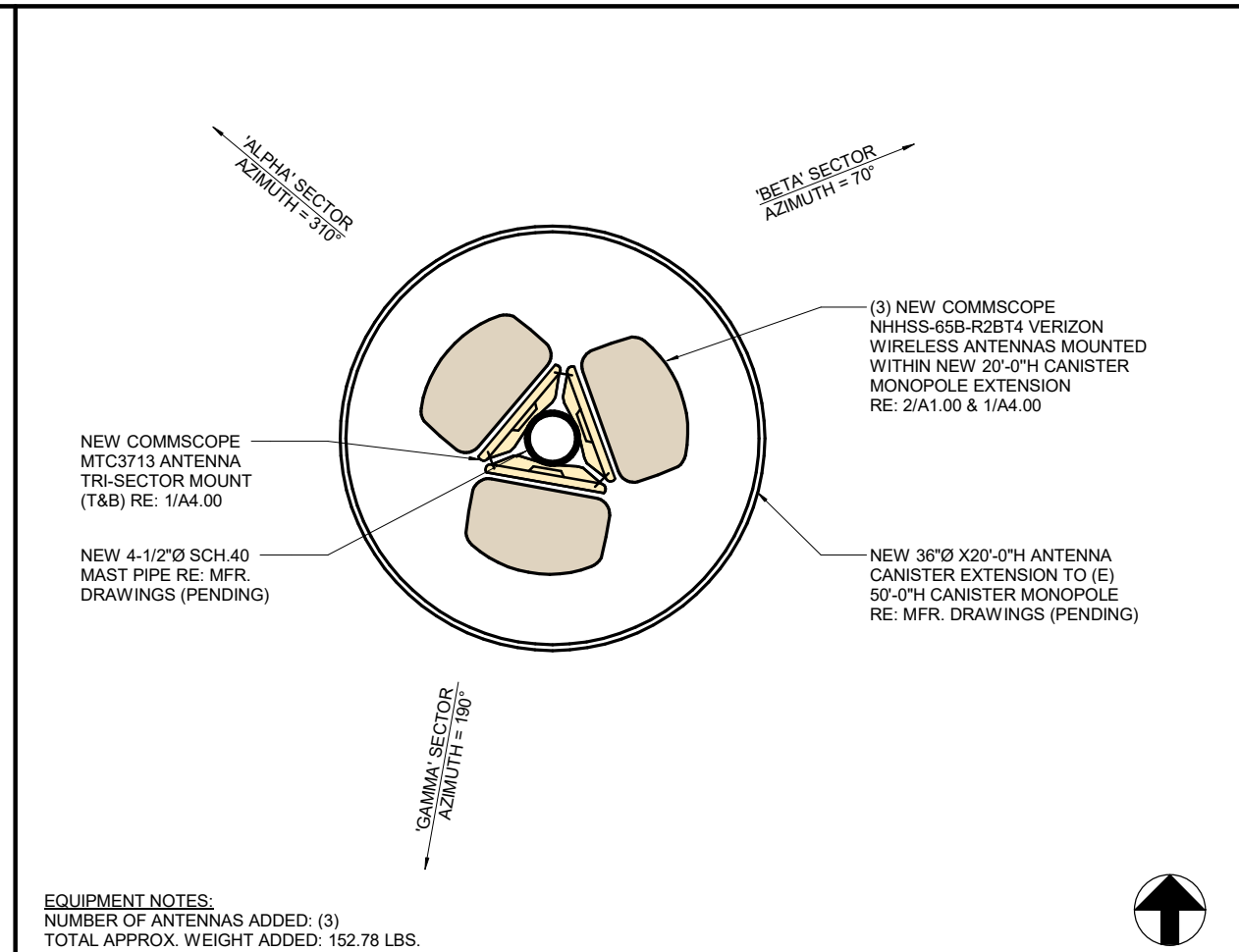
1 - ENLARGED EQUIPMENT PLAN



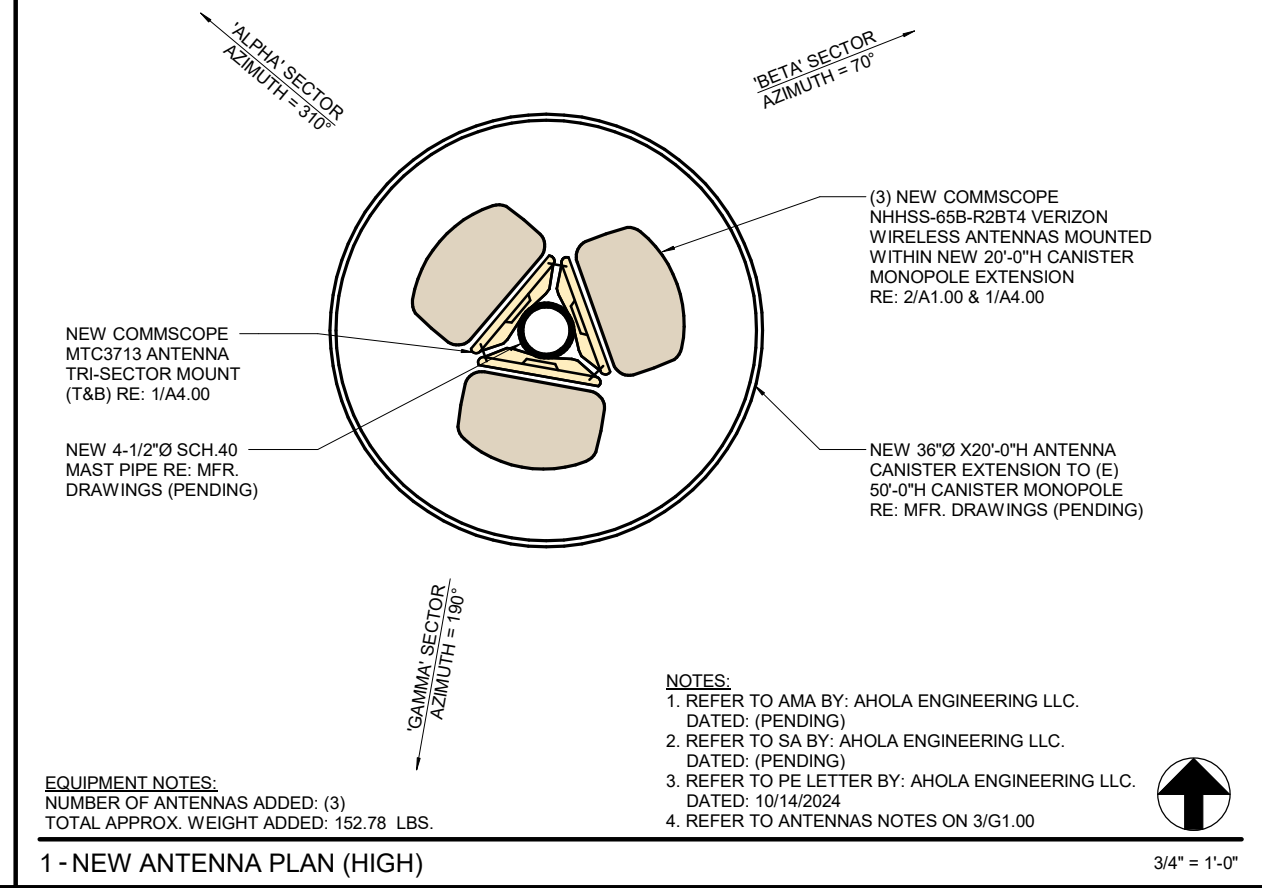
4 - DEMO ANTENNA PLAN (LOW)



3 - DEMO ANTENNA PLAN (HIGH)



2 - NEW ANTENNA PLAN (LOW)



1 - NEW ANTENNA PLAN (HIGH)

- NOTES:
1. REFER TO AMA BY: AHOLA ENGINEERING LLC. DATED: (PENDING)
  2. REFER TO SA BY: AHOLA ENGINEERING LLC. DATED: (PENDING)
  3. REFER TO PE LETTER BY: AHOLA ENGINEERING LLC. DATED: 10/14/2024
  4. REFER TO ANTENNAS NOTES ON 3/G1.00

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
OFFICE: 303.932.9974

**PRELIMINARY  
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ANTENNA PLANS &  
NOTES

A2.00



VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

DEN KENTON - B

SITE I.D.

616125875

11000 E. YALE AVE  
AURORA, CO 80014

CONSULTANT

A	06/07/24	CD REVIEW	EDH
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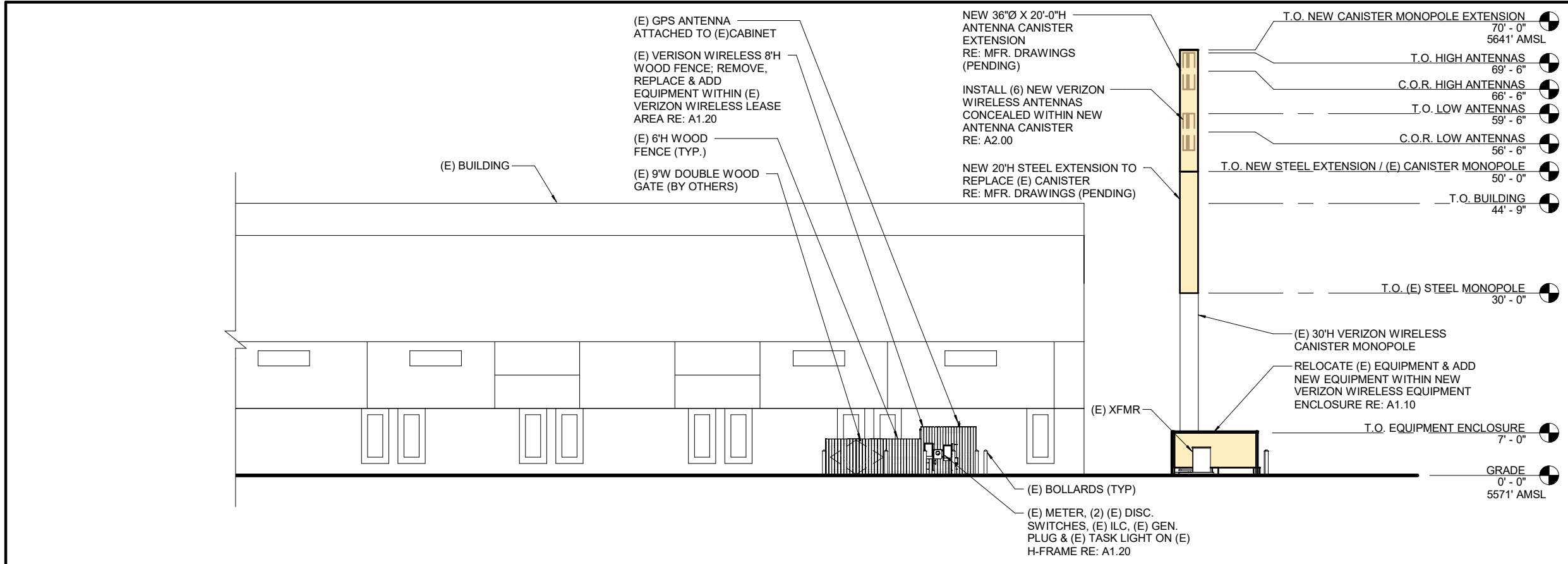


5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
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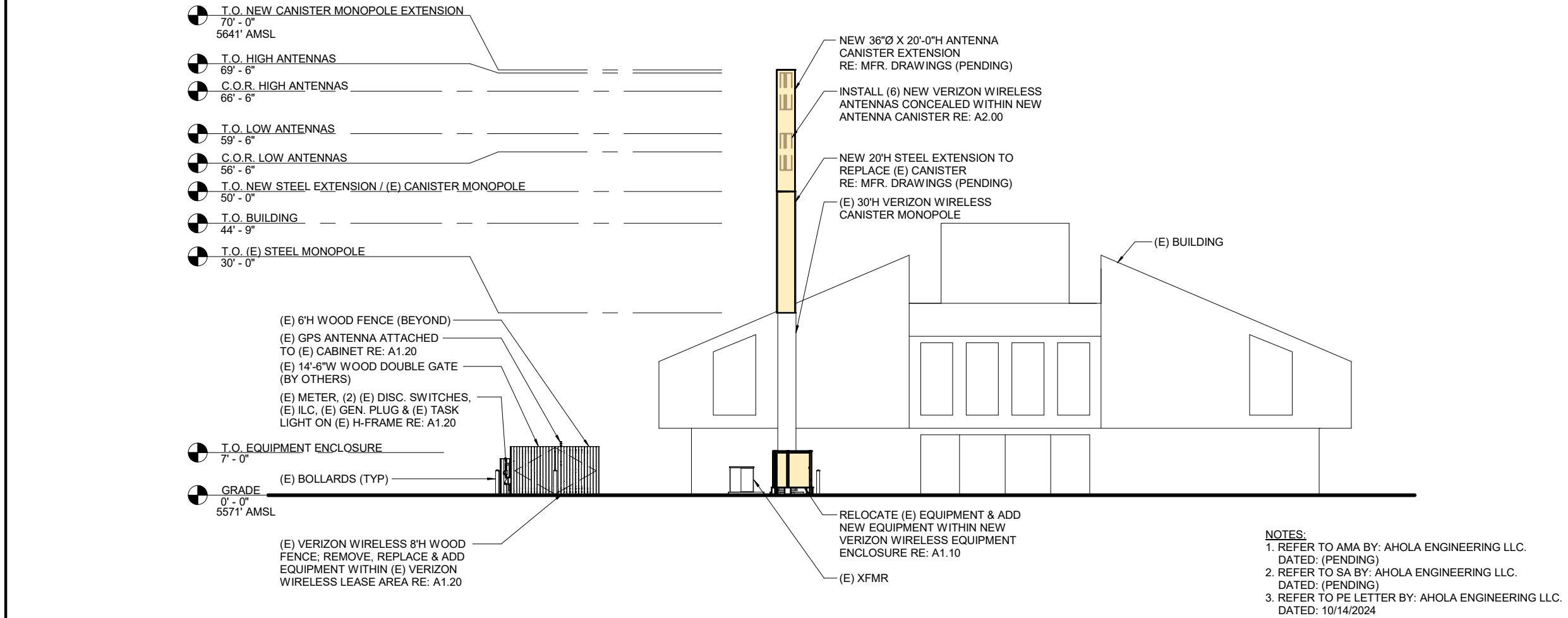
ELEVATIONS

A3.00



2 - SOUTHWEST ELEVATION

1" = 20'-0"



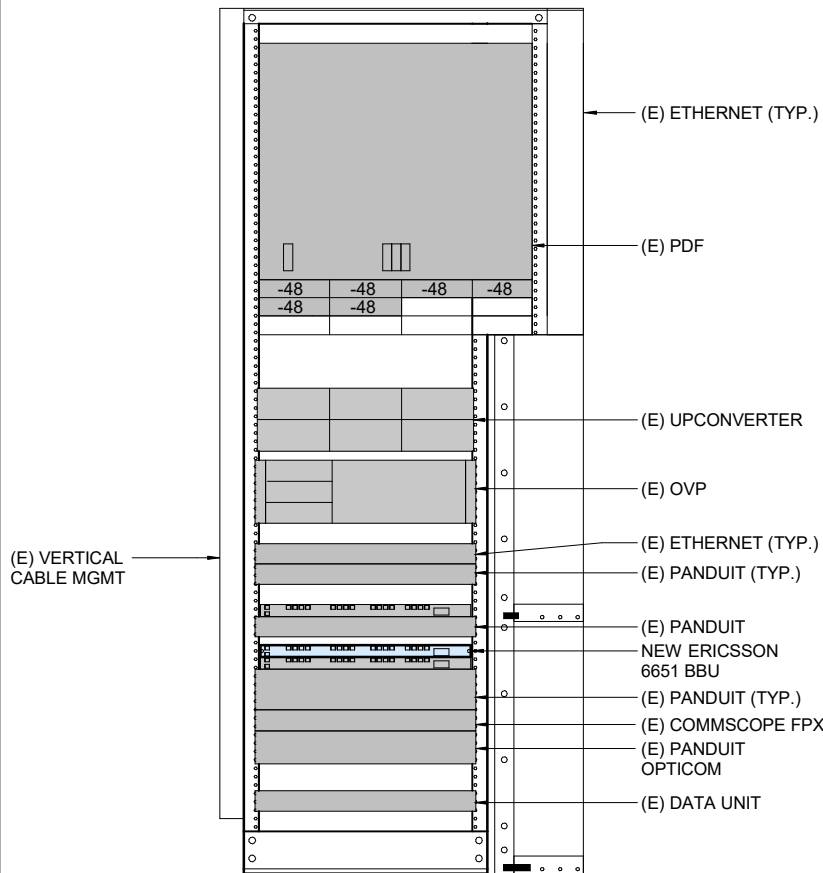
1 - SOUTHEAST ELEVATION

1" = 20'-0"

- PENETRATIONS
- ANTENNAS
- LEASE AREA
- EXISTING EASEMENT
- ACCESS/UTILITY EASEMENT
- GEN. CONST. UTILITY EASEMENT
- OV/IELEC. EQ.
- POWER/GROUNDING
- MW/FIBER EQ.
- FIBER
- BBU/RRH
- HYBRID & COAX CABLES

LEASE AREA  
ACCESS/UTILITY EASEMENT  
GEN. CONST./UTILITY EASEMENT  
OVP/ELEC. EQ.  
POWER/GROUNDING  
MW/FIBER EQ.  
FIBER  
BBU/RRH  
HYBRID & COAX CABLES  
PENETRATIONS  
ANTENNAS  
EXISTING EASEMENT

5 - NOT USED



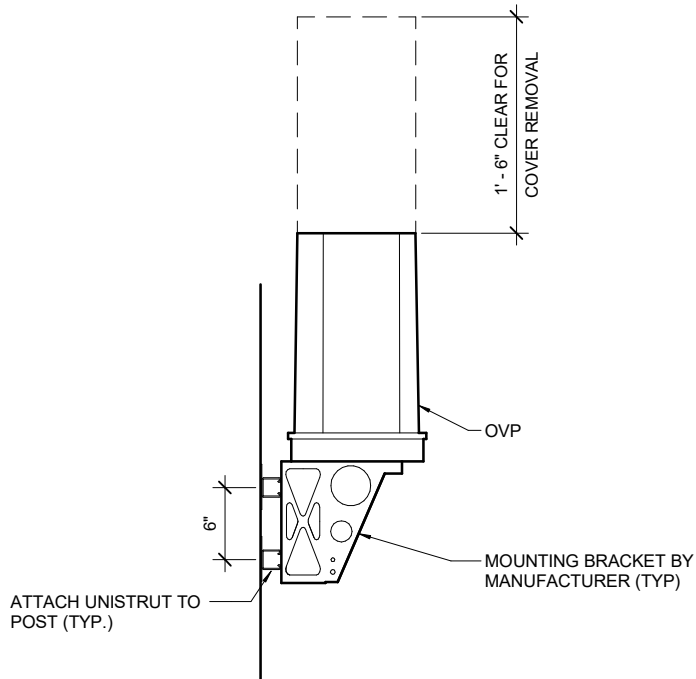
4 - RACK ELEVATION

3/4" = 1'-0"

- NOTE:**
1. MINIMUM CLEARANCE REQUIRED PER MANUFACTURER; MOUNTING LOCATIONS WILL VARY PER SITE RE: PLAN
  2. GROUND PER VERIZON WIRELESS SPECS.

3 - RRH MOUNTING DETAIL

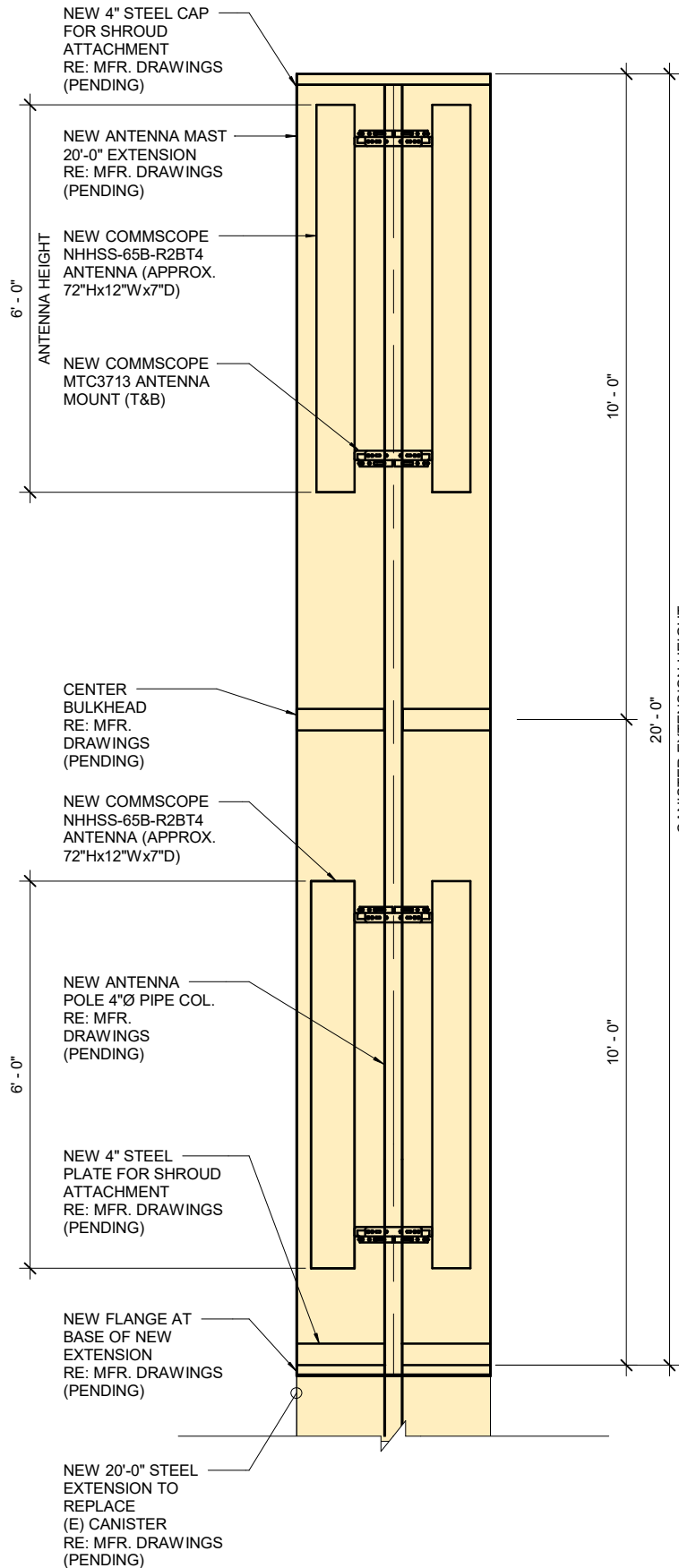
1/2" = 1'-0"



- NOTES:**
1. GROUND OVP PER VERIZON WIRELESS SPECIFICATIONS RE: GROUNDING SCHEMATIC
  2. MOUNT ABOVE RRHs IN SLICK POLE TO ALINE COVER REMOVAL

2 - OVP UNISTRUT MOUNTING DETAIL

3/4" = 1'-0"



**NOTE:**  
PRELIMINARY DETAIL, PENDING MFR. DRAWINGS

1 - ANTENNA MOUNTING DETAIL

3/8" = 1'-0"

**verizon**

VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

PROJECT INFORMATION

SITE NAME

**DEN KENTON - B**

SITE I.D.

**616125875**

11000 E. YALE AVE  
AURORA, CO 80014

CONSULTANT

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW ETO 2nd REVIEW SGP



5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
OFFICE: 303.932.9974

**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

DETAILS

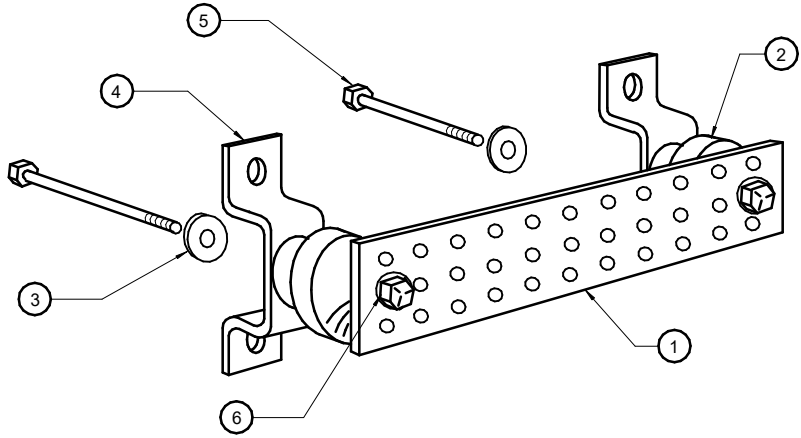
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GROUNDING NOTES

- REFER TO VERIZON WIRELESS GROUNDING SPECIFICATIONS FOR ALL GROUNDING REQUIREMENTS.
- BOND AND GROUND ANY PROPOSED STRUCTURAL STEEL, CONCRETE REINFORCING AND OTHER METALLIC BUILDING ELEMENTS, REFER TO VERIZON WIRELESS SPECIFICATIONS FOR EXACT REQUIREMENTS.
- THE ELECTRICAL CONTRACTOR SHALL PERFORM ALL BONDING AND GROUNDING TO THE SITE'S OUTER GROUNDING SYSTEM DURING THE CONSTRUCTION PHASE OF THE BUILDING.
- CONTRACTOR IS TO CONDUCT FREQUENT INSPECTIONS DURING THE CONSTRUCTION PHASE TO ENSURE THAT ALL GROUNDING ARRANGEMENTS ARE MADE ACCORDING TO THE GROUNDING DESIGN SPECIFICATIONS.
- DO NOT RETROFIT (OR UPGRADE) ESTABLISHED SITES THAT DO NOT MEET ALL THE REQUIREMENTS OF VERIZON WIRELESS GROUNDING STANDARD UNLESS THERE ARE DOCUMENTED OCCURRENCES OF EQUIPMENT DAMAGES AND/OR SERVICE AFFECTING CONDITIONS.
- USE ONLY VERIZON WIRELESS-APPROVED MATERIALS SUCH AS COPPER FOR MOST ELECTRICAL WORK AND ALUMINUM FOR CERTAIN APPLICATIONS FOR SITE GROUNDING SYSTEM, ELECTRICAL PROTECTION COMPONENTS AND AC WIRING.
- USE THE SAME METAL THROUGHOUT THE GROUND SYSTEM WHEN POSSIBLE.
- IF DIFFERENT METALS MUST BE CONNECTED, BOND THEM BY EXOTHERMICALLY WELDING THEM TOGETHER.
- USE TINNED COPPER WHEN CONNECTING TO GALVANIZED STEEL.
- DO NOT BOND COPPER AND ALUMINUM TOGETHER UNLESS USING SPECIFICALLY DESIGNED EXOTHERMIC MATERIALS DESIGNED FOR THIS APPLICATION ARE USED OR A BIMETALLIC TRANSITIONAL CONNECTION IS UTILIZED.
- MAKE ALL BONDING ATTACHMENTS TO CLEAN, UNPAINTED METAL SURFACES OR USE APPROVED PAINT PIERCING WASHERS.
- PAINTED SURFACES MUST BE SCRAPPED, CLEANED, AND LIGHTLY COATED WITH THE APPLICABLE COMPOUND.
- ALL INDOOR OR OUTDOOR POWER OR GROUNDING CONNECTIONS SHALL BE PROTECTED AGAINST CORROSION BY USE OF A THIN COATING OF ANTI-OXIDATION COMPOUND. A COPPER COSMOLINE GREASE BASED COMPOUND (NO OX-ID) SHALL BE USED ON ALL COPPER TO COPPER CONNECTIONS. A ZINC BASED (GREY COLORED) COMPOUND SHALL BE USED ON ALL COPPER TO STEEL CONNECTIONS. WHERE OTHER COMPOUNDS SUCH AS KOPPER-SHIELD ETC EXIST, THEY MAY BE 'GRANDFATHERED' IN PLACE. PENTROX GREASE OR AN APPROVED EQUAL SHALL BE USED ON ALUMINUM CONNECTIONS.
- DO NOT WELD GROUNDING CONDUCTORS TO THE STRUCTURAL MEMBERS OF TOWERS, INCLUDING DOWN GUYS AND ANCHOR RODS.
- BOND ALL METALLIC OBJECTS (SUCH AS WATER PIPES, CONDUITS, METAL FUEL TANKS WITHOUT CATHODIC PROTECTION, METAL FENCES, HVAC, ETC.) THAT ARE WITHIN 6 FEET (1.8 M) OF THE GROUND RING, OR FROM ANY OTHER GROUNDED CONDUCTOR, TO GROUND RING OR TO THE GROUNDED CONDUCTOR. HARDWARE
- ALL OUTDOOR HARDWARE (BOLTS, SCREWS, NUTS, WASHERS) SHALL BE 18-8 STAINLESS STEEL TYPE GRADE. INDOORS, GRADE 5 STEEL HARDWARE MAY BE USED. CHOOSE BOLT LENGTH TO ALLOW THE EXPOSURE OF AT LEAST TWO THREADS.
- WHEN BONDING TO A METALLIC OBJECT WHERE ACCESS IS LIMITED TO ONLY ONE SURFACE, USE DRILLING & TAPPING OR SELF DRILLING SCREWS. DO NOT USE SHEET METAL SCREWS.
- ALL GROUNDING CONDUCTORS SHOULD PRESERVE A DOWNWARD TO HORIZONTAL COURSE AND BE AS STRAIGHT AS POSSIBLE AND AVOID SHARP TURNS.
- DO NOT USE U-SHAPED GROUNDING CONDUCTOR RUNS (U-TURNS IN THE WIRING) OR BONDING LAYOUTS TO REDUCE ARC-OVERS
- ALL GROUNDING CONDUCTS MUST BE RUN IN NONMETALLIC CONDUIT. ROUTE ALL CONDUCTORS THROUGH NONMETALLIC SLEEVES WHEN PENETRATING FLOORS, CEILINGS, AND WALLS.
- IF THE USE OF METALLIC CONDUIT CANNOT BE AVOIDED, BOND BOTH ENDS OF THE CONDUIT TO THE GROUNDING CONDUCTOR BEING ROUTED THROUGH THE CONDUIT
- KEEP LENGTHS OF CONDUCTORS TO A MINIMUM
- USE MULTIPLE CONDUCTING PATHS. PARALLEL PATHS ARE ONLY DESIRABLE WHEN SENSITIVE ELECTRONIC EQUIPMENT IS NOT PART OF THE CONDUCTOR PATH
- KEEP BENDS IN CONDUCTORS TO A MINIMUM.
- THE MINIMUM INSIDE BENDING RADIUS IS:
  - 6 INCHES (0.15M) FOR CONDUCTORS UP TO #6 GAUGE.
  - 12 INCHES (0.3M) FOR CONDUCTORS #6 TO #4/0 GAUGE.
  - 24 INCHES (0.6M) FOR CONDUCTORS #4/0 GAUGE AND LARGER
- GROUND CONDUCTORS MUST NEVER BE ENCIRCLED WITH FERROUS METAL CLAMPS, PLACED THROUGH METAL WALLS, METAL PLATES, OR SHORT SECTIONS OF METAL CONDUIT, AND MUST NEVER BE PLACE IN THE SAME CABLE RACK AS DC POWER CABLES, HIGH FREQUENCY CABLES, ETC.
- WHEN ATTACHING PVC CONDUITS TO ANY SURFACE UTILIZE NONCONDUCTIVE FASTENERS OR NONFERROUS FASTENERS ONLY.
- IF CONNECTIONS BETWEEN ALUMINUM CONDUCTORS AND STEEL OBJECTS MUST BE MADE, TINNED LUGS AND PENTROX SHALL BE USED. WHERE THERE ARE CONCERNS THAT THE PENTROX MAY NOT PROVIDE ADEQUATE INTERFACING, THEN A BIMETAL SPLICE BETWEEN THE ALUMINUM CONDUCTOR AND A SHORT LENGTH OF COPPER CONDUCTOR MAY BE USED.
- ALL OF THE BONDING AND GROUNDING CONDUCTORS SPECIFIED FOR ROOFTOP CELL AND MICROWAVE SYSTEMS IS BARE WIRE. INSULATED WIRE SHALL NOT BE SPECIFIED OR SUBSTITUTED FOR THE BONDING AND GROUNDING CONDUCTORS OF ROOFTOP INSTALLATIONS.

4 - GROUNDING NOTES

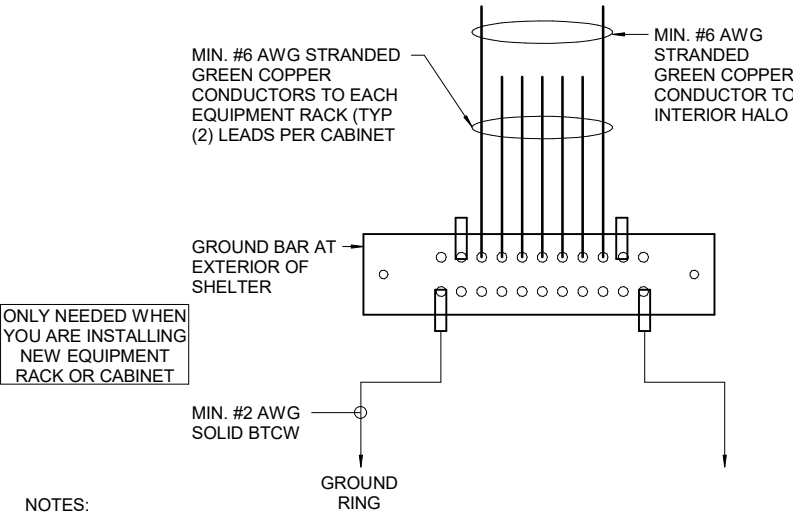
- KEY NOTES:
- COPPER GROUND BAR OR APPROVED EQUAL, 1/4" x 4" X 12".HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
  - SPACERS AS REQUIRED
  - 5/8" LOCKWASHERS
  - WALL MOUNTING BRACKET
  - 5/8" -11 H.H.C.S. BOLTS (VERIFY LENGTH)
  - USE TAMPER RESISTANT MOUNTING HARDWARE



NOTE:  
THE DISTANCE BETWEEN COAXIAL CABLE SHIELD CIGBE BARS SHALL NOT EXCEED 100'. THIS MAY REQUIRE BONDING AT THE TOP, BOTTOM AND TWO LOCATIONS IN THE MIDDLE OF THE TOWER FOR TALLER TOWERS. EACH RF CABLE SHIELD SHALL BE BONDED AT A MINIMUM OF TWO (2) POINTS ON THE TOWER (TOP AND BOTTOM).

3 - GROUND BAR DETAIL

N.T.S.

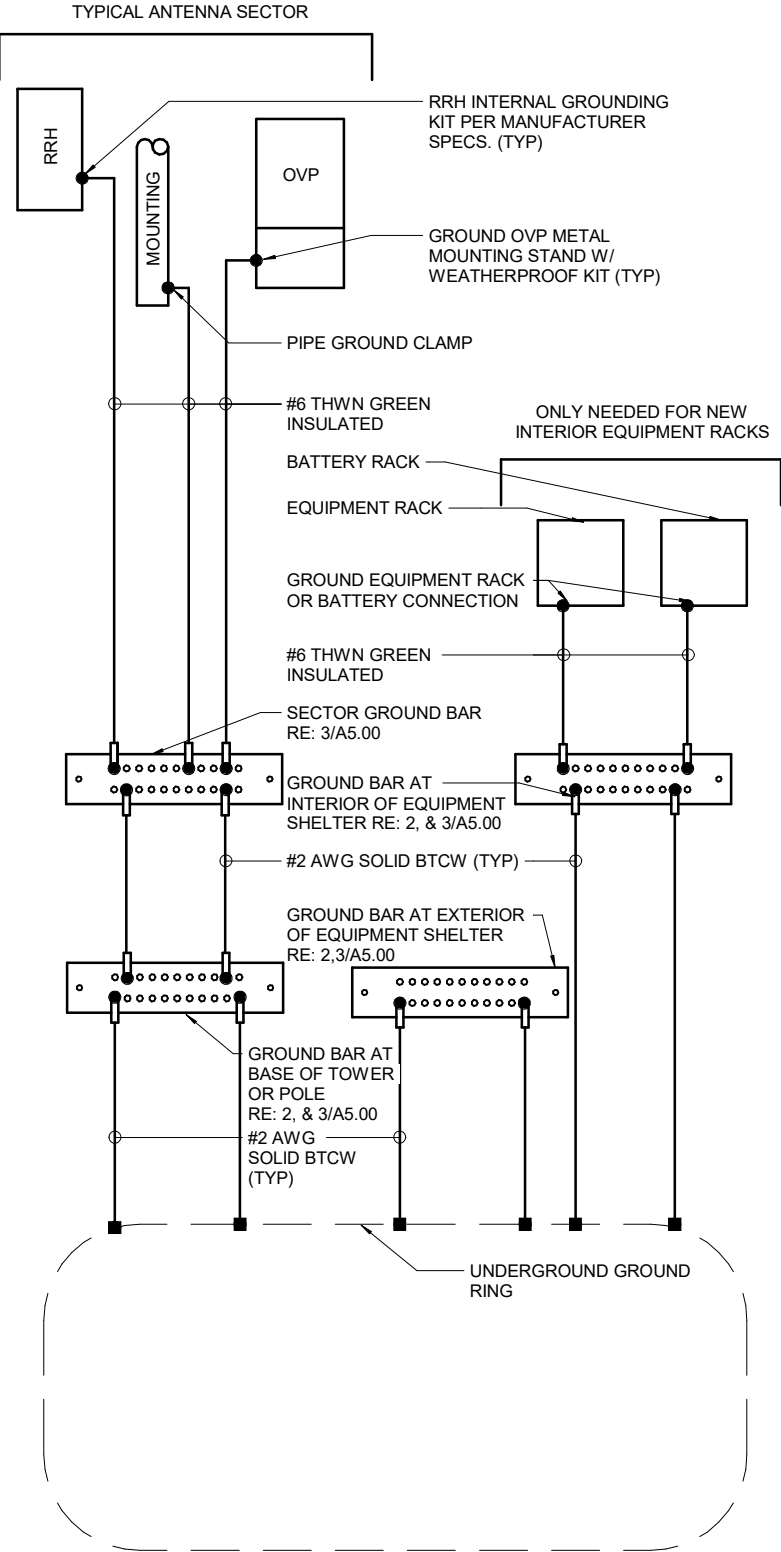


NOTES:

- VERIFY EXISTING INTERIOR GROUNDING IS SUFFICIENT FOR NEW EQUIPMENT INSTALLATION AND GROUND ALL NEW INSTALLED EQUIPMENT AS REQUIRED BY VERIZON WIRELESS STANDARDS
- CONNECT THE EQUIPMENT FRAMES TO THE MGB/FGB, USING A MINIMUM OF #6 AWG STRANDED COPPER, GREEN-INSULATED CONDUCTOR. TO ASSURE A GOOD CONNECTION AT THE FRAME, CLEAN THE CONNECTION POINT ON THE FRAME TO BARE METAL, APPLY AN ANTI-OXIDATION COMPOUND, AND CONNECT USING A TWO-HOLE, LONG-BARREL COMPRESSION LUG. SOME EXISTING SITES MAY BE USING SINGLE HOLE LUGS FOR THESE PURPOSES. THESE CONNECTIONS SHOULD NOT BE REPLACED "IF" THE RUNS ARE TO SHORT AND THERE IS NO LIKELIHOOD OF MECHANICAL STRESS ON THE CABLE THAT WOULD LOOSEN THESE CONNECTIONS.
- DC DISTRIBUTION PANELS, CHASSIS, BATTERY RACKS, FRAMES AND CHASSIS OF RECTIFIERS AND RECTIFIERS SHOULD BE BONDED DIRECTLY TO THE MGB/FGB. WHEN UTILIZING AN INTEGRATED DC/DC CONVERTER SYSTEM, THE 48-VOLT RETURN DISTRIBUTION BAR SHALL BE BONDED TO THE 24-VOLT RETURN DISTRIBUTION BAR WITH A MINIMUM CONDUCTOR SIZE OF A #2, STRANDED COPPER CONDUCTOR, IN A WIRELESS SHELTER WITH A DEDICATED 48-VOLT PLANT, THE 48-VOLT RETURN DISTRIBUTION BAR SHALL BE BONDED TO THE MGB. ALL BATTERY FRAMES SHALL BE BONDED TO THE MGB WITH A #6 GREEN THWN INSULATED CONDUCTOR. (ONLY APPLICABLE WHEN MODIFICATIONS ARE REQUIRED TO THE BATTERY OR POWER PLANT.)
- VERIFY (E) SYSTEM IS PER ATTACHED NOTES AND DETAILS AND IF NOT NOTIFY P.M. FOR REQUIRED UPGRADES.

2 - INTERIOR GROUNDING

N.T.S.



- COMPRESSION TYPE CONNECTION
- EXOTHERMIC WELD

NOTE:  
GROUNDING SCHEMATIC IS DIAGRAMMATIC AND DOES NOT REFLECT ACTUAL EQUIPMENT LAYOUT ORIENTATION. REFER TO PLANS FOR DIRECTION.

1 - GROUNDING SCHEMATIC

N.T.S.

**verizon**

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CSA

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**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

GROUNDING  
SCHEMATIC

A5.00


BBU/RRH  
HYBRID & COAX CABLES  
MW/FIBER EQ.  
FIBER  
OV/PELEC. EQ.  
POWER/GROUNDING  
ACCESS/UTILITY EASEMENT  
GEN. CONST.UTILITY EASEMENT  
LEASE AREA  
EXISTING EASEMENT  
ANTENNAS  
PENETRATIONS

SPECIAL INSPECTION AND TESTING							
CATEGORY		COMPONENT	Class				
			1	2	3	4	5
SOILS & FOUNDATIONS		FOOTING SOIL BEARING MATERIAL	X				
		SLAB ON GRADE SUBGRADE MATERIAL	X				
		COMPACTION	X	X	X		
COLD-FORMED METAL FRAMING		TRUSS FRAMING AND CONNECTIONS	X	X			
NOTES: 1. SPECIAL INSPECTIONS ARE TO CONFORM TO CHAPTER 17 OF THE IBC AND THE LOCAL BUILDING DEPARTMENT. 2. UNLESS NOTED AS CONTINUOUS, ALL INSPECTIONS ARE PERIODIC. PERIODIC INSPECTIONS IS DEFINED AS PART TIME OR INTERMITTENT INSPECTION OF WORK. IT IS THE SPECIAL INSPECTORS RESPONSIBILITY TO DETERMINE AND COORDINATE FREQUENCY AND DURATION OF INSPECTION RELATIVE TO CONTRACTORS SCHEDULE AND SEQUENCING OF WORK IN ORDER TO MEET THE INSPECTION REPORTING REQUIREMENTS. 3. CLASS 1: INSPECTION VERIFICATION OF SIZE, LOCATION, QUANTITY, AND TOLERANCE. 4. CLASS 2: INSPECTION AND TESTING VERIFICATION OF STRENGTH, GRADE, CLASSIFICATION, QUALITY, DENSITY, PROPORTIONS, AND MANUFACTURERS CERTIFIED TEST REPORTS. 5. CLASS 3: CONTINUOUS INSPECTION AND VERIFICATION OF OPERATIONS AND CONDITIONS. 6. CLASS 4: AUDIT AND INSPECTION OF FABRICATION FACILITY QUALITY CONTROL PROGRAM. 7. CLASS 5: VERIFICATION OF CERTIFICATES							
EXISTING CONDITIONS 1. THESE CONSTRUCTION DOCUMENTS WERE PREPARED WITH INFORMATION ABOUT THE EXISTING CONDITIONS PROVIDED BY OTHERS. 2. NO INVESTIGATION OF EXISTING CONDITIONS WAS UNDERTAKEN. IF THE CONTRACTOR DISCOVERS EXISTING CONDITIONS WHICH VARY FROM THOSE SHOWN ON THESE DOCUMENTS, THEY SHALL NOTIFY STRUCTURAL ENGINEER IMMEDIATELY FOR GUIDANCE ON NECESSARY CHANGES TO BE MADE. 3. NO OPENINGS OR ANY CHANGES OR ADDITIONS SHALL BE MADE IN ANY EXISTING STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.							
QUALITY CONTROL 1. THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL, INCLUDING WORKMANSHIP AND MATERIALS FURNISHED BY SUBCONTRACTORS AND SUPPLIERS. 2. INSPECTION OR TESTING BY THE OWNER DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO PERFORM WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS. 3. CONTRACTOR SHALL BEAR RESPONSIBILITY OF CORRECTING WORK WHICH DOES NOT CONFORM TO SPECIFIC REQUIREMENTS. 4. CORRECT DEFICIENT WORK BY MEANS ACCEPTABLE TO ARCHITECT.							
QUALITY ASSURANCE 1. THE OWNERS TESTING AGENCY SHALL PERFORM TESTING AND SPECIAL INSPECTIONS REQUIRED BY THE STRUCTURAL DOCUMENTS, BUILDING CODE AND LOCAL AUTHORITY. THE TESTING AGENCY SHALL COMPLY WITH ASTM E329 AND UPON COMPLETION OF WORK, THE TESTING AGENCY SHALL FURNISH A CERTIFICATE OF COMPLIANCE, SIGNED BY THE PROFESSIONAL ENGINEER OVERSEEING SPECIAL INSPECTIONS AND TESTING. 2. THE TESTING AGENCY INDIVIDUAL OVERSEEING TESTING AND INSPECTION OF SOILS AND FOUNDATIONS SHALL BE A PROFESSIONAL ENGINEER PRACTICING THE DISCIPLINE OF GEOTECHNICAL ENGINEERING. THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR TESTING AND INSPECTION OF SOILS, EARTHWORK, AND FOUNDATIONS FOR CONFORMANCE TO THE FOUNDATION DESIGNED THE GEOTECHNICAL REPORT.							
SPECIAL INSPECTION 1. SPECIAL INSPECTION AND TESTING SHALL BE PERFORMED AS REQUIRED BY THE LOCAL JURISDICTION, THE BUILDING CODE AND CONSTRUCTION DOCUMENTS. SEE QUALITY ASSURANCE SECTION. 2. COORDINATE AND SCHEDULE INSPECTION AND TESTING PRIOR TO START OF WORK REQUIRING INSPECTING AND TESTING WITH REASONABLE NOTICE. 3. ALL DEFICIENCIES SHALL BE CORRECTED FOR ACCEPTANCE BY TESTING AGENCY. SPECIAL INSPECTION AND TESTING IS REQUIRED FOR ITEMS SHOWN ON SPECIAL INSPECTION AND TESTING TABLE. 4. PROJECT WILL NOT BE ACCEPTED WITHOUT REQUIRED TESTING.							
SUBMITTALS 1. SEE MATERIALS SECTION OF THESE GENERAL NOTES FOR REQUIRED SHOP DRAWINGS. 2. SUBMIT (1) COPY VIA ELECTRONIC MEDIA (PDF OR SIMILAR) 3. REPRODUCING COPIES OF CONTRACT DOCUMENTS SHALL NOT BE USED. 4. SUBMITTALS SHALL BE SENT TO ARCHITECT FOR DISTRIBUTION. 5. ALLOW 14 CALENDAR DAYS FOR STRUCTURAL ENGINEERS REVIEW. 6. SUBMITTALS TO BE REVIEWED BY CONTRACTOR PRIOR TO SUBMISSION.							
DEFERRED SUBMITTALS 1.SUBMIT SHOP DRAWINGS ALONG WITH CALCULATIONS WITH STAMP BY COLORADO REGISTERED ENGINEER. SUBMITTAL TO BE FIRST REVIEWED BY ARCHITECT AND ENGINEER FOR COORDINATION. SUBMITTAL MAY THEN BE MADE BY THE CONTRACTOR TO THE LOCAL BUILDING DEPARTMENT FOR APPROVAL. 2. ITEM FOR DEFERRED SUBMITTALS INCLUDE THE FOLLOWING: • PREFABRICATED STAIRS AND THEIR CONNECTIONS • PRE-MANUFACTURED HAND/STAIR RAILINGS AND THEIR CONNECTIONS • ELEVATORS AND THEIR CONNECTION TO THE STRUCTURE • EXTERIOR LIGHT GAGE CURTAIN WALLS AND CONNECTIONS TO STRUCTURE • LATERAL SUPPORT, ANCHORAGE CALCULATIONS, AND STRUCTURAL DETAILS FOR MECHANICAL UNITS. • LIGHT POLE BASES • PREFABRICATED WOOD TRUSSES							

SPECIAL INSPECTION AND TESTING							
CATEGORY		COMPONENT	CLASS				
			1	2	3	4	5
CAST-IN-PLACE CONCRETE		FORMWORK INSTALLATION	X				
		REINFORCING PLACEMENT	X	X			
		POST TENSIONED PLACEMENT	X	X			
		STEEL EMBEDS	X	X			
		CAST EMBED ANCHORS	X	X			
		CONCRETE STRENGTH, SLUMP, TEMPERATURE, AIR CONTENT		X	X		
		VERIFICATION OF MIX DESIGN ON SITE	X		X		
		CONCRETE PLACEMENT	X	X	X		
		CONCRETE CURING		X			
		POST TENSION STRESSING			X		X
		POST INSTALLED ANCHORS	X	X			
		FLOOR FLATNESS SURVEY	X				
		WELDED REINFORCING		X			X
		STRUCTURAL STEEL	FABRICATION	CONNECTION ERECTION ASSEMBLY	X	X	
PRE-TENSIONED AND SLIP CRITICAL BOLTS/JOINTS USING TURN OF NUT, OR CALIBRATED WRENCH METHODS OF INSTALLATION	X			X	X		
SINGLE PASS FILLET WELDS 5/16" OR LESS	X			X			X
ALL OTHER WELDS INCLUDING COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	X			X	X		X
SHEAR STUD PLACEMENT	X			X			
STRUCTURAL STEEL ERECTION	X			X			
ERECTION	CONNECTION ERECTION AND ASSEMBLY		X	X			
	PRE-TENSIONED AND SLIP CRITICAL BOLTS/JOINTS USING TURN OF NUT, OR CALIBRATED WRENCH METHODS OF INSTALLATION		X	X	X		
	SINGLE PASS FILLET WELDS 5/16" OR LESS		X	X			X
	ALL OTHER WELDS INCLUDING COMPLETE AND PARTIAL PENETRATION GROOVE WELDS		X	X	X		X
	SHEAR STUD PLACEMENT		X	X			
	NOTES: 1. SPECIAL INSPECTIONS ARE TO CONFORM TO CHAPTER 17 OF THE IBC AND THE LOCAL BUILDING DEPARTMENT. 2. UNLESS NOTED AS CONTINUOUS, ALL INSPECTIONS ARE PERIODIC. PERIODIC INSPECTIONS IS DEFINED AS PART TIME OR INTERMITTENT INSPECTION OF WORK. IT IS THE SPECIAL INSPECTORS RESPONSIBILITY TO DETERMINE AND COORDINATE FREQUENCY AND DURATION OF INSPECTION RELATIVE TO CONTRACTORS SCHEDULE AND SEQUENCING OF WORK IN ORDER TO MEET THE INSPECTION REPORTING REQUIREMENTS. 3. CLASS 1: INSPECTION VERIFICATION OF SIZE, LOCATION, QUANTITY, AND TOLERANCE. 4. CLASS 2: INSPECTION AND TESTING VERIFICATION OF STRENGTH, GRADE, CLASSIFICATION, QUALITY, DENSITY, PROPORTIONS, AND MANUFACTURERS CERTIFIED TEST REPORTS. 5. CLASS 3: CONTINUOUS INSPECTION AND VERIFICATION OF OPERATIONS AND CONDITIONS. 6. CLASS 4: AUDIT AND INSPECTION OF FABRICATION FACILITY QUALITY CONTROL PROGRAM. 7. CLASS 5: VERIFICATION OF CERTIFICATES						

DESIGN CRITERIA						
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE					
	LOCAL JURISDICTION	CITY OF AURORA				
DESIGN LOADS	ROOF LOADS		TYPE	UNIFORM	CONCENTRATED	
			DEAD	FLAT	20 PSF	RE: PLAN
		SNOW	GROUND SNOW (Pg)	30 PSF	ASCE 7	
			FLAT ROOF SNOW (Pf)	30 PSF	ASCE 7	
			EXPOSURE FACTOR (Ce)	1.0		
			IMPORTANCE FACTOR (Ce)	1.0		
			THERMAL FACTOR (Ct)	1.0		
			DRIFT SURCHARGE (Pd)	NA	NA	
		DRIFT WIDTH (w)	NA	NA		
		FLOOR LOADS	OCCUPANCY OR USE			
		DEAD	STORAGE	10 PSF	N/A	
		LIVE	STORAGE	200 PSF	2,500 LBS	
	WIND IN ACCORDANCE WITH ASCE 7 CHAPTER 26	DESIGN PROCEDURE		DIRECTIONAL		
		RISK CATEGORY		I		
EXPOSURE CATEGORY		C				
BASIC WIND SPEED (3 sec GUST: Vasd, Vult)		100 MPH	130 MPH			
GCpi		0.85				

MISCELLANEOUS NOTES  
1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT.  
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF PERSONS AND PROPERTY EITHER ON OR ADJACENT TO THE PROJECT AND SHALL PROTECT AGAINST INJURY, DAMAGE, OR LOSS.  
3. MEANS AND METHODS OF CONSTRUCTION AND ERECTION OR STRUCTURAL MATERIALS ARE SOLELY THE CONTRACTORS RESPONSIBILITY.  
4. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION OF CONSTRUCTION, AND THEN ONLY TO SUPPORT DESIGN LOADS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR SEQUENCING, AND ALL SHORING AND BRACING NEEDED TO SUPPORT STRUCTURE UNTIL COMPLETION.  
5. NO OPENING, NOR ANY CHANGE IN SIZE, DIMENSION, OR LOCATION SHALL BE MADE IN ANY STRUCTURAL ELEMENT WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.  
6.WHERE DIMENSIONS OR WEIGHTS OF MEP EQUIPMENT OR SYSTEMS ARE AVAILABLE FROM THE MANUFACTURER, VERIFY WEIGHTS AND DIMENSIONS SHOWN ON THE DRAWINGS PRIOR TO ORDERING MATERIALS. NOTIFY STRUCTURAL ENGINEER OF DISCREPANCIES. DO NOT PLACE EQUIPMENT WHERE SHIPPING OR OPERATING WEIGHTS EXCEED THAT SHOWN ON THE DRAWINGS.  
7. OPENINGS OF 1'-4" OR LESS ARE GENERALLY NOT SHOWN ON THESE DRAWINGS. REFER TO OTHER CONSULTANTS FOR SUCH OPENINGS.  
8.OPENINGS THROUGH FLOORS/ROOFS FOR PASSAGE OF UTILITIES ARE NOT LOCATED OR DIMENSIONED ON STRUCTURAL DRAWINGS.  
9.SHOW ALL OPENINGS THROUGH STRUCTURAL MEMBERS ON SHOP DRAWINGS AND SUBMIT FOR REVIEW. OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS ARE SUBJECT TO ACCEPTANCE AND SHALL BE SPECIFICALLY INDICATED FOR REVIEW AND ACCEPTANCE.  
10.VERIFY ELEVATOR/ESCALATOR PIT DIMENSIONS AND DETAILS WITH FINAL ELEVATOR/ESCALATOR SUPPLIER PRIOR TO FABRICATION OR INSTALLATION.  
11. FIREPROOFING OR FIRE PROTECTION NOT SHOWN ON STRUCTURAL DRAWINGS. COORDINATE WITH ARCHITECT AND SPECIFICATIONS IF REQUIRED.  
12. DO NOT SCALE DRAWINGS FOR DIMENSIONS. IN CASE OF CONFLICT, REQUEST CLARIFICATION FROM ARCHITECT AND ENGINEER.  
13. NO STRUCTURAL MODIFICATIONS, ALTERATIONS, OR REPAIRS SHALL BE MADE WITHOUT PRIOR REVIEW BY STRUCTURAL ENGINEER.  
14. WHERE SUPPORTED SLABS ARE TO BE USED FOR STAGING OR TEMPORARY STORAGE, THE CONTRACTOR SHALL VERIFY THAT UNIT LOADS DO NOT EXCEED THE DESIGN LOADS FOR THE SUPPORTING SLABS.



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CONSULTANT

**AHOLA ENGINEERING**

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MIKKO\_AHOLA@GMAIL.COM

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STRUCTURAL NOTES

S1.00

PROJECT WILL NOT BE ACCEPTED WITHOUT  
THIRD PARTY SPECIAL INSPECTION



## STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO AISC 360 AND TOLERANCES SHALL CONFORM TO AISC 303 UNLESS NOTED OTHERWISE. CONTRACTOR SHALL KEEP A COPY OF THESE REFERENCES.

## 2. MATERIALS:

- A) W AND WT....ASTM 992 (50KSI) OR ASTM 572 GR. 50 (50KSI)  
 B) M.S.C,MC,L,MT, ST.....ASTM A36 (36 KSI)  
 C) HP.....ASTM 572 GR. 50 (50 KSI)  
 D) STANDARD PIPE.....ASTM A53 GR. B (35 KSI)  
 E) RECTANGULAR HSS.....ASTM A500 GR. B (46 KSI)  
 F) ROUND HSS.....ASTM A500 GR. B (46 KSI)  
 G) PLATES, BARS, THREADED RODS:  
 TYPICAL.....ASTM A36 (36 KSI)  
 50 KSI NOTED.....ASTM A572 GR. 50 (50 KSI)  
 H) ANCHOR RODS.....ASTM F1554 GR. 55  
 I) BOLTS  
 TYPICAL (GROUP A)....ASTM A325 OR ASTM F1852  
 NOTED GROUP B.....ASTM A490 OR ASTM F2280  
 NOTED A307.....ASTM A307 GR. A  
 J) NUTS.....ASTM A653, HEAVY HEX  
 K) WASHERS.....ASTM F436, EXCEPT PLATE WASHERS A36  
 L) DIRECT-TENSION INDICATOR WASHERS...ASTM F959  
 M) HEADED STUD ANCHORS...ASTM A108  
 N) WELD ELECTRODES.....E70, 70 KSI

3. QUALIFICATIONS-FABRICATOR AND ERECTOR SHALL BE EXPERIENCED IN FABRICATION AND ERECTION OF PROJECTS OF SIMILAR SIZE AND COMPLEXITY.

4. TESTING-TESTS AND INSPECTIONS SHALL BE PERFORMED IN COMPLIANCE WITH AISC 360 AND CHAPTER 17 OF THE IBC. INSPECTIONS INCLUDE: WELDING, HIGH STRENGTH BOLTING, ANCHOR ROD PLACEMENT, PROPER USE OF JOINT DETAILS, FABRICATED STEEL, AND ERECTED STEEL FRAME. TESTING INCLUDES: UT OF FULL PENETRATION WELDS, BOLT TENSIONING PROCEDURES, SHEAR STUD BEND TESTS.

## 5. SUBMITTALS:

- A) SUBMITTAL CONFORM TO AISC 360  
B) SUBMITTALS FOR STRUCTURAL STEEL SHALL INCLUDE ERECTION DRAWINGS, SHOP DRAWINGS, AND MILL TEST REPORTS.

6. CONNECTIONS:ENGINEER HAS DESIGNED ALL CONNECTIONS UNLESS SPECIFIED ON THE PLANS TO BE DESIGNED BY FABRICATOR. IF A CONNECTION DESIGN IS OMITTED FROM CONTRACT DOCUMENTS THE CONTRACTOR SHALL REQUEST SPECIFIC CONNECTION DESIGN FROM THE ENGINEER.

7. BOLTS:

- A) WHERE INDICATED ON THE DRAWINGS AS SLIP CRITICAL, AND WHERE OVERSIZED OR LONG SLOTTED HOLES ARE UTILIZED IN SHEAR, BOLTED JOINTS SHALL BE SLIP CRITICAL. FRAYING SURFACES SHALL BE PREPARED TO MEET REQUIREMENTS OF CLASS A SURFACE, AND BOLTS SHALL BE INSTALLED TO THE FULLY TENSIONED CONDITION.
- B) WHERE BOLTS ARE SUBJECT TO NO STATIC LOADING, ARE UTILIZED TO INTERCONNECT PARTS OF A BUILT UP COMPRESSION MEMBER, OR ALL GROUP B FASTENERS LOADED IN TENSION, SHALL BE INSTALLED TO THE FULLY TENSIONED CONDITION.
- C) BOLTS NOT SUBJECT TO THE REQUIREMENTS FOR SLIP CRITICAL CONNECTIONS AND NOT REQUIRED TO BE FULLY TENSIONED MAY BE INSTALLED SNUG-TIGHT.
- D) A307 BOLTS ONLY WHERE INDICATED.

8. WELDS:

- A) FILLET WELDS: SIZE AS INDICATED BUT NOT LESS THAN MINIMUM AISC SIZE  
B) GROOVE WELDS: FULL PENETRATION UNLESS OTHERWISE NOTED.  
C) WELDS ARE CONTINUOUS UNLESS OTHERWISE NOTED.

9. HEADED ANCHOR STUDS: SHOP WELD EXCEPT WHERE APPLIED THROUGH METAL DECK.

#### 10. SHOP CLEANING AND PAINTING:

- A) UNCOATED STEEL : ALL STEEL NOT SPECIFICALLY INDICATED AS PAINTED, TO RECEIVE SPRAY ON FIREPROOFING, OR TO BE GALVANIZED, AND FRAYING SURFACE OF SLIP CRITICAL CONNECTIONS SHALL BE UNCOATED. PREPARE SURFACE PER SSPC-SP1.
- B) PRIMED STEEL: STEEL INDICATED AS PAINTED, WITH NO SPECIFIC PAINT REQUIREMENTS SHALL HAVE SURFACE PREPARED PER SSPC-SP2 MINIMUM AND RECEIVE ONE COAT OF FABRICATORS STANDARD RUST INHIBITOR PRIMER PAINT APPLIED TO A MINIMUM DRY FILM THICKNESS OF 1 MIL.
- C) GALVANIZED STEEL: STEEL INDICATED AS GALVANIZED SHALL BE CLEANED, PREPARED, AND GALVANIZED IN ACCORDANCE WITH ASTM A123. REPAIR MINOR DEFECTS, DAMAGED AREAS, AND WELD JOINTS IN ACCORDANCE WITH ASTM A780.



## PROJECT INFORMATION

SITE NAME

## DEN KENTON - B

SITE I.D.

**616125875**  
11000 E. YALE AVE  
AURORA, CO 80014

CONSULTANT

**AHOLA ENGINEERING**

PHONE: 720.640.2408

MIKKO\_AHOLA@GMAIL.COM

A	06/07/24	CD REVIEW	EDH
B	11/18/24	CD REVIEW	OGZ
C	01/07/25	CD REVIEW	OGZ
D	02/14/25	CD REVIEW	DMB

1st REVIEW	ETO	2nd REVIEW	SGP
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5935 SOUTH ZANG STREET, SUITE 280  
LITTLETON, COLORADO 80127  
OFFICE: 303.932.9974

**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

## STRUCTURAL NOTES

# S1.10



VERIZON WIRELESS SERVICES  
10000 PARK MEADOWS DR. STE 300  
LONE TREE, CO 80124

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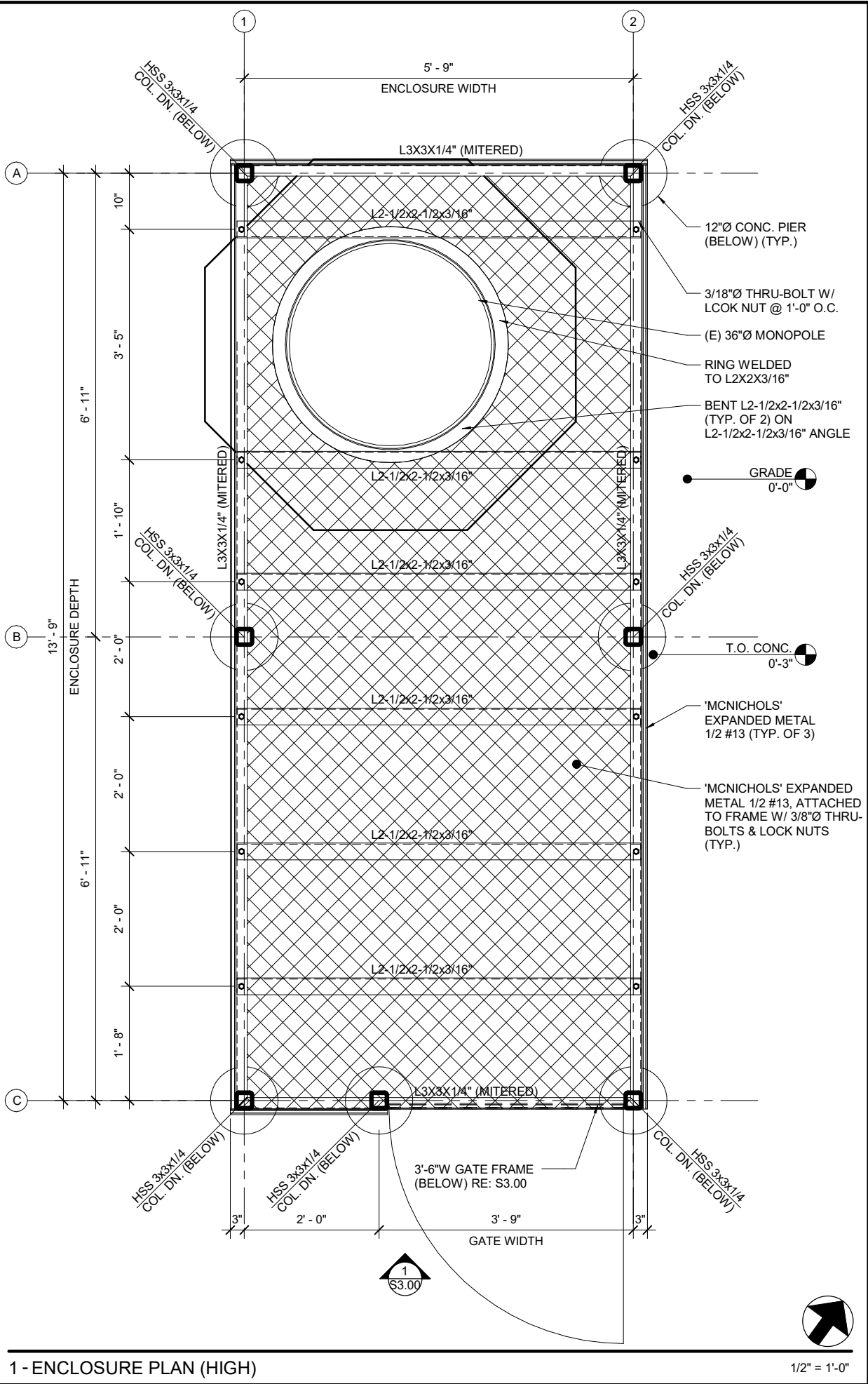
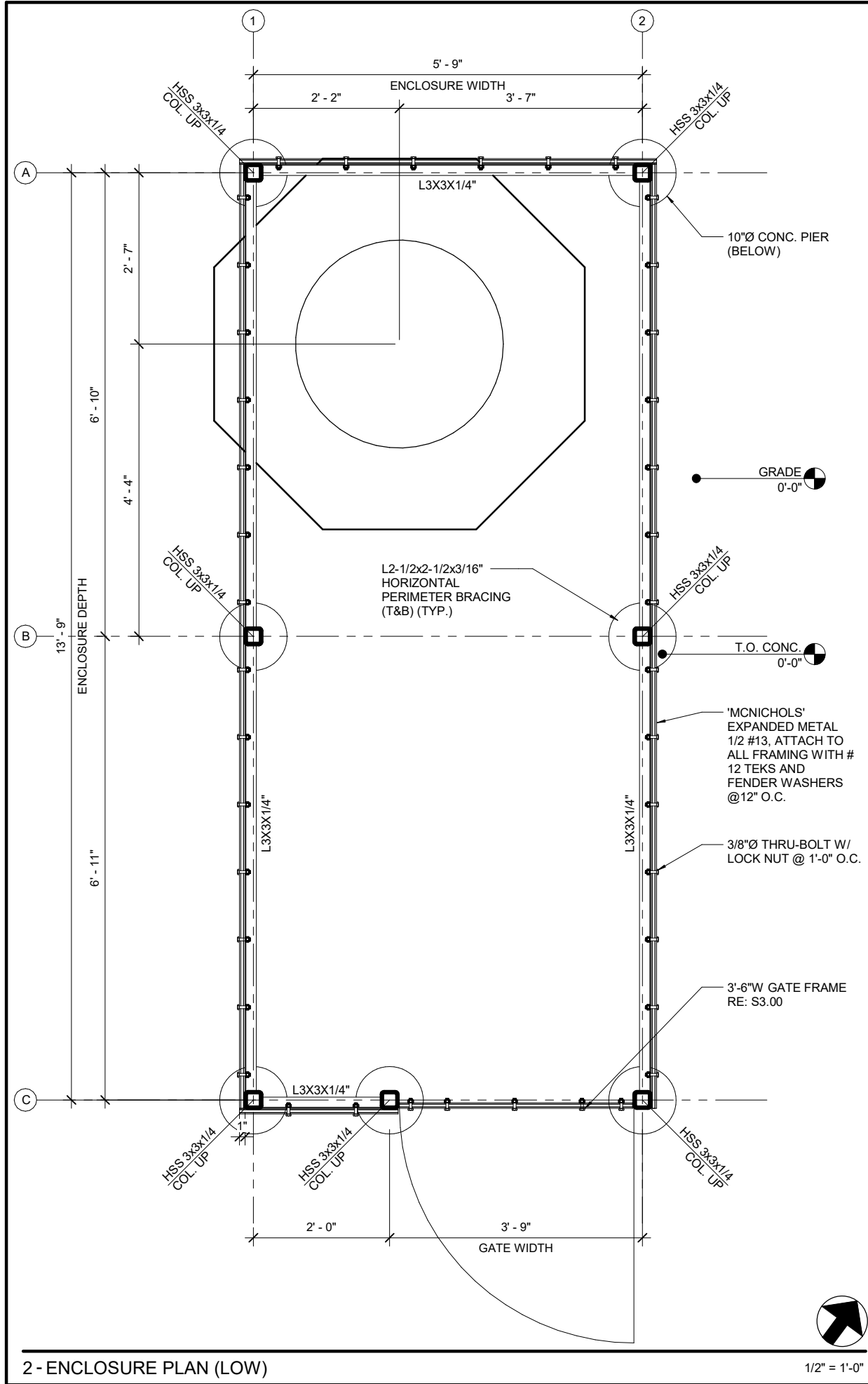
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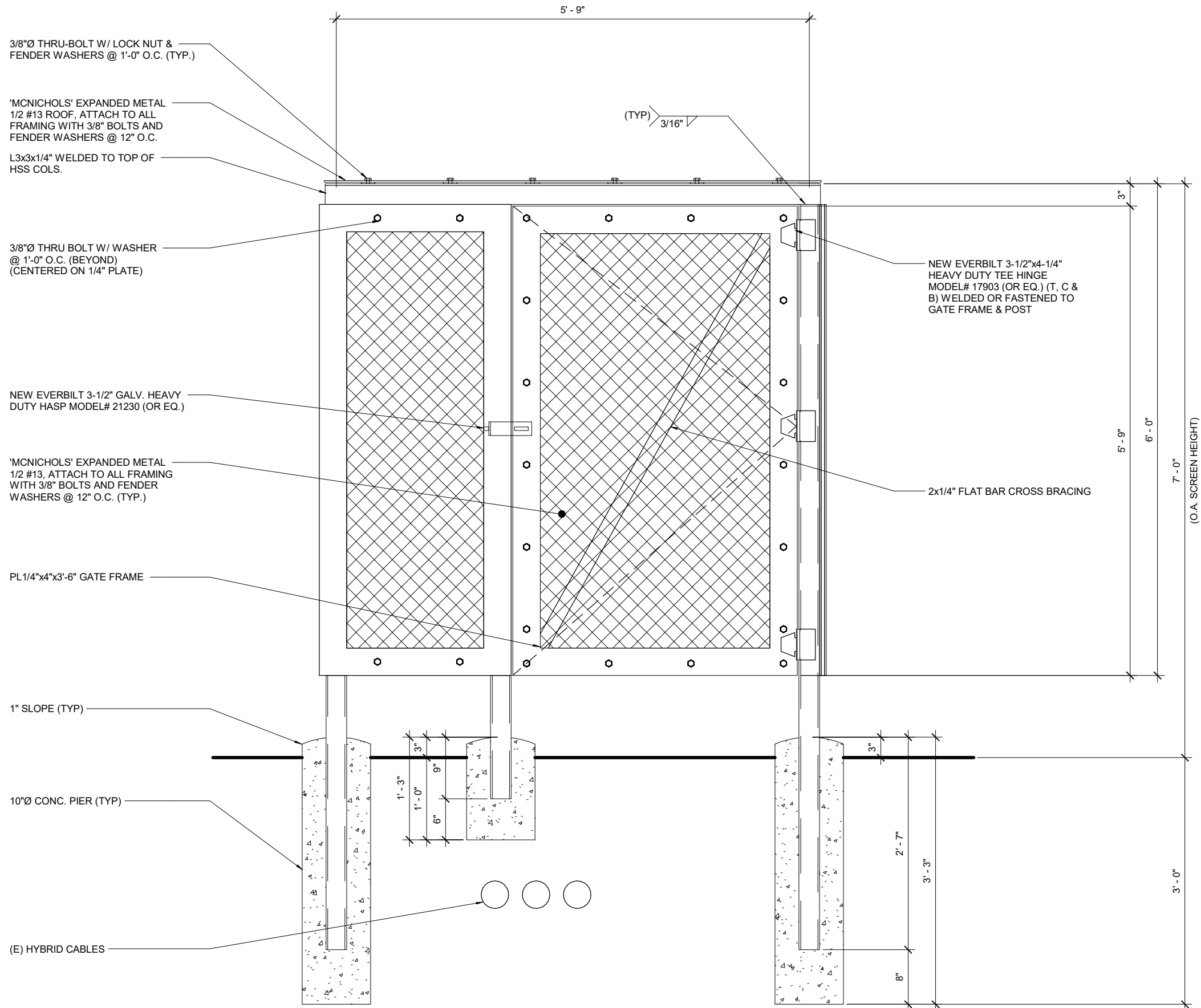
RRH ENCLOSURE PLANS

**S2.00**

BBU/RRH HYBRID & COAX CABLES  
MW/FIBER EQ.  
FIBER  
OV/PELEC. EQ.  
POWER/GROUNDING  
ACCESS/UTILITY EASEMENT  
GEN. CONST. UTILITY EASEMENT  
EXISTING EASEMENT  
ANTENNAS  
LEASE AREA  
PENETRATIONS



BBU/RRH  
HYBRID & COAX CABLES  
MW/FIBER EQ.  
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POWER/GROUNDING  
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GEN. CONST. UTILITY EASEMENT  
LEASE AREA  
EXISTING EASEMENT  
ANTENNAS  
PENETRATIONS



NOTES:  
1. FIELD VFY (E) HYBRID CABLES U.G. GATE POST CAN BE ADJUSTED TO AVOID CONDUITS.  
2. PRELIMINARY DETAIL, PENDING STRUCT.

1 - ENCLOSURE SECTION A - A

3/4" = 1'-0"

verizon

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RRH ENCLOSURE  
SECTION

S3.00