SUMMIT ARENA
PRODUCTION GUIDE



WELCOME TO THE MONUMENT
HOME OF SUMMIT ARENA

The Monument
C/O Production Department
444 Mt. Rushmore Road N.
Rapid City, SD 57701

605.394.4115

themonument.live

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SUMMIT ARENA
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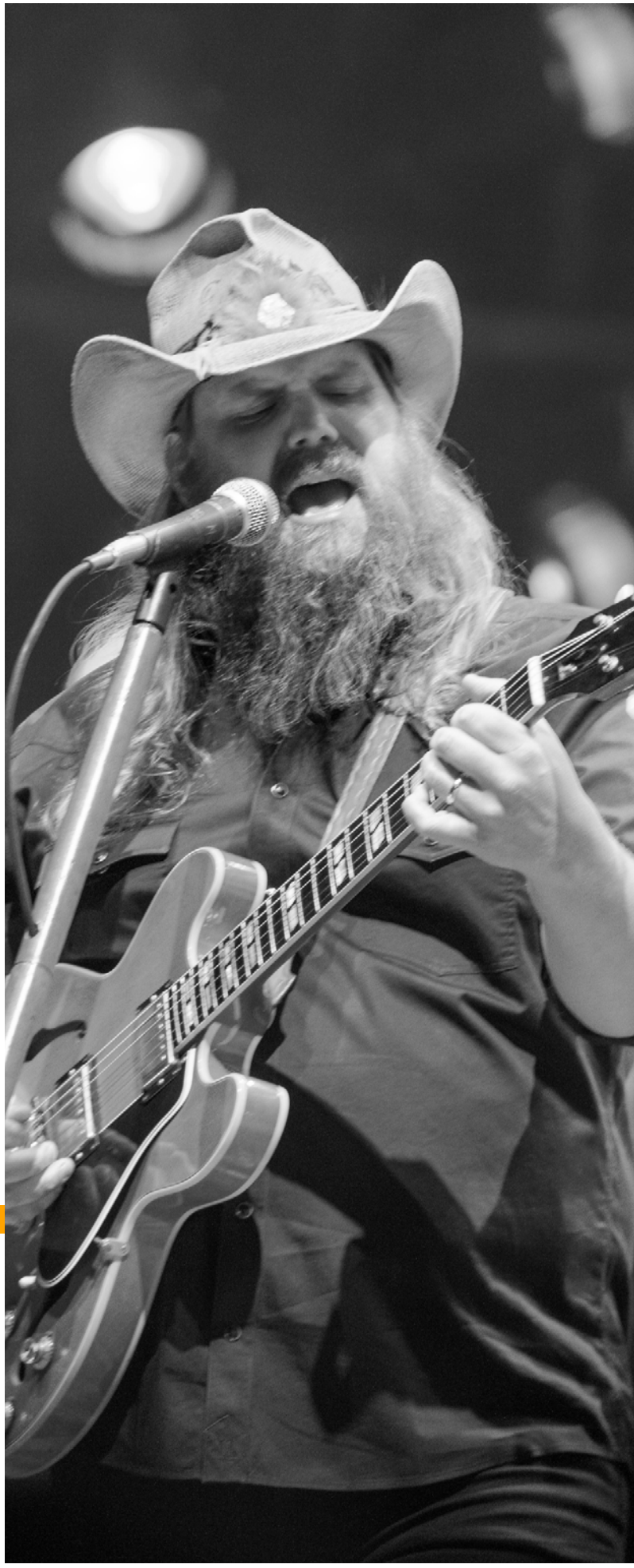


DIRECTIONS

*FROM I-90 - **Smaller Truck Route BLUE LINE***

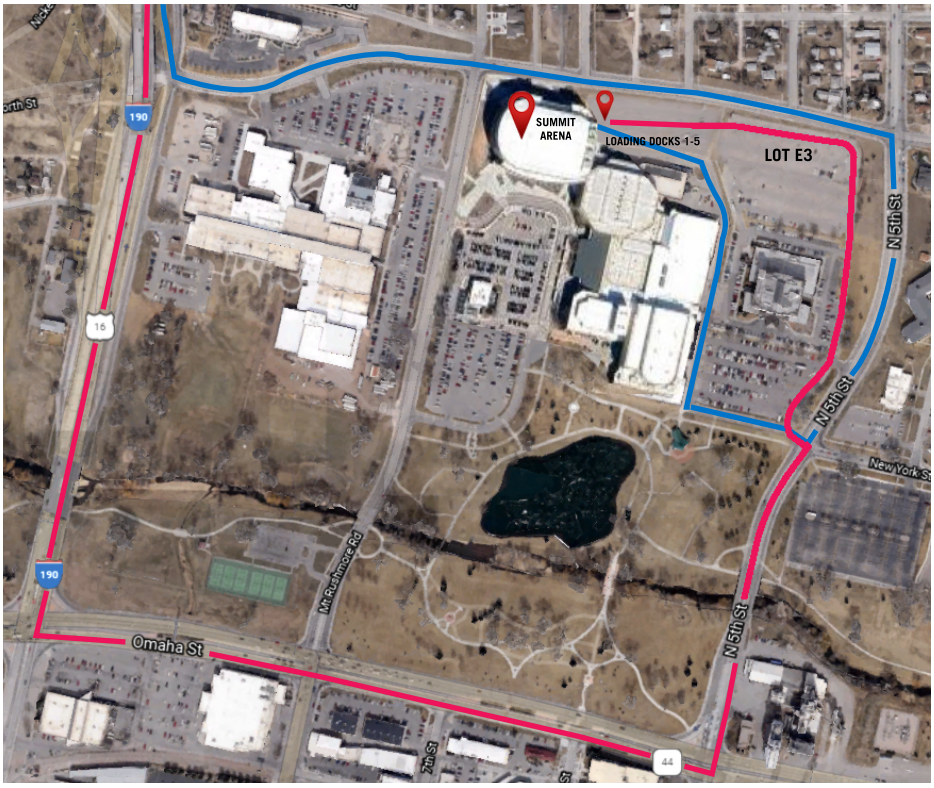
From I-90 (heading East or West) take Exit 57, the I-190 Byway heading South and take Exit 1C. Turn left onto North Street and proceed to the 4 Way Stop and continue straight to take a right on to 5th Street, proceed South. Head down to the light at New York Street and take a right. Continue to the building and follow the driveway North to the gate continue thru and Summit Arena Loading Docks 1-5 will be on left.

*FROM I-90 - **Larger Truck Route RED LINE***

From I-90 (heading East or West) take Exit 57, the I-190 Byway heading South continue to street light and take a left on Omaha St. Continue in the left lane and take a left at the second light, 5th Steet. Head North to the light at New York Street and take a left. Continue to the building and follow the driveway North to the gate continue thru and Summit Arena Loading Docks 1-5 will be on left.

FROM AIRPORT - Approximately 20 minutes

Depart airport to SD-44 West/East Omaha St., continue straight for 9 miles. Turn right onto 5th Street proceeded by a left on New York Street into Lot E at The Monument. Continue to the building and follow the driveway North to the gate continue thru and Summit Arena Loading Docks 1-5 will be on left.

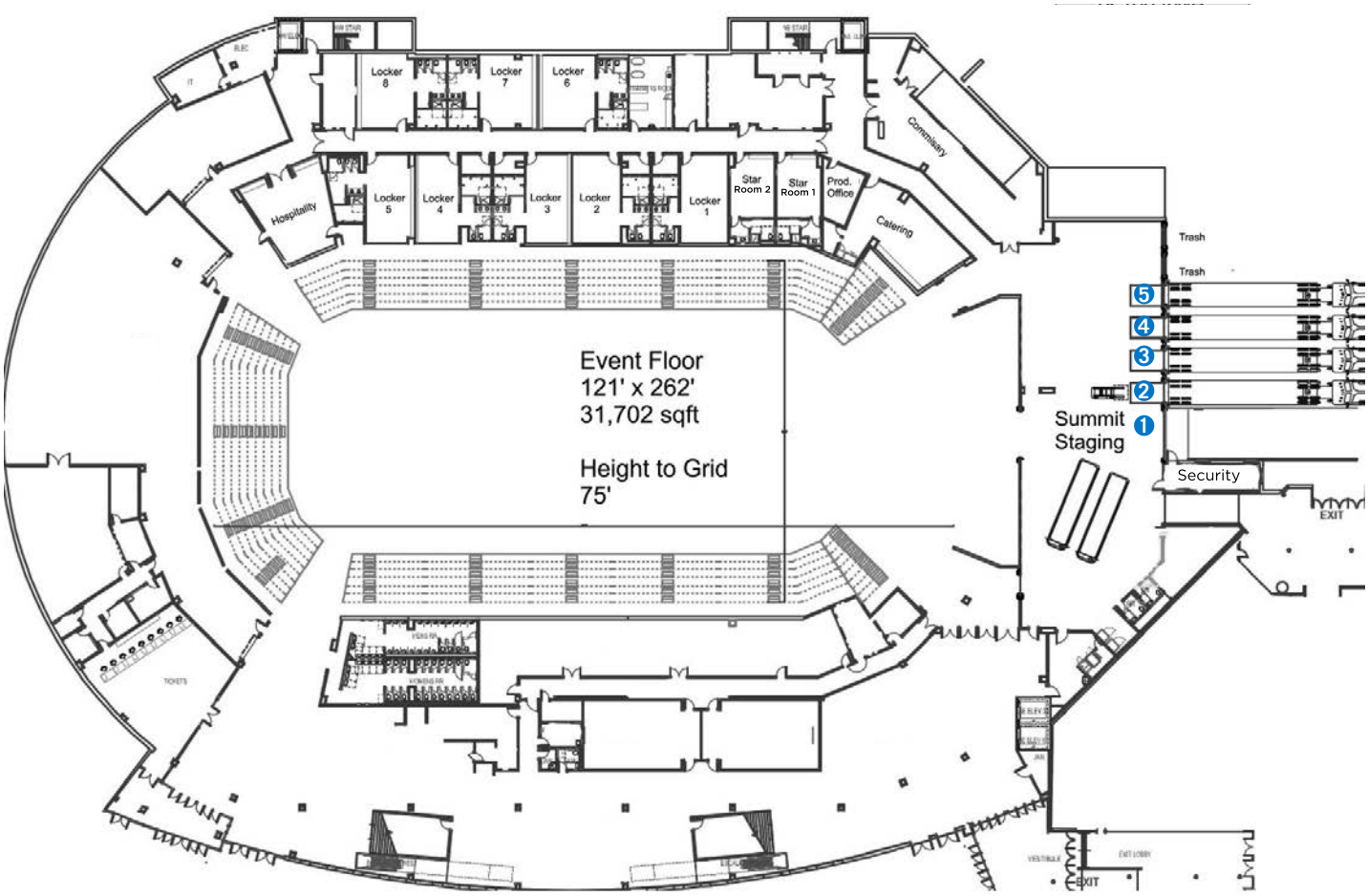


Click HERE for directions to The Monument

SHOW PARKING

Trucks can be queued in Lot E3 behind the hotel, East of loading docks 1-5. Buses can be located directly East of Loading docks, West of Lot E3. Shore power is available at the bus parking location. The security door entrance is also the stage door for access throughout the day.

SUMMIT ARENA
EVENT LEVEL



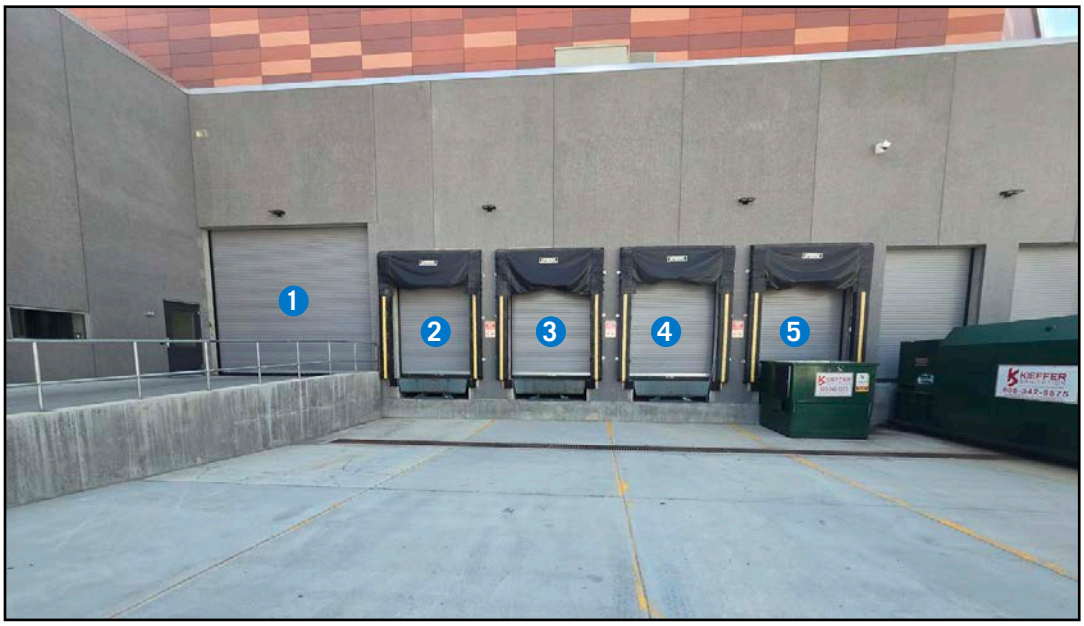
Back of House

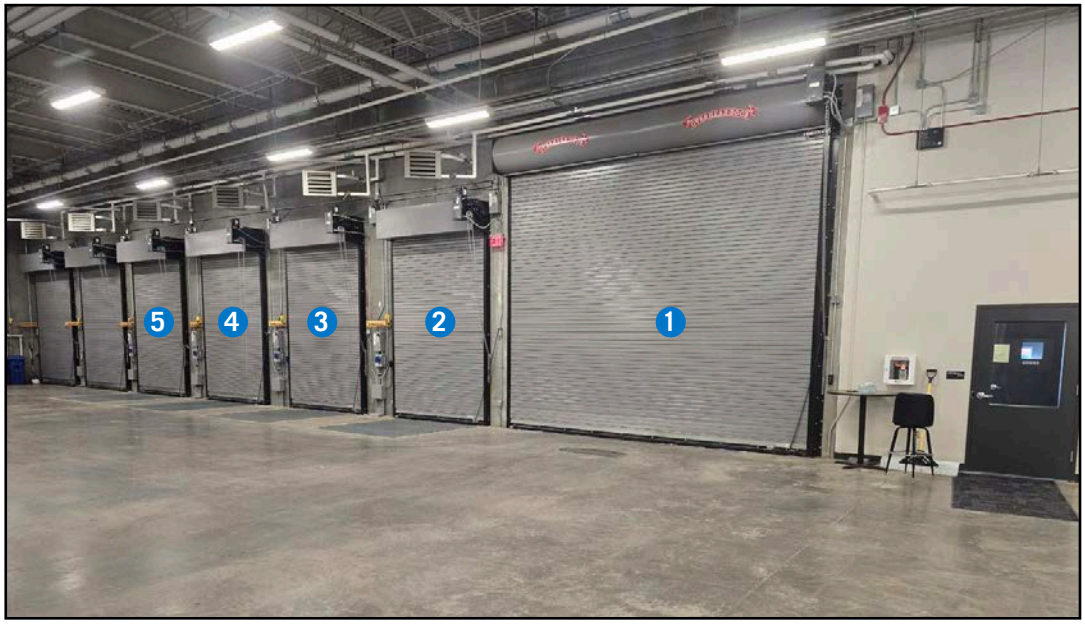
8 - Locker Rooms (main area with restrooms and showers)
2 - Star Dressing Rooms (Green room with restroom and showers)
1 - Dedicated Production Office
1 - Catering Room
1 - Hospitality Room
1 - Laundry Room (Washer and Dryer)
1 - Staging area (Loading docks, ramp, and stage power, two restrooms)

SUMMIT ARENA
EVENT LEVEL

Load In Access

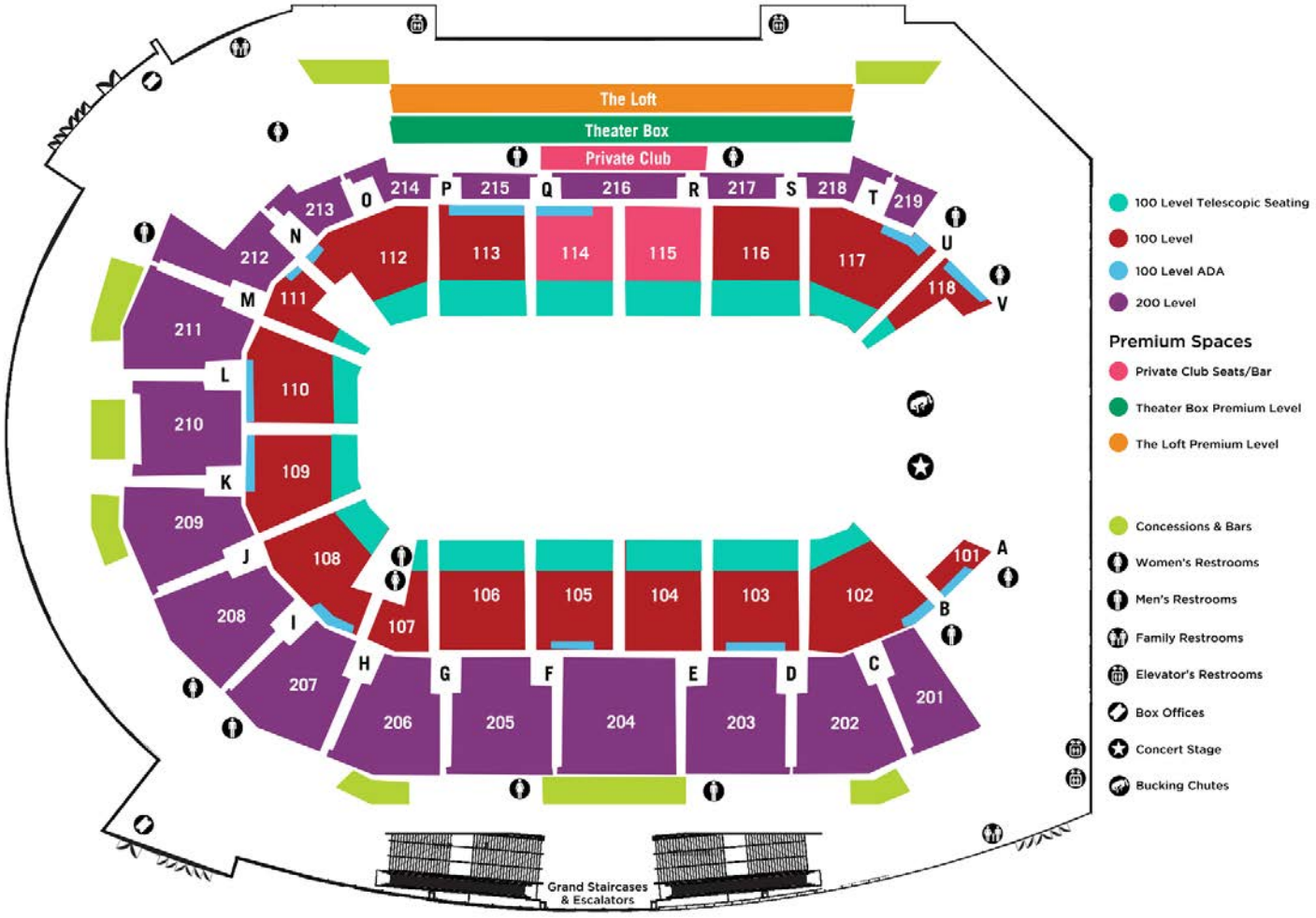
Loading Docks 2 - 5 with levelers and seals, and Loading Dock 1 is a ramp from street level to the staging area, are located on the East side of Summit Arena. The staging area has plenty of room for dead storage. The distance from dock doors to arena floor is 50'.





SUMMIT ARENA

CONCOURSE LEVEL & PREMIUM





VENUE EQUIPMENT

Venue Audio

The arena's distributed line array system consists primarily of JBL VRX932LA-1 elements with JBL ASB6128 Sub-woofers, powered by Crown DCI amplifiers, through a Dante network. The arena's back of house and premium areas are covered by JBL 70v ceiling systems. All of this is controlled from the AV room on the fourth level.

- Please note, we have premium level seating, located stage right, that requires audio attention to provide adequate sound.
    - First premium level seating is 40' from the floor
    - Second premium level is 60' from the floor.
    - Each level is 185' long from stage to the end of house.

Clear-Com

Video has a 4 channel comm system, and there is a separate 2 channel system throughout the arena for spotlights and FOH needs.

Venue Lighting

Dimmable LED sport and house light fixtures
6 - Gladiator 4 (4k)

Venue Video

The house video system is built around the Newtek TriCaster TC1 with the 2Stripe IP control panel, and uses 3P1 3Play for slow motion and replay, and SuperLogics for character generation.

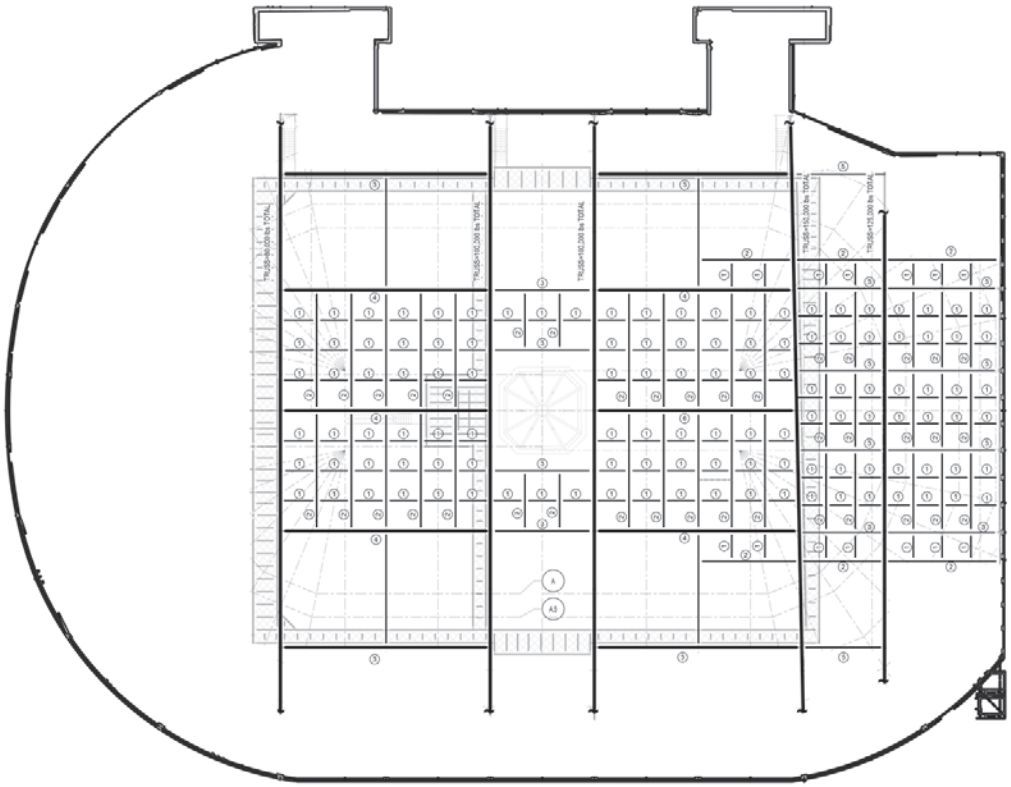
- Cameras
    3 - Ikegami HC-HD300

Broadcast Trucks

There are 4 - 200 amp disconnects for broadcast truck power. There is also a broadcast truck hookup with connection points throughout the arena.

Maximum Beam Rigging Loads

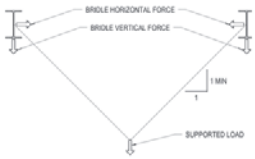
The rigging grid covers the entire arena floor, with an expanded grid over the end house stage position. The grid has a height of 75’ and has a 150,000 lbs. limit, depending on which zone is rigged in. There is a minimum 5,000 lbs. dead hang limit and a minimum 4,000 lbs. bridle limit, with additional capacity depending on grid location. See following diagrams for more information.
Only experienced riggers are permitted on the rigging steel. All riggers are required to use Fall Arrest Equipment while rigging.



BOTTOM CHORD RIGGING PLAN

1/16" = 1'-0"

NOTES:
1. RIGGING GRID AND TRUSSES ARE CAPABLE OF ACCOMODATING A LIFE SAFETY FALL PROTECTION SYSTEM ENGINEERED PER OSHA STANDARDS WITHIN THE FOLLOWING GUIDELINES:
   - RIGGING GRID MEMBERS AND TRUSS CHORD LOAD CAPACITIES ARE LIMITED AS INDICATED IN THE BOTTOM CHORD RIGGING SCHEDULE. ASSUME PLAN SYMBOL (X) UNLESS NOTED OTHERWISE.
   - TRUSS VERTICAL MEMBERS CAN SUPPORT A VERTICAL 5 KIPS (ULTIMATE) LOAD.
   - TRUSS VERTICAL MEMBERS SHALL NOT BE LOADED HORIZONTALLY.
   - TRUSS DIAGONAL MEMBERS SHALL NOT BE LOADED VERTICALLY NOR HORIZONTALLY.
2. TOP AND BOTTOM CHORDS MAY BE RIGGED SIMULTANEOUSLY WITHIN THE ALLOWABLE LOAD LIMITS SHOWN ON THE RIGGING SCHEDULES PROVIDED THAT THE MAXIMUM TRUSS LOADS INDICATED ABOVE ARE NOT EXCEEDED.
3. HOIST PLATFORM LOAD (9) INCLUDES 1.5 DYNAMIC LOAD FACTOR.

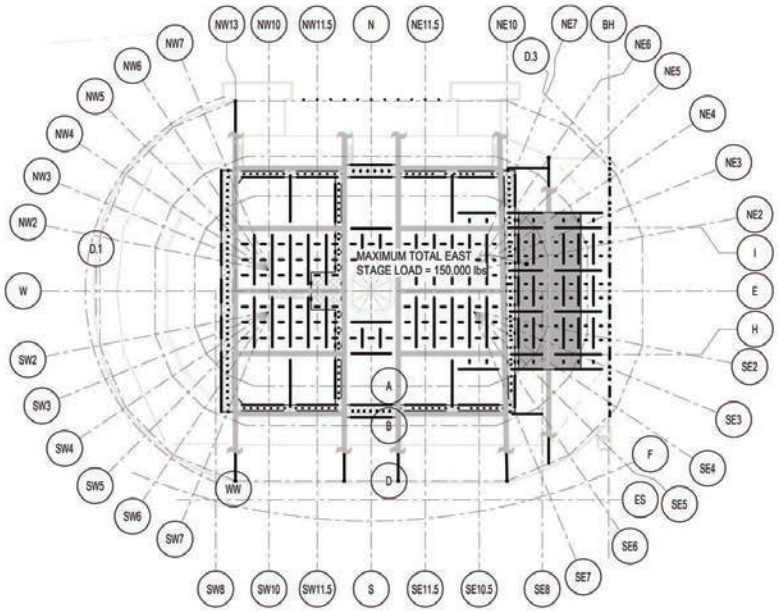


BRIDLING DIAGRAM

BOTTOM CHORD RIGGING LOAD SCHEDULE

PLAN SYMBOL	BOTTOM CHORD DEAD HUNG TOTAL VERTICAL	BOTTOM CHORD BRIDLE TOTAL VERTICAL	BOTTOM CHORD BRIDLE TOTAL HORIZONTAL
①	5,000 lbs	4,000 lbs	4,000 lbs
②	16,000 lbs	12,000 lbs	4,000 lbs BETWEEN BEAMS
③	32,000 lbs	16,000 lbs	4,000 lbs BETWEEN BEAMS
④	50,000 lbs	25,000 lbs	4,000 lbs BETWEEN BEAMS
⑤	4,000 lbs	2,000 lbs	2,000 lbs
⑥	75,000 lbs	37,500 lbs	4,000 lbs BETWEEN BEAMS
⑦	16,000 lbs MAX BETWEEN TRUSS VERTICALS	12,000 lbs BETWEEN TRUSS VERTICALS	4,000 lbs BETWEEN BEAMS
⑧	500 lbs	0 lbs	0 lbs
⑨	19,000 lbs (ULTIMATE) UPWARD	-	-

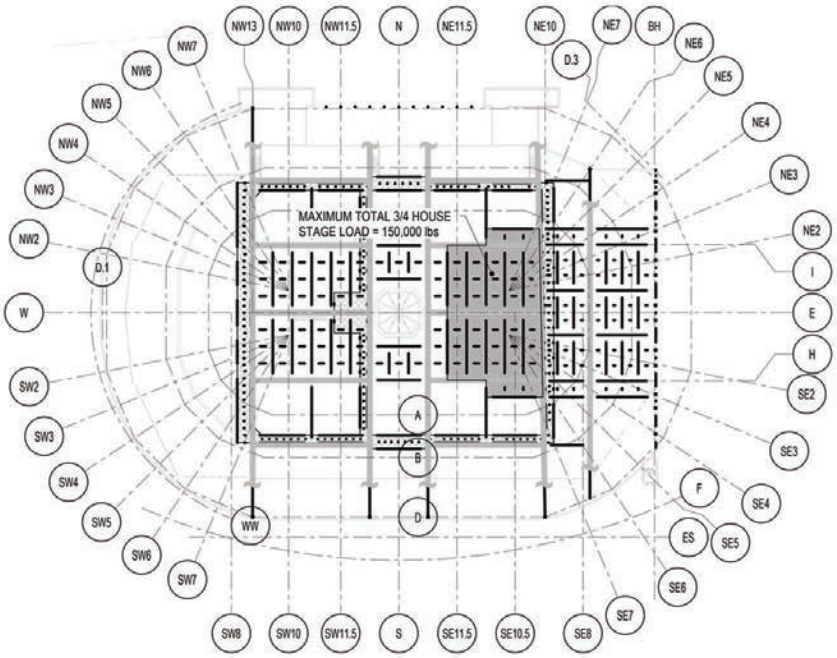
Maximum Grid Load Configurations



BOTTOM CHORD RIGGING PLAN - EAST STAGE LOAD PLAN

1" = 50'-0"

NOTES:
1. TOTAL LOAD SHALL BE DISTRIBUTED OVER SHADED REGION. TOTAL LOAD DISTRIBUTED OVER A SMALLER AREA RESULTING IN AN INCREASE IN RIGGING LOAD DENSITY IS NOT ALLOWED.
2. MAXIMUM CENTER STAGE, WEST STAGE, 3/4 HOUSE, AND END STAGE LOADS SHALL NOT OCCUR SIMULTANEOUSLY.

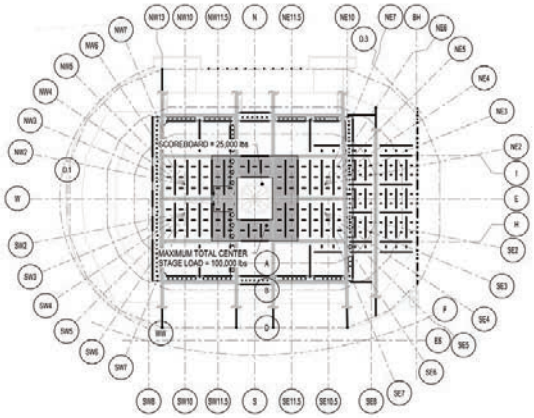


BOTTOM CHORD RIGGING PLAN - 3/4 HOUSE LOAD PLAN

1" = 50'-0"

NOTES:
1. TOTAL LOAD SHALL BE DISTRIBUTED OVER SHADED REGION. TOTAL LOAD DISTRIBUTED OVER A SMALLER AREA RESULTING IN AN INCREASE IN RIGGING LOAD DENSITY IS NOT ALLOWED.
2. MAXIMUM CENTER STAGE, WEST STAGE, 3/4 HOUSE, AND END STAGE LOADS SHALL NOT OCCUR SIMULTANEOUSLY.

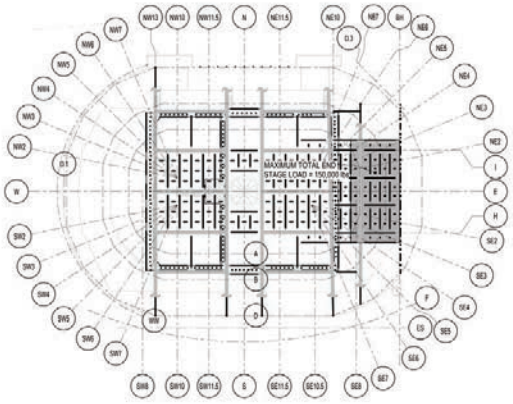
Maximum Grid Load Configurations



BOTTOM CHORD RIGGING PLAN - CENTER STAGE LOAD PLAN

1" = 50'-0"

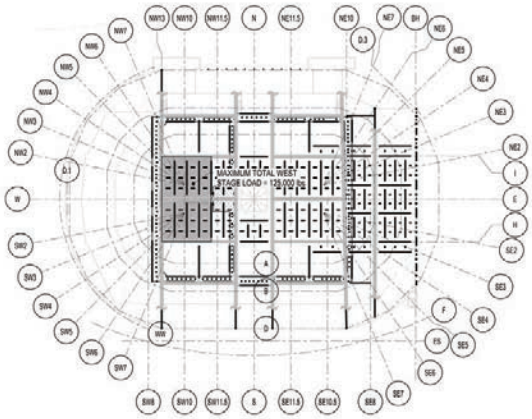
NOTES:
1. TOTAL LOAD SHALL BE DISTRIBUTED OVER SHADED REGION. TOTAL LOAD DISTRIBUTED OVER A SMALLER AREA RESULTING IN AN INCREASE IN RIGGING LOAD DENSITY IS NOT ALLOWED.
2. MAXIMUM CENTER STAGE, WEST STAGE, 3/4 HOUSE, AND END STAGE LOADS SHALL NOT OCCUR SIMULTANEOUSLY.



BOTTOM CHORD RIGGING PLAN - END STAGE LOAD PLAN

1" = 50'-0"

NOTES:
1. TOTAL LOAD SHALL BE DISTRIBUTED OVER SHADED REGION. TOTAL LOAD DISTRIBUTED OVER A SMALLER AREA RESULTING IN AN INCREASE IN RIGGING LOAD DENSITY IS NOT ALLOWED.
2. MAXIMUM CENTER STAGE, WEST STAGE, 3/4 HOUSE, AND END STAGE LOADS SHALL NOT OCCUR SIMULTANEOUSLY.

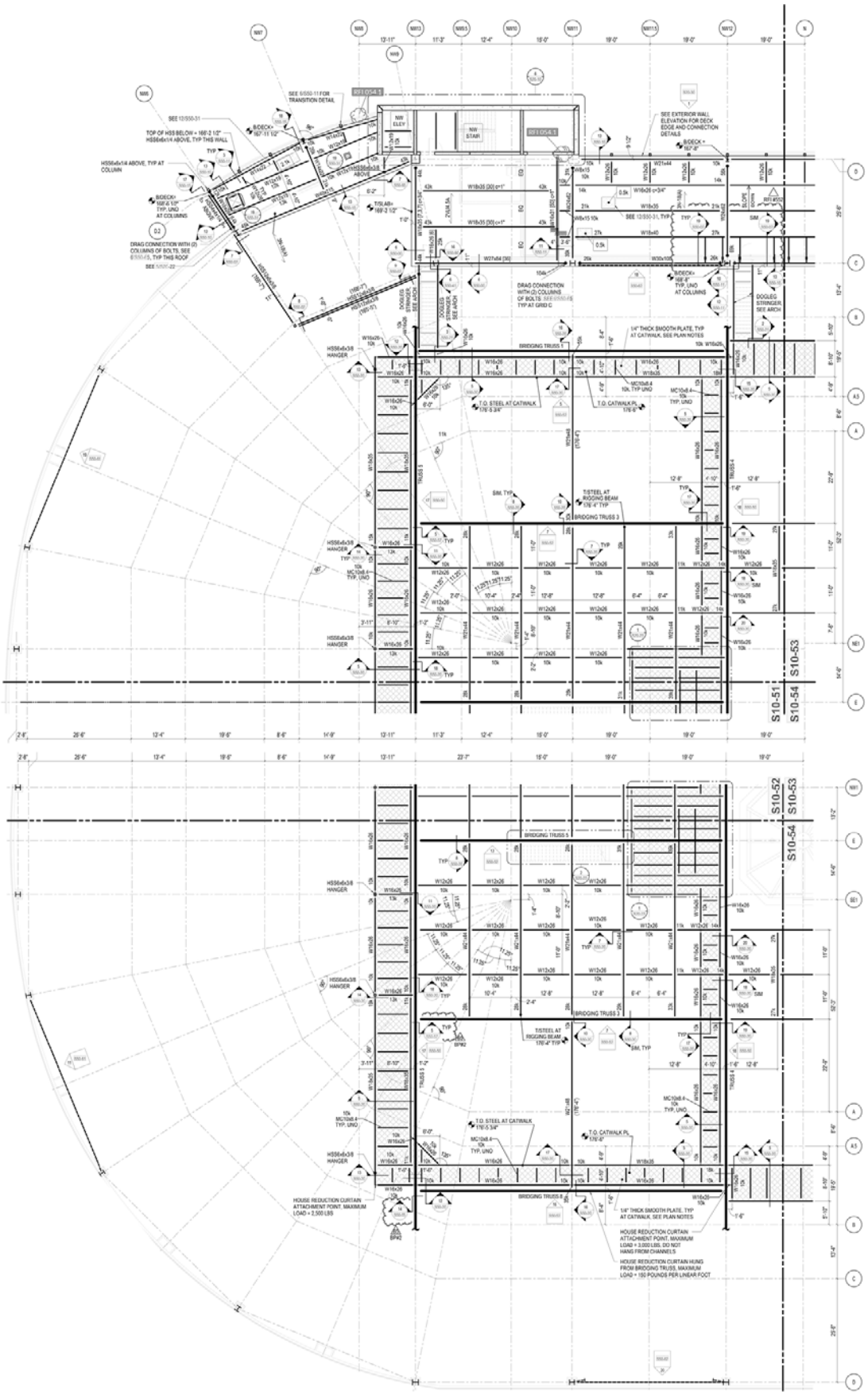


BOTTOM CHORD RIGGING PLAN - WEST STAGE LOAD PLAN

1" = 50'-0"

NOTES:
1. TOTAL LOAD SHALL BE DISTRIBUTED OVER SHADED REGION. TOTAL LOAD DISTRIBUTED OVER A SMALLER AREA RESULTING IN AN INCREASE IN RIGGING LOAD DENSITY IS NOT ALLOWED.
2. MAXIMUM CENTER STAGE, WEST STAGE, 3/4 HOUSE, AND END STAGE LOADS SHALL NOT OCCUR SIMULTANEOUSLY.

Rigging Bay - Sectors 1 & 2 (West Summit Arena)



Sector 2

Sector 1

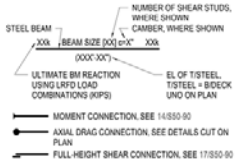
CATWALK FRAMING PLAN NOTES:

A. GRIDS:
1. SEE S10-10 AND ARCHITECTURAL DRAWINGS FOR DETAILED GRID INFORMATION INCLUDING DIMENSIONS.
2. USGS ELEVATION 3229.00' = PROJECT ELEVATION 100'-0". VERIFY IN FIELD AND WITH CIVIL DRAWINGS PRIOR TO CONSTRUCTION.

B. COLUMNS:
1. ALL COLUMNS SHALL BE CENTERED ON GRID LINE INTERSECTIONS UNLESS DIMENSIONED OTHERWISE.

C. TRUSSES:
1. TRUSSES INDICATED ON PLAN THUS:
TRUSS NAME

D. STEEL BEAMS:
1. STEEL BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES UNLESS DIMENSIONED OTHERWISE.
2. WHERE WIDE FLANGE MEMBERS FRAME INTO TRUSSES, SEE DETAILS FOR BEAM WORKPOINTS TO DETERMINE TOP OF STEEL ELEVATIONS.
3. STEEL BEAMS INDICATED ON PLAN THUS:



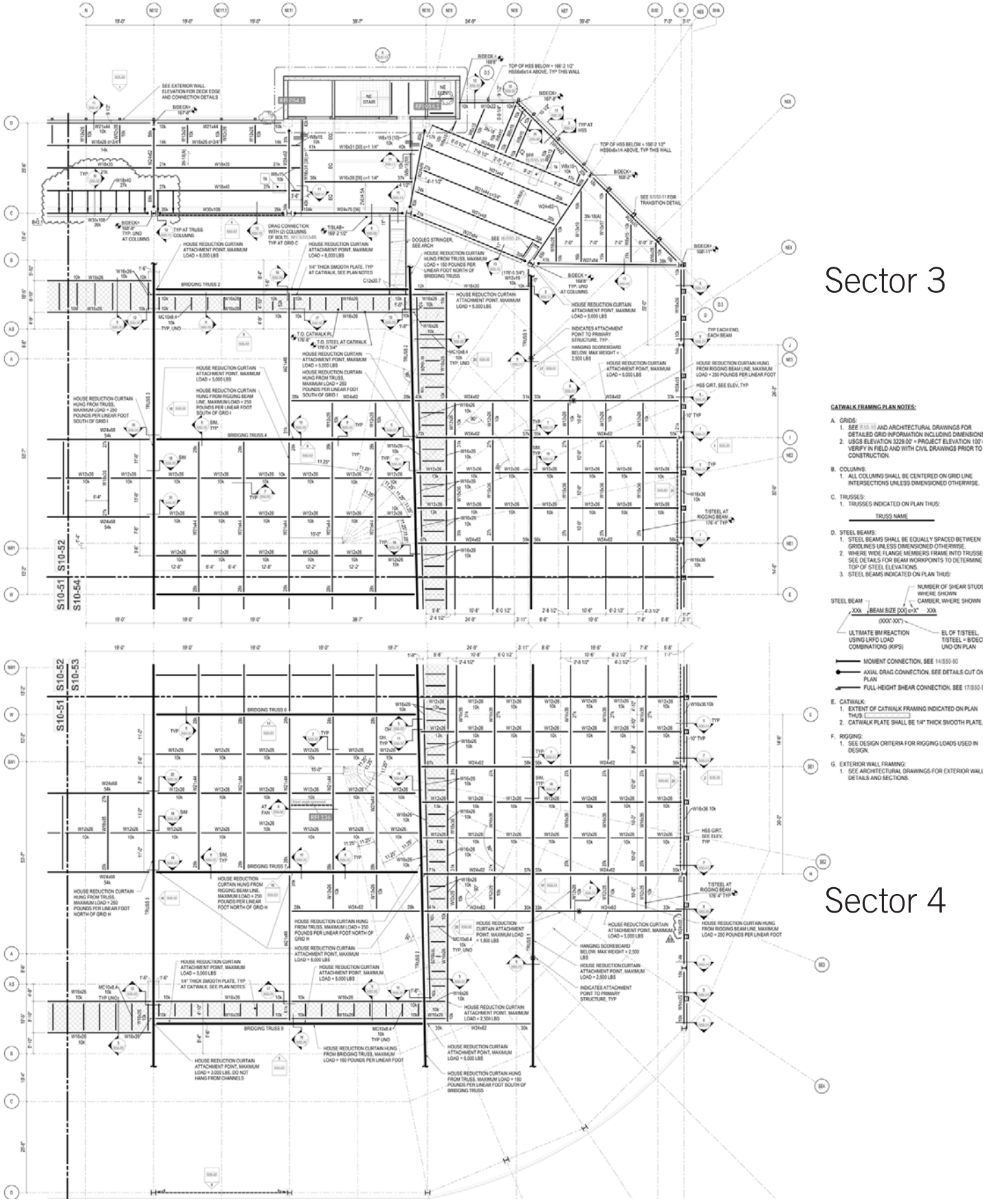
MOMENT CONNECTION. SEE 14/S50-90
AXIAL DRAG CONNECTION. SEE DETAILS CUT ON PLAN
FULL-HEIGHT SHEAR CONNECTION. SEE 17/S50-90

E. CATWALK:
1. EXTENT OF CATWALK FRAMING INDICATED ON PLAN THUS:
2. CATWALK PLATE SHALL BE 1/4" THICK SMOOTH PLATE.

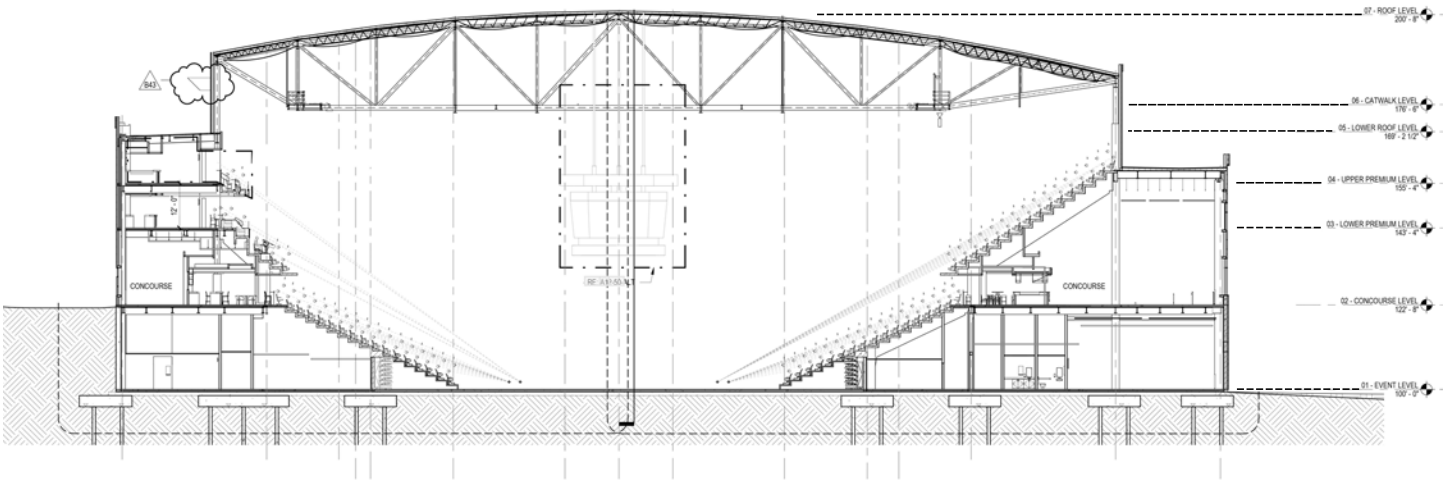
F. RIGGING:
1. SEE DESIGN CRITERIA FOR RIGGING LOADS USED IN DESIGN.

G. EXTERIOR WALL FRAMING:
1. SEE ARCHITECTURAL DRAWINGS FOR EXTERIOR WALL DETAILS AND SECTIONS.

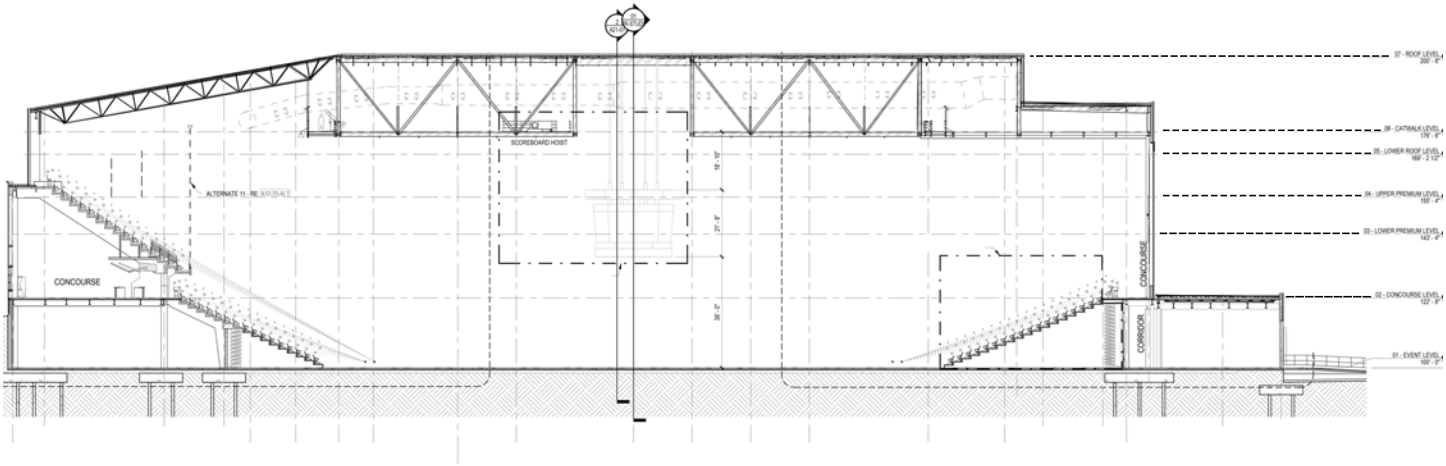
Rigging Bay - Sectors 3 & 4 (East Summit Arena)



Summit Arena Building Sections



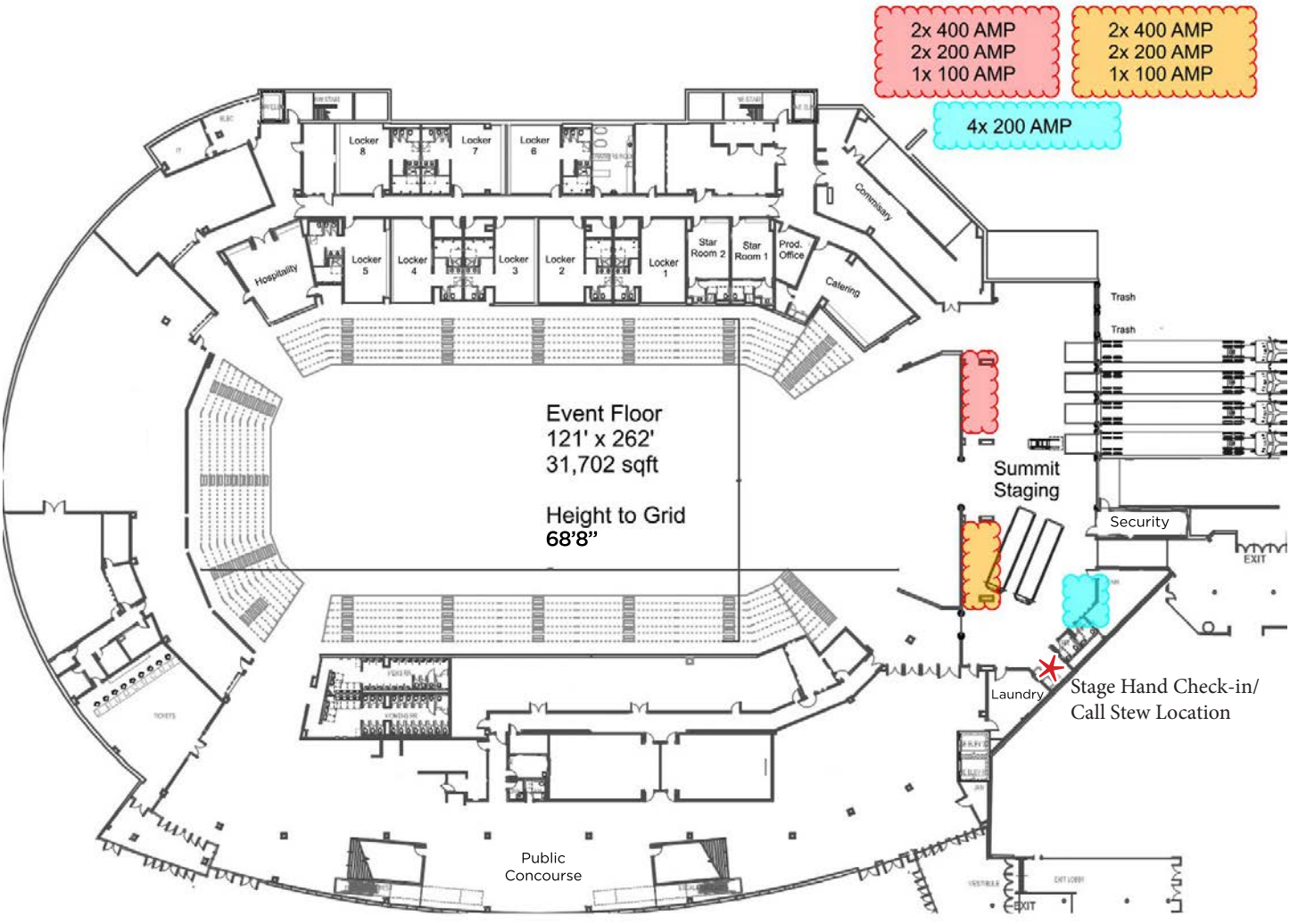
NSVERSE SECTION
1'-0"



ONGITUDINAL SECTION
1/16" = 1'-0"

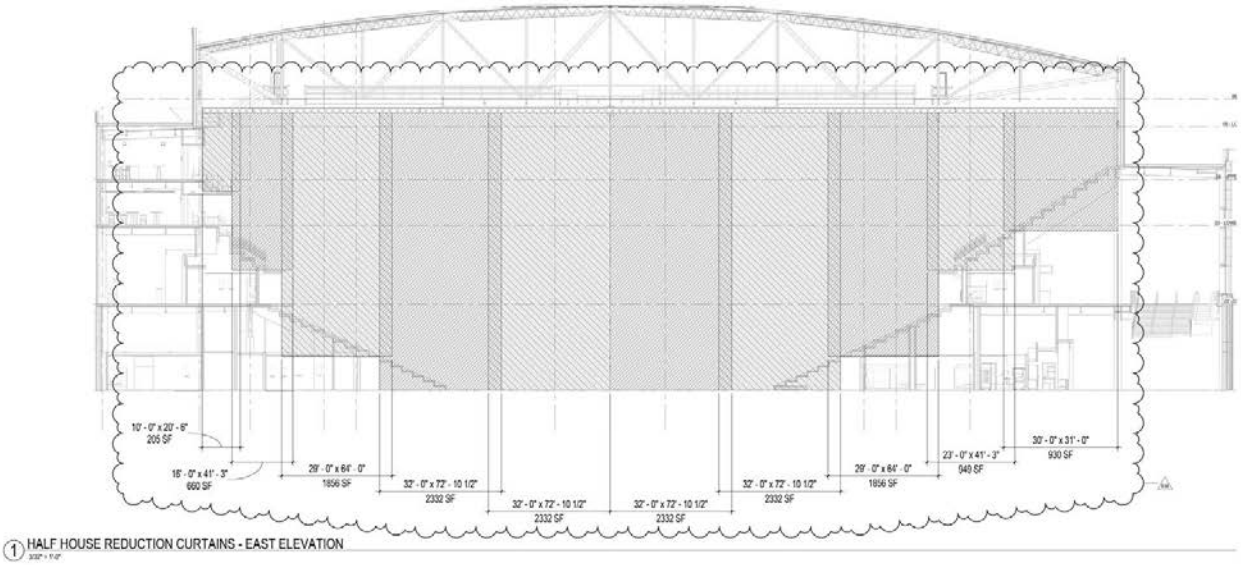
Summit Arena Power

Show power is located within the staging areas, and consists of 4 - 400 AMP, 4 - 200 AMP, 2 - 100 AMP (cam-lok only) split between stage right and stage left. There are an additional 4 - 200 AMP (cam-lok only) located in the South East corner of staging for broadcast trucks. House does require the use of a licensed electrician for connects and disconnects. Shore power for buses and trucks can be found along the North wall of the Summit Arena's loading dock area. There are 6 - 50AMP plugs down the length of the retaining wall.

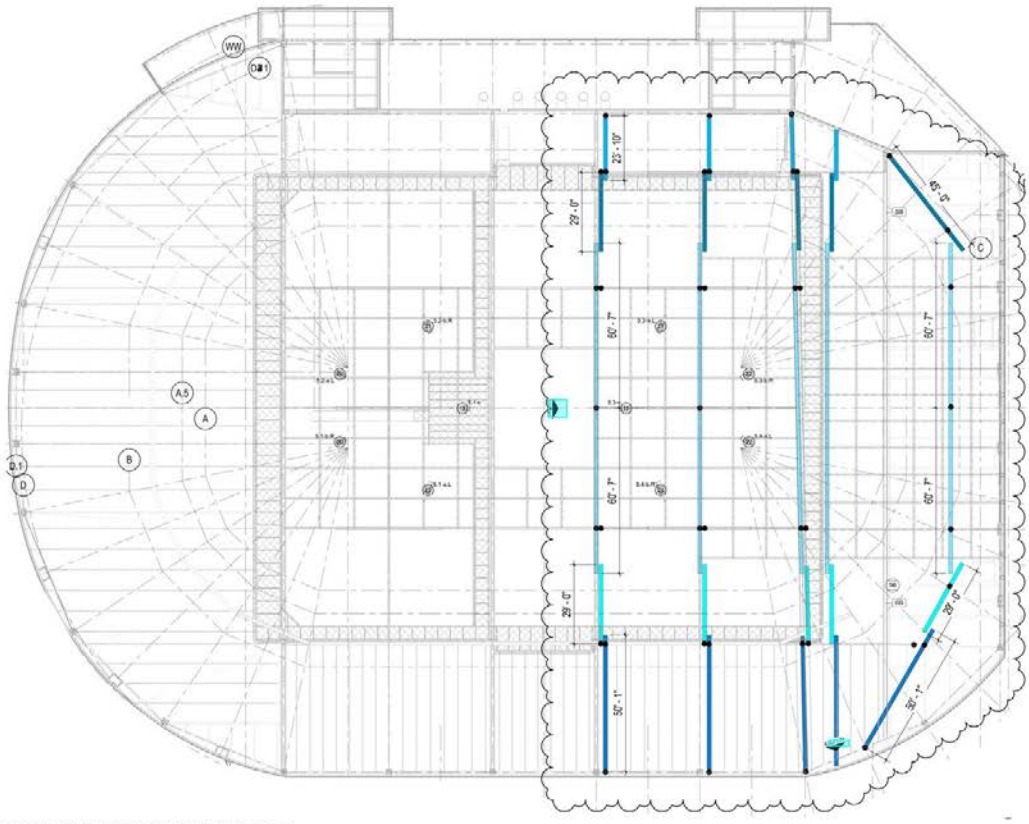


Half House Curtain Plans and Elevation

The Summit Arena is equipped with both half house and house reduction curtains. The half house curtains are used to reduce the floor and seating space visible from one end of the arena to the other. This system is composed of curtains hung off of several lengths of truss, flown with ½ ton CM Lodestar motors, and can be moved up stage and down stage in the arena for different setups (end house, ¾ house, ½ house). The house reduction curtains block off the upper bowl seating.

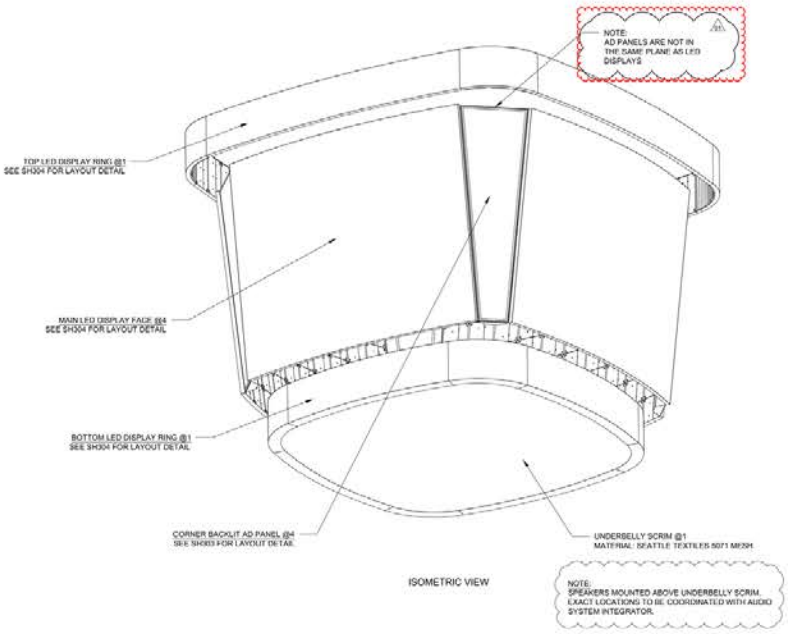


1 HALF HOUSE REDUCTION CURTAINS - EAST ELEVATION



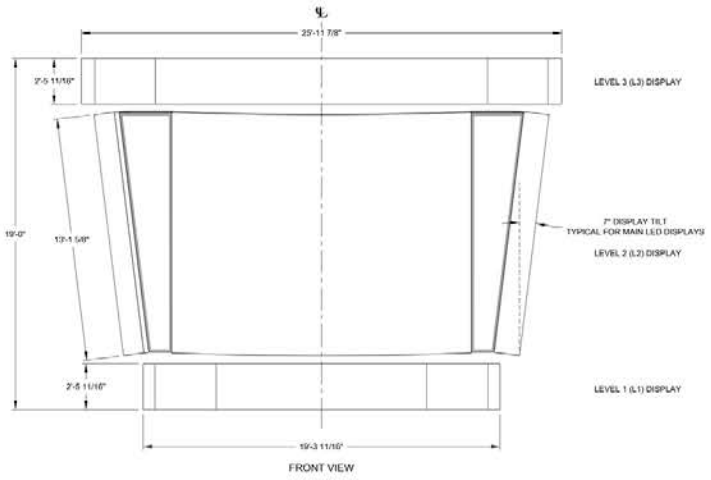
1 HALF HOUSE REDUCTION CURTAINS -OVERALL RCP

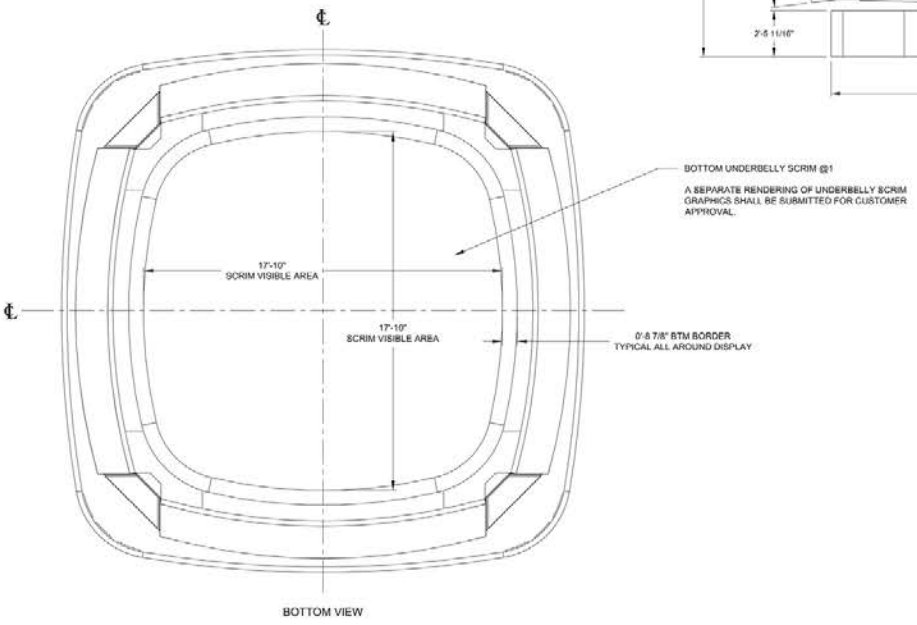
LED Display and Scoring



The house Daktronics Center Hung consists of 4 main displays, a top ring, and a bottom ring, all of which can be raised entirely into the grid, out of sight. There is also a Ribbon that wraps around the North, West, and South sides, and a package of scorers tables for sporting events.

Main Display: 672 x 840
Top Ring: 126 x 4708
Bottom ring: 126 x 3364
Ribbon Display: 48 x 12320
(3) Scorers Tables: 64 x 288





SAFETY AND PRODUCTION

The Monument takes pride in ensuring the safety of all of its guests (both front and back of house). From fire lanes to pyrotechnic regulations, the following are some of the policies the building enforces to maintain a safe environment

EQUIPMENT/ FORK LIFTS

The use of the facility equipment, such as the forklifts, can only be operated by individuals certified by the facility to use that piece of equipment. All equipment should be operated and stored in a safe fashion.

FIRE REGULATIONS

For pyrotechnics, lasers, and open flames, an on-site inspection may be required. All pyrotechnicians will need to have proof of the proper licensing with the ATF. Related paperwork (pyrotechnics, fireproofing certificates, insurances etc.) should be available upon request. For more information or questions please contact the Rapid City Fire Prevention Department at 605.394.5233

CABLES AND CORDS

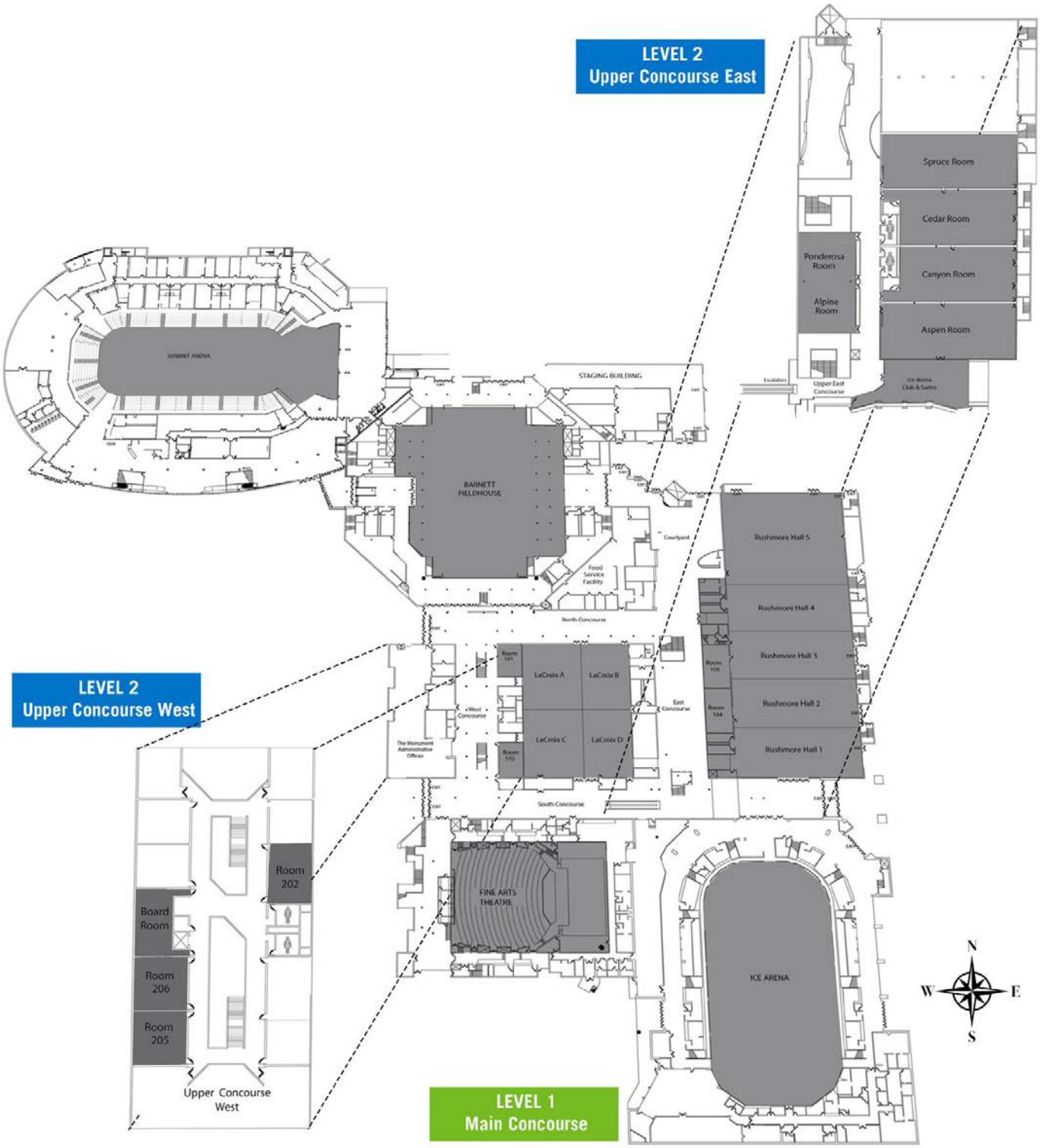
Any cable or cord that is in an area on the floor that is accessible to a guest, employee or member of a visiting tour must be covered by a cable ramp, or some kind of tape in order to minimize a tripping hazard.

LABOR

The Monument has a contract with IATSE Local 731. Calls and labor billing are both through the building. For production labor or equipment estimates, contact Leighton Olson at 605.381.0233 or LeightonO@themonument.live

ALL UNDER ONE ROOF

Total of 480,000 square feet.



HOUSE EQUIPMENT

The Monument carries a large array of Stage Right equipment. To compliment these packages, we have several accessories, such as easy lift stairs, wheel chair ramps and lift, handrails and skirting.

Staging

- 49 – ME-500 Stage Supports – 48”-78”
- 20 – ME-3750 Rolling Stage Supports – 48”-78”
- 347- 4x8 Reversible Decks
- Z-800 portable stage support for riser packages
  (No rolling risers)
  47 – 16”-24” legs
  37 – 24”-32” legs
- Stairs, ADA Ramps, Wheelchair lifts, guardrails, and skirting available
  4- Easy Lift stairs – 48”-78”
  1- Ascension Virtuoso 5460P ADA Lift
  4 ADA Ramp Packages

Rigging

- 4 - 1T CM Lodestar Motor w/ Distro
  (80’ of chain, Ice Arena and Summit Arena only)
- 5 - 1T CM Lodestar Motor w/ Distro
- (50’ of chain, Ice Arena and Theatre Only)
- 2 – 1T CM Lodestar Motors – Pickle Ran only
- (Theatre and Barnett Only)

Rigging cont.

- 10 - 10’ sticks of 12” box truss
- Rigging Steel package
  (assortment of steel and spanset lengths, shackles, and burlap)

The Monument has several pieces of heavy equipment available to rent, including multiple forklifts of different capabilities, various aerial lifts, and scissor lifts.

- **Forklifts**
  1- Mitsubishi - high lift mass that won’t fit into Semis
  2 - Clarke 3k lb. capacity
  1 - Clarke 9k lb. capacity
  1 - Toyota 6k lb. capacity
  2 - sets of slide over fork extenders
- **Lifts**
  1 - Genie Z-60 Boom
  1 - 26’ Scissor Lift
  1 - Genie 36’ single person man lift
  1 - 19’ Scissor Lift
  1 - JLG 300A Lift

HOUSE EQUIPMENT

Portable Video Equipment

- Various sized LED screens on carts
- Projection
  - 6 - Panasonic PTRZ570B – 5,000 Lumen Laser Projector
  - 19'x25' flown projection screen
    - Front and rear project, Theatre Only
  - 9'x12' fast fold projection screen (4:3)
    - Front and rear skins available, bottom drape only
  - 7'x12' fast fold projection screen (9:16)
    - Front and rear skins available, bottom drape only
  - 8'x8' projection screen
- Video Switching Consoles
  - Atem Television Studio HD Pro
  - Atem Mini Extreme Iso
    - SSD Recording Capabilities
  - Atem Mini Pro
- Dedicated Video Recording
  - Black Magic Hyper Deck Studio HD Mini
- Laptops

2 dedicated Production Laptops
  for running content etc.

- Cameras
  - 2 - Newtek PTZ1 NDI cameras
  - 3 - Sony PXW-X160 w/ Tripod
  - 3 - Sony PXW-X200 w/ Tripod

Portable Video Equipment cont.

- Elgato Cam Link 4k HDMI to USB capture device
- 5x Decimator DEC-MD-LX (HDMI/SDI bi-directional converter)
- 2x Dak 70
- 2x 4 channel SDI splitter
- Trip lite SDI to Network adapters (2 input, 3 output)
- 3 SDI to NDI adapters (2 netwek sparks, 1
- 1 - 20x20 SDI Router
- Cabling and adapters

  We have, on hand, a large variety of cables including SDI, HDMI, VGA, and almost every adapter you could think of.

Portable Audio Equipment

- Boards

  Behringer X32 compact
  Behringer X32 Producer
  5 - Behringer Xenyx 1002 (5 Channel)
  1- Behringer
- IO Box

  Behringer S16 (16 channel digital snake)
  2 - MOTU M4 4x4 usb-c audio interface

HOUSE EQUIPMENT

Portable Audio Equipment cont.

- Microphones
  - QLXD G50 (beltpack/handheld combo)
  - Electro Voice RE15 Mic
  - Electro Voice RE16 Mic
  - Shure PZM-6LP Mic
  - Rode NT5 Mic
  - Shure SM53 Mic
  - Sennheiser MKH 416 Mic
  - Shure SM81 Mic
  - Shure Beta 87 Mic
  - Shure SM87 Mic
  - Sennheiser 421 Mic
  - Electro Voice RE20 Mic
  - Crown PCC-160 Mic
  - Sennheiser K3N Mic
  - Shure SM58 Mic
  - Shure MX202B Mic
  - Shure SM57 Mic
  - Shure SM85 Mic
  - Shure 565SD Mic
- Microphone Stands and Podiums
  - Assortment of straight and boom mic stands
    - (Small, large, huge, etc)

- Microphone Stands and Podiums cont.
  - 2 - double goose neck stands
  - 1 - Black truss Podium (lectern)
  - 8 - Golden oak podiums (lectern)
  - 5 - Dark wood veneer podiums (lectern)
  - 1 - Light wood laminated podium
  - 1 - Double wide Gold Oak podium
  - Double step conductors podium
  - Single step conductors podium
  - 50 - Music stands
- Wireless Microphone Distribution
  - RF Venue DISTRO4 w/ fin antenna
- Clear Communication
  - Portable 1 channel comm station
- Miscellaneous
  - 10 channel xlr press box
  - Portable 1 channel clear comm station with beltpacks and muffs
  - Ground Lift Transformers
  - LTI – single channel passive 3.5mm direct box (laptops, ipods, phones, etc)
  - 1 - Portable Hard of Hearing System
- Cabling and adapters

We have, on hand, a large variety of audio cables and adapters for almost every situation.

The complex also carries an array of other equipment.

- Pipe and Drape
  - 2120’ of 8’ Black
  - 120’ of 8’ White
  - 469 - Silver Poles
  - 55 - Black Poles
- US and SD State Flags in various sizes
- 232’ of CC500 Barricade
  - Plus 2 inside and 2 outside corners
- 697’ of Bike Rack



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