BEAVERTON SCHOOL DISTRICT

ALOHA HIGH SCHOOL THEATRE UPGRADES

18550 SW Kinnaman Rd.
Beaverton, OR 97078

opsis
920 NW 17th Ave.
Portland, OR 97209
503.525.9511
www.opsisarch.com

100% CD/BID

01.24.2019
4758-01



PROJECT SCOPE

THE SCHOOL DISTRICT IS RENOVATING FIVE HIGH SCHOOL THEATRES UNDER THIS SCOPE OF WORK, AND FOCUSING ON MODIFICATIONS THAT WILL MAKE THE AREAS IN THE THEATRES SAFER FOR STUDENTS AND STAFF.

AT THIS CAMPUS, THE IMPROVEMENTS CONSIST OF ADDING A RIDIG MIDRAIL AT THE EXISTING CATWALK AND STRENGTHENING THE LOADING GALLERY.

IN ADDITION, THE AUDITORIUM LIGHTING (HOUSE), STAGE LIGHTING (PRODUCTION) AND SYSTEMS WILL BE UPGRADED WITH NEW LED FIXTURES AND CONTROL SYSTEMS. THE EXISTING WORK LIGHTING WILL BE REPLACED AND ADDITIONAL FIXTURES WILL BE ADDED.

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A1.20 ALOHA HIGH SCHOOL - PLAN & DETAILS

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PL3.02 PRODUCTION LIGHTING: SCHEDULES
PL4.01 PRODUCTION LIGHTING: DETAILS

PR1.11 PRODUCTION RIGGING: SECTION

OWNER
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ARCHITECT
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Fax: 503.242.2449
Contact: Shirley Chalupa

ELECTRICAL
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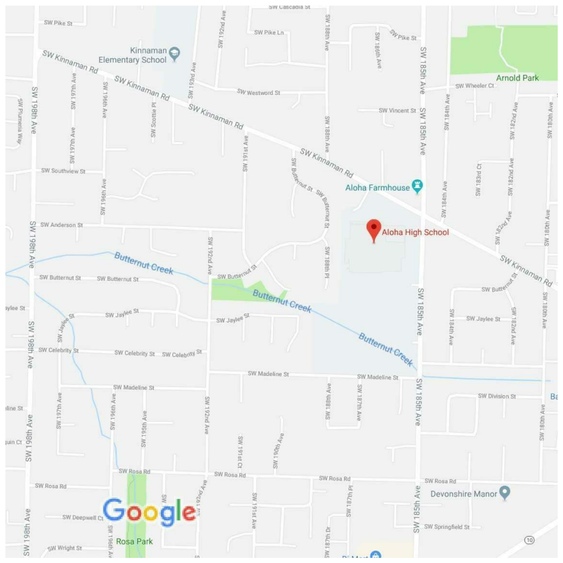
Contact: David Chesley

THEATRE
THE SHALLECK COLLABORATIVE
1553 Martin Luther King Jr Way
Berkeley, California 94709
Phone: 415.956.4100
Contact: Jill Collins



VICINITY MAP

CODE ANALYSIS

CHAPTER 1: ADMINISTRATION

PROJECT ADDRESS:
ALOHA HIGH SCHOOL
18550 SW KINNAMAN ROAD
BEAVERTON, OR 97078

JURISDICTIONAL AUTHORITY:
WASHINGTON COUNTY

APPLICABLE CODE:
2014 OREGON STRUCTURAL SPECIALTY CODE
2014 INTERNATIONAL FIRE CODE
2014 OREGON ELECTRICAL SPECIALTY CODE
2014 OREGON PLUMBING SPECIALTY CODE
NFPA 101 (NOTE: LOCAL CODE WILL TAKE PRECEDENCE. DEVIATIONS FROM NFPA IN INDIVIDUAL SECTIONS.)

OSSC CHAPTER 11:
NOT APPLICABLE TO PROPOSED SCOPE

TAX LOT:
1S213AD03100

ZONING DESIGNATION:
INST

FIRE DISTRICT:
TVFR

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY CLASSIFICATION (Section 303 & 304)
GROUP E EDUCATIONAL OCCUPANCY FOR STUDENTS

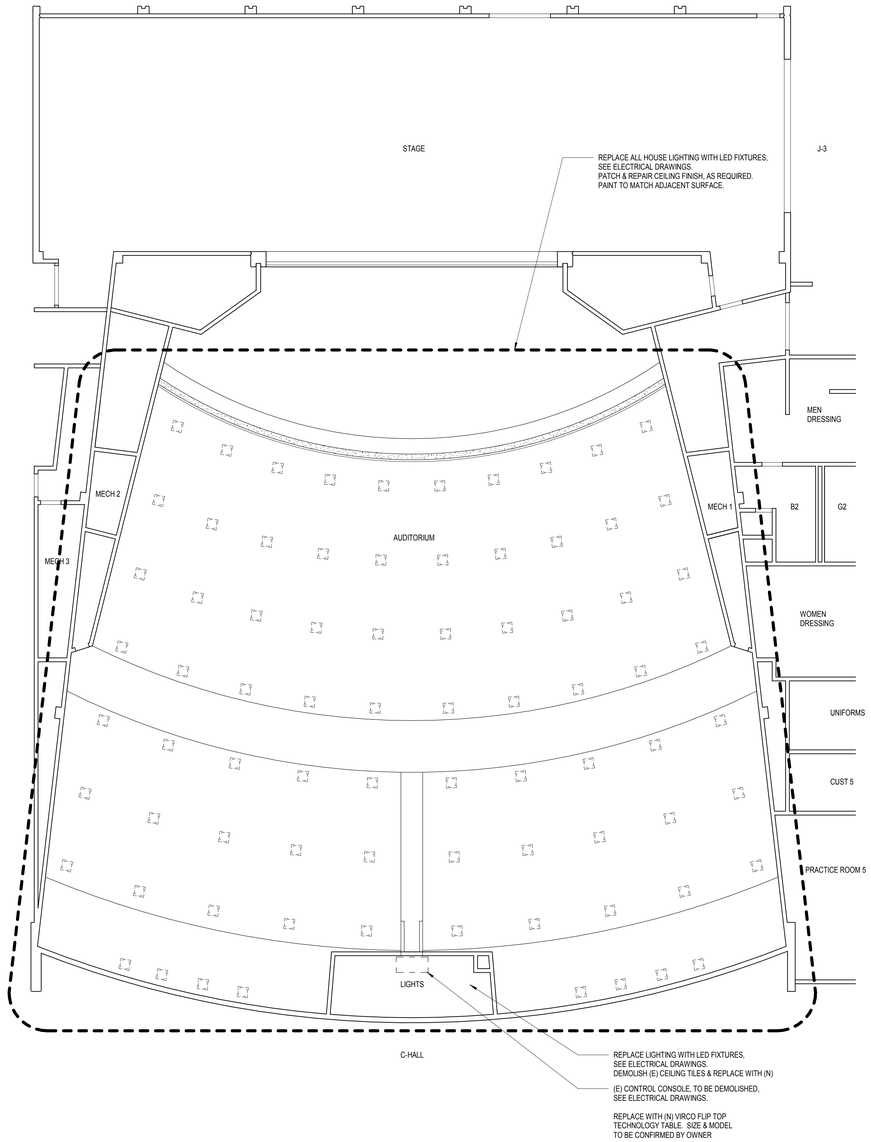
*PER SECTION 303.1.3: ASSEMBLY SPACES IN A GROUP E BUILDING ARE NOT INTENDED TO BE REGULATED AS SEPARATE GROUP A OCCUPANCIES, REGARDLESS OF THEIR FLOOR AREA, BUT RATHER AN EXTENSION OF THE GROUP E CLASSIFICATION.

DEFERRED SUBMITTALS
FIRE SPRINKLER

ALOHA HIGH SCHOOL THEATRE UPGRADES

DEMOLITION NOTES

1. CONTRACTOR SHALL PROVIDE A SCHEDULE OF DEMOLITION TO THE OWNER FOR APPROVAL. CONTRACTOR SHALL NOT COMMENCE WORK IN ANY AREA PRIOR TO WRITTEN APPROVAL FROM THE OWNER FOR EACH STAGE OF THE DEMOLITION SCHEDULE.
2. THE OWNER SHALL HAVE THE OPPORTUNITY TO REMOVE EXISTING MATERIAL AND EQUIPMENT AT HIS OWN EXPENSE PRIOR TO THE START OF DEMOLITION BY THE CONTRACTOR.
3. CONTRACTOR IS TO COORDINATE WITH THE OWNER ANY INTERRUPTIONS OF ANY BUILDING SERVICES WHICH AFFECT THE OPERATION OF THE REMAINING PORTIONS OF THE FACILITY. ANY INTERRUPTIONS TO THESE SERVICES ARE TO BE SCHEDULED IN ADVANCE AND THE DURATION IS TO BE HELD TO THE MINIMUM.
4. CUT EXISTING FINISHES TO BE REMOVED WITH METHODS TO TERMINATED SURFACES IN A STRAIGHT, PLUMB LINE AT A NATURAL POINT OF DIVISION.
6. PATCH, REPAIR AND REFINISH EXISTING ITEMS TO REMAIN TO THE SPECIFIC CONDITION OF EACH MATERIAL WITH A WORKMAN-LIKE TRANSITION TO ADJACENT NEW CONSTRUCTION.
7. PROVIDE ADEQUATE SUPPORT OR ANCHORAGE OF SUBSTRATES TO RECEIVE NEW FINISH MATERIALS.
8. WHEN NEW WORK ABUTS OR FINISHES FLUSH WITH EXISTING WORK, MAKE A SMOOTH WORKMAN-LIKE TRANSITION. PATCHED WORK SHALL MATCH ADJACENT EXISTING WORK IN TEXTURE AND FINISH.
9. A COMPLETE SURVEY FOR VERIFICATION OF THE (E) CONSTRUCTION HAS NOT BEEN PERFORMED AND EXISTING DOCUMENTS ARE NOT ENTIRELY CLEAR. FOR THESE REASONS, THE ARCHITECT AND OWNER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF EXISTING INFORMATION.
10. REFER TO ELECTRICAL DRAWINGS E2.X FOR FIXTURE TYPES & COUNTS.



1 | **DEMOLITION / (E) REFLECTED CEILING PLAN - AUDITORIUM**
AD1.12 1/8" = 1'-0"

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Stamp

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
18550 SW Kinnaman Rd. Beaverton, OR 97078

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Revisions to Sheet

No.	Revision	Date

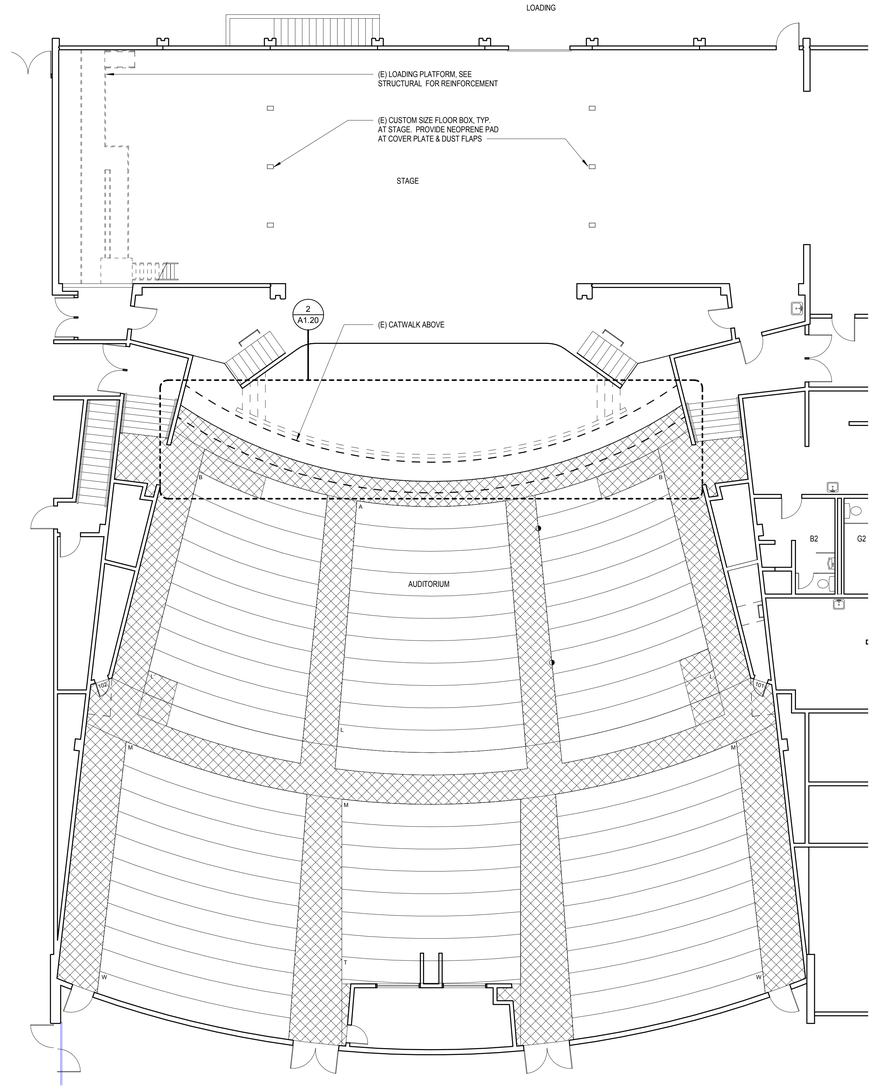
Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
ALOHA HIGH SCHOOL - DEMOLITION REFLECTED CEILING PLAN

Sheet No.
AD1.12

Job No.
4758-01

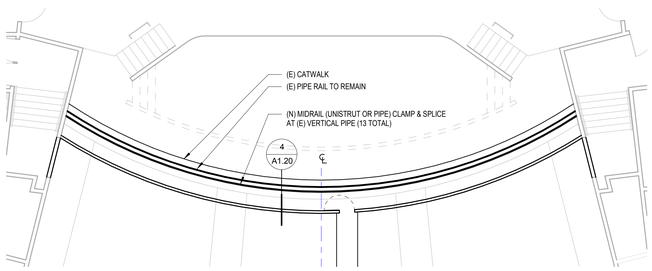


1 | AUDITORIUM FLOOR PLAN - LEVEL 1

A1.20 1/8" = 1'-0"

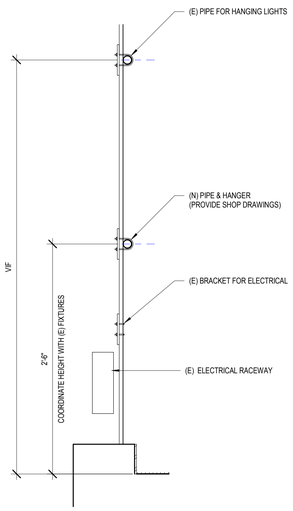


3 | (E) CATWALK RAILING



2 | PARTIAL LOFT PLAN

A1.20 1/8" = 1'-0"



4 | INTERIOR ELEVATION - WEST WALL

A1.20 1 1/2" = 1'-0"

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Revisions to Sheet

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Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
ALOHA HIGH SCHOOL - PLANS & DETAILS

Sheet No.
A1.20

Job No.
4758-01

STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: The design and construction of this project is governed by the **"Oregon Structural Specialty Code (OSSC)", 2014 Edition**, hereafter referred to as the OSSC, as adopted and modified by **Washington County in the state of Oregon** understood to be the Authority Having Jurisdiction (AHJ).

NARRATIVE: The scope of work includes the structural design of the following items:

- Wood framed side lighting platforms located inside existing folding partition closets
- Openings added to existing wood framed walls at the side lighting platforms and horizontal support pipes used for mounting theater lights
- Steel framed platforms extending south of the wood framed platforms and attached to the existing concrete walls
- Steel pipe guardrails attached to the steel platform framing

REFERENCE STANDARDS: Refer to Chapter 35 of 2014 OSSC. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

DEFINITIONS: The following definitions cover the meanings of certain terms used in these notes:

- "**Architect/Engineer**" – The Architect of Record and the Structural Engineer of Record.
- "**Structural Engineer of Record**" **(SER) –** The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- **"Submit for review" -** Submit to the Architect/Engineer for review prior to fabrication or construction.
- "**Per Plan**" – Indicates references to the structural plans, elevations and structural general notes.

SPECIFICATIONS: Refer to the project specifications issued as part of the contract documents for information supplemental to these drawings.

OTHER DRAWINGS: Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, mechanical unit locations, and other nonstructural items.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

STRUCTURAL RESPONSIBILITIES: The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

COORDINATION: The Contractor is responsible for coordinating details and accuracy of the work; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a safe and secure manner.

MEANS, METHODS and SAFETY REQUIREMENTS: The contractor is responsible for the means and methods of construction and all job related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health).

TEMPORARY SHORING, BRACING: The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

CHANGES IN LOADING: The contractor has the responsibility to notify the SER of any architectural, mechanical, electrical, or plumbing load imposed onto the structure that differs from, or that is not documented on the original Contract Documents (architectural / structural / mechanical / electrical or plumbing drawings).

NOTE PRIORITIES: Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

DISCREPANCIES: In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

ADJACENT UTILITIES: The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, shoring, and excavation. Any utility information shown on the drawings and details is approximate and not necessarily complete.

ALTERNATES: Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical documentation or that significantly deviate from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

DESIGN CRITERIA AND LOADS

OCCUPANCY:	Risk Category of Building per 2014 OSSC Table 1604.5 =	**III**

DESIGN LIVE LOADS	**AREA**	**LIVE LOADS (PSF) LINO**	**REMARKS & FOOTNOTES**
	Handrails & Pedestrian Guardrails	50 PLF or 200 LB	(1)
	Catwalks (limited access)	40	300 lbs

(1) Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.
(2) Place 300 lb concentrated load over 2"x2" area at any point to produce maximum stress. Area load and concentrated load are to be considered separately with worst case used for design.

SUBMITTALS

SUBMIT FOR REVIEW: SUBMITTALS of shop drawings, and product data are required for items noted in the individual materials sections and for *bidder designed* elements.

SUBMITTAL REVIEW PERIOD: Submittals shall be made in time to provide a minimum of TWO WEEKS or 10 WORKING DAYS for review by the Architect/Engineer prior to the onset of fabrication.

GENERAL CONTRACTOR'S PRIOR REVIEW: Prior to submission to the Architect/Engineer, the Contractor shall review the submittal for completeness. Dimensions and quantities are not reviewed by the SER, and therefore, must be verified by the General Contractor. Contractor shall provide any necessary dimensional details requested by the Detailer and provide the Contractor's review stamp and signature before forwarding to the Architect/Engineer.

SHOP DRAWING REVIEW: Once the contractor has completed his review, the SER will review the submittal for general conformance with the design concept and the contract documents of the building and will stamp the submittal accordingly. Markings or comments shall not be construed as relieving the contractor from compliance with the project plans and specifications, nor departures there from. The SER will return submittals in the form they are submitted in (either hard copy or electronic). For hard copy submittals, the contractor is responsible for submitting the required number of copies to the SER for review.

INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

INSPECTIONS: Foundations, footings, under slab systems and framing are subject to inspection by the Building Official in accordance with OSSC 110.3. Contractor shall coordinate all required inspections with the Building Official.

SPECIAL INSPECTIONS, VERIFICATIONS and TESTS: Special Inspections, Verifications and Testing shall be done in accordance with OSSC Chapter 17, the STATEMENT AND SCHEDULES OF SPECIAL INSPECTIONS on S0.12, and the AHJ STATEMENT OF SPECIAL INSPECTION and/or STATEMENT OF STRUCTURAL OBSERVATIONS.

STRUCTURAL OBSERVATION: per OSSC Section 1704.6

Structural Observation is the visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. It is not always required on a project, does not include or waive the responsibility for the special inspections and tests required by a Special Inspector per OSSC Chapter 17, is not continuous, and does not certify conformance with the approved construction documents.

Structural Observation for this project is not required per OSSC Section 1704.6.

CONTRACTOR RESPONSIBILITY: Prior to issuance of the building permit, the Contractor is required to provide the Authority Having Jurisdiction a signed, written acknowledgement of the Contractor's responsibilities associated with the above Statement of Special Inspections addressing the requirements listed in OSSC Section 1704.4. Contractor is referred to OSSC Sections 1705.12.5 and 1705.12.6 for architectural and MEP building systems that may be subject to additional inspections (based on the building's designated Seismic Design Category listed in the CRITERIA), including anchorage of HVAC ductwork containing hazardous materials, piping systems and mechanical units containing flammable, combustible or highly toxic materials, electrical equipment used for emergency or standby power, exterior wall panels and suspended ceiling systems.

POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

REFERENCE STANDARDS: Conform to:
1) OSSC Chapter 19 "Concrete"
2) ACI 318-11 "Building Code Requirements for Structural Concrete"
3) OSSC Chapter 21 "Masonry"
4) ACI 530-11/ASCE 5-11/TMS402-11 "Building Code Requirements for Masonry Structures"

POST-INSTALLED ANCHORS: Install only where specifically shown in the details or allowed by SER. All post-Installed anchors types and locations shall be approved by the SER and shall have a current ICC-Evaluation Service Report that provides relevant design values necessary to validate the available strength exceeds the required strength. Submit current manufacturer's data and ICC ESR report to SER for approval regardless of whether or not it is a pre-approved anchor. Anchors shall be installed in strict accordance to ICC-ESR and manufacturer's instructions. No reinforcing bars shall be damaged during installation of post-installed anchors. Special inspection shall be per the TESTS and INSPECTIONS section. Anchor type, diameter and embedment shall be as indicated on drawings.

1. ADHESIVE ANCHORS: The following Adhesive-type anchoring systems have been used in the design and shall be used for anchorage to CONCRETE, as applicable and in accordance with corresponding current ICC ESR report. Drilled-in anchor embedment lengths shall be as shown on drawings, or not less than 7 times the anchor nominal diameter (7D).
   a. HILTI "HIT-HY 200" – ICC ESR-3187 for anchorage to CONCRETE with embedment depth less than or equal to 20 bar diameters
   b. HILTI "HIT-RE 500 SD" – ICC ESR-2322 for anchorage to CONCRETE with any embedment depth
   c. SIMPSON "SET-XP" – ICC ESR 2508 for anchorage to CONCRETE
   d. POWERS "PE1000" – ICC ESR-2583 for anchorage to CONCRETE
2. EXPANSION ANCHORS: The following Expansion type anchors are pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
   a. HILTI "KWIK BOLT TZ" – ICC ESR-1917 for CONCRETE Only
   b. SIMPSON "STRONG-BOLT 2" – ICC ESR-3037 for CONCRETE Only
   c. POWERS "POWER-STUD + SD1" – ICC ESR-2818 for CONCRETE Only
3. SCREW ANCHORS: The following Screw type anchor is pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
   a. SIMPSON "TITEN HD" – ICC ESR-2713 for CONCRETE Only and ICC ESR-1056
   b. POWERS "WEDGE-BOLT +" – ICC ESR-2526 for CONCRETE Only
   c. HILTI "HUS-EZ" – ICC ESR-3027 for anchorage to CONCRETE Only

STRUCTURAL STEEL

REFERENCE STANDARDS: Conform to:
1) OSSC Chapter 22 – "Steel"
2) ANSI/AISC 303-10 – "Code of Standard Practice for Steel Buildings & Bridges"
3) AISC – "Manual of Steel Construction", Fourteenth Edition (2010)
4) ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
5) AWS D1.1:2010 – "Structural Welding Code – Steel"

SUBMITTALS: Submit the following documents to the SER for review:

(1) SHOP DRAWINGS complying with AISC 360 Sections M1and N3 and AISC 303 Section 4.
(2) ERECTION DRAWINGS complying AISC 360 Sections M1and N3 and AISC 303 Section 4.

Make copies of the following documents "Available upon Request" to the SER or Owner's Inspection Agency in electronic or printed form prior to fabrication per AISC 360 Section N3.2 requirements:

(1) Fabricator's written Quality Control Manual that includes, as a minimum:
   a. Material Control Procedures
   b. Inspection Procedures
   c. Non-conformance Procedures
(2) Steel & Anchor Rod suppliers' Material Test Reports (MTR's) indicating the compliance with specifications.
(3) Fastener manufacturer's Certification documenting conformance with the specification.
(4) Filler metal manufacturer's product data for SMAW, FCAW and GMAW indicating:
   a. Product specification compliance
   b. Recommended welding parameters
   c. Recommended storage and exposure requirements including baking
   d. Limitations of use
(5) Welded Headed (Shear) Stud Anchors Manufacturer's certification indicating the meet specifications.
(6) Weld Procedure Specifications (WPS's) for shop and field welding.
(7) Manufacturer's Certificates of Conformance for electrodes, fluxes and gases (welding consumables).

(8) Procedure Qualification Records (PQR's) for WPS's that are not prequalified in accordance with AWS.
(9) Welding personnel Performance Qualification Records (WPQR) and continuity records conforming to AWS standards

MATERIALS:
Structural steel materials shall conform to materials and requirements listed in AISC 360 section A3 including, but not limited to:

Channel (C) & Angle (L) Shapes	ASTM A36,	Fy = 36 ksi
Structural Plate (PL)	ASTM A36,	Fy = 36 ksi
Hollow Structural Section – Square/Rect (HSS)	ASTM A500, Grade B	Fy = 46 ksi
Structural Pipe, (PIPE) 12" dia. and less	ASTM A53, Grade B	Fy = 35 ksi
High Strength, Heavy Hex Structural Bolts	ASTM A325/F1852, Type 1 or 3, Plain	
Heavy Hex Nuts	ASTM A563, Grade and Finish per RCSC Table 2.1	
Washers (Hardened Flat or Beveled)	ASTM F436, Grade and Finish per RCSC Table 2.1	
Anchor Rods (Anchor Bolts, typical)	ASTM F1554, Gr. 36	
Mild Threaded Rods	ASTM A36,	Fy = 36 ksi

STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS:
1) ASTM A325-N bolts – "threads NOT excluded in the shear plane".
2) High-strength bolted joints have been designed as "BEARING" connections.
3) Provide ASTM Bolt Grade and Type as specified in the Materials section above.
4) Provide Washers over outer ply of slotted holes and oversize holes per RCSC Table 6.1.
5) Provide Nut and Washer grades, types and finishes conforming to RCSC specification Table 2.1.
6) Provide *fastener assemblies* from a single supplier.
7) Joint Types shall be:
   a. ST - "Snug Tight", for typical beam end "shear" connections, unless *noted* otherwise.
8) Install bolts in joints in accordance with the RCSC Specification Section 8 and Table 4.1.
9) Inspection is per RCSC Section 9.

FABRICATION:
1) Conform to AISC 360 Section M2 "Fabrication" and AISC 303 Section 6 "Shop Fabrication".
2) Quality Control (QC) shall conform to:
   a. AISC 360 Chapter N "Quality Control and Quality Assurance" and
   b. AISC 303 Section 8 "Quality Control".
   c. Fabricator and Erector shall establish and maintain written Quality Control (QC) procedures per AISC 360 section N3.
   d. Fabricator shall perform self-inspections per AISC 360 section N5 to ensure that their work is performed in accordance with Code of Standard Practice, the AISC Specification, Contract Documents and the Applicable Building Code.
   e. QC inspections may be coordinated with Quality Assurance inspections per Section N5.3 where fabricators QA procedures provide the necessary basis for material control, inspection, and control of the workmanship expected by the Special Inspector.

WELDING:
1) Welding shall conform to AWS D1.1 with Prequalified Welding Processes except as modified by AISC 360 section J2. Welders shall be qualified in accordance with AWS D1.1 requirements.
2) Use 70ksi strength, low-hydrogen type electrodes (E7018) or E71T as appropriate for the process selected.
3) Welding of high strength anchor rods is prohibited unless approved by Engineer.
4) Welding of headed stud anchors shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding".

ERECTION:
1) Conform to AISC 360 Section M4 "Erection" and AISC 303 Section 7 "Erection".
2) Conform to AISC 360 Chapter N "Quality Control and Quality Assurance" and AISC 303 Section 8.
   a. The Erector shall maintain detailed erection quality control procedures that ensure that the work is performed in accordance with these requirements and the Contract Documents.
3) Steel work shall be carried up true and plumb within the limits defined in AISC 303 Section 7.13.
4) High strength bolting shall comply with the RCSC requirements including RCSC Section 7.2 "Required Testing", as applicable and AISC 360 Chapter J, Section M2.5 and Section N5.6.
5) Welding of HEADED STUD ANCHORS shall be in accordance with AWS D1.1 Chapter 7 "Stud Welding.
6) Provide Headed (Shear) Stud Anchors welded through the metal deck to tops of beams denoted in plans.
7) The contractor shall provide temporary bracing and safety protection required by AISC 360 Section M4.2 and AISC 303 Section 7.10 and 7.11.

PROTECTIVE COATING REQUIREMENTS:
1) SHOP PAINTING: Conform to AISC 360 Section M3 and AISC 303 Section 6.5 unless otherwise specified by the project specifications.

2) INTERIOR STEEL:
   a. Unless noted otherwise, ***do not paint*** any of the steel surfaces meeting the following conditions:
      - Concealed by the interior building finishes,
      - Fireproofed,
      - Embedded in concrete,
      - Specially prepared as a "faying surface" for Type-SC "slip-critical" connections including bolted connections that form a part of the Seismic Force Resisting System governed by AISC 341 unless the coating conforms to requirements of the RCSC Bolt Specification and is approved by the Engineer.
      - Welded; if area requires painting, do not paint until after weld inspections and non-destructive testing requirement, if any, are satisfied.

   b. Interior steel, exposed to view, shall be painted with one coat of shop primer unless otherwise indicated in the project specifications. Field touch-ups to match the finish coat or as otherwise indicated in the project specifications.

ARCHITECTURALLY EXPOSED STRUCTURAL STEEL: Steel identified by the Architect on the architectural drawings as Architecturally Exposed Structural Steel, (AESS) shall conform to AISC 303 Section 10.

BAR GRATING

DESIGN STANDARDS: Conform to:
1) ANSI/AISC 360-10 – "Specification for Structural Steel Buildings"
2) OSHA and similar State agency safety requirements in the layout, details, and construction of all handrail, ladders, cages and elevated platforms.

MATERIALS: Provide steel per ASTM A569 or A36.

Bar Grating:
1) Unless noted otherwise, provide welded steel grating conforming to ASTM A1011-10 at elevated platforms consisting of 1-1/4" x 3/16" bearing bars spaced at 3/16" on centers with cross members spaced at 4" on centers.
2) Maximum design grating span is 6'-0" for aforementioned bearing bar sizes with a maximum ¼" deflection under 100 psf loading. Grating substitutions shall meet this performance requirement.
3) Provide banding at edges, pipe penetrations, cutouts, and stair and ladder landings with bar matching bearing bar strength or toe-plates where required for protection. Weld banding at each end and at every fourth bar where bearing bars are interrupted by penetrations.
4) Cut-outs around equipment shall maintain an even clearance of 2" between the toe-plate and the surface of equipment (insulation where applicable). Cut-outs for pipes shall center at the pipe's center and shall have a diameter of the flange for the pipe's size and weight plus 2" to provide a clearance of 1" around the flange to accommodate the pipe's passage.
5) Layout and fabricate grating panels such that bearing bars of adjacent panels align. Junctions of bearing bars and crossbars shall be fully fused with no deduction in the bearing bar.
6) Stair treads shall have non-skid nosing and shall be bolted to stringers with A307 bolts.

Grating Anchorage:
1) Secure grating to support framing with manufacturer's recommended fastening system that securely anchors the grating **per plan details, without loosening under vibrations**, **and allows removal & replacement for maintenance**. Provide a minimum of four anchor locations per panel and at not more than 48 inches along supports.
2) Non-removable grating shall be welded to support members with 2" long x 3/16" fillet welds at every eighth bearing bar and every other cross member at each side of grating panel.
3) Removable grating shall be fastened to support members with:
   a. Anchor clips with thru-bolts (ASTM A307 galv)
4) Repair damaged finishes as required.

WOOD FRAMING

REFERENCE STANDARDS: Conform to:
(1) OSSC Chapter 23 "WOOD"
(2) NDS - "2014 National Design Specification (NDS) for Wood Construction"
(3) ANSI/AF&PA – SDPWA-08: Special Design Provisions for Wind and Seismic
(4) APA PDS—04 Plywood Design Specification
(5) ANSI/TPI 1-2007 "National Design Standard for Metal-Plate-Connected Wood Truss Construction"
(6) BCSI "Guide to Good Practice for Handling, Installing & Bracing of Metal Plated Connected Wood Trusses"
(7) TPI DSB "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses"
(8) APA Report TT-045B "Minimum Nail Penetration for Wood Structural Panel Connections Subject to Lateral Loads"

IDENTIFICATION: All sawn lumber and pre-manufactured wood products shall be identified by the grade mark or a certificate of inspection issued by the certifying agency.

MATERIALS:

- Sawn Lumber: Conform to grading rules of WWPA, WCLIB or NLGA and Table below. Finger jointed studs acceptable at interior walls only.

TABLE of SOLID SAWN LUMBER

Member Use	Size	Species	Grade
Wall Stud	2x4, 3x4, 2x6, 3x6	Doug Fir Larch	No. 2
Sill Plate	2x4, 3x4, 2x6, 3x6	PT Doug Fir Larch	No. 2
Post	4x4, 4x6, 4x8	Doug Fir Larch	No. 2
Floor or Roof Joist	2x6 through 2x12	Doug Fir Larch	No. 2
Beam	4x8 through 4x12	Doug Fir Larch	No. 2
Beam	6x8 through 6x12	Doug Fir Larch	No. 1
Post or Timber	6x6, 8x8	Doug-Fir Larch	No. 1

- Glued Laminated Timber: Conform to AITC 11**7-2004** "Standard Specifications for Structural Glue-laminated Timber of Softwood Species, Manufacturing and Design" and ANSI/AITC A190.1 "Structural Glued Laminated Timber." Camber all glued laminated beams, except cantilevered and continuous beams, to 3000' radius, unless shown otherwise on the plans.

TABLE of GLULAM and GRADE

Member	Sizes	Species	Comb. Symbol	Uses
Beams	All	DF/DF	24F–V4	Simple Spans

- Wood Structural Sheathing (Plywood): Wood APA-rated structural sheathing includes: all veneer plywood, oriented strand board, waferboard, particleboard, T1-11 siding, and composites of veneer and wood based material with T&G joint. **Architect** may disallow OSB. Confirm with **Architect**. Conform to "Construction and Industrial Plywood" based on Product Standard PS 1-07 by the U.S. Dept. of Commerce, and "Performance Standard for Wood-Based Structural-Use Panels" based on Product Standard PS 2-04 by the U.S. Dept. of Commerce and "Plywood Design Specification" based on APA PDS—04 by the American Plywood Association. Unless noted otherwise, sheathing shall comply with the following table:

TABLE of SHEATHING - Use, Minimum Thickness and Minimum APA Rating

Location	Thickness	Span Rating	Plywood Grade	Exposure
Floor	23/32" T&G	24 OC	STURD-I-FLOOR	1
Walls	15/32"	32/16	C-D	1

Unless noted otherwise on drawings, install roof and floor panels with long dimension across supports and with panel continuous over two or more spans. End joints shall occur over supports.

- Timber Connectors: Shall be "Strong Tie" by Simpson Company as specified in their latest catalog. Alternate connectors by other manufacturers may be substituted provided they have current ICC approval for equivalent or greater load capacities and are reviewed and approved by the SER prior to ordering. Connectors shall be installed per the manufacturer's instructions. Where connector straps connect two members, place one-half of the nails or bolts in each member.
- Fasteners (nails, bolts, screws, etc) attaching timber connectors (joist hangers, post caps and bases, etc) to PT wood shall have similar corrosion resistance properties (matching protective treatments) as the protected connector. Fasteners (nails, bolts, screws, etc) attaching sawn timber members or sheathing (shear walls) to PT wood be corrosion resistant; nails and lag bolts shall be either HDG (ASTM A153) or stainless steel. Verify the suitability of the fastener protection/coating with the wood treatment chemical manufacturer/supplier.

  Provide washers under the heads and nuts of all bolts and lag screws bearing on wood.
- Lag Bolts/Bolts: Conform to ASTM A307 and OSSC Section 2304.9.

NAILING REQUIREMENTS: Conform to OSSC Section 2304.9 "Connections and fasteners." Unless noted on plans, nail per Table 2304.9.1. Nailing for roof/floor diaphragms/shear walls shall be per drawings. Nails shall be driven flush and shall not fracture the surface of sheathing. Alternate nails may be used but are subject to review and approval by the Structural Engineer. Substitution of staples for the nailing of rated sheathing is subject to review by the structural engineer prior to construction.

STANDARD LIGHT-FRAME CONSTRUCTION: Unless noted on the plans, construction shall conform to OSSC Section 2308 "Conventional Light-Frame Construction."

MOISTURE CONTENT: Wood material used for this project shall have maximum moisture content of 19% except for the pressure-treated wood sill plate. Refer to TESTING & INSPECTIONS for the verification of these limits. The maximum moisture content required may be less than 19% when based on a particular cladding/insulation system. Refer to the Architect's drawings, and project specifications, or with cladding installer for maximum recommended moisture content.

PRESERVATIVE TREATMENT (PT): Wood materials are required to be "treated wood" in accordance with OSSC Section 2304.11. "Decay and Termite Protection" shall conform to the appropriate standards of the American Wood-Preservers Association (AWPA) for sawn lumber, glued laminated timber, round poles, wood piles and marine piles. Follow American Lumber Standards Committee (ALSC) quality assurance procedures. Products shall bear the appropriate mark. Fasteners or anchors in treated wood shall be of stainless steel or hot-dipped galvanized or as per OSSC 2304.9.5.

Always verify the suitability of the fastener protection/coating with the wood treatment chemical manufacturer/supplier.

DRAWING LEGEND

MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)		INDICATES WIDE FLANGE COLUMN
P1	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN
A	TILT–UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
W6	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)		INDICATES WOOD POST
1	REVISION TRIANGLE		INDICATES BUNDLED STUDS
1	TILT–UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT–UP/PRECAST CONCRETE WALL ELEVATIONS)		INDICATES CONCRETE COLUMN
1	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)		INDICATES PRECAST CONCRETE COLUMN
8"	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)		INDICATES MOMENT FRAME CONNECTION
DS	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)		INDICATES DRAG CONNECTION
SR	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)		INDICATES WOOD OR STEEL STUD WALL
1	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)		INDICATES MASONRY/CMU WALL
C1	STEEL COLUMN SYMBOL (REFER TO STEEL COLUMN SCHEDULE)		INDICATES CONCRETE/TILT–UP CONCRETE WALL
T/SLAB X'–X"	ELEVATION SYMBOL (T/ REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)		INDICATES WOOD OR STEEL STUD SHEAR WALL
3	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)		INDICATES BEARING WALL BELOW
	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)		INDICATES EXISTING WALL
X/SX.X	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)		POST–TENSION DEAD END (PLAN)
2 S4.0	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)		POST–TENSION STRESSING END (PLAN)
X/SX.X	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	3	POST–TENSION PROFILE (PLAN) (IN INCHES)
	SPAN INDICATOR (INDICATES EXTENTS OF FRAMING MEMBERS OR OTHER STRUCTURAL COMPONENTS)		INTERMEDIATE STRESSING (PLAN)
	INDICATES DIRECTION OF DECK SPAN		

ABBREVIATIONS

℄	Angle	FIN	Finish	PSI	Pounds Per Square Inch
AB	Anchor Bolt	FLR	Floor	PSL	Parallel Strand Lumber
ADDL	Additional	FRP	Fiberglass Reinforced Plastic	PSL	Pressure Treated
ADH	Adhesive	FRT	Fire Retardant Treated	P–T	Post–Tensioned
ALT	Alternate	FTG	Footing	PT	Pressure Treated
ARCH	Architectural	F/	Face of	R	Radius
B or BOT	Bottom	GA	Gage	RD	Roof Drain
B/	Bottom Of	GALV	Galvanized	REF	Refer/Reference
BLDG	Building	GEOTECH	Geotechnical	REINF	Reinforcing
BLKG	Blocking	GL	Glue Laminated Timber	REQD	Required
BMU	Brick Masonry Unit	GWB	Gypsum Wall Board	RET	Retaining
BP	Baseplate	HDR	Header	SCBF	Special Concentric Braced Frame
BRBF	Buckling Restrained Braced Frame	HF	Hem–Fir	SCHED	Schedule
BRG	Bearing	HGR	Hanger	SFRS	Seismic Force–Resisting System
BTWN	Between	HD	Hold–down	SHTHG	Sheathing
℄	Centerline	HORIZ	Horizontal	SIM	Similar
C	Centerline	HP	High Point	SLBB	Short Leg Back–to–Back
CB	Castellated Beam	HSS	= TS (Hollow Structural Section)	SMF	Special Moment Frame
C'BORE	Counterbore	IBC	International Building Code	SOG	Slab on Grade
CIP	Cast in Place	ID	Inside Diameter	SP	Southern Pine
CJ	Construction or Control Joint	IE	Invert Elevation	SPEC	Specification
CLG	Ceiling	IF	Inside Face	SQ	Square
CLR	Clear	INT	Interior	SR	Studrail
CLT	Cross–Laminated Timber	k	Kips	SF	Square Foot
CMU	Concrete Masonry Unit	KSF	Kips Per Square Foot	SST	Stainless Steel
COL	Column	LF	Lineal Foot	STAGG	Stagger/Staggered
CONC	Concrete	LL	Live Load	STD	Standard
CONN	Connection	LLBB	Long Leg Back–to–Back	STIFF	Stiffener
CONST	Construction	LLH	Long Leg Horizontal	STL	Steel
CONT	Continuous	LLV	Long Leg Vertical	STRUCT	Structural
C'SINK	Countersink	LP	Low Point	SWMJ	Solid Web Wood Joist
CTRD	Centered	LSL	Laminated Strand Lumber	SYM	Symmetrical
ø	Diameter	LVL	Laminated Veneer Lumber	T	Top
DB	Drop Beam	MAS	Masonry	T/	Top Of
DBA	Deformed Bar Anchor	MAX	Maximum	T&B	Top & Bottom
DBL	Double	MCH	Mechanical	TC AX LD	Top Chord Axiol Load
DEMO	Demolish	MEZZ	Mezzanine	TCX	Top Chord Extension
DEV	Development	MFR	Manufacturer	TDS	Tie Down System
DF	Douglas Fir	MIN	Minimum	T&G	Tongue & Groove
DIAG	Diagonal	MISC	Miscellaneous	THKND	Thickened
DIST	Distributed	NIC	Not In Contract	THRD	Threaded
DL	Dead Load	NLT	Nail–Laminated Timber	THRU	Through
DN	Down	NTS	Not To Scale	TRANSV	Transverse
DO	Ditto	OC	On Center	TYP	Typical
DP	Depth/Deep	OCBF	Ordinary Concentric Braced Frame	UBC	Uniform Building Code
DWG	Drawing	OD	Outside Diameter	UNO	Unless Noted Otherwise
(E)	Existing	OF	Outside Face	URM	Unreinforced Masonry Unit
EA	Each	OPNG	Opening	VERT	Vertical
EF	Each Face	OPP	Opposite	W	Wide
EL	Elevation	OWSJ	Open Web Steel Joist	W/	With
ELEC	Electrical	OWWJ	Open Web Wood Joist	W/O	Without
ELEV	Elevator	PL	Plate	WHS	Welded Headed Stud
EMBED	Embedment	PAF	Powder Actuated Fastener	WP	Working Point
EQ	Equal	PC	Precast	WWF	Welded Wire Fabric
EQUIP	Equipment	PERP	Perpendicular	±	Plus or Minus
EW	Each Way	PLWD	Plywood		
EXP	Expansion	PP	Partial Penetration		
EXP JT	Expansion Joint	PREFAB	Prefabricated		
EXT	Exterior	PSF	Pounds per Square Foot		
FD	Floor Drain				
FDN	Foundation				

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Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
18550 SW Kinnaman Rd.
Beaverton, OR 97078

Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
STRUCTURAL GENERAL NOTES, LEGEND & ABBREVIATIONS

Sheet No.
S0.11

DCI Job No.
16031-0008

16031-0008 - ALOHA - S011.dwg24 - Jan - 19 10:28 AM BenAvanchi

SPECIAL INSPECTIONS

The following Statement and Schedules of Inspections are those Special Inspections and Tests that shall be performed for this project. Special Inspectors shall reference these plans and IBC Chapter 17 for all special inspection requirements.
The owner shall retain to provide special inspections for this project. Special Inspectors shall be qualified persons per IBC 1704.2.1.
Special inspection reports shall be provided on a weekly basis. Submit copies of all inspection reports to the Architect/Engineer and the Authority Having Jurisdiction for review. In addition to special inspection reports and tests, submit reports and certificates noted in IBC 1704.5 to the Authority Having Jurisdiction. Final special inspection reports will be required by each special inspection firm per IBC 1704.2.4.

STATEMENT OF SPECIAL INSPECTIONS:
This statement of Special Inspections has been written with the understanding that the Building Official will:
- **Review and approve the qualifications of the Special Inspectors**
- **Monitor the special inspection activity on the project site to assure that Special Inspectors are qualified and performing their duty as state within this statement.**
- **Review all Special Inspection Reports submitted to them by the Special Inspector**
- **Perform inspections as required by IBC Section 110.3.**

The following Special Inspections are applicable to this project:
- **Special Inspections for Standard Buildings (per IBC 1705.1) REQUIRED**

SPECIAL INSPECTION OF SHOP FABRICATED GRAVITY LOAD-BEARING MEMBERS AND ASSEMBLIES:
Special Inspection of shop fabricated Gravity Load Bearing Members & Assemblies shall be verified by the Special Inspector as stated in Section 1704.2.5 which includes the following:

- **Prior to the start of fabrication:** Special Inspector(s), representing the Owner, shall visit the Fabricator's shop(s) where the work is to be performed, and verifies that the Fabricator maintains detailed Fabrication and Quality Control procedures that provide a basis for inspection, control of workmanship, material control, and fabricator's ability to conform to approved Construction Documents and referenced Standards.
- Fabricator shall have available for Inspector's review, detailed procedures for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and applicable test reports for primary load-carrying members, are capable of being determined.

STRUCTURAL STEEL per IBC 1705.2.1

A qualified Special Inspector of an "approved agency" providing Quality Assurance (QA) Special Inspections for the project shall review and confirm the Fabricator and Erector's Quality Control (QC) procedures for completeness and adequacy relative to AISC 360-10 Chapter N, AISC 303-10 Code of Standard Practice, AWS D1.1-2010 Structural Welding Code, and 2015 IBC code requirements for the fabricator's scope of work.

Contractors non-compliant with AISC and AWS Quality Control procedures shall be subject to Continuous Shop Special Inspection of all steel fabrications. Contractor to obtain Owner's, Architect/Engineer's and Authority Having Jurisdiction's Approval prior to any fabrication.

Waiver of Special Inspection - Fabricator Approval Verification per IBC Section 1704.2.5.1: Special Inspections at the Shop may be waived where Fabricator has been audited for Quality Control by an approved inspection agency and is currently registered or otherwise accepted by the Authority Having Jurisdiction (AHJ) to perform both Quality Control (QC) and Quality Assurance (QA) inspections. Fabricator is approved to perform fabrication without Special Inspections and shall at the completion of fabrication provide a "Certificate of Compliance" to the Authority Having Jurisdiction stating that the work was performed in accordance with the approved Construction Documents.

- QA Agency providing Special Inspections shall provide personnel meeting the minimum qualification requirements for Inspection and Nondestructive Testing NDT per AISC 360-10 Section N4.
- Verify Fabricator and Erector QC Program per AISC 360-10 Section N2.
- Inspection of welds and bolts by both QC and QA personnel shall be per the Schedule of Special Inspections below. All provisions of AWS D1.1-2010 Structural Welding Code for statically loaded structures shall apply
- Nondestructive Testing (NDT) of welds:
  - Non-Destructive Testing (NDT) of welded joints per AISC 360-10 N5.5
  - Risk Category for determination of extent of NDT per AISC 360 N5.5b is noted in the Design Criteria and Loads section of these General Requirements.
  - NDT performed shall be documented and reports shall identify the tested weld by piece mark and location of the piece.
  - For field work, the NDT report shall identify the tested weld by location in the structure, piece mark and location of the piece.
- Additional Inspection tasks per AISC 360-10 Section N5.7.
- Inspection for Composite Construction shall be done per AISC 360-10 Section N6.

POST-INSTALLED ANCHORS TO CONCRETE AND MASONRY: shall comply with IBC Section 1703. Inspections shall be in accordance with the requirements set forth in the approved ICC Evaluation Report and as indicated by the design requirements specified on the drawings. Refer to the POST INSTALLED ANCHORS section of these notes for anchors that are the basis of the design. Special inspector shall verify anchors are as specified in the POST INSTALLED ANCHORS section of these notes or as otherwise specified on the drawings. Substitutions require approval by the SER and require substantiating calculations and current 2015 IBC recognized ICC Evaluation Services (ES) Report. Special Inspector shall document in their Special Inspection Report compliance with each of the elements required within the applicable ICC Evaluation Services (ES) Report.

PREFABRICATED CONSTRUCTION: All prefabricated construction shall conform to IBC Section 1703.

SCHEDULES OF SPECIAL INSPECTIONS:

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
2. Inspect anchors post-installed in hardened concrete members:				-
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	X	-	ACI 318: 17.8.2.4	
b. Mechanical anchors and adhesive anchors not defined in 4.a	-	X	ACI 318: 17.8.2	

MINIMUM REQUIREMENTS FOR INSPECTIONS OF STRUCTURAL STEEL CONSTRUCTION

INSPECTION TASKS	QC	QA	REFERENCED STANDARD
INSPECTION TASKS PRIOR TO WELDING			
1. Welding procedure specifications (WPSs) available	P	P	AISC 360-10 TABLE N5.4-1
2. Manufacturing certifications for welding consumables available	P	P	AISC 360-10 TABLE N5.4-1
3. Material identification (type/grade)	O	O	AISC 360-10 TABLE N5.4-1
4. Welder Identification system	O	O	AISC 360-10 TABLE N5.4-1
5. Fit-up of groove welds (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack welding quality and location) • Backing type and fit (if applicable)	O	O	AISC 360-10 TABLE N5.4-1
6. Configuration and finish of access holes	O	O	AISC 360-10 TABLE N5.4-1
7. Fit-up fillet welds • Dimensions (alignment, gaps at root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	O	O	AISC 360-10 TABLE N5.4-1
8. Check welding equipment	O	-	AISC 360-10 TABLE N5.4-1
INSPECTION TASKS DURING WELDING			
1. Use of qualified welders	O	O	AISC 360-10 TABLE N5.4-2
2. Control and handling of welding consumables •Packaging •Exposure control	O	O	AISC 360-10 TABLE N5.4-2
3. No welding over cracked tack welds	O	O	AISC 360-10 TABLE N5.4-2
4. Environmental conditions •Wind speed within limits •Precipitation and temperature	O	O	AISC 360-10 TABLE N5.4-2
5. WPS followed •Settings on welding equipment •Travel speed •Selected welding materials •Shielding gas type/flowrate •Preheat applied •Interpass temperature maintained (min/ max) •Proper position (F, V, H, OH)	O	O	AISC 360-10 TABLE N5.4-2
6. Welding techniques •Interpass and final cleaning •Each pass within profile limitations •Each pass meets quality requirements	O	O	AISC 360-10 TABLE N5.4-2
INSPECTION TASKS AFTER WELDING			
1. Welds cleaned	O	O	AISC 360-10 TABLE N5.4-3
2. Size, length, and locations of welds	P	P	AISC 360-10 TABLE N5.4-3
3. Welds meet visual acceptance criteria •Crack prohibition •Weld/base-metal fusion •Crater cross section •Weld profiles •Weld size •Undercut •Porosity	P	P	AISC 360-10 TABLE N5.4-3
4. Arc strikes	P	P	AISC 360-10 TABLE N5.4-3
5. k-area	P	P	AISC 360-10 TABLE N5.4-3
6. Backing removed and weld tabs removed (if required)	P	P	AISC 360-10 TABLE N5.4-3
7. Repair activities	P	P	AISC 360-10 TABLE N5.4-3
8. Document acceptance or rejection of welded joint or member	P	P	AISC 360-10 TABLE N5.4-3

O - Observe these items on a random basis. Operations need not be delayed pending these inspections
P - Perform these tasks for each welded joint or member, each bolted connection, or each steel element

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FOR PERMIT
These drawings are incomplete and preliminary pending permit review. The Contractor shall not use these drawings for construction and Contractor receives written approval that they are considered by the jurisdictional building authority and AHJ if Applicable.

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
18550 SW Kinnaman Rd.
Beaverton, OR 97078

Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

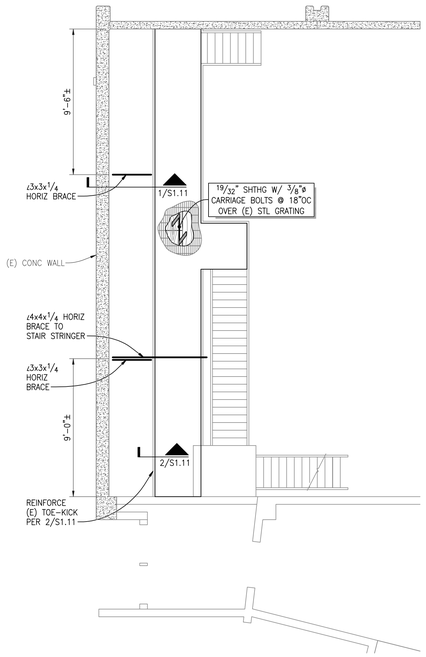
Date: **01.24.2019**

Sheet Title
STRUCTURAL GENERAL NOTES CONTINUED

Sheet No.
S0.12

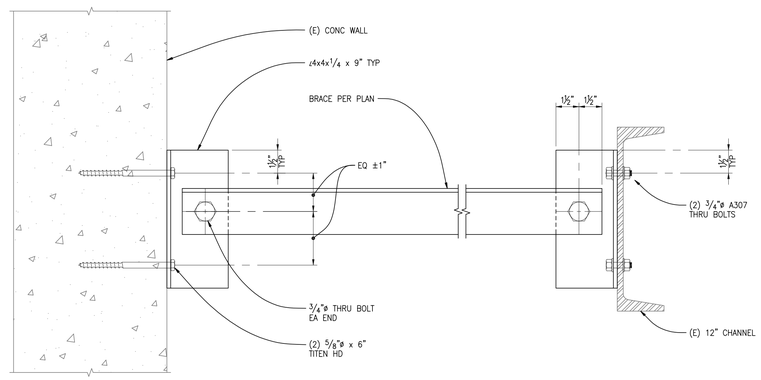
DCI Job No.
16031-0008

16031-0008-ALOHA-S012.pwg24 Jan 19 10:26 AM JoshuaHoch



PLATFORM FRAMING PARTIAL PLAN

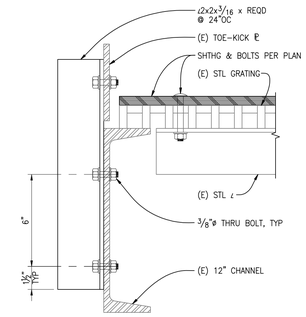
SCALE: 1/4"=1'-0"



PLATFORM BRACE DETAIL

SCALE: 3"=1'-0"

1



TOE-KICK REINFORCING DETAIL

SCALE: 3"=1'-0"

2

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 74868PE OREGON MARCH 23, 2011 SHIRLEY CHALUPA

EXPIRES: 12-31-19

DCI ENGINEERS®

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FOR PERMIT

These drawings are sufficiently complete for submission to the jurisdiction having authority for permit. The Contractor shall not use these drawings for construction until Contractor receives written approval for use in construction by the jurisdiction having authority and DCI Engineers.

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
**18550 SW Kinnaman Rd.
Beaverton, OR 97078**

Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
STRUCTURAL PLANS & DETAILS

Sheet No.
S1.11

DCI Job No.
16031-0008

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ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWG	AMERICAN WIRE GAUGE
A	AMPERES, AMBER
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE INTERRUPTING CAPACITY
BAS	BUILDING AUTOMATION SYSTEM
CA	CABLE
CAT	CATEGORY
CLG	CEILING
C	CONDUIT, CLOSE, CONTROL
COORD	COORDINATE
CU	COPPER
dB	DECIBEL
(X)	DEMOLISH
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EMT	ELECTRICAL METALLIC TUBING
EL	ELEVATION
E	EMERGENCY
EF	EXHAUST FAN
FA	FIRE ALARM
FMC	FLEXIBLE METAL CONDUIT
FT	FOOT, FEET
FBO	FURNISHED BY OTHERS
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HT	HEIGHT
ID	IDENTIFICATION
IN	INCH, INCHES
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LV	LOW VOLTAGE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MIN	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MISC	MISCELLANEOUS
MCC	MOTOR CONTROL CENTER
MT, MTD	MOUNT, MOUNTED
NEC	NATIONAL ELECTRIC CODE
NESC	NATIONAL ELECTRIC SAFETY CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N	NEUTRAL
(E)	NEW LUMINAIRE IN EXISTING LOCATION
(N)	NEW LUMINAIRE IN NEW LOCATION
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PNL	PANEL
PH	PHASE
PVC	POLY-VINYL-CHLORIDE
PWR	POWER
QTY	QUANTITY
(R)	RELOCATE
RFI	REQUEST FOR INFORMATION
REQD	REQUIRED
RMC	RIGID METAL CONDUIT
RM	ROOM
SHT	SHEET
STD	STANDARD
SPD	SURGE PROTECTION DEVICE
SWBD	SWITCHBOARD
TBD	TO BE DETERMINED
XFMR	TRANSFORMER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
UON	UNLESS OTHERWISE NOTED
V	VOLTS, VOLTAGE
WP	WEATHERPROOF
W/	WITH
W/O	WITHOUT

Connections / Equipment

- COMBINATION ADJUSTABLE FREQUENCY DRIVE WITH SAFETY DISCONNECT SWITCH
- COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH
- HEAVY DUTY FUSED DISCONNECT SWITCH
- JUNCTION BOX
- MOTOR CONNECTION
- NON-FUSED DISCONNECT SWITCH
- TRANSFORMER
- FIRE SMOKE DAMPER
- SMOKE DAMPER
- WALL-MOUNTED JUNCTION BOX

General

- DETAIL NUMBER AND SHEET LOCATION
- EQUIPMENT IDENTIFICATION
- KEYED NOTE
- DEMOLISH
- EXISTING WORK
- NEW WORK

Lighting

- COMBINATION EXIT SIGN CEILING MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARRROW(S) INDICATES DIRECTION IF SHOWN
- COMBINATION EXIT SIGN WALL MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- RECESSED 1' X 4' LUMINAIRE
- RECESSED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 2' LUMINAIRE
- RECESSED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 4' LUMINAIRE
- RECESSED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED LUMINAIRE
- RECESSED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
- SURFACE MOUNTED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE MOUNTED 2' X 4' LUMINAIRE
- SURFACE MOUNTED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED STRIPLIGHT
- WALL MOUNTED 6" WIDE LUMINAIRE
- WALL MOUNTED 6" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED 12" WIDE LUMINAIRE
- WALL MOUNTED 12" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED LUMINAIRE
- WALL MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT

Miscellaneous

- #10 / B-27,29,31. — BRANCH CIRCUIT WIRING, ARROW INDICATES HOME RUN TO PANEL WITH CIRCUITS AS NOTED. WIRE SIZE IS #12 AWG MINIMUM UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE PHASE CONDUCTORS. LONG TICK MARKS INDICATE NEUTRAL CONDUCTORS. A SINGLE CURVED TICK MARK INDICATES INSULATED GREEN GROUND CONDUCTOR. SECOND CURVED TICK MARK INDICATES "ISOLATED GROUND" (GREEN INSULATION WITH YELLOW STRIPE) CONDUCTOR.
- BRANCH PANEL
- CIRCUIT BREAKER
- DRY TYPE TRANSFORMER
- FLUSH WALL MOUNTED BRANCH PANEL
- GB — GROUND BAR
- MAIN DISTRIBUTION PANEL / SUB DISTRIBUTION PANEL

Raceways

- CONDUIT CONCEALED IN WALL OR CEILING SPACE
- CONDUIT ROUTED BELOW FLOOR / GRADE
- CONDUIT ELLED DOWN
- CONDUIT ELLED UP
- CONDUIT/WIRING CONTINUATION
- CONDUIT/WIRING STUBBED OUT WITH END CAP OR INSULATED PLASTIC BUSHING
- FLEXIBLE CONDUIT

Switches and Receptacles

- DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  B = CLOCK HANGER
  C = FLUSH CEILING MOUNTED
  E = EMERGENCY
  F = ARC FAULT PROTECTED BY BREAKER IN PANEL
  G = GROUND FAULT CIRCUIT INTERRUPTER
  H = HOSPITAL GRADE
  K = CHILD RESISTANT COVER
  L = ISOLATED GROUND
  P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH
  R1 = HALF SWITCHED BY OCCUPANCY SENSOR RELAY
  R2 = FULLY SWITCHED BY OCCUPANCY SENSOR RELAY
  S = SPLIT WIRED
  T = TAMPER RESISTANT SHUTTERED RECEPTACLE
  U = USB PORT(S)
  W = WEATHERPROOF CONTINUOUS USE COVER, GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE
- DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- EQUIPMENT ELECTRICAL CONNECTION
- SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION
  L'X-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE
  X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE
  P = PENDANT MOUNT WITH CORD GRIPS. VERIFY PENDANT LENGTH
  X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED
- CEILING MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  U = ULTRASONIC, 360 DEG RANGE
  H = ULTRASONIC, HALLWAY PATTERN
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR/SWITCH
  S = PASSIVE INFRARED WITH INTEGRAL "OFF" SWITCH
  T = DUAL RELAY PASSIVE INFRARED WITH TWO INTEGRAL "OFF" SWITCHES
  D = PASSIVE INFRARED WITH INTEGRAL DIMMER TO OFF.
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- MULTIPLE CHANNEL SURFACE METAL RECEPTACLE RACEWAY WITH LOW VOLTAGE DIVIDERS, LENGTH AND RECEPTACLES AS INDICATED
- PHOTO ELECTRIC SWITCH
  D = CONTINUOUS DIMMING PHOTOCELL
  S = SWITCHED PHOTOCELL
- SINGLE POLE SWITCH
  2 = DOUBLE POLE SWITCH
  3 = THREE-WAY SWITCH
  4 = FOUR-WAY SWITCH
  a THRU z (LOWERCASE) = LUMINAIRE CONTROL DESIGNATION
  D = DIMMER
  F = FAN SPEED CONTROL
  K = KEY OPERATED SWITCH
  L = LIGHTED HANDLE
  M = MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
  P = SWITCH WITH PILOT LIGHT
  S = SENTRY SWITCH
  T = INTERVAL TIMER
  W = WEATHERPROOF SWITCH
  V = LOW VOLTAGE SWITCH

Telecommunications

- RACEWAY ONLY DATA/TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE.
  (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  C = CEILING MOUNTED ABOVE ACCESSIBLE CEILING
  F = FLUSH CEILING MOUNTED
  R = SURFACE MOUNTED ON RACEWAY
- RACEWAY ONLY TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 3/4" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	HOUSING	SHIELDING	MOUNTING	FINISH	UL/IP RATING	DRIVER/POWER SUPPLY	LIGHT SOURCE	INPUT WATTS	MFG/CATALOG #	NOTES
'HA1'	RECESSED ROUND LED DOWNLIGHT; 60 DEGREE WIDE FLOOD DISTRIBUTION; NOMINAL 4"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN EXISTING CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVER DMX WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 3500 LUMENS; 2700K LED; >90CRI	39.0	GOTHAM INCITO 4IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HA2'	RECESSED ROUND LED DOWNLIGHT; 60 DEGREE WIDE FLOOD DISTRIBUTION; NOMINAL 4"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN EXISTING CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVER DMX WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 2000 LUMENS; 2700K LED; >90CRI	23.0	GOTHAM INCITO 4IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HB'	RECESSED ROUND LED DOWNLIGHT; 65 DEGREE WIDE FLOOD DISTRIBUTION; NOMINAL 4"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVER DMX WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 2000 LUMENS; 3000K LED; >90CRI	23.0	GOTHAM INCITO 4IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HC'	SURFACE MOUNTED FLUSH MOUNT ROUND LED; NOMINAL 15"DIA x 4"D	ALUMINUM	HIGH IMPACT POLYCARBONATE LENS	SURFACE MOUNTED	WHITE	UL DAMP	INTEGRAL DRIVER; 0-10V DIMMING TO 1%	NOMINAL 3000 LUMENS; 3000K LED; >90CRI	29.0	KENALL ROUGH-HOUSE SERIES; FAILSAFE, NEW STAR, OR APPROVED	
'HD'	PIPE MOUNTED LED WORK LIGHT W/ ADJUSTABLE YOKE W/ LOCKING-DOG TILT HANDLE; NOMINAL 12"W x 6"H x 6"D	ALUMINUM	FROSTED LENS	PIPE MOUNTED WITH PIPE CLAMP ACCESSORY	BLACK	UL DRY	NONDIMMING INTEGRAL DRIVER	NOMINAL >10,000 LUMENS; 3000K LED; >90CRI	130.0	ENTERTAINMENT LIGHTING LED WORK LIGHT WL-130 SERIES; OR APPROVED	
'HF1'	SURFACE MOUNTED LED GUARD SCONCE; NOMINAL 4.5"DIA x 9.5"H	ALUMINUM W/ WIRE GUARD	FROSTED GLOBE	SURFACE MOUNTED	BLACK	UL WET	INTEGRAL DRIVER; TRIAC DIMMING	NOMINAL 1600 LUMENS; 3000K LED; >90CRI	17.0	BARNLIGHT BLE-F-CGG SERIES; OR APPROVED	
'HF2'	SURFACE MOUNTED FLUSH MOUNT SQUARE LED; NOMINAL 14"SQ x 3.5"H	DIE CAST ALUMINUM	PRESSED GLASS DIFFUSER	SURFACE MOUNTED	WHITE	UL WET	INTEGRAL DRIVER; 0-10V DIMMING TO 10%	NOMINAL 2500 LUMENS; 3000K LED; >90CRI	40.0	PERFORMANCE IN LIGHTING BLIZ SQUARE 40 SERIES; OR APPROVED	
'HF3'	SURFACE MOUNTED OR SUSPENDED LED WRAPAROUND; NOMINAL 8.625"W x 2.625"H x 4'L	COLD ROLLED STEEL	TRANSLUCENT WHITE DIFFUSER	SURFACE MOUNTED OR SUSPENDED	WHITE	UL DAMP	INTEGRAL DRIVER; 0-10V DIMMING TO 10%	NOMINAL 7200 LUMENS; 3000K LED; >80CRI	62.0	LITHONIA SBL4 SERIES; METALUX, HUBBELL, HEW, OR APPROVED	
'HG1'	LED TRACK HEAD; NOMINAL 4.125"DIA x 5.5"H	EXTRUDED ALUMINUM	FACETED REFLECTOR	MOUNTED TO TRACK	BLACK	UL DRY	INTEGRAL DRIVER; 0-10V DIMMING TO 1%	NOMINAL 2000 LUMENS; 3000K LED; >90CRI	19.0	CONTECH CTL825H SERIES; ETC LIGHTING, INTERLUX, OR APPROVED	
'HG2'	ASSOCIATED TRACK FOR TYPE 'HG1'	EXTRUDED ALUMINUM	NA	SURFACE MOUNTED TO CEILING	BLACK	UL DRY	LINE VOLTAGE	NA		CONTECH TRACK SERIES; ETC LIGHTING, INTERLUX, OR APPROVED	
'HH'	SURFACE MOUNTED LED STEPLIGHT; NOMINAL 4.25"H x 12"L x 3.5"D	DIE CAST ALUMINUM	LOUVERED FACEPLATE	SURFACE MOUNTED @ 1'-6" AFF. UNLESS OTHERWISE NOTED.	BLACK	UL WET	INTEGRAL DRIVER	BLUE LED >300 LUMENS	4.0	ELCAST LIGHTING 1210 SERIES; OR APPROVED	
'X'	THIN PROFILE LED EXIT SIGN; NOMINAL 12"W x 8.5"H x 0.5"D	DIE CAST ALUMINUM HOUSING; CONTRACTOR TO VERIFY BACKBOX REQUIREMENTS DURING ROUGH-IN	NA	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING CONDITIONS	BLACK	UL DAMP	INTEGRAL DRIVER	LED; GREEN LETTERING	2.0	LITHONIA LRE SERIES; EVENLITE, ISOLITE, PATHWAY, SURE-LITES TPX, BARRON LIGHTING, OR APPROVED	

NOTES

1. THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT MANUAL CONTAINING THE ELECTRICAL SPECIFICATIONS.
2. DIMMING CONTROL PROTOCOL (0-10VDC, LINE VOLTAGE, DALI, ETC.) COMPATIBLE WITH LIGHTING CONTROL SYSTEM AS SPECIFIED AND SHOWN ON DRAWINGS.
3. PROVIDE +/- 12 INCH ADJUSTABILITY IN AIRCRAFT CABLE LENGTH WHERE USED.
4. COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS PRIOR TO ORDERING LUMINAIRES. COORDINATE INSTALLATION WITH REFLECTED CEILING PLAN.
5. SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM SUPPLYING PRODUCT AS DESCRIBED.
6. PROVIDE SUBMITTALS THAT INCLUDE THE LUMINAIRE, LAMP AND BALLAST/DRIVER INFORMATION OF EACH LUMINAIRE, WITH APPLICABLE OPTIONS CLEARLY CHECKED OR HIGHLIGHTED. SUBMITTALS NOT INCLUDING THIS INFORMATION WILL BE RETURNED AS REJECTED BY THE ENGINEER OF RECORD.
7. REMOTE BALLASTS/DRIVERS: UL LISTED FOR THEIR APPLICATION. BALLASTS/DRIVERS MARKED AS UL RECOGNIZED COMPONENT BUT NOT UL LISTED ARE SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO OWNER.

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SHEET INDEX

E0.1 SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

E2.1 LEVEL 1 PLAN - ELECTRICAL
E2.2 LEVEL 2 CEILING PLAN - ELECTRICAL
E2.3 GRIDIRON LEVEL PLAN - ELECTRICAL

E5.1 SINGLE LINE DIAGRAMS - ELECTRICAL

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
18550 SW KINNAMAN RD. BEAVERTON, OR 97078

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Revisions to Sheet

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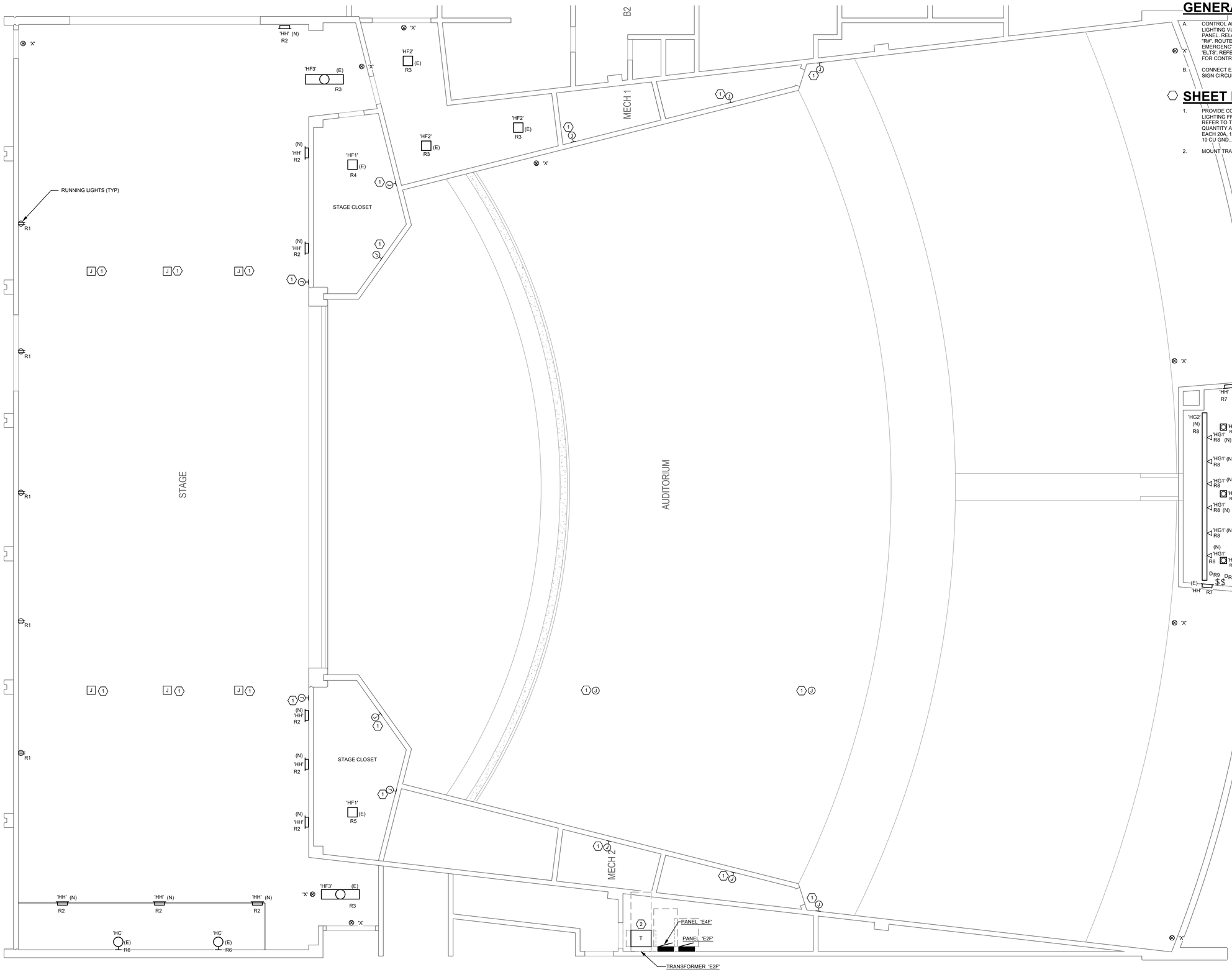
Status: **100%CD**

Date: **01.25.2019**

Sheet Title
SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

Sheet No.
E0.1

Job No.
4728-01



1 LEVEL 1 PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

GENERAL SHEET NOTES

A. CONTROL ALL THEATER WORK AND HOUSE LIGHTING VIA ARCHITECTURAL RELAY PANEL. RELAY DESIGNATIONS INDICATED BY "R#". ROUTE EMERGENCY LIGHTING VIA EMERGENCY LIGHTING TRANSFER SYSTEM 'ELTS'. REFER TO THEATRICAL DRAWINGS FOR CONTROL INFORMATION.

B. CONNECT EXIT SIGNS TO EXISTING EXIT SIGN CIRCUIT ON PANEL 'E2F'.

SHEET KEYNOTES

1. PROVIDE CONNECTION TO PRODUCTION LIGHTING FROM PRODUCTION RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR CIRCUIT QUANTITY AND CONTROLS INFORMATION. FOR EACH 20A, 120V CIRCUIT, PROVIDE 2 #10 CU, 1 # 10 CU GND., IN 3/4" C.
2. MOUNT TRANSFORMER TO WALL.

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Sheet Title
LEVEL 1 PLAN - ELECTRICAL

PROJECT 2018-0475
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Sheet No.
E2.1

Job No.
4728-01

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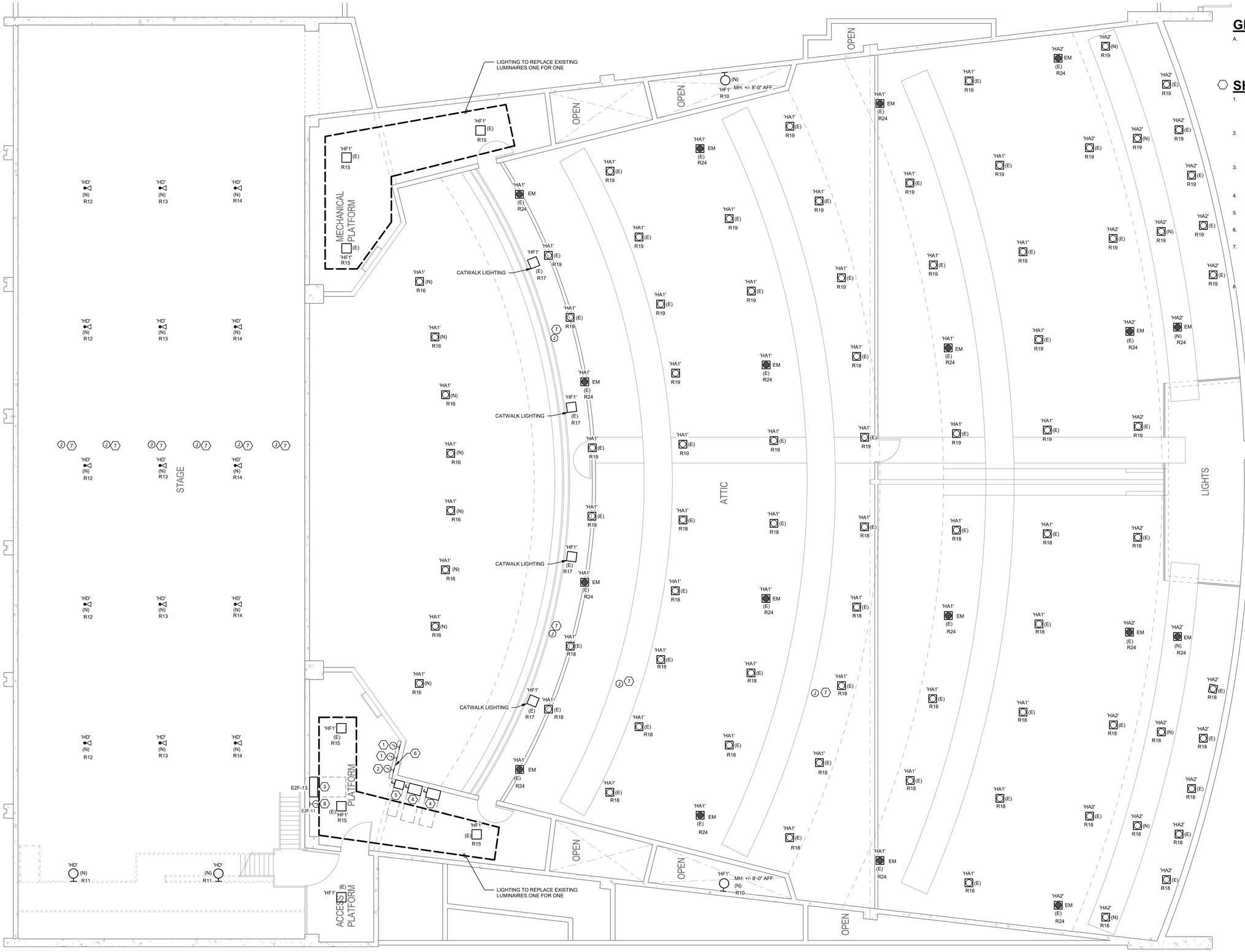

1 LEVEL 2 CEILING PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

GENERAL SHEET NOTES

A. CONTROL ALL THEATER WORK AND HOUSE LIGHTING VIA ARCHITECTURAL RELAY PANEL. RELAY DESIGNATIONS INDICATED BY "R#". ROUTE EMERGENCY LIGHTING VIA EMERGENCY LIGHTING TRANSFER SYSTEM 'ELTS'. REFER TO THEATRICAL DRAWINGS FOR CONTROL INFORMATION.

SHEET KEYNOTES

1. DEMO EXISTING PRODUCTION LIGHTING RELAY PANEL AND PROVIDE CONNECTION TO NEW PRODUCTION LIGHTING RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR MORE INFORMATION.
2. DEMO EXISTING ARCHITECTURAL LIGHTING RELAY PANEL AND PROVIDE CONNECTION TO NEW ARCHITECTURAL LIGHTING RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR MORE INFORMATION.
3. PROVIDE EMERGENCY LIGHTING TRANSFER SYSTEM UL1008 TO MEET REQUIREMENTS FOR THEATRE EGRESS LIGHTING. ETC ELTS2-1-D-120-2 OR EQUIVALENT.
4. PROVDE 200A, 208V, 3PH DISCONNECT FOR PRODUCTION LIGHTING RELAY PANEL.
5. PROVDE 100A, 208V, 3PH DISCONNECT FOR ARCHITECTURAL RELAY PANEL.
6. PROVIDE BUS GUTTER FOR REUSE OF EXISTING DIMMER PANEL FEEDER.
7. PROVIDE CONNECTION TO PRODUCTION LIGHTING FROM PRODUCTION RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR CIRCUIT QUANTITY AND CONTROLS INFORMATION. FOR EACH 20A, 120V CIRCUIT, PROVIDE 2 #10 CU, 1 #10 CU GND., IN 3/4" C.
8. PROVIDE 20A, 120V CONNECTION TO EMERGENCY BYPASS CONTROLLER. REFER TO THEATRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

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Revisions to Sheet

No.	Revision	Date

Status: **100%CD**

Date: **01.25.2019**

Sheet Title
LEVEL 2 CEILING PLAN - ELECTRICAL

Sheet No.
E2.2

Job No.
4728-01

PROJECT 2018-0475
CONTACT Lauren Krueger

INTERFACE ENGINEERING

100 SW Main St.
Suite 1600
Portland, OR 97204
TEL 503.382.2266
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www.interfaceengineering.com

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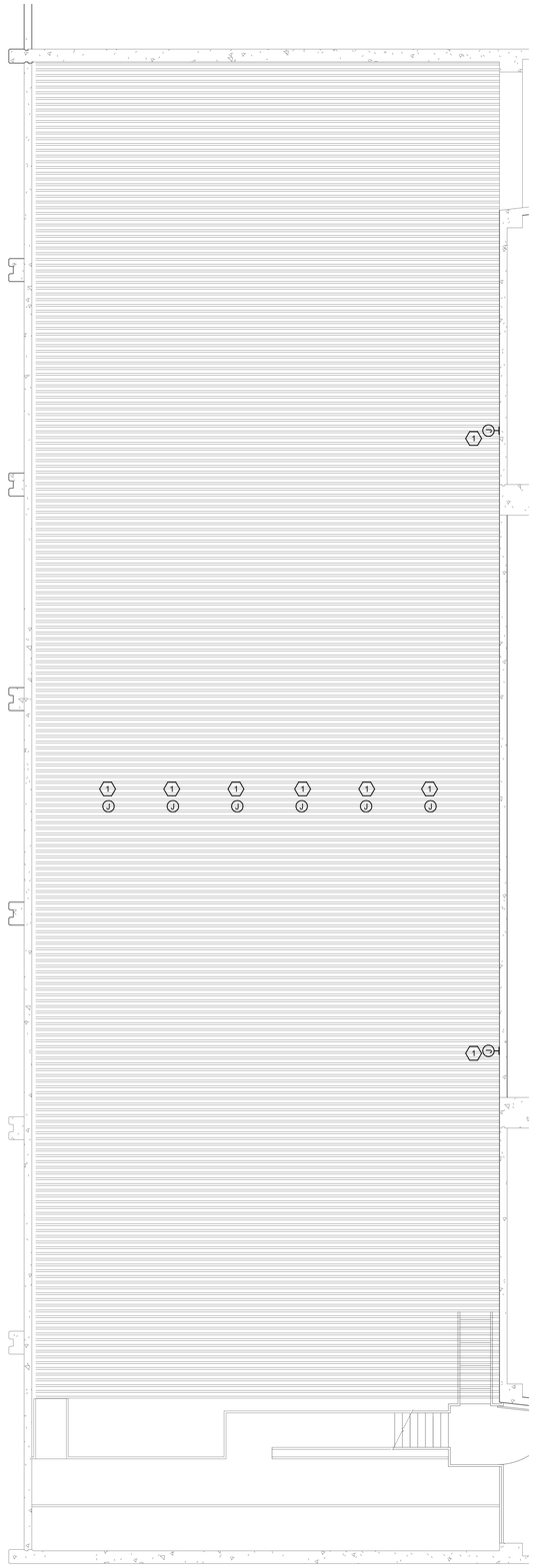

1 GRIDIRON LEVEL PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

SHEET KEYNOTES

1. PROVIDE CONNECTION TO PRODUCTION LIGHTING FROM PRODUCTION RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR CIRCUIT QUANTITY AND CONTROLS INFORMATION. FOR EACH 20A, 120V CIRCUIT, PROVIDE 2 #10 CU, 1 # 10 CU GND., IN 3/4" C.

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

Project Adress:
**18550 SW KINNAMAN RD.
BEAVERTON, OR 97078**

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Revisions to Sheet

No.	Revision	Date

Status: **100%CD**

Date: **01.25.2019**

Sheet Title
GRIDIRON LEVEL PLAN - ELECTRICAL

Sheet No.
E2.3

Job No.
4728-01

PROJECT 2018-0475
CONTACT Lauren Krueger

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PANELBOARD: E4F

MAIN CIRCUIT BREAKER: 100 A
BUS AMPACITY: 100 A
EQUIPMENT RATING: 480/277 V, 3PH, 4 WIRE
AIC RATING: SEE SINGLE LINE DIAGRAM

MOUNTING: SURFACE
ENCLOSURE: TYPE 1
LOCATION: ELECTRICAL ROOM -
SUPPLIED FROM:
Accessories:

						Load (VA)												
CKT	Description/Location	Type	C.B.	Pole	Note	A	B	C	A	B	C	Note	Pole	C.B.	Type	Description/Location	CKT
1	(E) LOAD	--	20 A	1		0			0				1	20 A	--	(E) LOAD	2
3	(E) LOAD	--	20 A	1			0			0			1	20 A	--	(E) LOAD	4
5	(E) LOAD	--	20 A	1				0			0		1	20 A	--	(E) LOAD	6
7	(E) LOAD	--	20 A	1		0			0				1	20 A	--	(E) LOAD	8
9	(E) LOAD	--	20 A	1			0			0			1	20 A	--	(E) LOAD	10
11	(E) LOAD	--	20 A	1				0			0		1	20 A	--	(E) LOAD	12
13	E2F	L; G	20 A	3		0			0				1	20 A	--	SPARE BREAKER	14
15	--	--	--	--	--		702			0			1	20 A	--	SPARE BREAKER	16
17	--	--	--	--	--			50			0		1	20 A	--	SPARE BREAKER	18
	Total Connected load Ph. A					0 A			Panel Connected Load: 0.8 kVA							0.9 A	
	Total Connected load Ph. B					3 A			Total Demand Load: 0.9 kVA							1.1 A	
	Total Connected load Ph. C					0 A											

Notes:

Load Type Definitions:
Motor (125% largest Motor + 100% remaining...
R = Receptacles (to 10kVA100%, over 10 kVA 50%)
E = Existing Load 30-day metered (125%)
K = Kitchen (Demand as per NEC Table 220.56)
G = General Load (Non-continuous) (100%)
EL = Elevator (Demand as per NEC Table...
C = Continuous Load (125%)
L = Lighting (125%)
W = Water Heater (125%)
X = X-Rays (Demand per NEC 660.6)
H = Heating (100%)

Load Type	Connected Load	NEC Demand Factor	NEC Demand Load	Panel Totals	
L	702.0	125.00%	877.5		
G	50.0	100.00%	50.0	**Total Connected Load:**	752.0 VA
				Total NEC Demand:	927.5 VA
				Total Connected Current:	0.9 A
				Total NEC Demand Current:	1.1 A

PANELBOARD: E2F

MAIN CIRCUIT BREAKER: 30 A
BUS AMPACITY: 100 A
EQUIPMENT RATING: 120/208 V, 3PH, 4 WIRE
AIC RATING: SEE SINGLE LINE DIAGRAM

MOUNTING: SURFACE
ENCLOSURE: TYPE 1
LOCATION: ELECTRICAL ROOM -
SUPPLIED FROM: E2F
Accessories:

						Load (VA)												
CKT	Description/Location	Type	C.B.	Pole	Note	A	B	C	A	B	C	Note	Pole	C.B.	Type	Description/Location	CKT
1	(E) LOAD	--	20 A	1		0			0				1	20 A	--	(E) LOAD	2
3	(E) LOAD	--	20 A	1			0			0			1	20 A	--	(E) LOAD	4
5	(E) LOAD	--	20 A	1				0			0		1	20 A	--	(E) LOAD	6
7	(E) LOAD	--	20 A	1		0			0				1	20 A	--	(E) LOAD	8
9	ELTS	L	20 A	1			702			0			1	20 A	--	SPARE BREAKER	10
11	EMERGENCY BYPASS CONT...	G	20 A	1				50			0		1	20 A	--	SPARE BREAKER	12
	Total Connected load Ph. A					0 A			Panel Connected Load: 0.8 kVA							2.1 A	
	Total Connected load Ph. B					6 A			Total Demand Load: 0.9 kVA							2.6 A	
	Total Connected load Ph. C					0 A											

Notes:

Load Type Definitions:
Motor (125% largest Motor + 100% remaining...
R = Receptacles (to 10kVA100%, over 10 kVA 50%)
E = Existing Load 30-day metered (125%)
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Load Type	Connected Load	NEC Demand Factor	NEC Demand Load	Panel Totals	
L	702.0	125.00%	877.5		
G	50.0	100.00%	50.0	**Total Connected Load:**	752.0 VA
				Total NEC Demand:	927.5 VA
				Total Connected Current:	2.1 A
				Total NEC Demand Current:	2.6 A

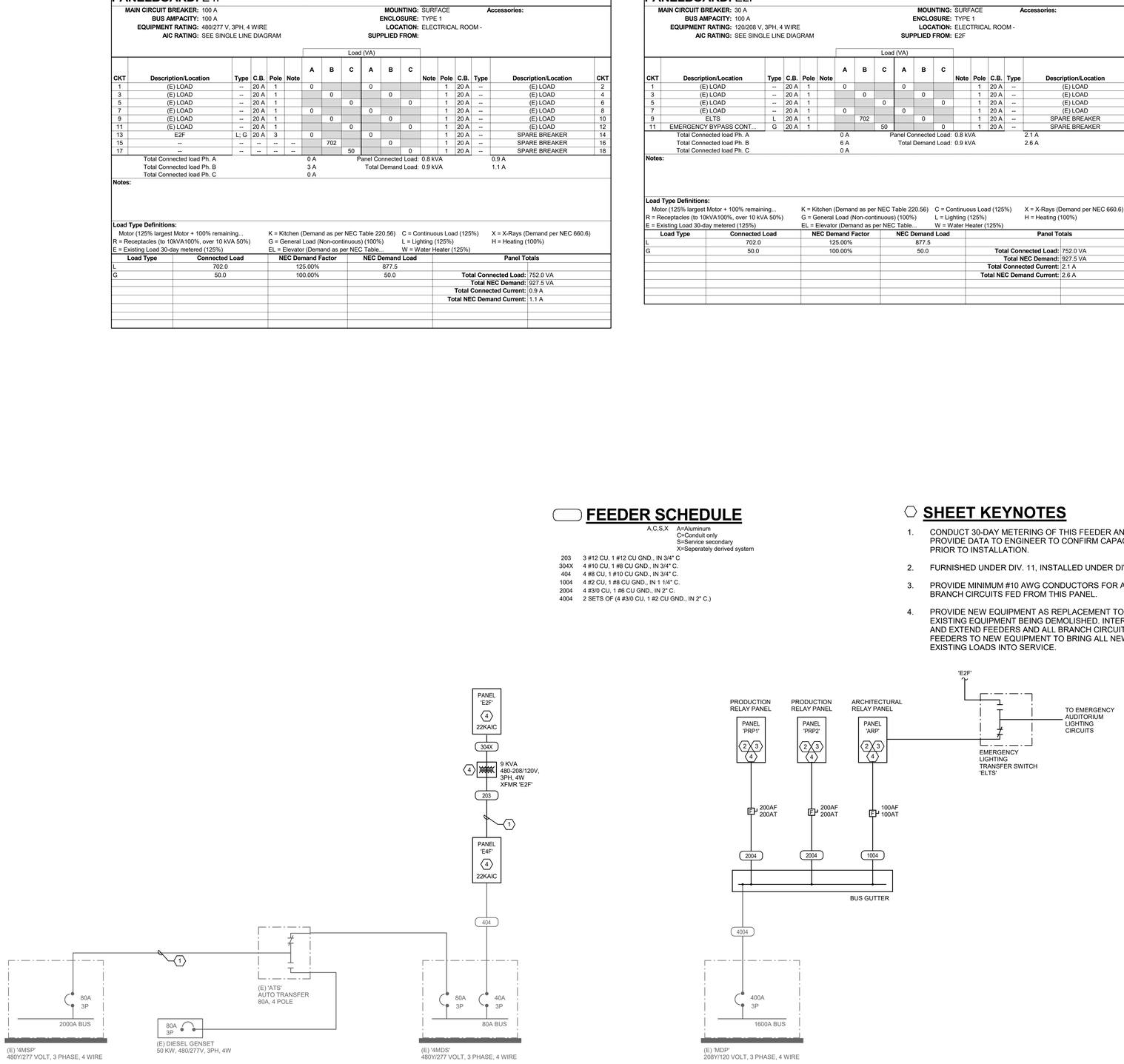
FEEDER SCHEDULE

A,C,S,X A=Aluminum
C=Conduit only
S=Service secondary
X=Seperately derived system

203 3 #12 CU, 1 #12 CU GND., IN 3/4" C
304X 4 #10 CU, 1 #8 CU GND., IN 3/4" C.
404 4 #8 CU, 1 #10 CU GND., IN 3/4" C.
1004 4 #2 CU, 1 #8 CU GND., IN 1 1/4" C.
2004 4 #3/0 CU, 1 #6 CU GND., IN 2" C.
4004 2 SETS OF (4 #3/0 CU, 1 #2 CU GND., IN 2" C.)

SHEET KEYNOTES

1. CONDUCT 30-DAY METERING OF THIS FEEDER AND PROVIDE DATA TO ENGINEER TO CONFIRM CAPACITY PRIOR TO INSTALLATION.
2. FURNISHED UNDER DIV. 11, INSTALLED UNDER DIV. 26.
3. PROVIDE MINIMUM #10 AWG CONDUCTORS FOR ALL BRANCH CIRCUITS FED FROM THIS PANEL.
4. PROVIDE NEW EQUIPMENT AS REPLACEMENT TO EXISTING EQUIPMENT BEING DEMOLISHED. INTERCEPT AND EXTEND FEEDERS AND ALL BRANCH CIRCUIT FEEDERS TO NEW EQUIPMENT TO BRING ALL NEW AND EXISTING LOADS INTO SERVICE.



1 PARTIAL ONE-LINE POWER DISTRIBUTION DIAGRAM

0' 4' 8' 16'
NO SCALE

plotted: 1/24/2019 1:14:22 PM

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Revisions to Sheet

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Date: **01.25.2019**

Sheet Title
SINGLE LINE DIAGRAMS - ELECTRICAL

Sheet No.
E5.1

Job No.
4728-01

PROJECT 2018-0475
CONTACT Lauren Krueger
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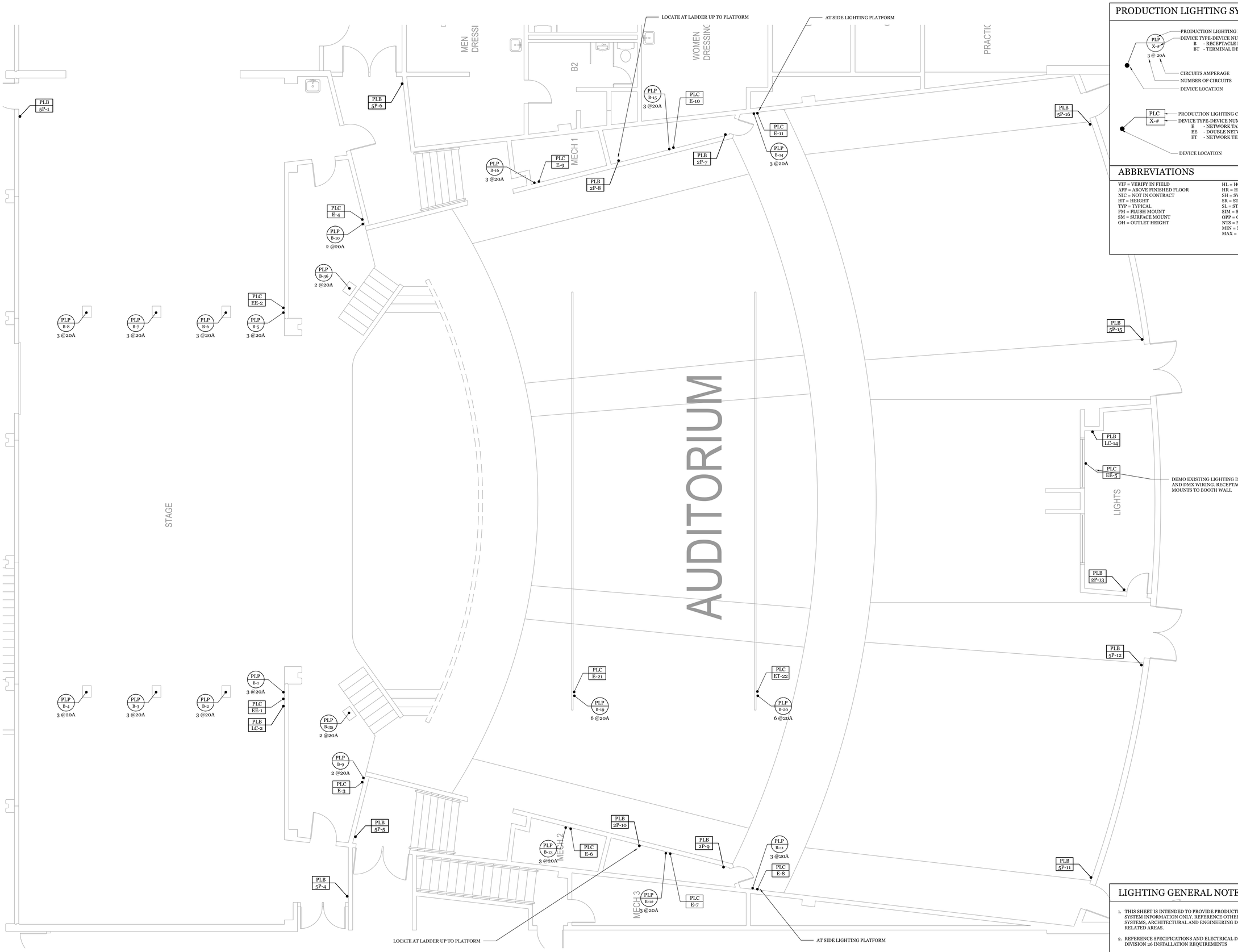

1 LEVEL 1 PLAN
1/4" = 1'-0"

plotted: 8/17/2018 4:02:42 PM
sheet size: 30" x 42"

PRODUCTION LIGHTING SYMBOL KEY

PLP X-# / 3 @ 20A
- PRODUCTION LIGHTING POWER DEVICE
- DEVICE TYPE-DEVICE NUMBER
  - B - RECEPTACLE BOX
  - BT - TERMINAL DEVICE
- CIRCUITS AMPERAGE
- NUMBER OF CIRCUITS
- DEVICE LOCATION

PLC X-#
- PRODUCTION LIGHTING CONTROL DEVICE
- DEVICE TYPE-DEVICE NUMBER
  - E - NETWORK TAP
  - EE - DOUBLE NETWORK TAP
  - ET - NETWORK TERMINAL DEVICE
- DEVICE LOCATION

ABBREVIATIONS

VIF = VERIFY IN FIELD
AFF = ABOVE FINISHED FLOOR
NIC = NOT IN CONTRACT
HT = HEIGHT
TYP = TYPICAL
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LIGHTING GENERAL NOTES

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5. REUSE EXISTING BACKBOXES, WIRING AND CONDUIT AS POSSIBLE. DEMO ANY UNUSED WIRING, BACKBOXES, CONTROL PANELS AND CONDUIT FROM SYSTEM BEING REPLACED.

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Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

HOUSE & PRODUCTION LIGHTING

Project Adress:
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Beaverton, OR 97078

Key Plan

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Revisions to Sheet

No.	Revision	Date

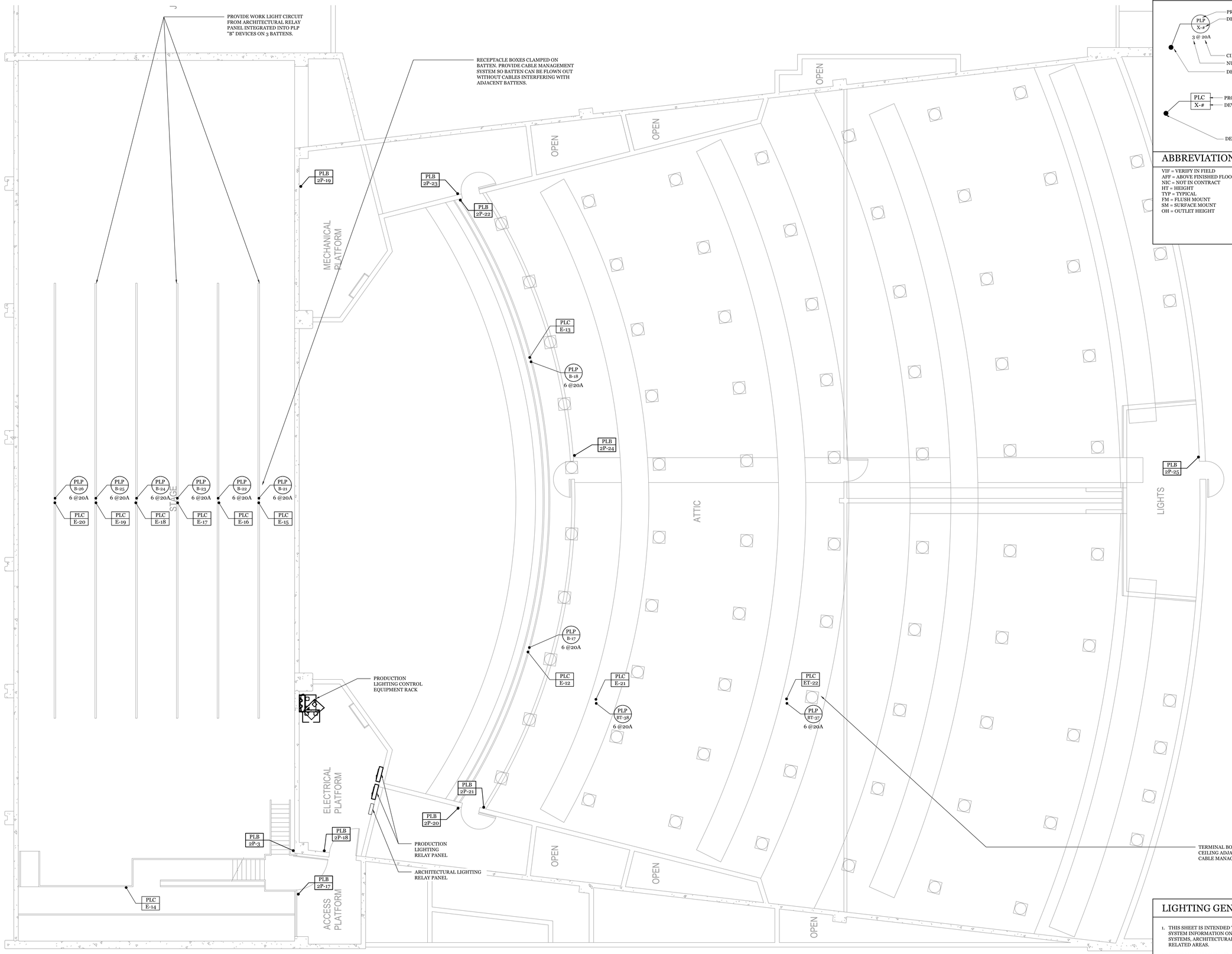
Status: **BID SET**

Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: LEVEL 1 PLAN

Sheet No.
PL1.11

Job No.
4728-01



1 LEVEL 2 PLAN
1/4" = 1'-0"

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Revisions to Sheet

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Sheet Title
PRODUCTION LIGHTING: LEVEL 2 PLAN

Sheet No.
PL1.12

Job No.
4728-01

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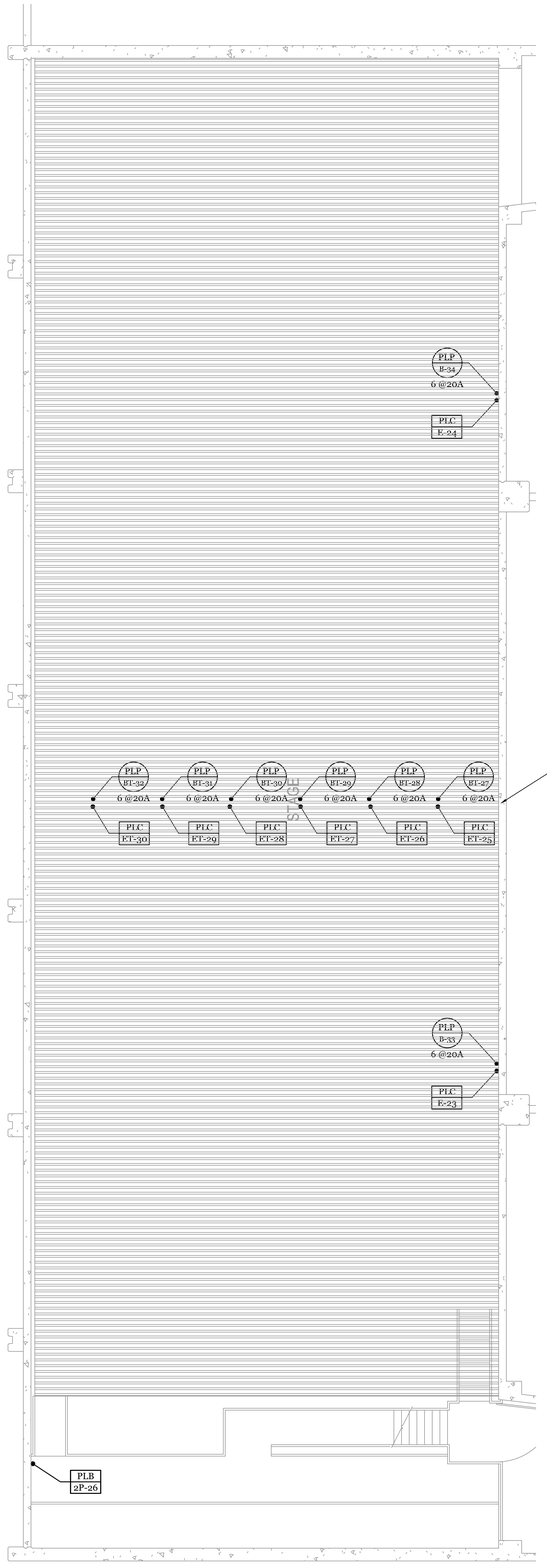
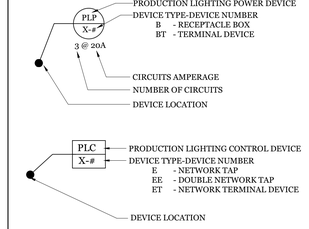


TERMINAL BOXES FOR RECEPTACLE BOXES ON BATTENS. SECURE TO GRID FLOOR AND PAINT YELLOW WARNING AREA TO ALERT TO ALL TRIPPING HAZARDS

1 GRIDIRON LEVEL PLAN
1/4" = 1'-0"

plotted: 8/17/2018 4:02:42 PM
sheet size: 30" x 42"

PRODUCTION LIGHTING SYMBOL KEY



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Revisions to Sheet

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Status: **BID SET**

Date: **01.24.19**

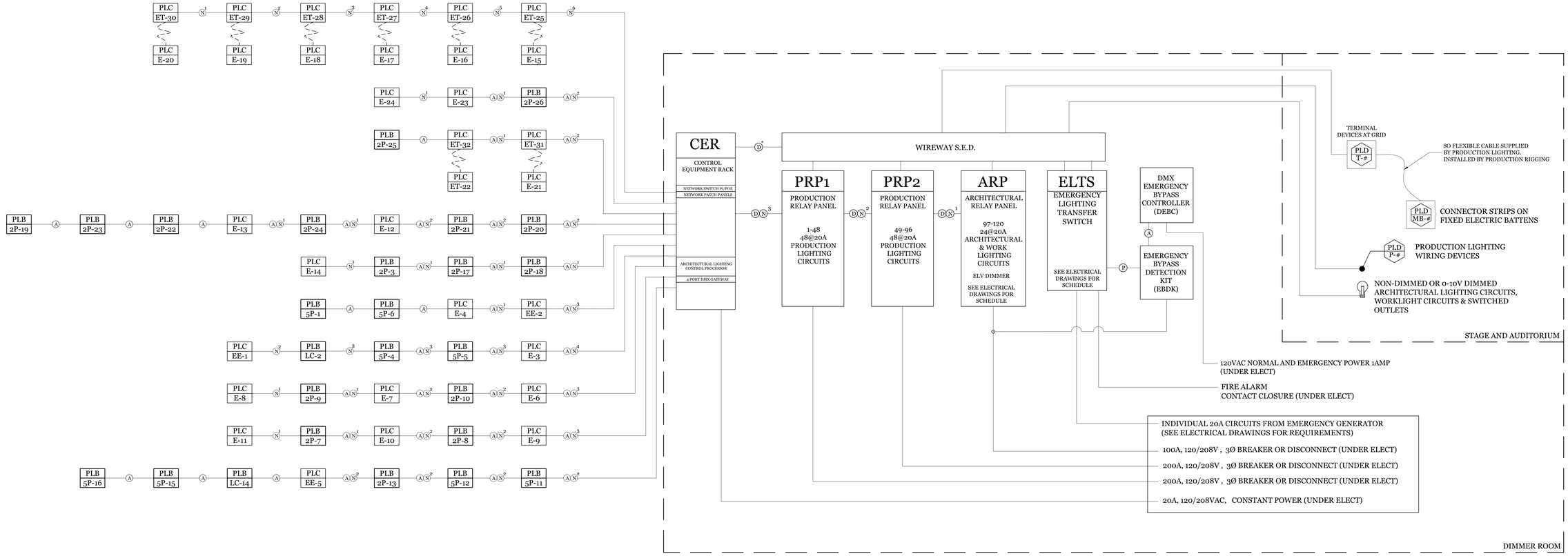
Sheet Title
PRODUCTION LIGHTING: GRIDIRON LEVEL PLAN

Sheet No.
PL1.13

Job No.
4728-01

ALL LOW VOLTAGE WIRE PROVIDED, INSTALLED, AND TERMINATED BY DIVISION 26.
STANDARD BACKBOXES PROVIDED BY DIVISION 26,
UNLESS SURFACE MOUNTED OR A CUSTOM SPECIALTY BOX

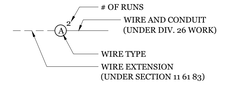
ALL CONDUIT FOR LOW VOLTAGE PLC DEVICES SHALL BE 1" MIN DIAMETER UNLESS OTHERWISE NOTED



1 SINGLE LINE DIAGRAM
NTS

WIRING KEY

- (D) DMX CONTROL - (1) BELDEN 9729
- (A) ARCH LTG CONTROL - (1) BELDEN 8471 & (3) #14 AWG
- (N) ETHERNET - CAT6 (1) BELDEN 2412 & (3) # 16 AWG



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Revisions to Sheet

No.	Revision	Date

Status: **BID SET**

Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: SINGLE LINE DIAGRAM

Sheet No.
PL3.01

Job No.
4728-01

plotted: **8/17/2018 4:02:42 PM**
sheet size: 30" x 42"

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THEATRICAL LIGHTING CONTROL DEVICE SCHEDULE

DEVICE TYPE	DEVICE NUMBER	NETWORK TAPS: TAP-QTY	NETWORK TAPS: TAP-ID	DEVICE DETAIL	FINISH	MOUNTING REF	NOTES
EE	1	2	1-2	5/PL4.01	BLACK	SM @ OH	
EE	2	2	3-4	5/PL4.01	BLACK	SM @ OH	
E	3	1	5	4/PL4.01	BLACK	@ CEILING	
E	4	1	6	4/PL4.01	BLACK	@ CEILING	
EE	5	2	7-8	5/PL4.01	BLACK	SM @ OH	
E	6	1	9	4/PL4.01	BLACK	SM @ OH	
E	7	1	10	4/PL4.01	BLACK	SM @ OH	
E	8	1	11	4/PL4.01	BLACK	SM @ OH	
E	9	1	12	4/PL4.01	BLACK	SM @ OH	
E	10	1	13	4/PL4.01	BLACK	SM @ OH	
E	11	1	14	4/PL4.01	BLACK	SM @ OH	
E	12	1	15	4/PL4.01	BLACK	SM @ 6'-0" AFF	
E	13	1	16	4/PL4.01	BLACK	SM @ 6'-0" AFF	
E	14	1	17	4/PL4.01	BLACK	SM @ OH	
E	15	1	18	4/PL4.01	BLACK	8/PL4.01	
E	16	1	19	4/PL4.01	BLACK	8/PL4.01	
E	17	1	20	4/PL4.01	BLACK	8/PL4.01	
E	18	1	21	4/PL4.01	BLACK	8/PL4.01	
E	19	1	22	4/PL4.01	BLACK	8/PL4.01	
E	20	1	23	4/PL4.01	BLACK	8/PL4.01	
E	21	1	24	6/PL4.01	BLACK	8/PL4.01	
ET	22	1	25	6/PL4.01	BLACK	8/PL4.01	
E	23	1	26	4/PL4.01	BLACK	SM @ OH	
E	24	1	27	4/PL4.01	BLACK	SM @ OH	
ET	25	1	18	6/PL4.01	BLACK	9/PL4.01	
ET	26	1	19	6/PL4.01	BLACK	9/PL4.01	
ET	27	1	20	6/PL4.01	BLACK	9/PL4.01	
ET	28	1	21	6/PL4.01	BLACK	9/PL4.01	
ET	29	1	22	6/PL4.01	BLACK	9/PL4.01	
ET	30	1	23	6/PL4.01	BLACK	9/PL4.01	
ET	31	1	24	6/PL4.01	BLACK	@ ATTIC CEILING	
ET	32	1	25	6/PL4.01	BLACK	@ ATTIC CEILING	

THEATRICAL LIGHTING POWER DEVICE SCHEDULE

DEVICE TYPE	DEVICE NUMBER	RELAY CIRCUITS: CIRCUIT QTY	RELAY CIRCUITS: CIRCUIT #	DEVICE DETAIL	FINISH	MOUNTING REF	NOTES
B	1	3	4-6	7/PL4.01	BLACK	SM @ OH	
B	2	3	1-3	7/PL4.01	BLACK	10/PL4.01	
B	3	3	1-3	7/PL4.01	BLACK	10/PL4.01	
B	4	3	1-3	7/PL4.01	BLACK	10/PL4.01	
B	5	3	10-12	7/PL4.01	BLACK	SM @ OH	
B	6	3	7-9	7/PL4.01	BLACK	10/PL4.01	
B	7	3	7-9	7/PL4.01	BLACK	10/PL4.01	
B	8	3	7-9	7/PL4.01	BLACK	10/PL4.01	
B	9	2	13-14	7/PL4.01	BLACK	@ CEILING	
B	10	2	15-16	7/PL4.01	BLACK	@ CEILING	
B	11	3	17-19	7/PL4.01	BLACK	SM @ OH	
B	12	3	17-19	7/PL4.01	BLACK	SM @ OH	
B	13	3	17-19	7/PL4.01	BLACK	SM @ OH	
B	14	3	20-22	7/PL4.01	BLACK	SM @ OH	
B	15	3	20-22	7/PL4.01	BLACK	SM @ OH	
B	16	3	20-22	7/PL4.01	BLACK	SM @ OH	
B	17	6	23-28	7/PL4.01	BLACK	SM @ 6'-0" AFF	
B	18	6	29-34	7/PL4.01	BLACK	SM @ 6'-0" AFF	
B	19	6	35-40	7/PL4.01	BLACK	8/PL4.01	
B	20	6	41-46	7/PL4.01	BLACK	8/PL4.01	
B	21	6	47-52	7/PL4.01	BLACK	8/PL4.01	
B	22	6	53-58	7/PL4.01	BLACK	8/PL4.01	
B	23	6	59-64	7/PL4.01	BLACK	8/PL4.01	
B	24	6	65-70	7/PL4.01	BLACK	8/PL4.01	
B	25	6	71-76	7/PL4.01	BLACK	8/PL4.01	
B	26	6	77-82	7/PL4.01	BLACK	8/PL4.01	
BT	27	6	47-52		BLACK	9/PL4.01	
BT	28	6	53-58		BLACK	9/PL4.01	
BT	29	6	59-64		BLACK	9/PL4.01	
BT	30	6	65-70		BLACK	9/PL4.01	
BT	31	6	71-76		BLACK	9/PL4.01	
BT	32	6	77-82		BLACK	9/PL4.01	
B	33	6	83-88	7/PL4.01	BLACK	SM @ OH	
B	34	6	89-94	7/PL4.01	BLACK	SM @ OH	
B	35	2	13-14	7/PL4.01	BLACK	10/PL4.01	
B	36	2	15-16	7/PL4.01	BLACK	10/PL4.01	
BT	37	6	41-46		BLACK	@ ATTIC FLOOR	
BT	38	6	35-40		BLACK	@ ATTIC FLOOR	

THEATRICAL LIGHTING PUSHBUTTON SCHEDULE

DEVICE TYPE	DEVICE NUMBER	LED-SCREEN	DEVICE DETAIL	FINISH	NOTES
5P	1		2/PL4.01	BLACK	
LC	2	YES	3/PL4.01	BLACK	
2P	3		1/PL4.01	BLACK	
5P	4		2/PL4.01	BLACK	
5P	5		2/PL4.01	BLACK	
5P	6		2/PL4.01	BLACK	
2P	7		1/PL4.01	BLACK	
2P	8		1/PL4.01	BLACK	AT UPPER PLATFORM
2P	9		1/PL4.01	BLACK	
2P	10		1/PL4.01	BLACK	AT UPPER PLATFORM
5P	11		2/PL4.01	BLACK	
5P	12		2/PL4.01	BLACK	
2P	13		1/PL4.01	BLACK	
LC	14	YES	3/PL4.01	BLACK	
5P	15		2/PL4.01	BLACK	
5P	16		2/PL4.01	BLACK	
2P	17		1/PL4.01	BLACK	
2P	18		1/PL4.01	BLACK	
2P	19		1/PL4.01	BLACK	
2P	20		1/PL4.01	BLACK	
2P	21		1/PL4.01	BLACK	
2P	22		1/PL4.01	BLACK	
2P	23		1/PL4.01	BLACK	
2P	24		1/PL4.01	BLACK	
2P	25		1/PL4.01	BLACK	
2P	26		1/PL4.01	BLACK	

ARCHITECTURAL PUSHBUTTON CONTROL SCHEDULE

Type	Number	Location	Buttons	Function
5P	1	Stage Entry door at Rear Stage Wall	1	Stage white worklights on/off
			2	House Lights on/off
			3	Stage blue worklights on/off
			4	Upstage blue worklights on/off
			5	
LC	2	Stage Right Proscenium Wall		See LCD Touchscreen control description in spec
2P	3	Top of Mezzanine stair	1	Switch Mezzanine and Gallery work lights on
			2	Switch Mezzanine and Gallery work lights off
5P	4	Stage Entry door at Stage Right Hall	1	Stage white worklights on/off
			2	House Lights on/off
			3	Stage blue worklights on/off
			4	Upstage blue worklights on/off
			5	
5P	5	House Entry door at House Left Hall	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
5P	6	House Entry door at House Right Hall	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
2P	7	Entry door at House Right Side Lighting	1	Switch Side Lighting white lights on/off
			2	Switch Side Lighting blue lights on/off
2P	8	Top of Ladder at House Right Side Lighting	1	Switch Side Lighting white lights on/off
			2	Switch Side Lighting blue lights on/off
2P	9	Entry door at House Left Side Lighting	1	Switch Side Lighting white lights on/off
			2	Switch Side Lighting blue lights on/off
2P	10	Top of Ladder at House Left Side Lighting	1	Switch Side Lighting white lights on/off
			2	Switch Side Lighting blue lights on/off
5P	11	Auditorium entry door house left	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
5P	12	Auditorium entry door center left	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
2P	13	Control Booth Entry door	1	Switch Booth white lights on/off
			2	Switch Booth blue lights on/off
LC	14	Control Booth		See LCD Touchscreen control description in spec
5P	15	Auditorium entry door center right	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
5P	16	Auditorium entry door house right	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
2P	17	Access Platform entry	1	Switch Mezzanine lights on
			2	Switch Mezzanine lights off
2P	18	Entry door at Electrical Platform	1	Switch Electrical Platform lights on
			2	Switch Electrical Platform lights off
2P	19	Upper Entry door at Mechanical Platform	1	Switch Mechanical Platform lights on
			2	Switch Mechanical Platform lights off
2P	20	Upper Entry door at Electrical Platform	1	Switch Electrical Platform lights on
			2	Switch Electrical Platform lights off
2P	21	Entry door at Catwalk house left	1	Switch Catwalk lights on
			2	Switch Catwalk lights off
2P	22	Entry door at Catwalk house right	1	Switch Catwalk lights on
			2	Switch Catwalk lights off
2P	23	Upper Entry door at Mechanical Platform	1	Switch Mechanical Platform lights on
			2	Switch Mechanical Platform lights off
2P	24	Attic Entry from Catwalk	1	Switch Attic lights on
			2	Switch Attic lights off
2P	25	Attic Entry from Mechanical Area	1	Switch Attic lights on
			2	Switch Attic lights off
2P	26	Stage Receiving	1	Switch Gridiron lights on
			2	Switch Gridiron lights off

1 DEVICE SCHEUDLES
NTS

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5. REUSE EXISTING BACKBOXES, WIRING AND CONDUIT AS POSSIBLE. DEMO ANY UNUSED WIRING, BACKBOXES, CONTROL PANELS AND CONDUIT FROM SYSTEM BEING REPLACED.

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Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
ALOHA HIGH SCHOOL THEATRE UPGRADES

HOUSE & PRODUCTION LIGHTING

Project Adress:
18550 SW Kinnaman Rd.
Beaverton, OR 97078

Key Plan

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Revisions to Sheet

No.	Revision	Date

Status: **BID SET**

Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: SCHEDULES

Sheet No.
PL3.02

Job No.
4728-01

plotted: 8/17/2018 4:02:42 PM
sheet size: 30" x 42"

ABBREVIATIONS

VIF = VERIFY IN FIELD	HL = HOUSE LEFT
AFF = ABOVE FINISHED FLOOR	HR = HOUSE RIGHT
NIC = NOT IN CONTRACT	SH = SWITCH HEIGHT
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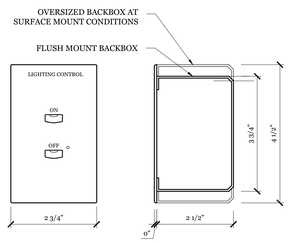
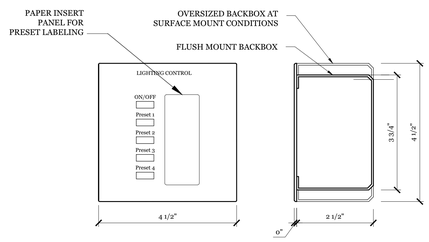


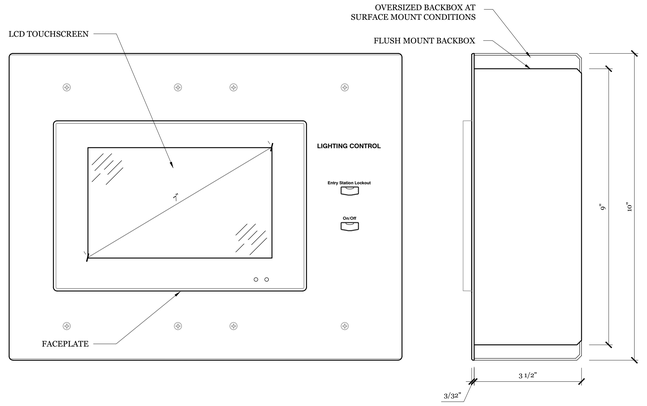
FRONT VIEW SIDE VIEW

1 PLB "2P" DEVICE
HALF FULL SCALE — THIS DEVICE WEIGHS LESS THAN 20#



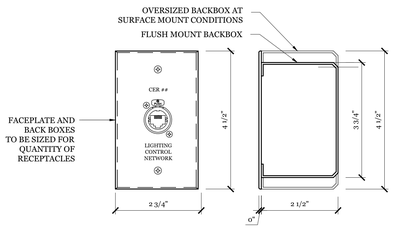
FRONT VIEW SIDE VIEW

2 PLB "5P" DEVICE
HALF FULL SCALE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

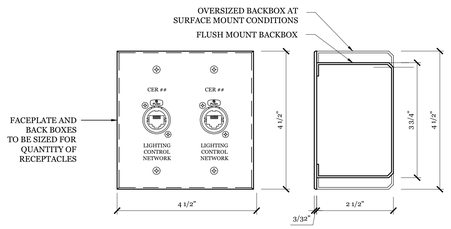
3 PLB "LC" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

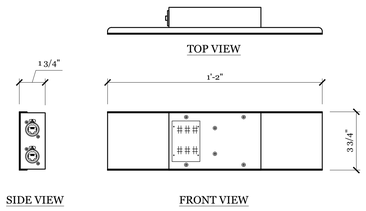
4 PLD "E" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

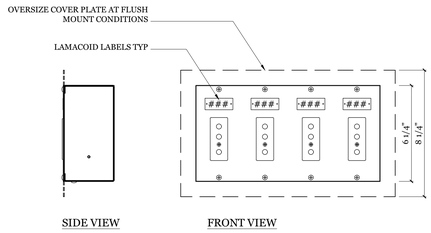
5 PLD "EE" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



SIDE VIEW FRONT VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

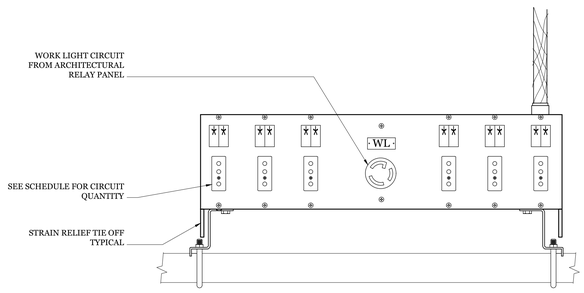
6 PLP DEVICE TYPE "ET"
3" = 1'-0"



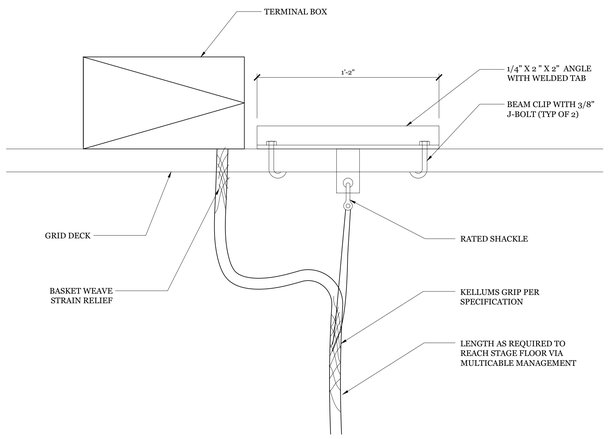
SIDE VIEW FRONT VIEW

SEE SCHEDULE FOR DEVICE INFORMATION

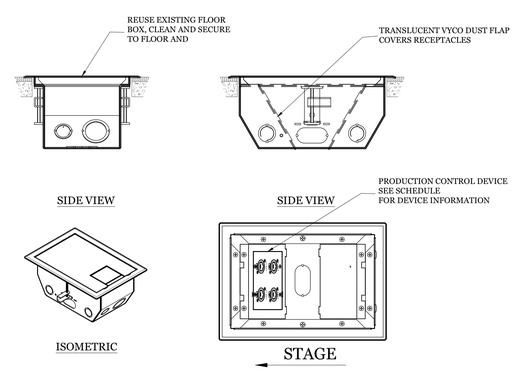
7 PLP "B" DEVICE
3" = 1'-0" — THIS DEVICE WEIGHS LESS THAN 20#



8 TYPICAL BATTEN MOUNTING
3" = 1'-0"



9 GRIDIRON FLOOR MOUNTING DETAIL
3" = 1'-0"



10 TYPICAL FLOOR BOX MOUNTING
3"=1'-0" — THIS DEVICE WEIGHS LESS THAN 20#

LIGHTING GENERAL NOTES

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Revisions to Sheet

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Status: **BID SET**

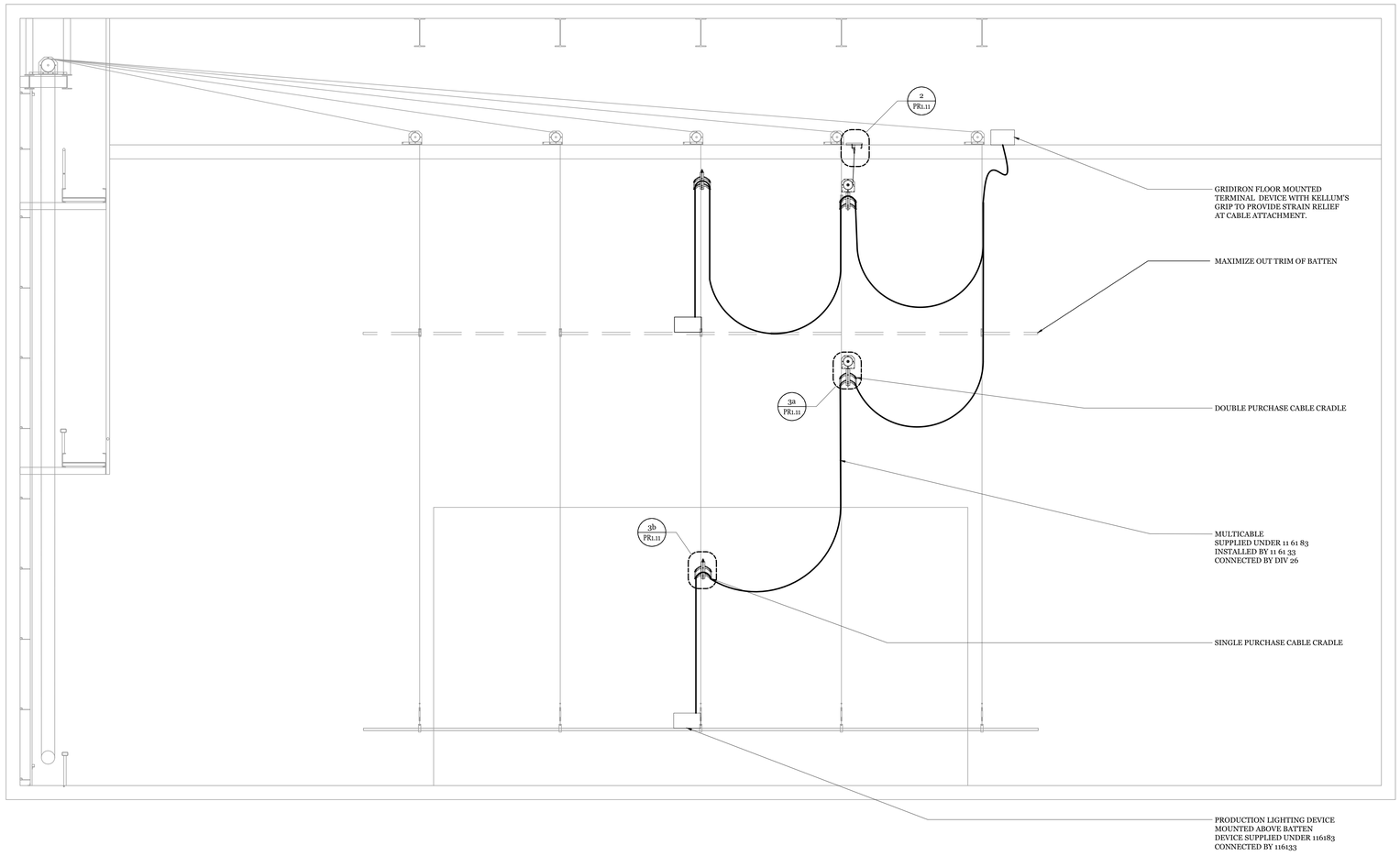
Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: DETAILS

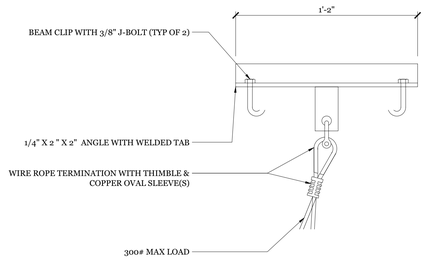
Sheet No.
PL4.01

Job No.
4728-01

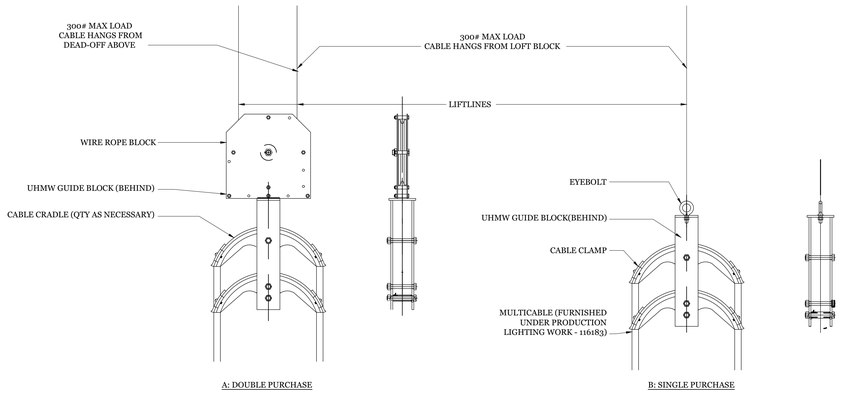
plotted: 8/17/2018 4:02:42 PM
sheet size: 30" x 42"



1 TRANSVERSE SECTION THROUGH STAGE
1/4" = 1'-0"



2 DOUBLE PURCHASE CABLE CRADLE LIFTLINE DEAD-OFF DETAIL
3" = 1'-0"



3 SINGLE & DOUBLE PURCHASE CABLE CRADLE DETAILS
1-1/2" = 1'-0"

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RIGGING GENERAL NOTES

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2. SHOW ATTACHMENT BACKING REQUIREMENTS ON SHOP DRAWINGS.
3. SEE SPECIFICATIONS FOR PRODUCT AND INSTALLATION CRITERIA.

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Revisions to Sheet

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Status: **BID SET**

Date: **01.24.19**

Sheet Title
PRODUCTION RIGGING: SECTION

Sheet No.
PR1.11

Job No.
4728-01

BEAVERTON SCHOOL DISTRICT

BEAVERTON HIGH SCHOOL THEATRE UPGRADES

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Beaverton, OR 97005

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Portland, OR 97209
503.525.9511
www.opsisarch.com

100% CD/BID

01.24.19
4758-01



PROJECT SCOPE

THE SCHOOL DISTRICT IS RENOVATING FIVE HIGH SCHOOL THEATRES UNDER THIS SCOPE OF WORK, AND FOCUSING ON MODIFICATIONS THAT WILL MAKE THE AREAS IN THE THEATRES SAFER FOR STUDENTS AND STAFF.

AT THIS CAMPUS, THE IMPROVEMENTS CONSIST OF REPLACING AN EXISTING LADDER FROM THE GALLERY TO THE HIGH WALKING GRID WITH A NEW LADDER AND CAGE TO PROVIDE FALL PROTECTION. THE LADDER IS SUSPENDED OFF THE WALL, REQUIRING CUSTOM MOUNTING SOLUTION. A NEW GUARDRIAL WILL BE INSTALLED AT THE EDGE OF THE WALKING GRID.

IN ADDITION, THE AUDITORIUM AND STAGE LIGHTING AND SYSTEMS WILL BE UPGRADED TO LED FIXTURES AND CONTROL SYSTEMS. THE EXISTING WORK LIGHTING WILL BE REPLACED AND ADDITIONAL FIXTURES WILL BE ADDED.

SHEET INDEX

DATA
CO COVER SHEET

ARCHITECTURAL
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A1.20 BEAVERTON HIGH SCHOOL - PLAN & DETAILS
A5.10 ENLARGED FLOOR PLAN

ELECTRICAL
E0.1 SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL
E2.1 LEVEL 1 PLAN - ELECTRICAL
E2.2 LEVEL 2 CEILING PLAN - ELECTRICAL
E2.3 GRIDIRON LEVEL PLAN - ELECTRICAL
E4.1 ENLARGED PLANS - ELECTRICAL

PRODUCTION
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PL1.12 PRODUCTION LIGHTING: LEVEL 2 PLAN
PL1.13 PRODUCTION LIGHTING: GRIDIRON LEVEL PLAN
PL3.01 PRODUCTION LIGHTING: SINGLE LINE DIAGRAM
PL3.02 PRODUCTION LIGHTING: SCHEDULES
PL4.01 PRODUCTION LIGHTING: DETAILS

PR1.14 PRODUCTION RIGGING: SECTION

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Contact: David Chesley

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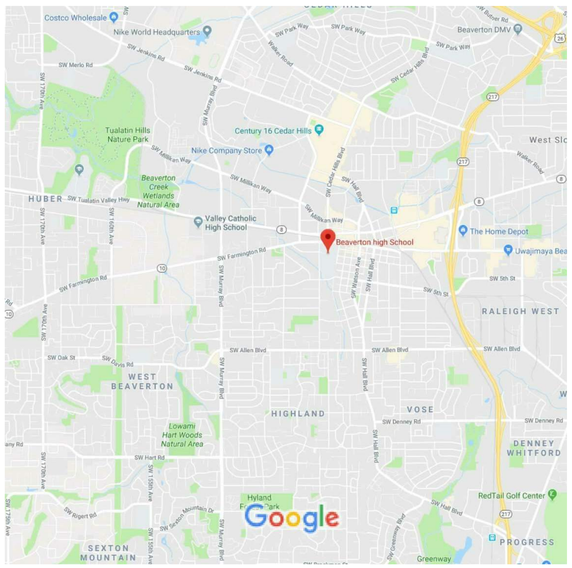
Berkeley, California 94709
Phone: 415.956.4100
Contact: Jill Collins



VICINITY MAP

CODE ANALYSIS

CHAPTER 1: ADMINISTRATION

PROJECT ADDRESS:
BEAVERTON HIGH SCHOOL
13000 SW 2nd STREET
BEAVERTON, OR 97005

JURISDICTIONAL AUTHORITY:
CITY OF BEAVERTON

APPLICABLE CODE:
2014 OREGON STRUCTURAL SPECIALTY CODE
2014 INTERNATIONAL FIRE CODE
2014 OREGON ELECTRICAL SPECIALTY CODE
2014 OREGON PLUMBING SPECIALTY CODE
NFPA 101 (NOTE: LOCAL CODE WILL TAKE PRECEDENCE. DEVIATIONS FROM NFPA IN INDIVIDUAL SECTIONS.)

OSSC CHAPTER 11:
NOT APPLICABLE TO PROPOSED SCOPE

TAX LOT:
1S116AD10900

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

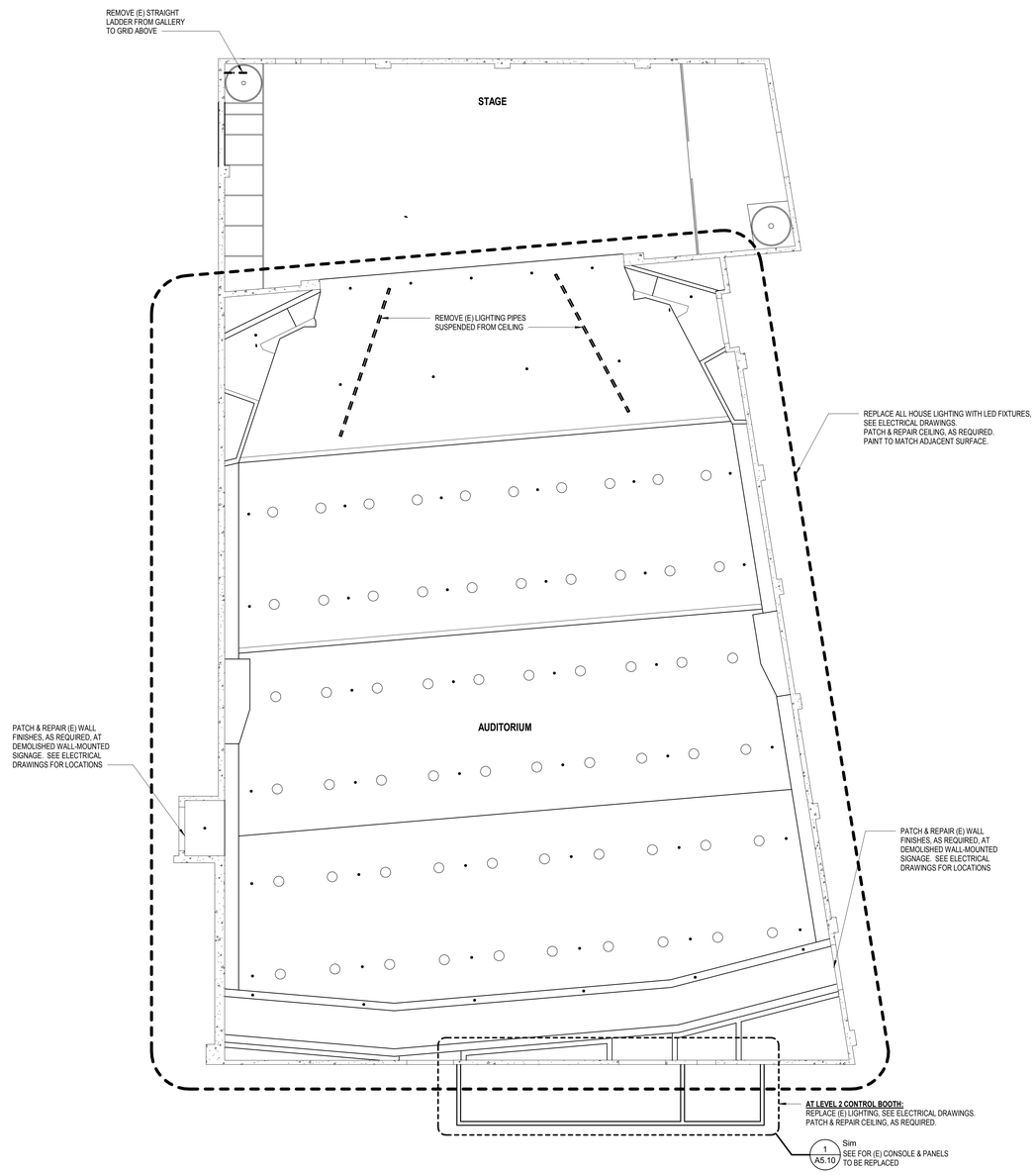
OCCUPANCY CLASSIFICATION (Section 303 & 304)
GROUP E EDUCATIONAL OCCUPANCY FOR STUDENTS

*PER SECTION 303.1.3: ASSEMBLY SPACES IN A GROUP E BUILDING ARE NOT INTENDED TO BE REGULATED AS SEPARATE GROUP A OCCUPANCIES, REGARDLESS OF THEIR FLOOR AREA, BUT RATHER AN EXTENSION OF THE GROUP E CLASSIFICATION.

BEAVERTON HIGH SCHOOL THEATRE UPGRADES

DEMOLITION NOTES

1. CONTRACTOR SHALL PROVIDE A SCHEDULE OF DEMOLITION TO THE OWNER FOR APPROVAL. CONTRACTOR SHALL NOT COMMENCE WORK IN ANY AREA PRIOR TO WRITTEN APPROVAL FROM THE OWNER FOR EACH STAGE OF THE DEMOLITION SCHEDULE.
2. THE OWNER SHALL HAVE THE OPPORTUNITY TO REMOVE EXISTING MATERIAL AND EQUIPMENT AT HIS OWN EXPENSE PRIOR TO THE START OF DEMOLITION BY THE CONTRACTOR
3. CONTRACTOR IS TO COORDINATE WITH THE OWNER ANY INTERRUPTIONS OF ANY BUILDING SERVICES WHICH AFFECT THE OPERATION OF THE REMAINING PORTIONS OF THE FACILITY. ANY INTERRUPTIONS TO THESE SERVICES ARE TO BE SCHEDULED IN ADVANCE AND THE DURATION IS TO BE HELD TO THE MINIMUM.
4. CUT EXISTING FINISHES TO BE REMOVED WITH METHODS TO TERMINATED SURFACES IN A STRAIGHT, PLUMB LINE AT A NATURAL POINT OF DIVISION.
6. PATCH, REPAIR AND REFINISH EXISTING ITEMS TO REMAIN TO THE SPECIFIC CONDITION OF EACH MATERIAL WITH A WORKMAN-LIKE TRANSITION TO ADJACENT NEW CONSTRUCTION.
7. PROVIDE ADEQUATE SUPPORT OR ANCHORAGE OF SUBSTRATES TO RECEIVE NEW FINISH MATERIALS.
8. WHEN NEW WORK ABUTS OR FINISHES FLUSH WITH EXISTING WORK, MAKE A SMOOTH WORKMAN-LIKE TRANSITION. PATCHED WORK SHALL MATCH ADJACENT EXISTING WORK IN TEXTURE AND FINISH.
9. A COMPLETE SURVEY FOR VERIFICATION OF THE (E) CONSTRUCTION HAS NOT BEEN PERFORMED AND EXISTING DOCUMENTS ARE NOT ENTIRELY CLEAR. FOR THESE REASONS, THE ARCHITECT AND OWNER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS OF EXISTING INFORMATION.
10. REFER TO ELECTRICAL DRAWINGS E2.X FOR FIXTURE TYPES & COUNTS.



1 AD1.12 | DEMOLITION / (E) REFLECTED CEILING PLAN - AUDITORIUM
1/8" = 1'-0"

plotted: 1/24/2019 12:18:46 PM

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Stamp

Consultant Logo

Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
BEAVERTON HIGH SCHOOL THEATRE UPGRADES

Project Adress:
13000 SW 2nd St
Beaverton, OR 97005

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Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.19**

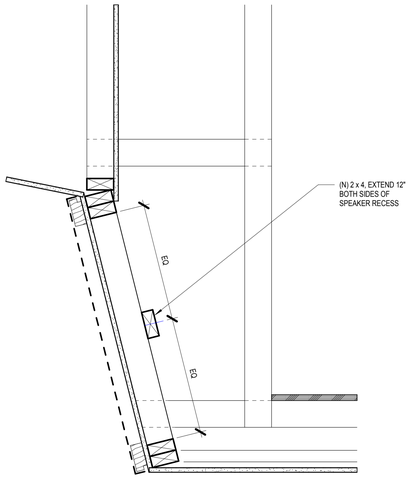
Sheet Title
BEAVERTON HIGH SCHOOL - DEMOLITION REFLECTED CEILING PLAN

Sheet No.
AD1.12

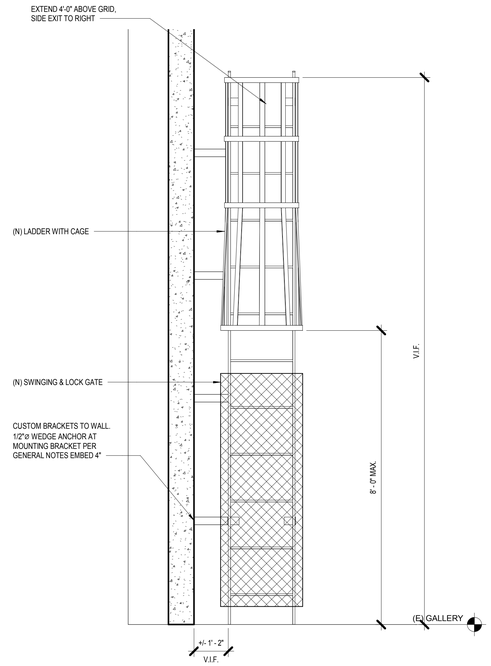
Job No.
4758-01



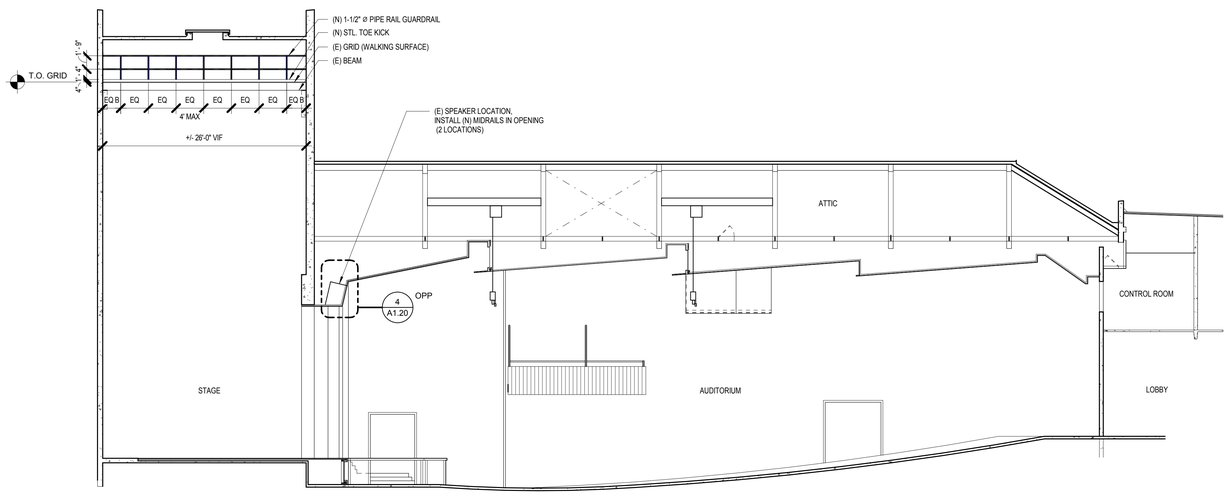
5 | (E) LADDER TO GRID



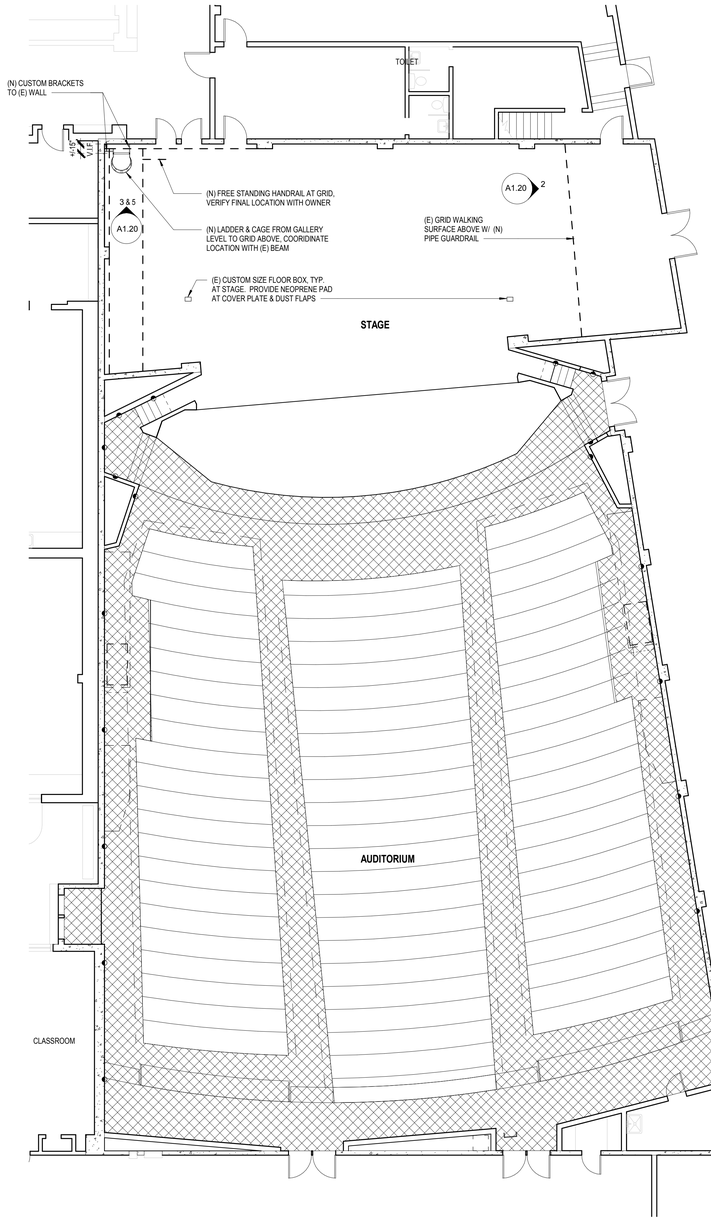
4 | (N) MIDRAIL AT SPEAKER RECESS
A1.20 1 1/2" = 1'-0"



3 | (N) LADDER & CAGE
A1.20 1/2" = 1'-0"



2 | BUILDING SECTION
A1.20 1/8" = 1'-0"



1 | AUDITORIUM FLOOR PLAN - LEVEL 1
A1.20 1/8" = 1'-0"

plotted: **1/24/2019 12:18:45 PM**

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
BEAVERTON HIGH SCHOOL THEATRE UPGRADES

Project Adress:
13000 SW 2nd St
Beaverton, OR 97005

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Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.19**

Sheet Title
BEAVERTON HIGH SCHOOL - PLAN & DETAILS

Sheet No.
A1.20

Job No.
4758-01

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Project Owner:
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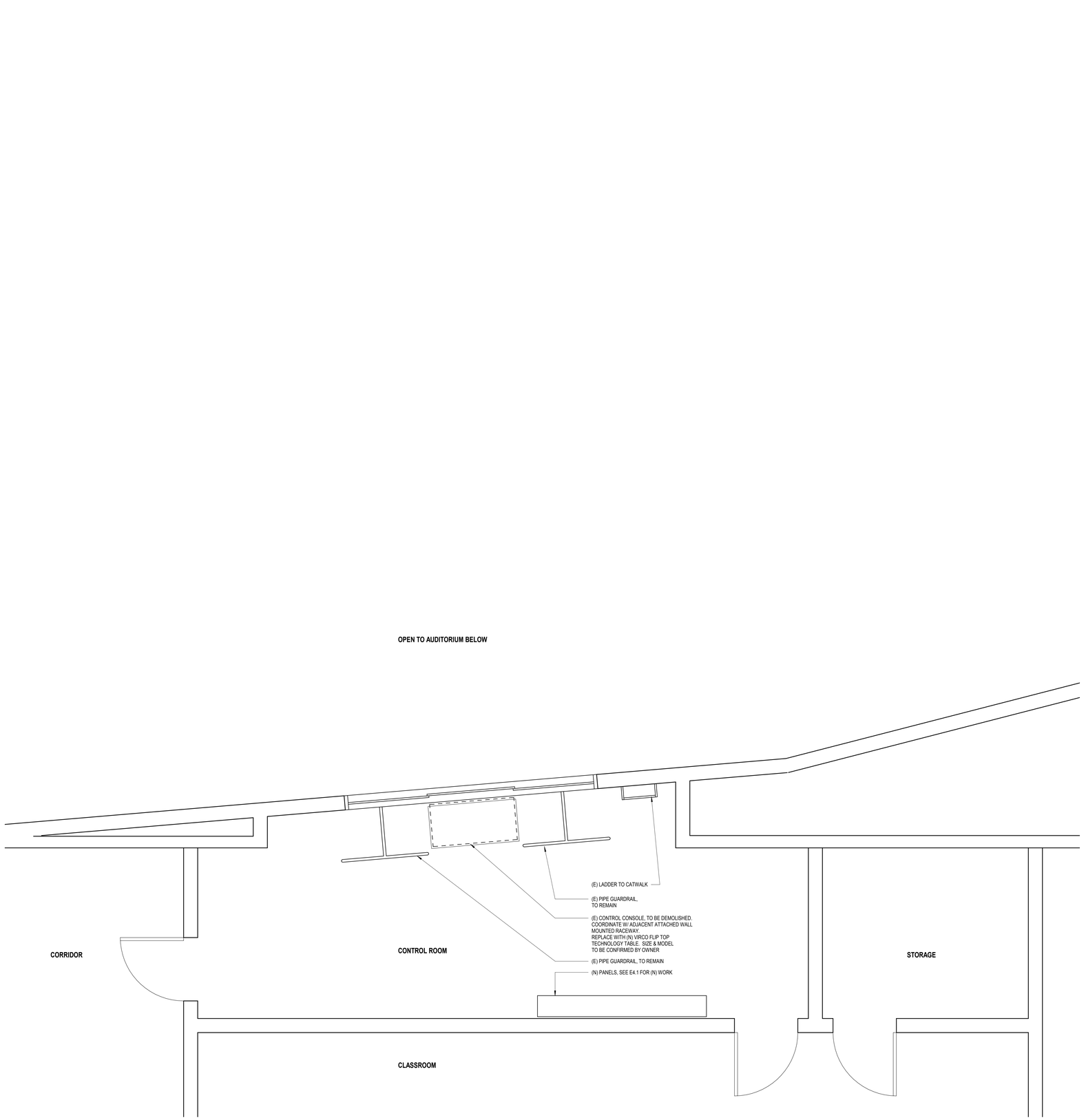
Project Name:
BEAVERTON HIGH SCHOOL THEATRE UPGRADES

HOUSE & PRODUCTION LIGHTING

Project Adress:
13000 SW 2nd St
Beaverton, OR 97005

Key Plan



1 | A5.10 **ENLARGED FLOOR PLAN - CONTROL ROOM**
1/2" = 1'-0"

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Revisions to Sheet

No.	Revision	Date
2	ADDENDUM 2	10.24.2018

Status: **100% CD/BID**

Date: **01.24.19**

Sheet Title
ENLARGED FLOOR PLAN

Sheet No.
A5.10

Job No.
4758-01

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sheet size: 30" x 42"

ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWG	AMERICAN WIRE GAUGE
A	AMPERES, AMBER
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE INTERRUPTING CAPACITY
BAS	BUILDING AUTOMATION SYSTEM
CA	CABLE
CAT	CATEGORY
CLG	CEILING
C	CONDUIT, CLOSE, CONTROL
COORD	COORDINATE
CU	COPPER
dB	DECIBEL
(X)	DEMOLISH
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EMT	ELECTRICAL METALLIC TUBING
EL	ELEVATION
E	EMERGENCY
EF	EXHAUST FAN
FA	FIRE ALARM
FMC	FLEXIBLE METAL CONDUIT
FT	FOOT, FEET
FBO	FURNISHED BY OTHERS
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HT	HEIGHT
ID	IDENTIFICATION
IN	INCH, INCHES
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LV	LOW VOLTAGE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MIN	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MISC	MISCELLANEOUS
MCC	MOTOR CONTROL CENTER
MT, MTD	MOUNT, MOUNTED
NEC	NATIONAL ELECTRIC CODE
NESC	NATIONAL ELECTRIC SAFETY CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N	NEUTRAL
(E)	NEW LUMINAIRE IN EXISTING LOCATION
(N)	NEW LUMINAIRE IN NEW LOCATION
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PNL	PANEL
PH	PHASE
PVC	POLY-VINYL-CHLORIDE
PWR	POWER
QTY	QUANTITY
(R)	RELOCATE
RFI	REQUEST FOR INFORMATION
REQD	REQUIRED
RMC	RIGID METAL CONDUIT
RM	ROOM
SHT	SHEET
STD	STANDARD
SPD	SURGE PROTECTION DEVICE
SWBD	SWITCHBOARD
TBD	TO BE DETERMINED
XFMR	TRANSFORMER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
UON	UNLESS OTHERWISE NOTED
V	VOLTS, VOLTAGE
WP	WEATHERPROOF
W/	WITH
W/O	WITHOUT

Connections / Equipment

- VFD — COMBINATION ADJUSTABLE FREQUENCY DRIVE WITH SAFETY DISCONNECT SWITCH
- COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH
- HEAVY DUTY FUSED DISCONNECT SWITCH
- J OR J — JUNCTION BOX
- MOTOR CONNECTION
- NON-FUSED DISCONNECT SWITCH
- T — TRANSFORMER
- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- WALL-MOUNTED JUNCTION BOX

General

- X / X — DETAIL NUMBER AND SHEET LOCATION
- XX-X / LOCATION — EQUIPMENT IDENTIFICATION
- KEYED NOTE
- DEMOLISH
- EXISTING WORK
- NEW WORK

Lighting

- COMBINATION EXIT SIGN CEILING MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARRROW(S) INDICATES DIRECTION IF SHOWN
- COMBINATION EXIT SIGN WALL MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARRROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- RECESSED 1' X 4' LUMINAIRE
- RECESSED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 2' LUMINAIRE
- RECESSED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 4' LUMINAIRE
- RECESSED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED LUMINAIRE
- RECESSED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
- SURFACE MOUNTED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE MOUNTED 2' X 4' LUMINAIRE
- SURFACE MOUNTED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED STRIPLIGHT
- WALL MOUNTED 6" WIDE LUMINAIRE
- WALL MOUNTED 6" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED 12" WIDE LUMINAIRE
- WALL MOUNTED 12" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED LUMINAIRE
- WALL MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT

Miscellaneous

- #10 / B-27,29,31. — BRANCH CIRCUIT WIRING. ARROW INDICATES HOME RUN TO PANEL WITH CIRCUITS AS NOTED. WIRE SIZE IS #12 AWG MINIMUM UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE PHASE CONDUCTORS. LONG TICK MARKS INDICATE NEUTRAL CONDUCTORS. A SINGLE CURVED TICK MARK INDICATES INSULATED GREEN GROUND CONDUCTOR. SECOND CURVED TICK MARK INDICATES "ISOLATED GROUND" (GREEN INSULATION WITH YELLOW STRIPE) CONDUCTOR.
- BRANCH PANEL
- CIRCUIT BREAKER
- DRY TYPE TRANSFORMER
- FLUSH WALL MOUNTED BRANCH PANEL
- GB — GROUND BAR
- MAIN DISTRIBUTION PANEL / SUB DISTRIBUTION PANEL

Raceways

- CONDUIT CONCEALED IN WALL OR CEILING SPACE
- CONDUIT ROUTED BELOW FLOOR / GRADE
- CONDUIT ELLED DOWN
- CONDUIT ELLED UP
- CONDUIT/WIRING CONTINUATION
- CONDUIT/WIRING STUBBED OUT WITH END CAP OR INSULATED PLASTIC BUSHING
- FLEXIBLE CONDUIT

Switches and Receptacles

- DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  B = CLOCK HANGER
  C = FLUSH CEILING MOUNTED
  E = EMERGENCY
  F = ARC FAULT PROTECTED BY BREAKER IN PANEL
  G = GROUND FAULT CIRCUIT INTERRUPTER
  H = HOSPITAL GRADE
  K = CHILD RESISTANT COVER
  L = ISOLATED GROUND
  P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH
  R1 = HALF SWITCHED BY OCCUPANCY SENSOR RELAY
  R2 = FULLY SWITCHED BY OCCUPANCY SENSOR RELAY
  S = SPLIT WIRED
  T = TAMPER RESISTANT SHUTTERED RECEPTACLE
  U = USB PORT(S)
  W = WEATHERPROOF CONTINUOUS USE COVER, GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE
- DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- EQUIPMENT ELECTRICAL CONNECTION
- SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION
  LX-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE
  X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE
  P = PENDANT MOUNT WITH CORD GRIPS; VERIFY PENDANT LENGTH
  X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED
- OS — CEILING MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  U = ULTRASONIC, 360 DEG RANGE
  H = ULTRASONIC, HALLWAY PATTERN
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR/SWITCH
  S = PASSIVE INFRARED WITH INTEGRAL "OFF" SWITCH
  T = DUAL RELAY PASSIVE INFRARED WITH TWO INTEGRAL "OFF" SWITCHES
  D = PASSIVE INFRARED WITH INTEGRAL DIMMER TO OFF.
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- MULTIPLE CHANNEL SURFACE METAL RECEPTACLE RACEWAY WITH LOW VOLTAGE DIVIDERS, LENGTH AND RECEPTACLES AS INDICATED
- PHOTO ELECTRIC SWITCH
  D = CONTINUOUS DIMMING PHOTOCELL
  S = SWITCHED PHOTOCELL
- $ — SINGLE POLE SWITCH
  2 = DOUBLE POLE SWITCH
  3 = THREE-WAY SWITCH
  4 = FOUR-WAY SWITCH
  a THRU z (LOWERCASE) = LUMINAIRE CONTROL DESIGNATION
  D = DIMMER
  F = FAN SPEED CONTROL
  K = KEY OPERATED SWITCH
  L = LIGHTED HANDLE
  M = MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
  P = SWITCH WITH PILOT LIGHT
  S = SENTRY SWITCH
  T = INTERVAL TIMER
  W = WEATHERPROOF SWITCH
  V = LOW VOLTAGE SWITCH

Telecommunications

- RACEWAY ONLY DATA/TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE.
  (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  C = CEILING MOUNTED ABOVE ACCESSIBLE CEILING
  F = FLUSH CEILING MOUNTED
  R = SURFACE MOUNTED ON RACEWAY
- RACEWAY ONLY TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 3/4" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	HOUSING	SHIELDING	MOUNTING	FINISH	UL/IP RATING	DRIVER/POWER SUPPLY	LIGHT SOURCE	INPUT WATTS	MFG/CATALOG #	NOTES
'HA1'	RECESSED ROUND LED DOWNLIGHT; 60 DEGREE WIDE FLOOD DISTRIBUTION; NOMINAL 6"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN EXISTING CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVE DMW WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 3500 LUMENS; 2700K LED; >90CRI	37.0	GOTHAM INCITO 6IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HA2'	RECESSED ROUND LED DOWNLIGHT; 30 DEGREE NARROW FLOOD DISTRIBUTION; NOMINAL 6"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN EXISTING CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVE DMW WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 3000 LUMENS; 2700K LED; >90CRI	29.0	GOTHAM INCITO 6IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HB'	RECESSED ROUND LED DOWNLIGHT; 60 DEGREE WIDE FLOOD DISTRIBUTION; NOMINAL 6"DIA APERTURE	16 GAUGE STEEL	LENS REFLECTOR	RECESSED IN EXISTING CEILING	SEMI-SPECULAR BLACK	UL DAMP	INTEGRAL DRIVER; ELDOLED POWERDRIVE DMW WITH RDM, SQUARE LAW DIMMING TO <1%	NOMINAL 2000 LUMENS; 3000K LED; >90CRI	29.0	GOTHAM INCITO 6IN SERIES; PORTFOLIO, CALCULITE, OR APPROVED	
'HC'	SURFACE MOUNTED FLUSH MOUNT ROUND LED; NOMINAL 15"DIA x 4"D	ALUMINUM	HIGH IMPACT POLYCARBONATE LENS	SURFACE MOUNTED	WHITE	UL DAMP	INTEGRAL DRIVER; 0-10V DIMMING TO 1%	NOMINAL 3000 LUMENS; 3000K LED; >90CRI	29.0	KENALL ROUGH-HOUSE SERIES; FAILSAFE, NEW STAR, OR APPROVED	
'HD'	PIPE MOUNTED LED WORK LIGHT W/ ADJUSTABLE YOKE W/ LOCKING-DOG TILT HANDLE; NOMINAL 12"W x 6"H x 6"D	ALUMINUM	FROSTED LENS	PIPE MOUNTED WITH PIPE CLAMP ACCESSORY	BLACK	UL DRY	NONDIMMING INTEGRAL DRIVER	NOMINAL >10,000 LUMENS; 3000K LED; >90CRI	130.0	ENTERTAINMENT LIGHTING LED WORK LIGHT WL-130 SERIES; OR APPROVED	
'HF'	SURFACE MOUNTED OR SUSPENDED LED STRIPLIGHT W/ FLAT LENS OPTION; NOMINAL 3.5"W x 2.72"H x 4'L	COLD ROLLED STEEL	FLAT FROSTED ACRYLIC LENS	SURFACE OR SUSPENDED FROM CEILING	WHITE	UL DAMP	INTEGRAL DRIVER; 0-10V DIMMING TO 10%	NOMINAL 4000 LUMENS; 3000K LED; >90CRI	34.8	LITHONIA CLX SERIES; METALUX, HUBBELL, HEW, OR APPROVED	
'HG1'	LED TRACK HEAD; NOMINAL 4.125"DIA x 5.5"H	EXTRUDED ALUMINUM	FACETED REFLECTOR	MOUNTED TO TRACK	BLACK	UL DRY	INTEGRAL DRIVER; 0-10V DIMMING TO 1%	NOMINAL 2000 LUMENS; 3000K LED; >90CRI	19.0	CONTECH CTL82SH SERIES; ETC LIGHTING, INTERLUX, OR APPROVED	
'HG2'	ASSOCIATED TRACK FOR TYPE 'HG1'	EXTRUDED ALUMINUM	NA	SURFACE MOUNTED	BLACK	UL DRY	LINE VOLTAGE	NA		CONTECH TRACK SERIES; ETC LIGHTING, INTERLUX, OR APPROVED	
'HH'	SURFACE MOUNTED LED STEPLIGHT; NOMINAL 4.25"H x 12"L x 3.5"D	DIE CAST ALUMINUM	LOUVERED FACEPLATE	WALL MOUNTED @ 1'-6" AFF. UNLESS OTHERWISE NOTED	BLACK	UL WET	INTEGRAL DRIVER	BLUE LED >300 LUMENS	4.0	ELCAST LIGHTING 1210 SERIES; OR APPROVED	
'X'	THIN PROFILE LED EXIT SIGN; NOMINAL 12"W x 8.5"H x 0.5"D	NOMINAL 12"W x 8.5"H x 0.5"D; DIE CAST ALUMINUM HOUSING; CONTRACTOR TO VERIFY BACKBOX REQUIREMENTS DURING ROUGH-IN	NA	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING CONDITIONS	BLACK	UL DAMP	INTEGRAL DRIVER	LED; GREEN LETTERING	2.0	LITHONIA LRE SERIES; EVENLITE; ISOLITE, PATHWAY, SURE-LITES TPX, BARRON LIGHTING, OR APPROVED	

NOTES	
1	THIS LUMINAIRE SCHEDULE IS NOT COMPLETE WITHOUT A COPY OF THE PROJECT MANUAL CONTAINING THE ELECTRICAL SPECIFICATIONS.
2	DIMMING CONTROL PROTOCOL (0-10VDC, LINE VOLTAGE, DALI, ETC.) COMPATIBLE WITH LIGHTING CONTROL SYSTEM AS SPECIFIED AND SHOWN ON DRAWINGS.
3	PROVIDE +/- 12 INCH ADJUSTABILITY IN AIRCRAFT CABLE LENGTH WHERE USED.
4	COORDINATE ALL CEILING TYPES WITH LUMINAIRE LOCATIONS PRIOR TO ORDERING LUMINAIRES. COORDINATE INSTALLATION WITH REFLECTED CEILING PLAN.
5	SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM SUPPLYING PRODUCT AS DESCRIBED.
6	PROVIDE SUBMITTALS THAT INCLUDE THE LUMINAIRE, LAMP AND BALLAST/DRIVER INFORMATION OF EACH LUMINAIRE, WITH APPLICABLE OPTIONS CLEARLY CHECKED OR HIGHLIGHTED. SUBMITTALS NOT INCLUDING THIS INFORMATION WILL BE RETURNED AS REJECTED BY THE ENGINEER OF RECORD.
7	REMOTE BALLASTS/DRIVERS: UL LISTED FOR THEIR APPLICATION. BALLASTS/DRIVERS MARKED AS UL RECOGNIZED COMPONENT BUT NOT UL LISTED ARE SUBJECT TO REMOVAL AND REPLACEMENT AT NO COST TO OWNER.

SHEET INDEX

E0.1 SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

E2.1 LEVEL 1 PLAN - ELECTRICAL
E2.2 LEVEL 2 CEILING PLAN -ELECTRICAL
E2.3 GRIDIRON LEVEL PLAN - ELECTRICAL

E4.1 ENLARGED PLANS - ELECTRICAL

PROJECT 2018-0475
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Key Plan

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Revisions to Sheet

No.	Revision	Date

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Date: **01.25.2019**

Sheet Title
SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

Sheet No.
E0.1

Job No.
4728-01

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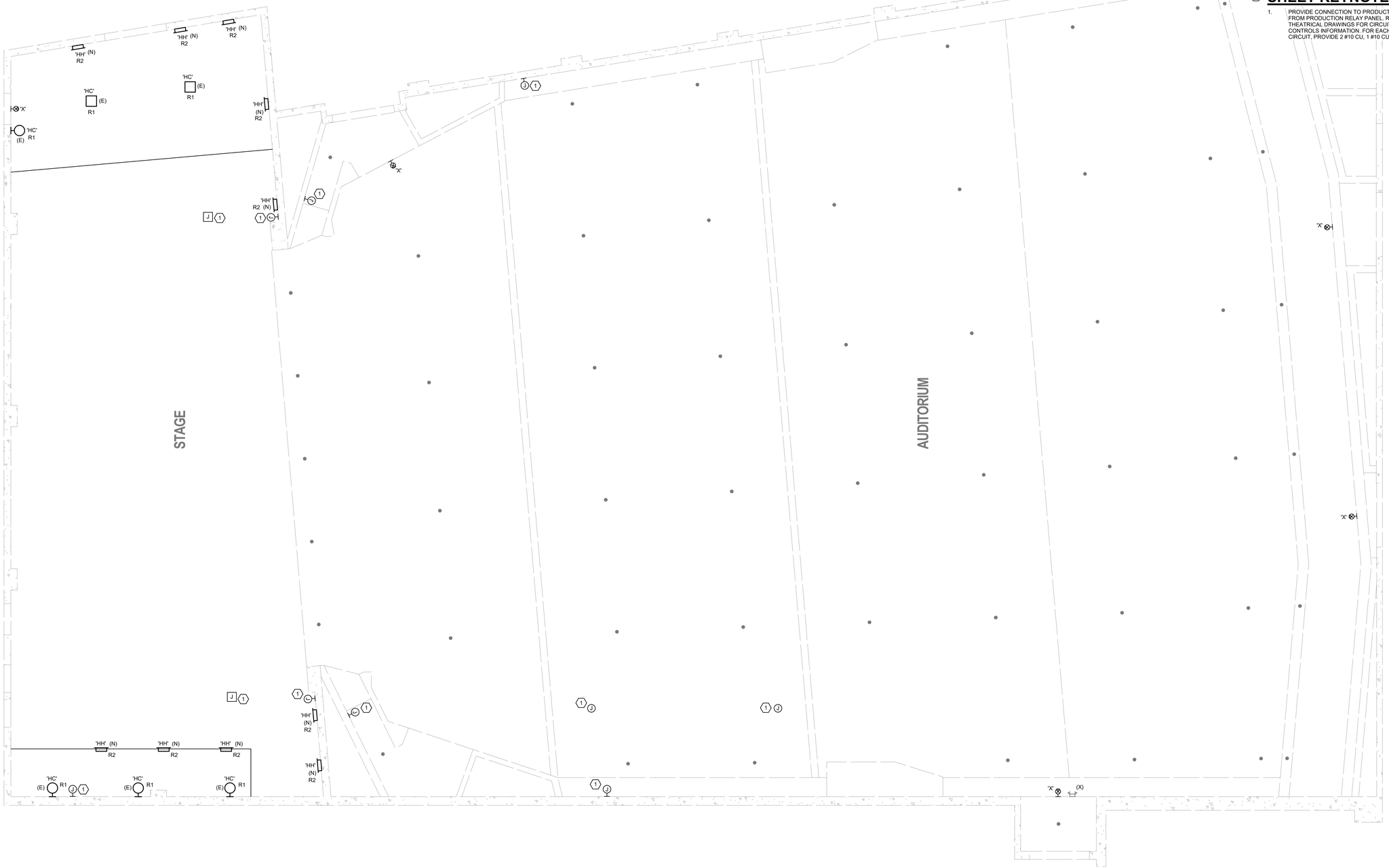

1 LEVEL 1 PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

GENERAL SHEET NOTES

A. CONTROL ALL THEATER WORK AND HOUSE LIGHTING VIA ARCHITECTURAL RELAY PANEL. RELAY DESIGNATIONS INDICATED BY "R#". ROUTE EMERGENCY LIGHTING VIA EMERGENCY LIGHTING TRANSFER SYSTEM 'ELTS'. REFER TO THEATRICAL DRAWINGS FOR CONTROL INFORMATION.

B. CONNECT EXIT SIGNS TO EXISTING EXIT SIGN CIRCUIT ON PANEL '2ED',

SHEET KEYNOTES

1. PROVIDE CONNECTION TO PRODUCTION LIGHTING FROM PRODUCTION RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR CIRCUIT QUANTITY AND CONTROLS INFORMATION. FOR EACH 20A, 120V CIRCUIT, PROVIDE 2 #10 CU, 1 #10 CU GND., IN 3/4" C.

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Date: **01.25.2019**

Sheet Title
LEVEL 1 PLAN - ELECTRICAL

Sheet No.
E2.1

Job No.
4728-01

plotted: **1/24/2019 1:52:40 PM**

GENERAL SHEET NOTES

A. CONTROL ALL THEATER WORK AND HOUSE LIGHTING VIA ARCHITECTURAL RELAY PANEL. RELAY DESIGNATIONS INDICATED BY "R#". ROUTE EMERGENCY LIGHTING VIA EMERGENCY LIGHTING TRANSFER SYSTEM 'ELTS'. REFER TO THEATRICAL DRAWINGS FOR CONTROL INFORMATION.

SHEET KEYNOTES

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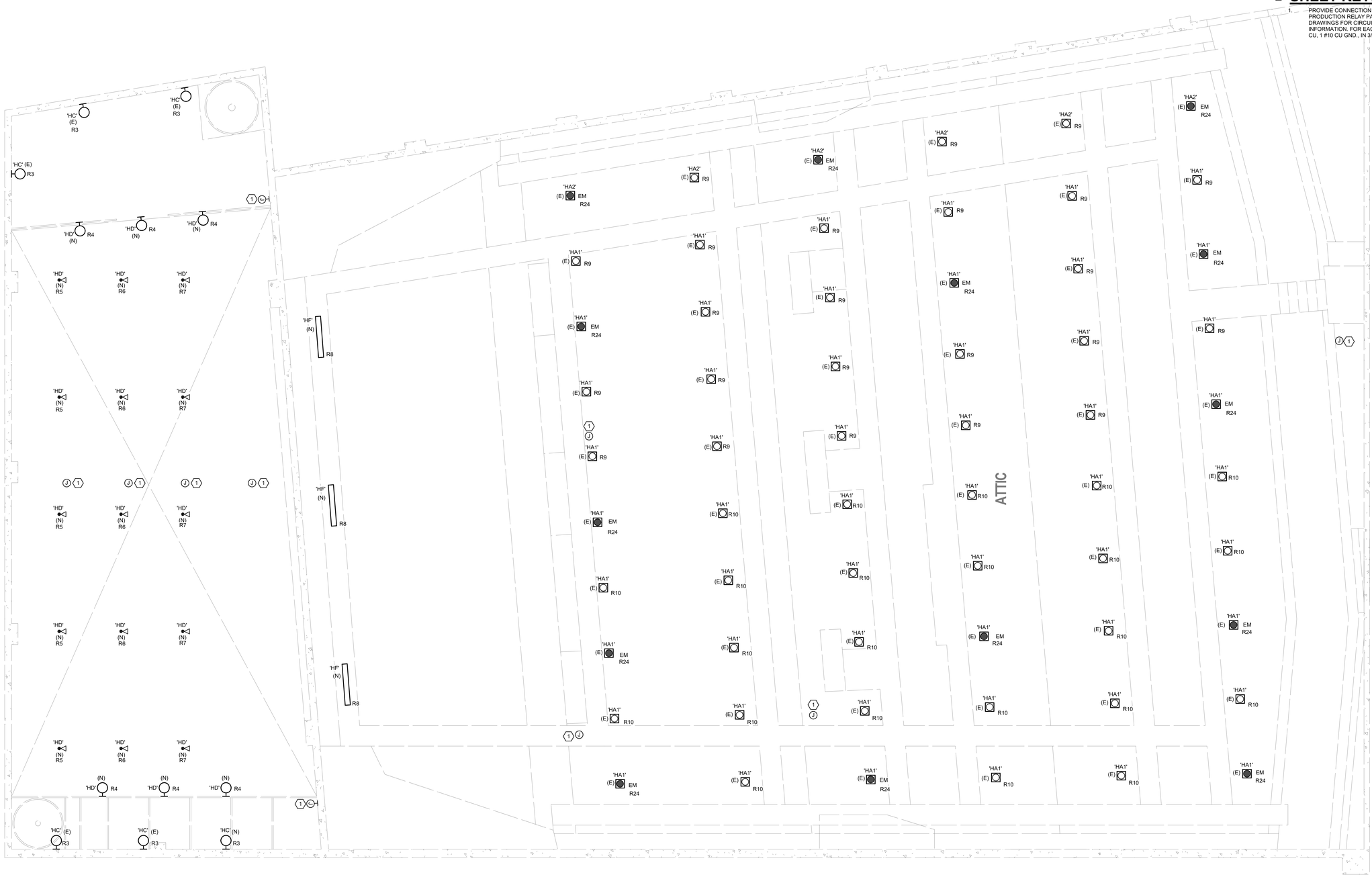

1 LEVEL 2 CEILING PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

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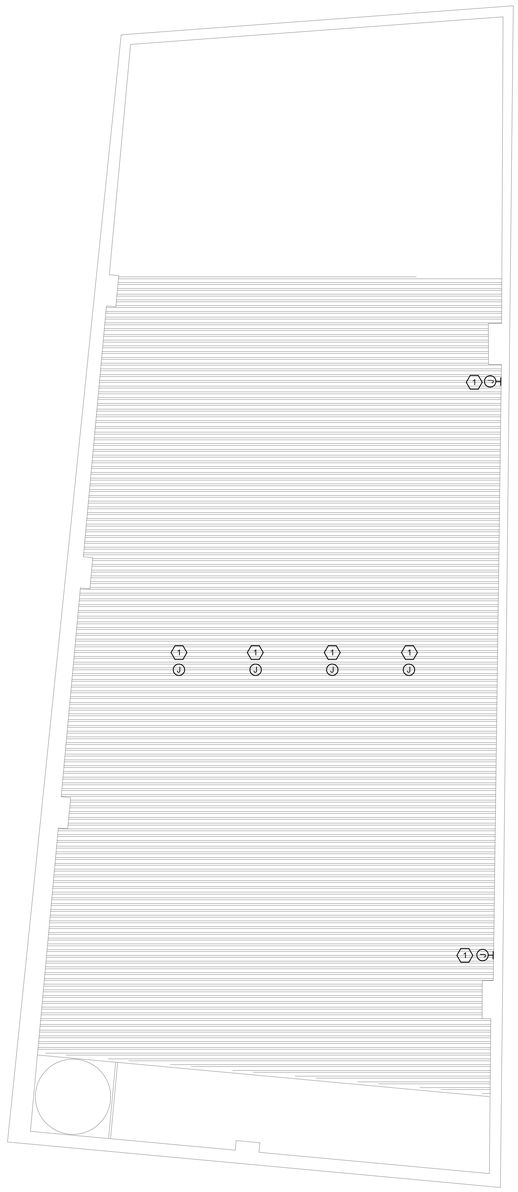
Sheet Title
LEVEL 2 CEILING PLAN -ELECTRICAL

Sheet No.
E2.2

Job No.
4728-01



1 GRIDIRON LEVEL PLAN - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

SHEET KEYNOTES

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Sheet Title
GRIDIRON LEVEL PLAN - ELECTRICAL

Sheet No.
E2.3

Job No.
4728-01

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PANELBOARD: (E) 2ED

MAIN CIRCUIT BREAKER: 100 A
BUS AMPACITY: 100 A
EQUIPMENT RATING: 120/208 V, 3PH, 4 WIRE
AIC RATING:

MOUNTING: SURFACE
ENCLOSURE: TYPE 1
LOCATION:
SUPPLIED FROM:

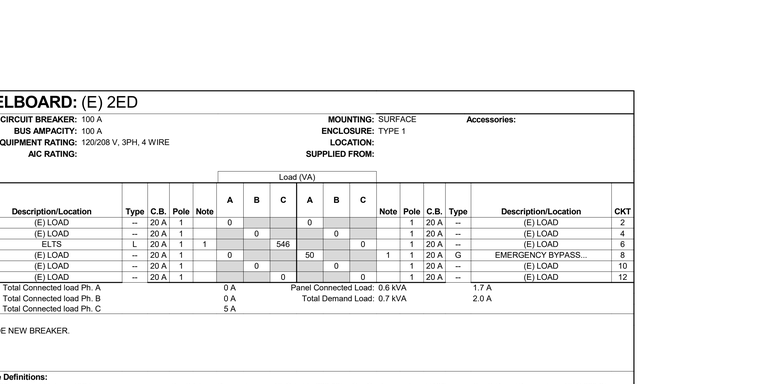
Accessories:

						Load (VA)											
CKT	Description/Location	Type	C.B.	Pole	Note	A	B	C	A	B	C	Note	Pole	C.B.	Type	Description/Location	CKT
1	(E) LOAD	--	20 A	1		0			0				1	20 A	--	(E) LOAD	2
3	(E) LOAD	--	20 A	1			0			0			1	20 A	--	(E) LOAD	4
5	ELTS	L	20 A	1	1			546			0		1	20 A	--	(E) LOAD	6
7	(E) LOAD	--	20 A	1		0			50			1	1	20 A	G	EMERGENCY BYPASS...	8
9	(E) LOAD	--	20 A	1			0			0			1	20 A	--	(E) LOAD	10
11	(E) LOAD	--	20 A	1				0			0		1	20 A	--	(E) LOAD	12
	Total Connected load Ph. A					0 A			Panel Connected Load:		0.6 kVA					1.7 A	
	Total Connected load Ph. B					0 A			Total Demand Load:		0.7 kVA					2.0 A	
	Total Connected load Ph. C					5 A											

Notes:
1) PROVIDE NEW BREAKER.

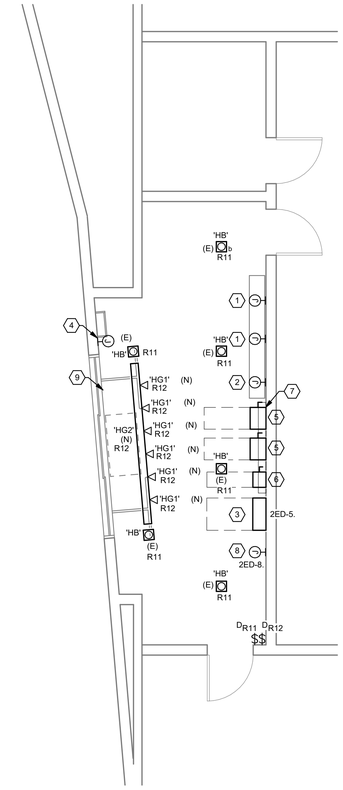
Load Type Definitions:
Motor (125% largest Motor + 100% remaining...
R = Receptacles (to 10kVA100%, over 10 kVA 50%)
E = Existing Load 30-day metered (125%)
K = Kitchen (Demand as per NEC Table 220.56)
G = General Load (Non-continuous) (100%)
EL = Elevator (Demand as per NEC Table...
C = Continuous Load (125%)
L = Lighting (125%)
W = Water Heater (125%)
X = X-Rays (Demand per NEC 660.6)
H = Heating (100%)

Load Type	Connected Load	NEC Demand Factor	NEC Demand Load	Panel Totals	
L	546.0	125.00%	682.5		
G	50.0	100.00%	50.0	**Total Connected Load:**	596.0 VA
				Total NEC Demand:	732.5 VA
				Total Connected Current:	1.7 A
				Total NEC Demand Current:	2.0 A



1 PARTIAL ONE-LINE POWER DISTRIBUTION DIAGRAM

0' 4' 8' 16'
NO SCALE



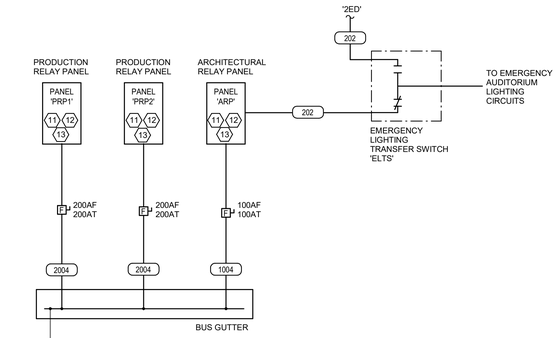
2 ENLARGED CONTROL BOOTH - ELECTRICAL

0' 4' 8' 16'
1/4" = 1'-0"

FEEDER SCHEDULE

A,C,S,X A=Aluminum
C=Conduit only
S=Service secondary
X=Seperately derived system

202 2 #12 CU, 1 #12 CU GND., IN 3/4" C
603 3 #4 CU, 1 #10 CU GND., IN 1" C.
1004 4 #2 CU, 1 #8 CU GND., IN 1 1/4" C.
1504 4 #1/0 CU, 1 #6 CU GND., IN 2" C.
2004 4 #3/0 CU, 1 #6 CU GND., IN 2" C.
4004 2 SETS OF (4 #3/0 CU, 1 #2 CU GND., IN 2" C.)



SHEET KEYNOTES

1. DEMO EXISTING PRODUCTION LIGHTING RELAY PANEL AND PROVIDE CONNECTION TO NEW PRODUCTION LIGHTING RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR MORE INFORMATION.
2. DEMO EXISTING ARCHITECTURAL RELAY PANEL AND PROVIDE CONNECTION TO NEW ARCHITECTURAL RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR MORE INFORMATION.
3. PROVIDE EMERGENCY LIGHTING TRANSFER SYSTEM UL1008 TO MEET REQUIREMENTS FOR THEATRE EGRESS LIGHTING. ETC ELTS2-1-D-120-2 OR EQUIVALENT.
4. PROVIDE CONNECTION TO PRODUCTION LIGHTING FROM PRODUCTION RELAY PANEL. REFER TO THEATRICAL DRAWINGS FOR CIRCUIT QUANTITY AND CONTROLS INFORMATION. FOR EACH 20A, 120V CIRCUIT, PROVIDE 2 #10 CU, 1 #10 CU GND., IN 3/4" C.
5. PROVDE 200A, 208V, 3PH DISCONNECT FOR PRODUCTION LIGHTING RELAY PANEL.
6. PROVDE 100A, 208V, 3PH DISCONNECT FOR ARCHITECTURAL RELAY PANEL.
7. PROVIDE BUS GUTTER FOR REUSE OF EXISTING DIMMER PANEL FEEDER.
8. PROVIDE 20A, 120V CONNECTION TO EMERGENCY BYPASS CONTROLLER. REFER TO THEATRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. TERMINATE LOW VOLTAGE WIRING, CONNECTED TO CONTROLS DESK, IN WALL.
10. CONDUCT 30-DAY METERING OF THIS FEEDER AND PROVIDE DATA TO ENGINEER TO CONFIRM CAPACITY PRIOR TO INSTALLATION.
11. FURNISHED UNDER DIV. 11, INSTALLED UNDER DIV. 26.
12. PROVIDE MINIMUM #10 AWG CONDUCTORS FOR ALL BRANCH CIRCUITS FED FROM THIS PANEL.
13. PROVIDE NEW EQUIPMENT AS REPLACEMENT TO EXISTING EQUIPMENT BEING DEMOLISHED. INTERCEPT AND EXTEND FEEDERS AND ALL BRANCH CIRCUIT FEEDERS TO NEW EQUIPMENT TO BRING ALL NEW AND EXISTING LOADS INTO SERVICE.

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Revisions to Sheet

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Status: **100%CD**

Date: **01.25.2019**

Sheet Title
ENLARGED PLANS - ELECTRICAL

Sheet No.
E4.1

Job No.
4728-01

PROJECT 2018-0475
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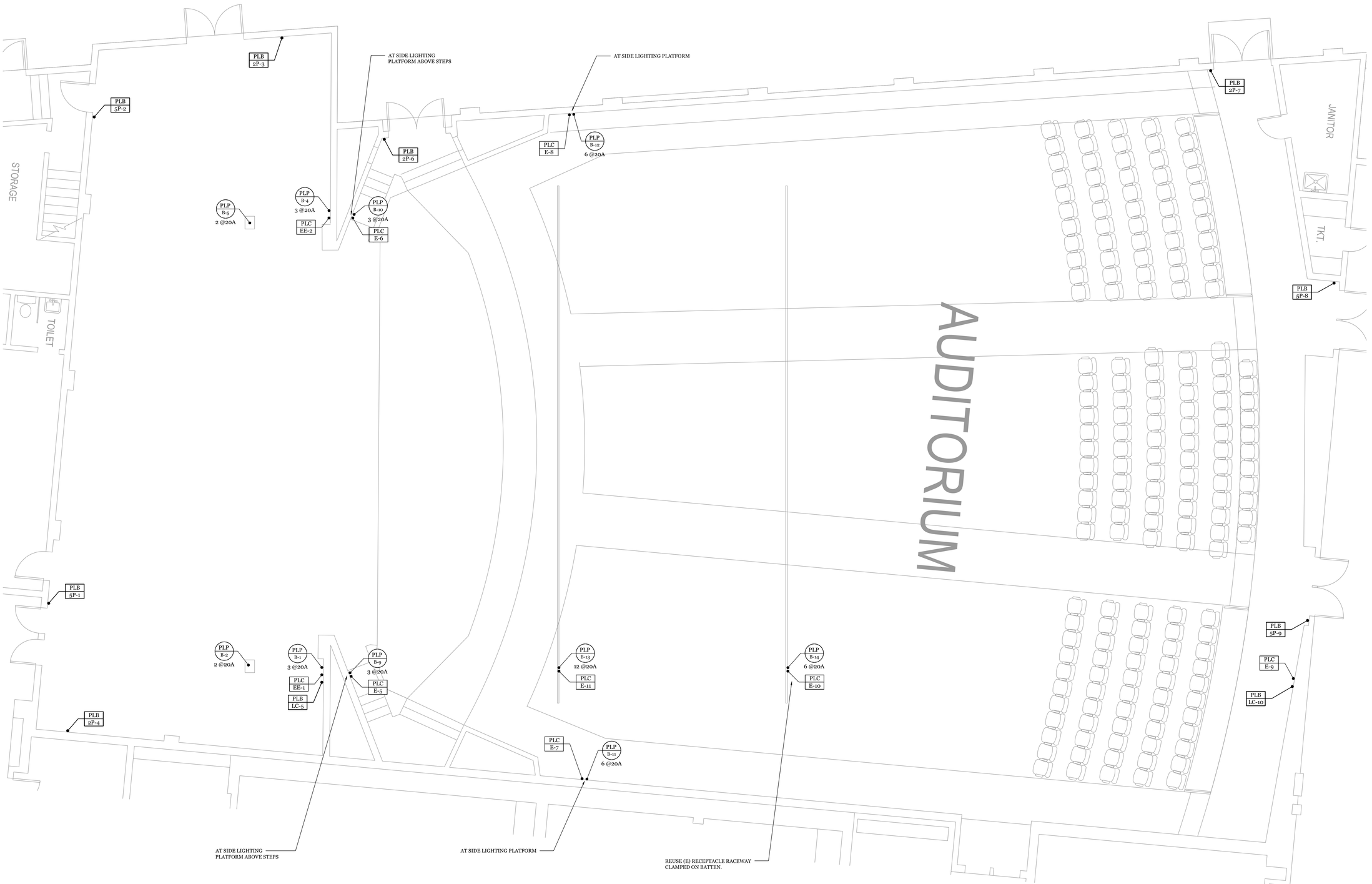


1 LEVEL 1 PLAN
1/4" = 1'-0"

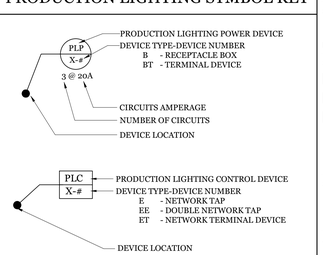
ABBREVIATIONS

VIF = VERIFY IN FIELD	HL = HOUSE LEFT
AFF = ABOVE FINISHED FLOOR	HR = HOUSE RIGHT
NIC = NOT IN CONTRACT	SR = STAGE RIGHT
HT = HEIGHT	SL = STAGE LEFT
TYP = TYPICAL	SIM = SIMILAR
FM = FLUSH MOUNT	OPP = OPPOSITE
SM = SURFACE MOUNT	NTS = NOT TO SCALE
OH = OUTLET HEIGHT	MIN = MINIMUM
(E) = EXISTING	MAX = MAXIMUM

LIGHTING GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE PRODUCTION LIGHTING SYSTEM INFORMATION ONLY. REFERENCE OTHER PRODUCTION SYSTEMS, ARCHITECTURAL AND ENGINEERING DOCUMENTS FOR RELATED AREAS.
2. REFERENCE SPECIFICATIONS AND ELECTRICAL DRAWINGS FOR DIVISION 26 INSTALLATION REQUIREMENTS
3. ALL CIRCUITS SHALL HAVE A DEDICATED HOMERUN UNLESS OTHERWISE INDICATED.
4. ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. ALL POWER DEVICE BOXES SHALL HAVE AT LEAST ONE DEDICATED GROUND HOMERUN TO THE DIMMER RACK.
5. REUSE EXISTING BACKBOXES, WIRING AND CONDUIT AS POSSIBLE. DEMO ANY UNUSED WIRING, BACKBOXES, CONTROL PANELS AND CONDUIT FROM SYSTEM BEING REPLACED.

PRODUCTION LIGHTING SYMBOL KEY



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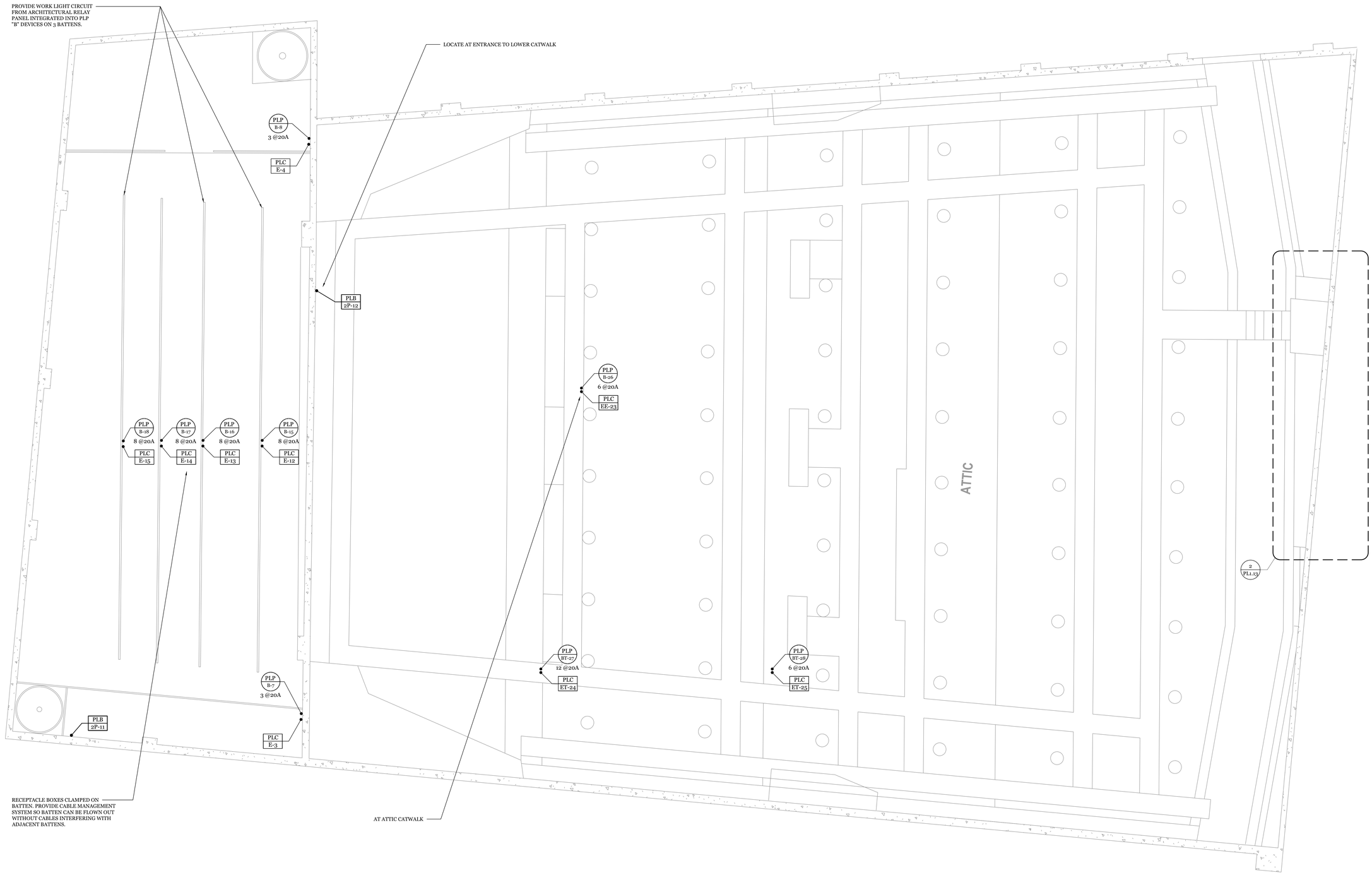
Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: LEVEL 1 PLAN

Sheet No.
PL1.11

Job No.
4728-01



1 LEVEL 2 PLAN
1/4" = 1'-0"

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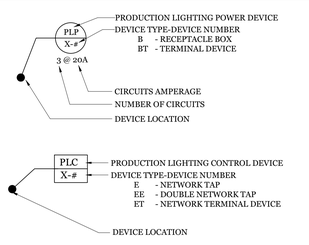
PRODUCTION LIGHTING SYMBOL KEY



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Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: LEVEL 2 PLAN

Sheet No.
PL1.12

Job No.
4728-01

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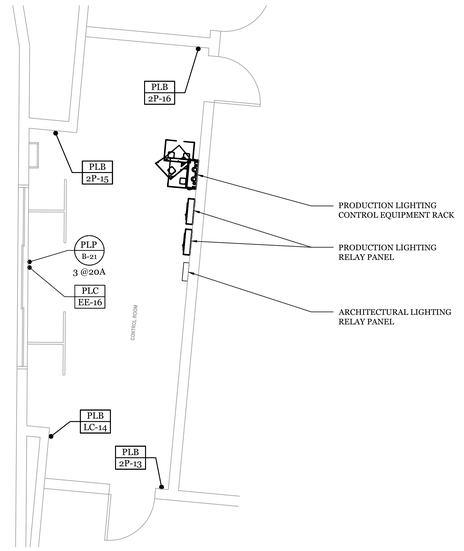
1 GRIDIRON LEVEL PLAN
1/4" = 1'-0"



2 CONTROL BOOTH DETAIL PLAN
1/4" = 1'-0"

ABBREVIATIONS

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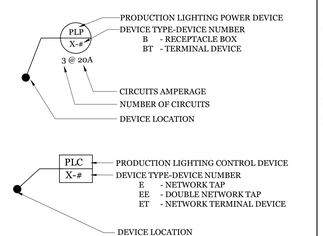
5. REUSE EXISTING BACKBOXES, WIRING AND CONDUIT AS POSSIBLE. DEMO ANY UNUSED WIRING, BACKBOXES, CONTROL PANELS AND CONDUIT FROM SYSTEM BEING REPLACED.

PRODUCTION LIGHTING SYMBOL KEY



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Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: GRIDIRON LEVEL PLAN

Sheet No.
PL1.13

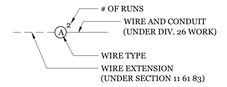
Job No.
4728-01

WIRING KEY

(D) DMX CONTROL -
(1) BELDEN 9729

(A) ARCH LTG CONTROL -
(1) BELDEN 8471 & (3) #14 AWG

(N) ETHERNET - CAT6
(1) BELDEN 2412 & (3) # 16 AWG



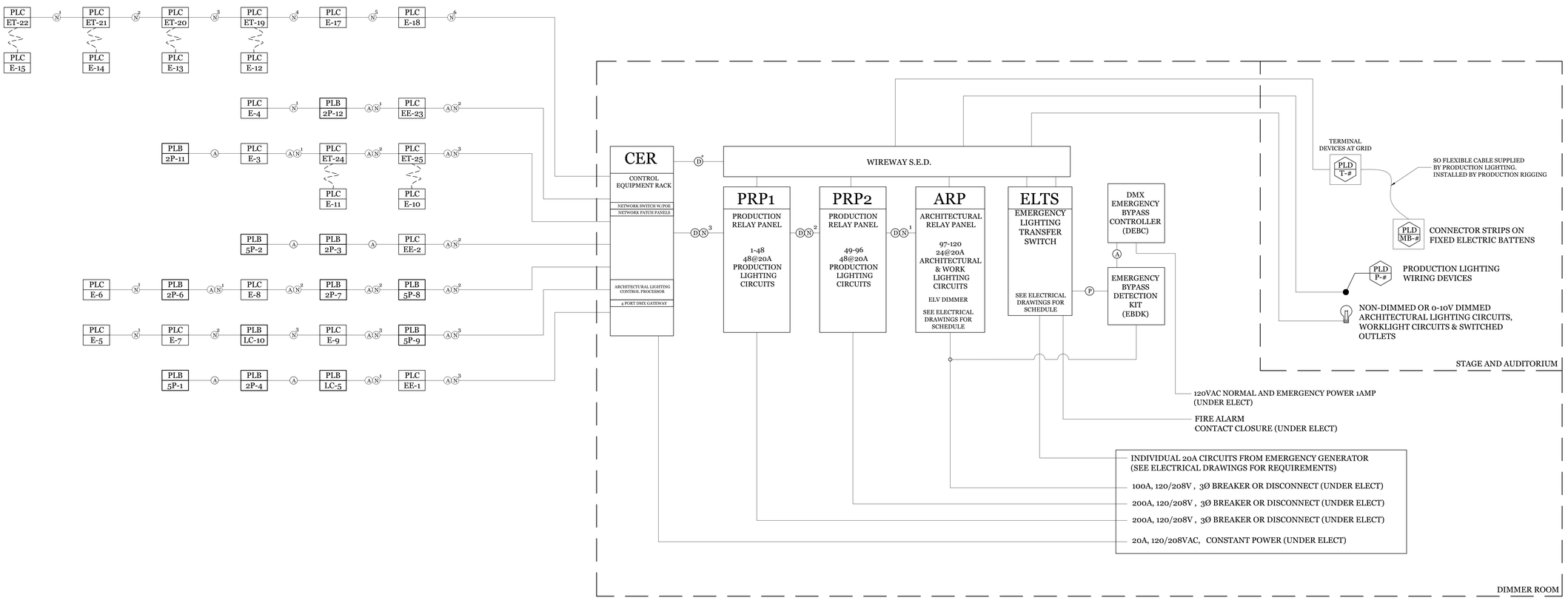
ABBREVIATIONS

VIF = VERIFY IN FIELD
AFF = ABOVE FINISHED FLOOR
NIC = NOT IN CONTRACT
HT = HEIGHT
TYP = TYPICAL
FM = FLUSH MOUNT
SM = SURFACE MOUNT
OH = OUTLET HEIGHT
(E) = EXISTING

HL = HOUSE LEFT
HR = HOUSE RIGHT
SR = STAGE RIGHT
SL = STAGE LEFT
SIM = SIMILAR
OPP = OPPOSITE
NTS = NOT TO SCALE
MIN = MINIMUM
MAX = MAXIMUM

ALL LOW VOLTAGE WIRE PROVIDED, INSTALLED, AND TERMINATED BY DIVISION 26.
STANDARD BACKBOXES PROVIDED BY DIVISION 26,
UNLESS SURFACE MOUNTED OR A CUSTOM SPECIALTY BOX

ALL CONDUIT FOR LOW VOLTAGE PLC DEVICES SHALL BE 1" MIN DIAMETER UNLESS OTHERWISE NOTED



1 SINGLE LINE DIAGRAM
NTS

LIGHTING GENERAL NOTES

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4. ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. ALL POWER DEVICE BOXES SHALL HAVE AT LEAST ONE DEDICATED GROUND HOMERUN TO THE DIMMER RACK.
5. REUSE EXISTING BACKBOXES, WIRING AND CONDUIT AS POSSIBLE. DEMO ANY UNUSED WIRING, BACKBOXES, CONTROL PANELS AND CONDUIT FROM SYSTEM BEING REPLACED.

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Planning and Design of Theatres and Production Systems
1533 Martin Luther King Jr Way
Berkeley, CA 94709
tel 415-956-4000
www.shalleck.com

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
BEAVERTON HIGH SCHOOL THEATRE UPGRADES

HOUSE & PRODUCTION LIGHTING

Project Adress:
13000 SW 2nd St
Beaverton, OR 97005

Key Plan

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Revisions to Sheet

No.	Revision	Date

Status: **BID DOCUMENTS**

Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: SINGLE LINE DIAGRAM

Sheet No.
PL3.01

Job No.
4728-01

plotted: **8/17/2018 4:08:15 PM**
sheet size: 30" x 42"

ABBREVIATIONS

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THEATRICAL LIGHTING CONTROL DEVICE SCHEDULE

DEVICE TYPE	DEVICE NUMBER	NETWORK TAPS		DEVICE DETAIL	FINISH	MOUNTING REF	NOTES
		TAP-QTY	TAP-ID				
EE	1	2		4/PL4.01	BLACK	SM @ OH	
EE	2	2		4/PL4.01	BLACK	SM @ OH	
E	3	1		4/PL4.01	BLACK	SM @ OH	
E	4	1		4/PL4.01	BLACK	SM @ OH	
E	5	1		4/PL4.01	BLACK	SM @ OH	AT UPPER PLATFORM
E	6	1		4/PL4.01	BLACK	SM @ OH	AT UPPER PLATFORM
E	7	1		4/PL4.01	BLACK	SM @ OH	
E	8	1		4/PL4.01	BLACK	SM @ OH	
E	9	1		4/PL4.01	BLACK	SM @ OH	
E	10	1		4/PL4.01	BLACK	SM @ OH	
E	11	1		4/PL4.01	BLACK	SM @ OH	
E	12	1		4/PL4.01	BLACK	8/PL4.01	
E	13	1		4/PL4.01	BLACK	8/PL4.01	
E	14	1		4/PL4.01	BLACK	8/PL4.01	
E	15	1		4/PL4.01	BLACK	8/PL4.01	
EE	16	2		4/PL4.01	BLACK	SM @ OH	
E	17	1		4/PL4.01	BLACK	SM @ OH	
E	18	1		4/PL4.01	BLACK	SM @ OH	
ET	19	1		5/PL4.01	BLACK	9/PL4.01	
ET	20	1		5/PL4.01	BLACK	9/PL4.01	
ET	21	1		5/PL4.01	BLACK	9/PL4.01	
ET	22	1		5/PL4.01	BLACK	9/PL4.01	
EE	23	2		4/PL4.01	BLACK	SM @ OH	
ET	24	1		5/PL4.01	BLACK	@ ROOF	
ET	25	1		5/PL4.01	BLACK	@ ROOF	

THEATRICAL LIGHTING POWER DEVICE SCHEDULE

DEVICE TYPE	DEVICE NUMBER	RELAY CIRCUITS		DEVICE DETAIL	FINISH	MOUNTING REF	NOTES
		CIRCUIT QTY	CIRCUIT #				
B	1	3	1-3	7/PL4.01	BLACK	SM @ OH	
B	2	2	1-2	7/PL4.01	BLACK	10/PL4.01	
B	4	3	4-6	7/PL4.01	BLACK	SM @ OH	
B	5	2	4-5	7/PL4.01	BLACK	10/PL4.01	
B	7	3	7-9	7/PL4.01	BLACK	SM @ OH	
B	8	3	10-12	7/PL4.01	BLACK	SM @ OH	
B	9	3	13-15	7/PL4.01	BLACK	SM @ OH	AT UPPER PLATFORM
B	10	3	16-18	7/PL4.01	BLACK	SM @ OH	AT UPPER PLATFORM
B	11	6	19-24	7/PL4.01	BLACK	SM @ OH	
B	12	6	25-30	7/PL4.01	BLACK	SM @ OH	
B	13	12	31-42	7/PL4.01	BLACK	SM @ OH	
B	14	6	43-48	7/PL4.01	BLACK	SM @ OH	
B	15	8	49-56	7/PL4.01	BLACK	8/PL4.01	
B	16	8	57-64	7/PL4.01	BLACK	8/PL4.01	
B	17	8	65-72	7/PL4.01	BLACK	8/PL4.01	
B	18	8	73-80	7/PL4.01	BLACK	8/PL4.01	
B	19	6	81-86	7/PL4.01	BLACK	SM @ OH	
B	20	6	87-92	7/PL4.01	BLACK	SM @ OH	
B	21	3	93-95	7/PL4.01	BLACK	SM @ OH	
BT	22	8	49-56		BLACK	9/PL4.01	
BT	23	8	57-64		BLACK	9/PL4.01	
BT	24	8	65-72		BLACK	9/PL4.01	
BT	25	8	73-80		BLACK	9/PL4.01	
B	26	6	37-42	7/PL4.01	BLACK	SM @ OH	
BT	27	12	31-42		BLACK	@ ROOF	
BT	28	6	43-48		BLACK	@ ROOF	

THEATRICAL LIGHTING PUSHBUTTON SCHEDULE

DEVICE TYPE	DEVICE NUMBER	LCD-SCREEN	DEVICE DETAIL	FINISH	MOUNTING	NOTES
5P	1		2/PL4.01	BLACK	SM @ SH	
5P	2		2/PL4.01	BLACK	SM @ SH	
2P	3		1/PL4.01	BLACK	SM @ SH	
2P	4		1/PL4.01	BLACK	SM @ SH	
LC	5	YES	3/PL4.01	BLACK	SM @ SH	
2P	6		1/PL4.01	BLACK	SM @ SH	
2P	7		1/PL4.01	BLACK	SM @ SH	
5P	8		2/PL4.01	BLACK	SM @ SH	
5P	9		2/PL4.01	BLACK	SM @ SH	
LC	10	YES	3/PL4.01	BLACK	SM @ SH	
2P	11		1/PL4.01	BLACK	SM @ SH	
2P	12		1/PL4.01	BLACK	SM @ SH	
2P	13		1/PL4.01	BLACK	SM @ SH	
LC	14	YES	3/PL4.01	BLACK	SM @ SH	
2P	15		1/PL4.01	BLACK	SM @ SH	
2P	16		1/PL4.01	BLACK	SM @ SH	

ARCHITECTURAL PUSHBUTTON CONTROL SCHEDULE

Type	Number	Location	Buttons	Function
5P	1	Entry door at upstage right	1	Stage white worklights on/off
			2	House Lights on/off
			3	Stage blue worklights on/off
			4	Upstage blue worklights on/off
			5	
5P	1	Entry door at upstage left	1	Stage white worklights on/off
			2	House Lights on/off
			3	Stage blue worklights on/off
			4	Upstage blue worklights on/off
			5	
2P	3	Bottom of stairs to Loft	1	Switch Loft lights on
			2	Switch Loft lights off
2P	4	Bottom of stairs to Gallery and Gridiron	1	Switch Gallery and Gridiron lights on
			2	Switch Gallery and Gridiron lights on
LC	5	Stage Right Proscenium Wall		See LCD Touchscreen control description in spec
2P	6	Entry door at House Right Exit	1	Stage and House worklights on
			2	Stage and House worklights off
2P	7	Entry door at House RightExit	1	Stage and House worklights on
			2	Stage and House worklights off
5P	8	Entry door from lobby House Right	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
5P	9	Entry door from lobby House Left	1	Stage and House worklights on/off
			2	House lights at Full
			3	House Lights at Half
			4	House lights at Quarter
			5	House lights off
LC	10	Back wall of Auditorium		See LCD Touchscreen control description in spec
2P	11	Control Booth Entry door	1	Switch Booth white lights on/off
			2	Switch Booth blue lights on/off
2P	12	Access Platform entry	1	Switch Mezzanine lights on
			2	Switch Mezzanine lights off
2P	13	Entry door at Electrical Platform	1	Switch Electrical Platform lights on
			2	Switch Electrical Platform lights off
LC	14	Control Booth		See LCD Touchscreen control description in spec
2P	15	Upper Entry door at Mechanical Platform	1	Switch Mechanical Platform lights on
			2	Switch Mechanical Platform lights off
2P	16	Upper Entry door at Electrical Platform	1	Switch Electrical Platform lights on
			2	Switch Electrical Platform lights off

1 DEVICE SCHEDULES
NTS

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tel 415-956-4100, www.shalleck.com

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
BEAVERTON HIGH SCHOOL THEATRE UPGRADES

HOUSE & PRODUCTION LIGHTING

Project Adress:
13000 SW 2nd St
Beaverton, OR 97005

Key Plan

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Revisions to Sheet

No.	Revision	Date

Status: **BID DOCUMENTS**

Date: **01.24.19**

Sheet Title
PRODUCTION LIGHTING: SCHEDULES

Sheet No.
PL3.02

Job No.
4728-01

plotted: **8/17/2018 4:08:15 PM**
sheet size: 30" x 42"

ABBREVIATIONS

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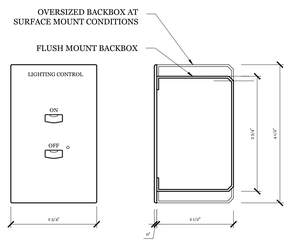
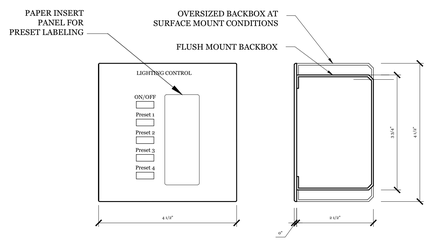


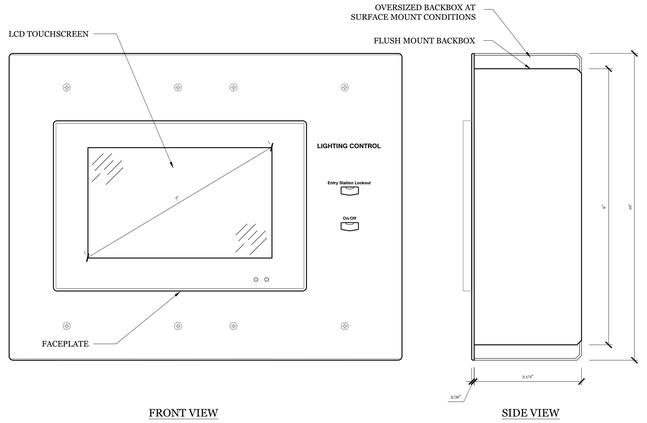
FRONT VIEW SIDE VIEW

1 PLB "2P" DEVICE
HALF FULL SCALE — THIS DEVICE WEIGHS LESS THAN 20#



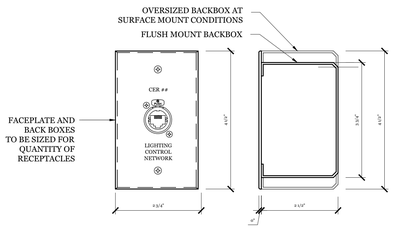
FRONT VIEW SIDE VIEW

2 PLB "5P" DEVICE
HALF FULL SCALE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

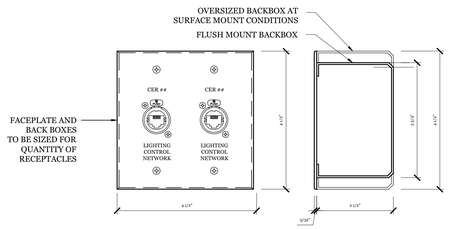
3 PLB "LC" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

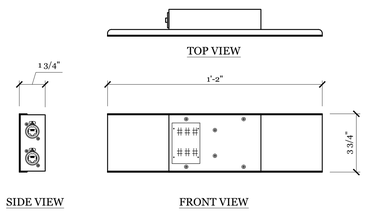
4 PLD "E" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



FRONT VIEW SIDE VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

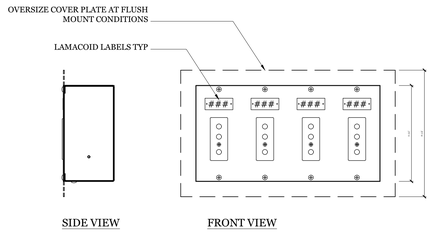
5 PLD "EE" DEVICE
HALF FULL SIZE — THIS DEVICE WEIGHS LESS THAN 20#



SIDE VIEW FRONT VIEW

SEE SCHEDULE FOR CIRCUIT TYPES & QUANTITIES

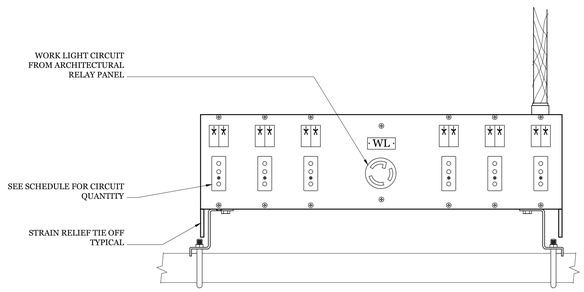
6 PLP DEVICE TYPE "ET"
3" = 1'-0"



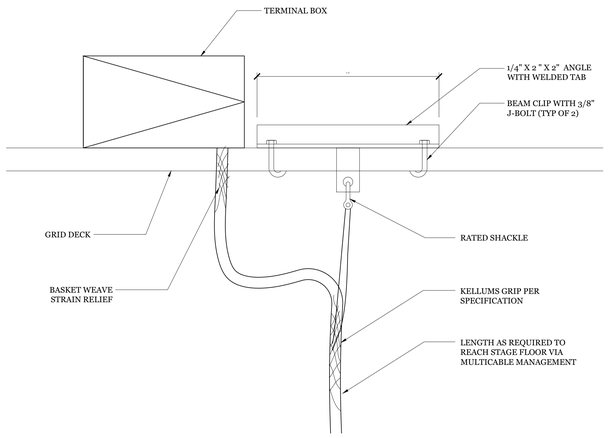
SIDE VIEW FRONT VIEW

SEE SCHEDULE FOR DEVICE INFORMATION

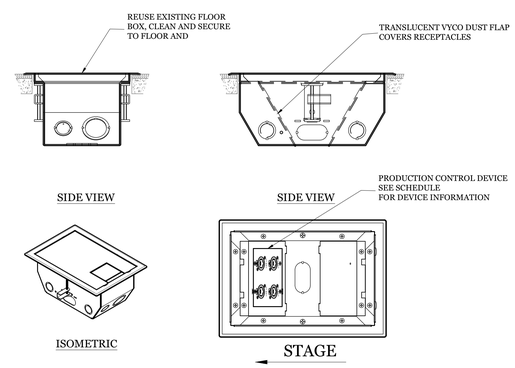
7 PLP "B" DEVICE
3" = 1'-0" — THIS DEVICE WEIGHS LESS THAN 20#



8 TYPICAL BATTEN MOUNTING
3" = 1'-0"



9 GRIDIRON FLOOR MOUNTING DETAIL
3" = 1'-0"



10 TYPICAL FLOOR BOX MOUNTING
3"=1'-0" — THIS DEVICE WEIGHS LESS THAN 20#

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Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
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HOUSE & PRODUCTION LIGHTING

Project Adress:
18550 SW Kinnaman Rd.
Beaverton, OR 97078

Key Plan

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Revisions to Sheet

No.	Revision	Date

Status: **PROGRESS SET**

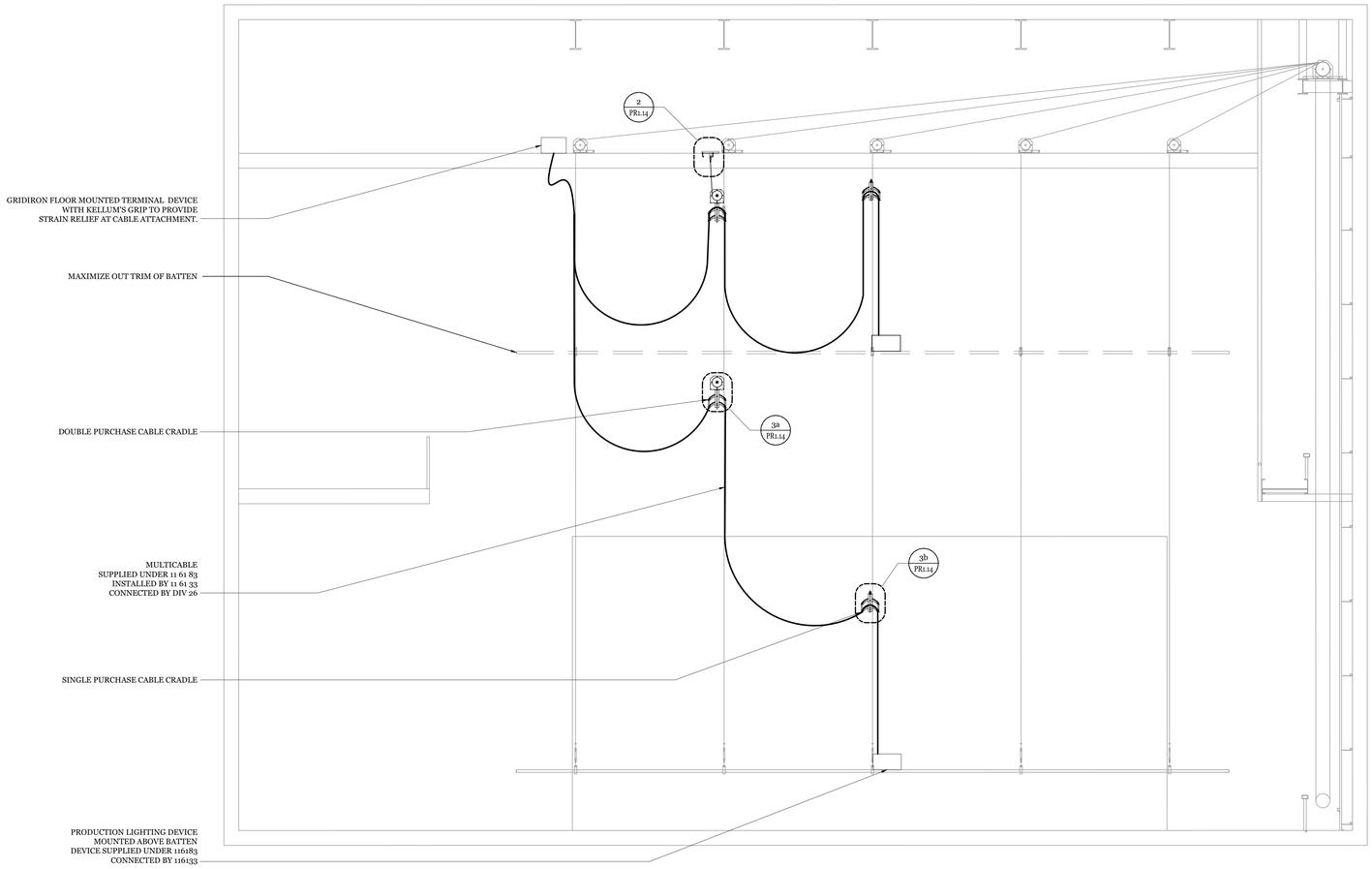
Date: **01.10.19**

Sheet Title
PRODUCTION LIGHTING: DETAILS

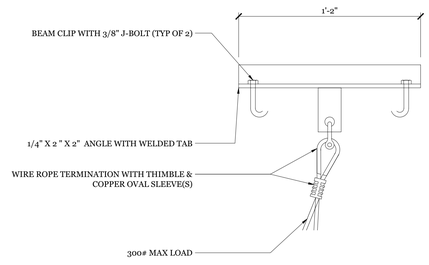
Sheet No.
PL4.01

Job No.
4728-01

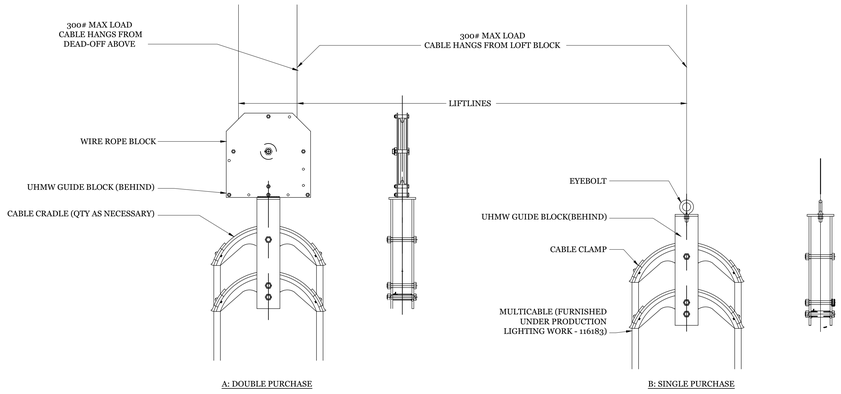
plotted: 8/17/2018 4:02:42 PM
sheet size: 30" x 42"



1 TRANSVERSE SECTION THROUGH STAGE
1/4" = 1'-0"



2 DOUBLE PURCHASE CABLE CRADLE LIFTLINE DEAD-OFF DETAIL
3" = 1'-0"



3 SINGLE & DOUBLE PURCHASE CABLE CRADLE DETAILS
1-1/2" = 1'-0"

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3. SEE SPECIFICATIONS FOR PRODUCT AND INSTALLATION CRITERIA.

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HOUSE & PRODUCTION LIGHTING

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Revisions to Sheet

No.	Revision	Date

Status: **BID DOCUMENTS**

Date: **01.24.19**

Sheet Title
PRODUCTION RIGGING: SECTION

Sheet No.
PR1.14

Job No.
4728-01

plotted: **8/17/2018 4:08:15 PM**
sheet size: 30" x 42"

BEAVERTON SCHOOL DISTRICT

SUNSET HIGH SCHOOL THEATRE UPGRADES

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Portland, OR 97229

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Portland, OR 97209
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100% CD/BID

01.24.2019
4758-01

PROJECT SCOPE

THE SCHOOL DISTRICT IS RENOVATING FIVE HIGH SCHOOL THEATRES UNDER THIS SCOPE OF WORK, AND FOCUSING ON MODIFICATIONS THAT WILL MAKE THE AREAS IN THE THEATRES SAFER FOR STUDENTS AND STAFF.

AT THIS CAMPUS, THE IMPROVEMENTS CONSIST OF ADDING A RIDIG MIDRAIL AT THE EXISTING CATWALK GUARDRAIL, FENCING ATTIC FLOOR AREAS THAT SHOULD NOT BE USED FOR STORAGE AND STRUCTURALLY SECURING THE SPIRAL STAIRCASE. AN ADDITIONAL ALTERNATE IS BEING CONSIDERED TO PROVIDE AN APPROPRIATE FRAMED PLATFORM FOR STORAGE.

SHEET INDEX

DATA
CO COVER SHEET

ARCHITECTURAL
A1.20 SUNSET HIGH SCHOOL - PLANS & DETAILS

ELECTRICAL
E0.1 SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL
E4.1 ENLARGED PLAN - ELECTRICAL

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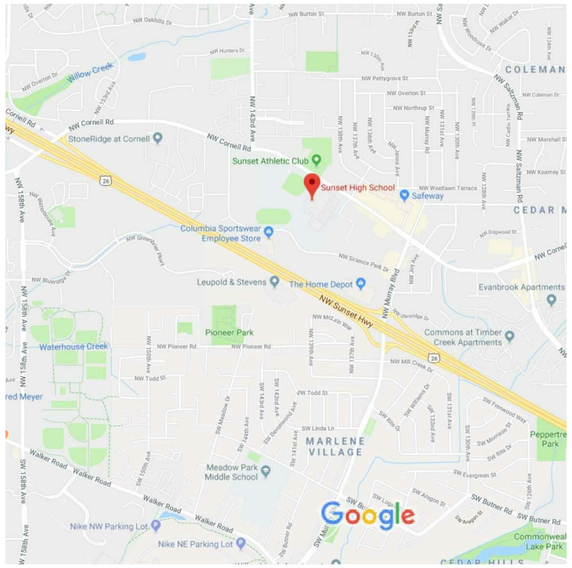


VICINITY MAP

CODE ANALYSIS

CHAPTER 1: ADMINISTRATION

PROJECT ADDRESS:
SUNSET HIGH SCHOOL
13840 NW CORNELL ROAD
PORTLAND, OR 97229

JURISDICTIONAL AUTHORITY:
CITY OF BEAVERTON

APPLICABLE CODE:
2014 OREGON STRUCTURAL SPECIALTY CODE
2014 INTERNATIONAL FIRE CODE
2014 OREGON ELECTRICAL SPECIALTY CODE
2014 OREGON PLUMBING SPECIALTY CODE
NFPA 101 (NOTE: LOCAL CODE WILL TAKE PRECEDENCE. DEVIATIONS FROM NFPA IN INDIVIDUAL SECTIONS.)

OSSC CHAPTER 11:
NOT APPLICABLE TO PROPOSED SCOPE

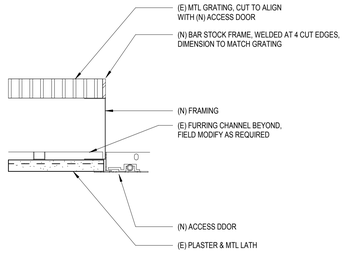
TAX LOT:
1N133BC01300

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

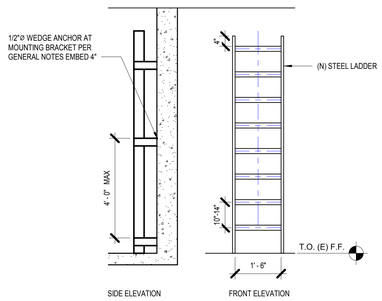
OCCUPANCY CLASSIFICATION (Section 303 & 304)
GROUP E EDUCATIONAL OCCUPANCY FOR STUDENTS

*PER SECTION 303.1.3: ASSEMBLY SPACES IN A GROUP E BUILDING ARE NOT INTENDED TO BE REGULATED AS SEPARATE GROUP A OCCUPANCIES, REGARDLESS OF THEIR FLOOR AREA, BUT RATHER AN EXTENSION OF THE GROUP E CLASSIFICATION.

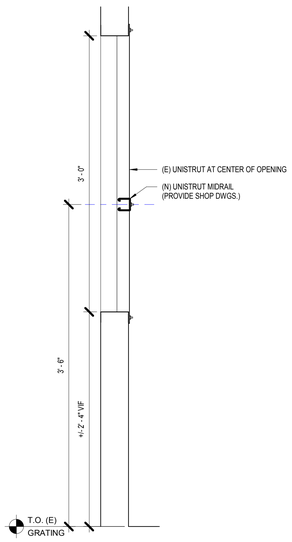
SUNSET HIGH SCHOOL THEATRE UPGRADES



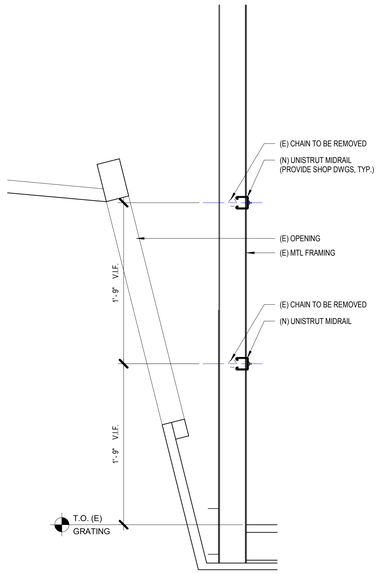
6 | (N) ACCESS PANEL IN BOOTH
A1.20 3" = 1'-0"



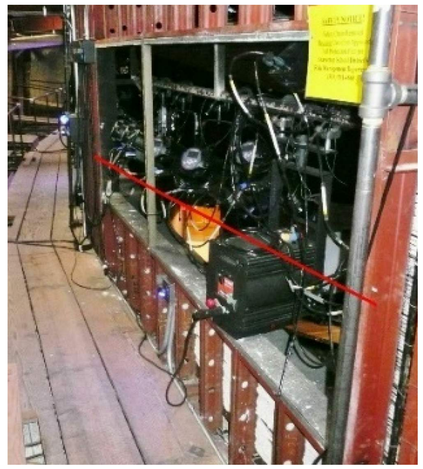
7 | FIXED LADDER
A1.20 1/2" = 1'-0"



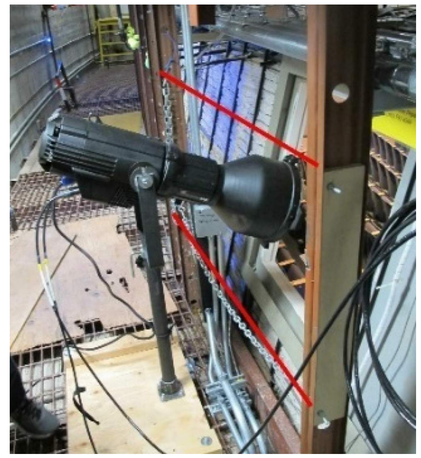
5 | LIGHTING PORT RAILING
A1.20 1 1/2" = 1'-0"



2 | FOLLOW SPOT RAILING
A1.20 1 1/2" = 1'-0"



10 | (E) LIGHTING PORT



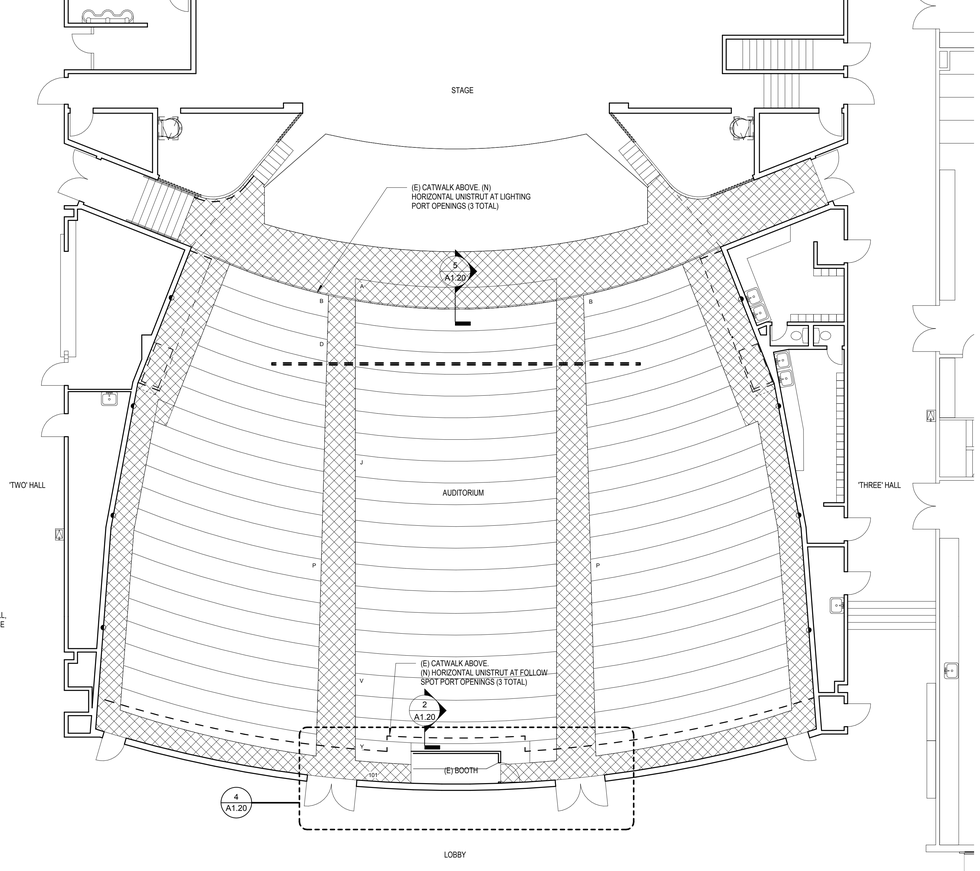
9 | (E) FOLLOW SPOT

11 | INTERIOR ELEVATIONS - BOOTH
A1.20 1/4" = 1'-0"

3 | INTERIOR ELEVATIONS - AUDITORIUM @ BOOTH
A1.20 1/4" = 1'-0"

4 | ENLARGED FLOOR PLAN - BOOTH
A1.20 1/2" = 1'-0"

8 | ENLARGED FLOOR PLAN - BOOTH
A1.20 1/2" = 1'-0"



1 | AUDITORIUM FLOOR PLAN - LEVEL 1
A1.20 1/8" = 1'-0"

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
SUNSET HIGH SCHOOL THEATRE UPGRADES

Project Adress:
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Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
SUNSET HIGH SCHOOL - PLANS & DETAILS

Sheet No.
A1.20

Job No.
4758-01

ELECTRICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWG	AMERICAN WIRE GAUGE
A	AMPERES, AMBER
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE INTERRUPTING CAPACITY
BAS	BUILDING AUTOMATION SYSTEM
CA	CABLE
CAT	CATEGORY
CLG	CEILING
C	CONDUIT, CLOSE, CONTROL
COORD	COORDINATE
CU	COPPER
dB	DECIBEL
(X)	DEMOLISH
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EA	EACH
EMT	ELECTRICAL METALLIC TUBING
EL	ELEVATION
E	EMERGENCY
EF	EXHAUST FAN
FA	FIRE ALARM
FMC	FLEXIBLE METAL CONDUIT
FT	FOOT, FEET
FBO	FURNISHED BY OTHERS
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HT	HEIGHT
ID	IDENTIFICATION
IN	INCH, INCHES
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IG	ISOLATED GROUND
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LV	LOW VOLTAGE
MOCP	MAXIMUM OVERCURRENT PROTECTION
MIN	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MISC	MISCELLANEOUS
MCC	MOTOR CONTROL CENTER
MT, MTD	MOUNT, MOUNTED
NEC	NATIONAL ELECTRIC CODE
NESC	NATIONAL ELECTRIC SAFETY CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
N	NEUTRAL
(E)	NEW LUMINAIRE IN EXISTING LOCATION
(N)	NEW LUMINAIRE IN NEW LOCATION
N/A	NOT APPLICABLE
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PNL	PANEL
PH	PHASE
PVC	POLY-VINYL-CHLORIDE
PWR	POWER
QTY	QUANTITY
(R)	RELOCATE
RFI	REQUEST FOR INFORMATION
REQD	REQUIRED
RMC	RIGID METAL CONDUIT
RM	ROOM
SHT	SHEET
STD	STANDARD
SPD	SURGE PROTECTION DEVICE
SWBD	SWITCHBOARD
TBD	TO BE DETERMINED
XFMR	TRANSFORMER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
UON	UNLESS OTHERWISE NOTED
V	VOLTS, VOLTAGE
WP	WEATHERPROOF
W/	WITH
W/O	WITHOUT

Connections / Equipment

- VFD — COMBINATION ADJUSTABLE FREQUENCY DRIVE WITH SAFETY DISCONNECT SWITCH
- COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH
- HEAVY DUTY FUSED DISCONNECT SWITCH
- J OR J — JUNCTION BOX
- MOTOR CONNECTION
- NON-FUSED DISCONNECT SWITCH
- T — TRANSFORMER
- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- WALL-MOUNTED JUNCTION BOX

General

- X / X — DETAIL NUMBER AND SHEET LOCATION
- XX-X / LOCATION — EQUIPMENT IDENTIFICATION
- T — KEYED NOTE
- DEMOLISH
- EXISTING WORK
- NEW WORK

Lighting

- COMBINATION EXIT SIGN CEILING MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARRROW(S) INDICATES DIRECTION IF SHOWN
- COMBINATION EXIT SIGN WALL MOUNTED AND DUAL HEAD EMERGENCY EGRESS LIGHTING WITH BATTERY PACK. ARRROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN CEILING MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- EXIT SIGN WALL MOUNTED, ARROW(S) INDICATES DIRECTION IF SHOWN
- RECESSED 1' X 4' LUMINAIRE
- RECESSED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 2' LUMINAIRE
- RECESSED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED 2' X 4' LUMINAIRE
- RECESSED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- RECESSED LUMINAIRE
- RECESSED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT
- SURFACE MOUNTED 2' X 2' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE MOUNTED 2' X 4' LUMINAIRE
- SURFACE MOUNTED 2' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE
- SURFACE OR PENDANT MOUNTED 1' X 4' LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- SURFACE OR PENDANT MOUNTED STRIPLIGHT
- WALL MOUNTED 6" WIDE LUMINAIRE
- WALL MOUNTED 6" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED 12" WIDE LUMINAIRE
- WALL MOUNTED 12" WIDE LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT
- WALL MOUNTED LUMINAIRE
- WALL MOUNTED LUMINAIRE CONNECTED TO EMERGENCY/LIFE SAFETY CIRCUIT OR WITH INTEGRAL EMERGENCY BATTERY CONNECTED TO UNSWITCHED CIRCUIT

Miscellaneous

- #10 / B-27,29,31. — BRANCH CIRCUIT WIRING. ARROW INDICATES HOME RUN TO PANEL WITH CIRCUITS AS NOTED. WIRE SIZE IS #12 AWG MINIMUM UNLESS NOTED OTHERWISE. SHORT TICK MARKS INDICATE PHASE CONDUCTORS. LONG TICK MARKS INDICATE NEUTRAL CONDUCTORS. A SINGLE CURVED TICK MARK INDICATES INSULATED GREEN GROUND CONDUCTOR. SECOND CURVED TICK MARK INDICATES "ISOLATED GROUND" (GREEN INSULATION WITH YELLOW STRIPE) CONDUCTOR.
- BRANCH PANEL
- CIRCUIT BREAKER
- DRY TYPE TRANSFORMER
- FLUSH WALL MOUNTED BRANCH PANEL
- GB — GROUND BAR
- MAIN DISTRIBUTION PANEL / SUB DISTRIBUTION PANEL

Raceways

- CONDUIT CONCEALED IN WALL OR CEILING SPACE
- CONDUIT ROUTED BELOW FLOOR / GRADE
- CONDUIT ELLED DOWN
- CONDUIT ELLED UP
- CONDUIT/WIRING CONTINUATION
- CONDUIT/WIRING STUBBED OUT WITH END CAP OR INSULATED PLASTIC BUSHING
- FLEXIBLE CONDUIT

Switches and Receptacles

- DUPLEX RECEPTACLE (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  B = CLOCK HANGER
  C = FLUSH CEILING MOUNTED
  E = EMERGENCY
  F = ARC FAULT PROTECTED BY BREAKER IN PANEL
  G = GROUND FAULT CIRCUIT INTERRUPTER
  H = HOSPITAL GRADE
  K = CHILD RESISTANT COVER
  L = ISOLATED GROUND
  P = PENDANT MOUNTED WITH CORD GRIPS. VERIFY PENDANT LENGTH
  R1 = HALF SWITCHED BY OCCUPANCY SENSOR RELAY
  R2 = FULLY SWITCHED BY OCCUPANCY SENSOR RELAY
  S = SPLIT WIRED
  T = TAMPER RESISTANT SHUTTERED RECEPTACLE
  U = USB PORT(S)
  W = WEATHERPROOF CONTINUOUS USE COVER, GFCI PROTECTED, WITH WEATHER-RESISTANT RECEPTACLE
- DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE, FLUSH FLOOR
- DOUBLE DUPLEX RECEPTACLE. SEE LETTER CODE LIST AT DUPLEX RECEPTACLE FOR OPTIONS
- EQUIPMENT ELECTRICAL CONNECTION
- SPECIAL PURPOSE RECEPTACLE. LETTER CODE DENOTES RECEPTACLE CONFIGURATION
  LX-XXR = NEMA CONFIGURATION TWIST-LOCK RECEPTACLE
  X-XXR = NEMA CONFIGURATION STRAIGHT BLADE RECEPTACLE
  P = PENDANT MOUNT WITH CORD GRIPS. VERIFY PENDANT LENGTH
  X = COORDINATE RECEPTACLE CONFIGURATION WITH EQUIPMENT BEING SUPPLIED
- OS — CEILING MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  U = ULTRASONIC, 360 DEG RANGE
  H = ULTRASONIC, HALLWAY PATTERN
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR
  P = PASSIVE INFRARED
  D = DUAL TECHNOLOGY
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- WALL MOUNTED OCCUPANCY SENSOR/SWITCH
  S = PASSIVE INFRARED WITH INTEGRAL "OFF" SWITCH
  T = DUAL RELAY PASSIVE INFRARED WITH TWO INTEGRAL "OFF" SWITCHES
  D = PASSIVE INFRARED WITH INTEGRAL DIMMER TO OFF.
  v (LOWERCASE) = VACANCY CONTROL DESIGNATION
- MULTIPLE CHANNEL SURFACE METAL RECEPTACLE RACEWAY WITH LOW VOLTAGE DIVIDERS, LENGTH AND RECEPTACLES AS INDICATED
- PHOTO ELECTRIC SWITCH
  D = CONTINUOUS DIMMING PHOTOCELL
  S = SWITCHED PHOTOCELL
- $ — SINGLE POLE SWITCH
  2 = DOUBLE POLE SWITCH
  3 = THREE-WAY SWITCH
  4 = FOUR-WAY SWITCH
  a THRU z (LOWERCASE) = LUMINAIRE CONTROL DESIGNATION
  D = DIMMER
  F = FAN SPEED CONTROL
  K = KEY OPERATED SWITCH
  L = LIGHTED HANDLE
  M = MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
  P = SWITCH WITH PILOT LIGHT
  S = SENTRY SWITCH
  T = INTERVAL TIMER
  W = WEATHERPROOF SWITCH
  V = LOW VOLTAGE SWITCH

Telecommunications

- RACEWAY ONLY DATA/TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE.
  (MULTIPLE LETTERS INDICATE MULTIPLE OPTIONS)
  A = ABOVE COUNTER
  C = CEILING MOUNTED ABOVE ACCESSIBLE CEILING
  F = FLUSH CEILING MOUNTED
  R = SURFACE MOUNTED ON RACEWAY
- RACEWAY ONLY TELEPHONE OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 3/4" C. AND PULLSTRING TO ACCESSIBLE CEILING SPACE. SEE LETTER CODE LIST AT DATA/TELEPHONE OUTLET FOR OPTIONS.

SHEET INDEX

E0.1 SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

E4.1 ENLARGED PLANS - ELECTRICAL

PROJECT 2018-0475
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EXPIRES: 12/31/19

Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
SUNSET HIGH SCHOOL THEATRE UPGRADES

Project Adress:
**13840 NW Cornell Rd.
Portland, OR 97229**

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Revisions to Sheet

No.	Revision	Date

Status: **100%CD**

Date: **01.25.2019**

Sheet Title
SYMBOLS LIST AND GENERAL NOTES - ELECTRICAL

Sheet No.
E0.1

Job No.
4728-01

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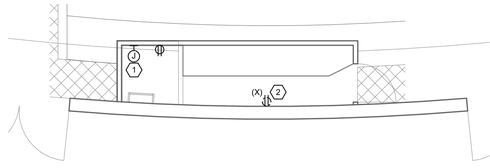

2 ENLARGED CONTROL BOOTH - ELECTRICAL

0' 4' 8' 16'

1/4" = 1'-0"

SHEET KEYNOTES

1. RELOCATE THEATRICAL PLUG BOX FROM WALL BEING DEMOLISHED TO THIS LOCATION. INTERCEPT AND EXTEND CIRCUIT. MOVE ANTENNAE DISTRIBUTION SYSTEM FOR MICROPHONE EQUIPMENT TO THIS LOCATION.
2. DEMOLISH RECEPTACLE. INTERCEPT AND EXTEND CIRCUIT TO NEW RECEPTACLE SHOWN.

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Sheet No.
E4.1

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SOUTHRIDGE HIGH SCHOOL

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BEAVERTON, OR 97008

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PROJECT SCOPE

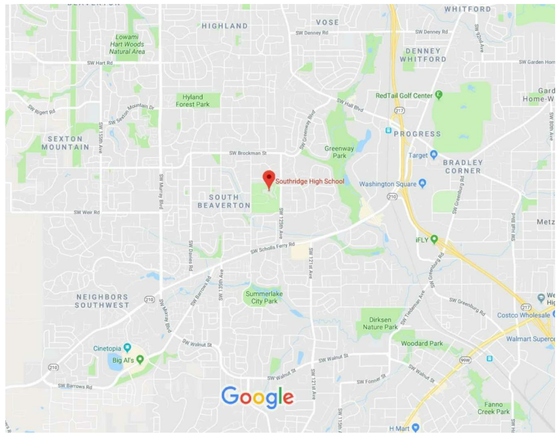
THE SCHOOL DISTRICT IS RENOVATING FIVE HIGH SCHOOL THEATRES UNDER THIS SCOPE OF WORK, AND FOCUSING ON MODIFICATIONS THAT WILL MAKE THE AREAS IN THE THEATRES SAFER FOR STUDENTS AND STAFF.

AT THIS CAMPUS, THE IMPROVEMENTS CONSIST OF ADDING A RIDIG MIDRAIL AT THE EXISTING CATWALKS AND ADDING A NEW CAGE TO THE EXISTING LADDER. IN ADDITION, THE EXISTING AISLE RAILING FLOOR CONNECTIONS AND STAGE EXTENSION WILL BE MODIFIED TO REMOVE EXISTING TRIP HAZARDS.

SHEET INDEX

DATA
CO COVER SHEET

ARCHITECTURAL
A1.20 SOUTHRIDGE HIGH SCHOOL - PLAN & DETAILS



VICINITY MAP

CODE ANALYSIS

CHAPTER 1: ADMINISTRATION

PROJECT ADDRESS:
SOUTHRIDGE HIGH SCHOOL
9625 SW 125th AVE
BEAVERTON, OR 97008

JURISDICTIONAL AUTHORITY:
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OSSC CHAPTER 11:
NOT APPLICABLE TO PROPOSED SCOPE

TAX LOT:
1S128DD00300

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY CLASSIFICATION (Section 303 & 304)
GROUP E EDUCATIONAL OCCUPANCY FOR STUDENTS

*PER SECTION 303.1.3: ASSEMBLY SPACES IN A GROUP E BUILDING ARE NOT INTENDED TO BE REGULATED AS SEPARATE GROUP A OCCUPANCIES, REGARDLESS OF THEIR FLOOR AREA, BUT RATHER AN EXTENSION OF THE GROUP E CLASSIFICATION.

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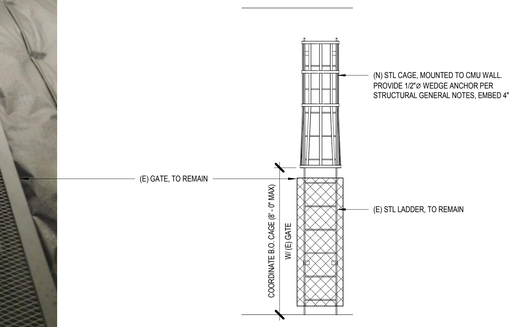
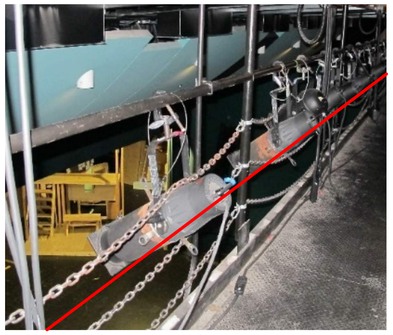
SOUTHRIDGE HIGH SCHOOL



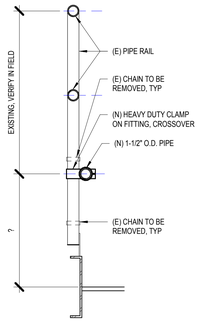


6 | (E) LADDER TO ROOF

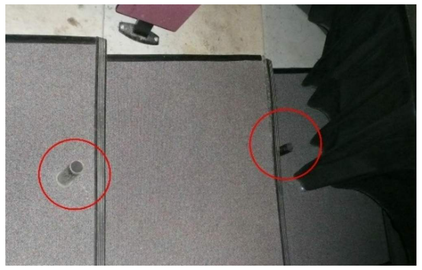


2 | (N) CAGE AT (E) LADDER

A1.20 1/4" = 1'-0"

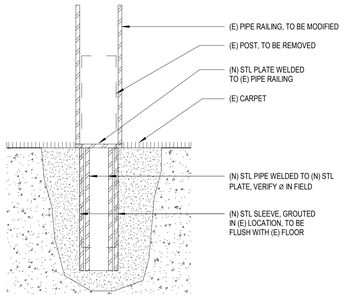


7 | (E) CATWALK RAILING



3 | SECTION - CATWALK RAILING

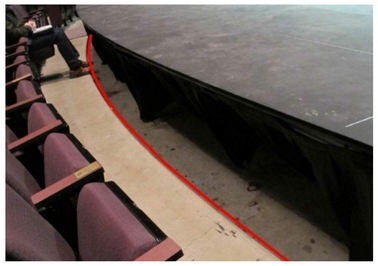
A1.20 1 1/2" = 1'-0"

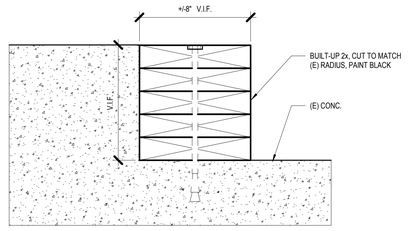


8 | (E) AISLE RAILING CONNECTIONS

4 | AISLE RAILING MODIFICATION

A1.20 6" = 1'-0"

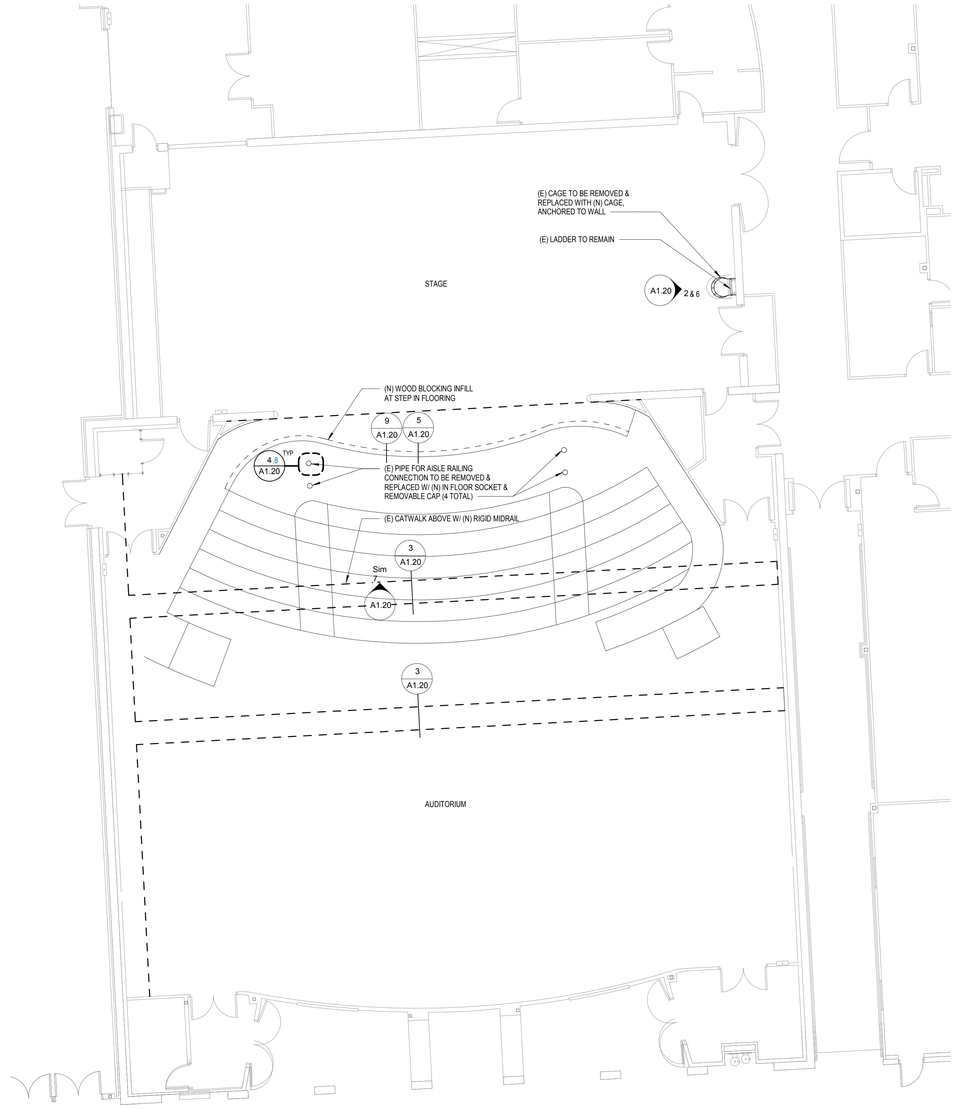




9 | (E) FLOORING AT STAGE EXTENSION

5 | STAGE EXTENSION MODIFICATION

A1.20 3" = 1'-0"



1 | AUDITORIUM FLOOR PLAN - LEVEL 1

A1.20 1/8" = 1'-0"

N

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Consultant Logo

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
SOUTHRIDGE HIGH SCHOOL

Project Adress:
**9625 SW 125TH AVE.
BEAVERTON, OR 97008**

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Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
SOUTHRIDGE HIGH SCHOOL - PLAN & DETAILS

Sheet No.
A1.20

Job No.
4758-01

BEAVERTON SCHOOL DISTRICT

WESTVIEW HIGH SCHOOL

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01.24.2019
4758-01

PROJECT SCOPE

THE SCHOOL DISTRICT IS RENOVATING FIVE HIGH SCHOOL THEATRES UNDER THIS SCOPE OF WORK, AND FOCUSING ON MODIFICATIONS THAT WILL MAKE THE AREAS IN THE THEATRES SAFER FOR STUDENTS AND STAFF.

AT THIS CAMPUS, THE IMPROVEMENTS CONSIST OF ADDING A RIDIG MIDRAIL AT THE EXISTING CATWALK GUARDRAIL, FENCING ATTIC FLOOR AREAS THAT SHOULD NOT BE USED FOR STORAGE AND STRUCTURALLY SECURING THE SPIRAL STAIRCASE. AN ADDITIONAL ALTERNATE IS BEING CONSIDERED TO PROVIDE AN APPROPRIATE FRAMED PLATFORM FOR STORAGE.

SHEET INDEX

DATA
CO COVER SHEET

ARCHITECTURAL
A1.20 WESTVIEW HIGH SCHOOL - PLAN & DETAILS

STRUCTURAL
S0.11 STRUCTURAL GENERAL NOTES, LEGEND & ABBREVIATIONS
S1.20 STRUCTURAL PLANS & DETAILS

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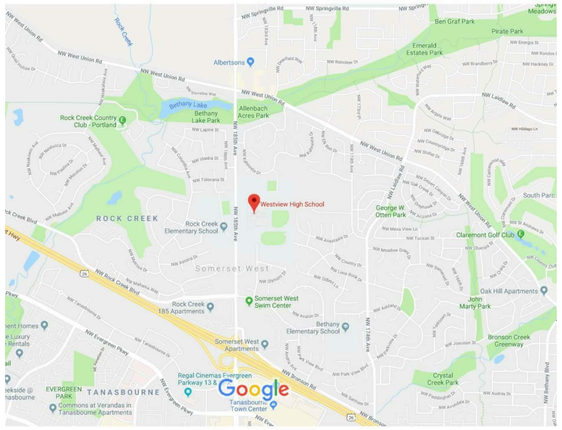
Contact: Shirley Chalupa



VICINITY MAP

CODE ANALYSIS

CHAPTER 1: ADMINISTRATION

PROJECT ADDRESS:
WESTVIEW HIGH SCHOOL
4200 NW 185th AVE
PORTLAND, OR 97229

JURISDICTIONAL AUTHORITY:
WASHINGTON COUNTY

APPLICABLE CODE:
2014 OREGON STRUCTURAL SPECIALTY CODE
2014 INTERNATIONAL FIRE CODE
2014 OREGON ELECTRICAL SPECIALTY CODE
2014 OREGON PLUMBING SPECIALTY CODE
NFPA 101 (NOTE: LOCAL CODE WILL TAKE PRECEDENCE. DEVIATIONS FROM NFPA IN INDIVIDUAL SECTIONS.)

OSSC CHAPTER 11:
NOT APPLICABLE TO PROPOSED SCOPE

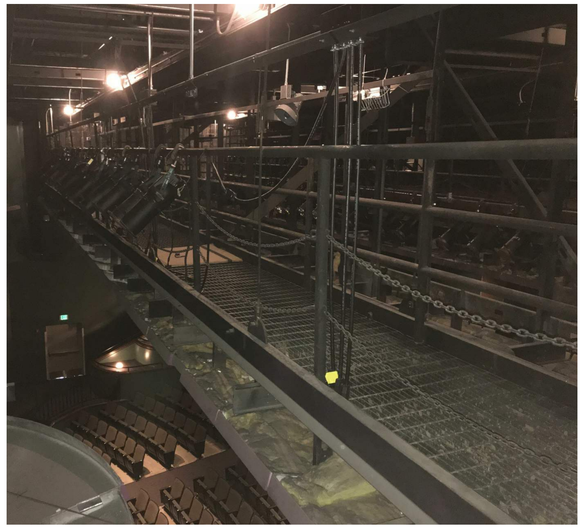
TAX LOT:
1N1190002300

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY CLASSIFICATION (Section 303 & 304)
GROUP E EDUCATIONAL OCCUPANCY FOR STUDENTS

*PER SECTION 303.1.3: ASSEMBLY SPACES IN A GROUP E BUILDING ARE NOT INTENDED TO BE REGULATED AS SEPARATE GROUP A OCCUPANCIES, REGARDLESS OF THEIR FLOOR AREA, BUT RATHER AN EXTENSION OF THE GROUP E CLASSIFICATION.

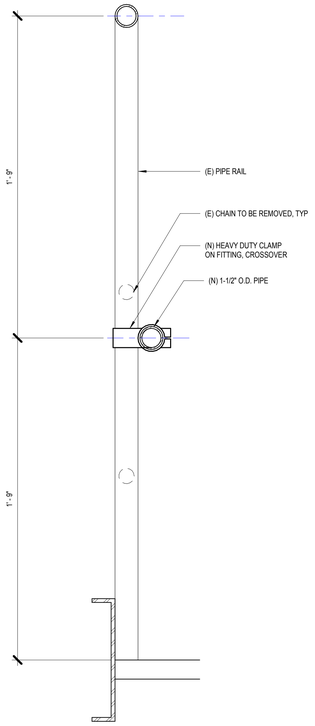
WESTVIEW HIGH SCHOOL



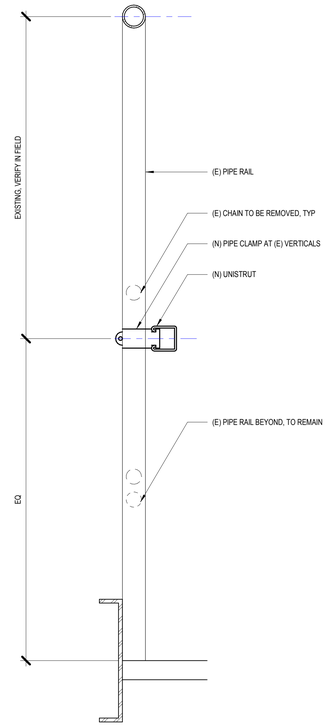
4 | (E) GALLERIES
A1.20 3/64" = 1'-0"



2 | (E) CATWALK



5 | SECTION - BACK CATWALK RAILING
A1.20 3" = 1'-0"



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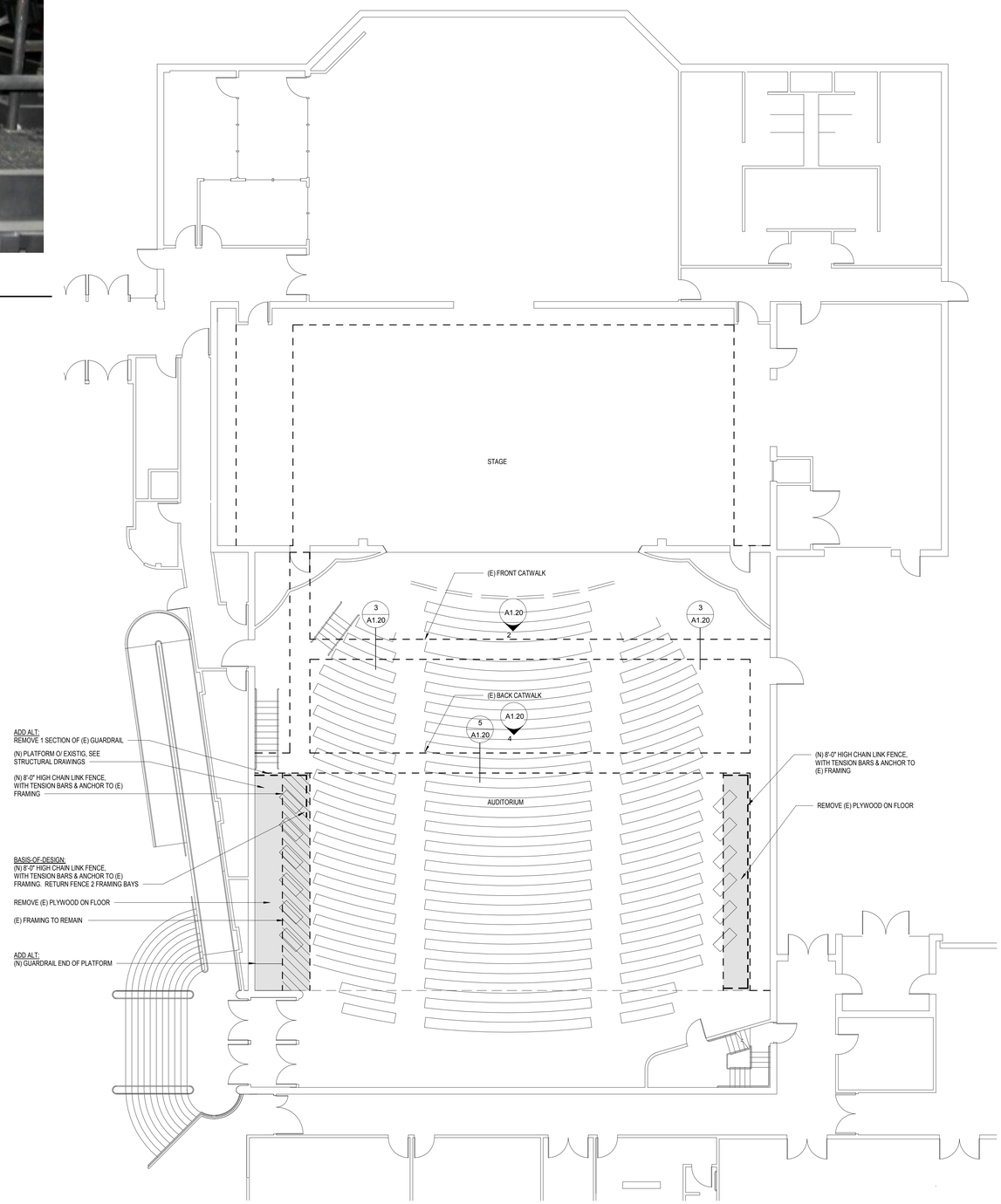

1 | AUDITORIUM FLOOR PLAN - LEVEL 1
A1.20 1/8" = 1'-0"

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Key Plan

Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
WESTVIEW HIGH SCHOOL

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4200 NW 185TH AVE PORTLAND, OR 97229

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Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

Date: **01.24.2019**

Sheet Title
WESTVIEW HIGH SCHOOL - PLAN & DETAILS

Sheet No.
A1.20

Job No.
4758-01

STRUCTURAL - GENERAL NOTES

GENERAL REQUIREMENTS

GOVERNING CODE: The design and construction of this project is governed by the **"Oregon Structural Specialty Code (OSSC)", 2014 Edition**, hereafter referred to as the OSSC, as adopted and modified by **Washington County in the state of Oregon** understood to be the Authority Having Jurisdiction (AHJ).

NARRATIVE: The scope of work includes the structural design of the following items:

- Retrofitting the existing soffit so it is capable to support the 20psf attic storage load.

REFERENCE STANDARDS: Refer to Chapter 35 of 2014 OSSC. Where other Standards are noted in the drawings, use the latest edition of the standard unless a specific date is indicated. Reference to a specific section in a code does not relieve the contractor from compliance with the entire standard.

DEFINITIONS: The following definitions cover the meanings of certain terms used in these notes:

- "**Architect/Engineer**" – The Architect of Record and the Structural Engineer of Record.
- "**Structural Engineer of Record" (SER)** – The structural engineer who is licensed to stamp & sign the structural documents for the project. The SER is responsible for the design of the Primary Structural System.
- "**Submit for review**" - Submit to the Architect/Engineer for review prior to fabrication or construction.
- "**Per Plan**" – Indicates references to the structural plans, elevations and structural general notes.

SPECIFICATIONS: Refer to the project specifications issued as part of the contract documents for information supplemental to these drawings.

OTHER DRAWINGS: Refer to the architectural, mechanical, electrical, civil and plumbing drawings for additional information including but not limited to: dimensions, elevations, slopes, door and window openings, non-bearing walls, stairs, finishes, drains, waterproofing, railings, mechanical unit locations, and other nonstructural items.

STRUCTURAL DETAILS: The structural drawings are intended to show the general character and extent of the project and are not intended to show all details of the work. Use entire detail sheets and specific details referenced in the plans as "typical" wherever they apply. Similarly, use details on entire sheets with "typical" in the name wherever they apply.

STRUCTURAL RESPONSIBILITIES: The structural engineer (SER) is responsible for the strength and stability of the primary structure in its completed form.

COORDINATION: The Contractor is responsible for coordinating details and accuracy of the work; for confirming and correlating all quantities and dimensions; for selecting fabrication processes; for techniques of assembly; and for performing work in a safe and secure manner.

MEANS, METHODS and SAFETY REQUIREMENTS: The contractor is responsible for the means and methods of construction and all job related safety standards such as OSHA and DOSH (Department of Occupational Safety and Health).

TEMPORARY SHORING, BRACING: The contractor is responsible for the strength and stability of the structure during construction and shall provide temporary shoring, bracing and other elements required to maintain stability until the structure is complete. It is the contractor's responsibility to be familiar with the work required in the construction documents and the requirements for executing it properly.

CONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design loads as noted in DESIGN CRITERIA & LOADS below or the capacity of partially completed construction as determined by the Contractor's SSE for Bracing/Shoring.

CHANGES IN LOADING: The contractor has the responsibility to notify the SER of any architectural, mechanical, electrical, or plumbing load imposed onto the structure that differs from, or that is not documented on the original Contract Documents (architectural / structural / mechanical / electrical or plumbing drawings).

NOTE PRIORITIES: Plan and detail notes and specific loading data provided on individual plans and detail drawings supplements information in the Structural General Notes.

DISCREPANCIES: In case of discrepancies between the General Notes, Specifications, Plans/Details or Reference Standards, the Architect/Engineer shall determine which shall govern. Discrepancies shall be brought to the attention of the Architect/Engineer before proceeding with the work. Should any discrepancy be found in the Contract Documents, the Contractor will be deemed to have included in the price the most expensive way of completing the work, unless prior to the submission of the price, the Contractor asks for a decision from the Architect as to which shall govern. Accordingly, any conflict in or between the Contract Documents shall not be a basis for adjustment in the Contract Price.

SITE VERIFICATION: The contractor shall verify all dimensions and conditions at the site. Conflicts between the drawings and actual site conditions shall be brought to the attention of the Architect/Engineer before proceeding with the work.

ADJACENT UTILITIES: The contractor shall determine the location of all adjacent underground utilities prior to earthwork, foundations, shoring, and excavation. Any utility information shown on the drawings and details is approximate and not necessarily complete.

ALTERNATES: Alternate products of similar strength, nature and form for specified items may be submitted with adequate technical documentation (proper test report, etc.) to the Architect/Engineer for review. Alternate materials that are submitted without adequate technical documentation or that significantly deviate from the design intent of materials specified may be returned without review. Alternates that require substantial effort to review will not be reviewed unless authorized by the Owner.

DESIGN CRITERIA AND LOADS

OCCUPANCY:	Risk Category of Building per 2014 OSSC Table 1604.5 =	**III**

DESIGN LIVE LOADS	AREA	LIVE LOADS (PSF) UNO	REMARKS & FOOTNOTES
	Attic storage load	20	

INSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

INSPECTIONS: Foundations, footings, under slab systems and framing are subject to inspection by the Building Official in accordance with OSSC 110.3. Contractor shall coordinate all required inspections with the Building Official.

SPECIAL INSPECTIONS, VERIFICATIONS and TESTS: Special Inspections, Verifications and Testing shall be done in accordance with OSSC Chapter 17, the STATEMENT AND SCHEDULES OF SPECIAL INSPECTIONS on S0.12, and the AHJ STATEMENT OF SPECIAL INSPECTION and/or STATEMENT OF STRUCTURAL OBSERVATIONS.

STRUCTURAL OBSERVATION: per OSSC Section 1704.6

Structural Observation is the visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. It is not always required on a project, does not include or waive the responsibility for the special inspections and tests required by a Special Inspector per OSSC Chapter 17, is not continuous, and does not certify conformance with the approved construction documents.

Structural Observation for this project is not required per OSSC Section 1704.6.

CONTRACTOR RESPONSIBILITY: Prior to issuance of the building permit, the Contractor is required to provide the Authority Having Jurisdiction a signed, written acknowledgement of the Contractor's responsibilities associated with the above Statement of Special Inspections addressing the requirements listed in OSSC Section 1704.4. Contractor is referred to OSSC Sections 1705.12.5 and 1705.12.6 for architectural and MEP building systems that may be subject to additional inspections (based on the building's designated Seismic Design Category listed in the CRITERIA), including anchorage of HVAC ductwork containing hazardous materials, piping systems and mechanical units containing flammable, combustible or highly toxic materials, electrical equipment used for emergency or standby power, exterior wall panels and suspended ceiling systems.

POST-INSTALLED ANCHORS (INTO CONCRETE AND MASONRY)

REFERENCE STANDARDS: Conform to:

1) OSSC Chapter 19 "Concrete"
2) ACI 318-11 "Building Code Requirements for Structural Concrete"
3) OSSC Chapter 21 "Masonry"
4) ACI 530-11/ASCE 5-11/TMS402-11 "Building Code Requirements for Masonry Structures"

POST-INSTALLED ANCHORS: Install only where specifically shown in the details or allowed by SER. All post-Installed anchors types and locations shall be approved by the SER and shall have a current ICC-Evaluation Service Report that provides relevant design values necessary to validate the available strength exceeds the required strength. Submit current manufacturer's data and ICC ESR report to SER for approval regardless of whether or not it is a pre-approved anchor. Anchors shall be installed in strict accordance to ICC-ESR and manufacturer's instructions. No reinforcing bars shall be damaged during installation of post-installed anchors. Special inspection shall be per the TESTS and INSPECTIONS section. Anchor type, diameter and embedment shall be as indicated on drawings.

1. SCREW ANCHORS: The following Screw type anchor is pre-approved for anchorage to CONCRETE or MASONRY in accordance with corresponding current ICC ESR report:
   a. SIMPSON "TITEN HD" – ICC ESR-2713 for CONCRETE Only and ICC ESR-1056
   b. POWERS "WEDGE-BOLT +" – ICC ESR-2526 for CONCRETE Only
   c. HILTI "HUS-EZ" – ICC ESR-3027 for anchorage to CONCRETE Only

COLD-FORMED STEEL FRAMING

REFERENCE STANDARDS: Conform to:

(1) AISI S100-12 "North American Specification for the Design of Cold-Formed Steel Structural Members"
(2) AISI S200-12 "North American Standard for Cold Formed Steel Framing – General Provisions"
(3) AISI S210-07 "North American Standard for Cold Formed Steel Framing – Floor and Roof System Design"
(4) AISI S211/07/S1-12 "North American Standard for Cold Formed Steel Framing – Wall Stud Design"
(5) AISI S212-07/S1-12 "North American Standard for Cold Formed Steel Framing – Header Design"
(6) AISI S213-07/S1-09 "North American Standard for Cold Formed Steel Framing – Lateral Design"
(7) AISI S214-12 "North American Standard for Cold Formed Steel Framing – Truss Design"
(8) AISI S220-11 "North American Standard for Cold Formed Steel Framing – Nonstructural Members"
(9) AWWC "Wall and Ceiling Standards" Sec. 9.8 "Exterior Steel Studs Wall Systems."
(10)AWS D1.3 "Structural Welding Code - Sheet Steel."

MATERIALS:

Structural Sections	33 and 43-mil; ASTM A653, SS Grade 33, or ASTM A1003 Grade 33, Min Fy=33 KSI
Sheet Metal Screws	Grabber or Buildex Self-Drilling, #10 screws unless noted otherwise on drawings; ASTM C1513 or SER approved alternate
Fasteners to Steel	Hilti X-U Power Actuated Fasteners – ICC ESR-2269
Fasteners to Concrete	Hilti X-U Power Actuated Fasteners with ¾" embedment– ICC ESR-2269
Weld Material	E60XX electrodes conforming to AWS D1.3

Studs and Track shall be galvanized in accordance with ASTM A653, G60, unless in contact with pressure treated wood. If in contact with pressure treated wood, use G90 or greater coatings. Fastenings not shown on the drawings shall be as recommended by the manufacturer.

SIZE AND PROFILE: Cold-formed steel framing members shall be as specified in the Steel Stud Manufacturer's Association ICC Evaluation Report ESR-3064P and of the size and profile as shown on the drawings. Alternate members equivalent in shape, size, and strength by manufacturers not members of the Steel Stud Manufacturer's Association shall be subject to review and approval by the Architect / Engineer.

JOISTS: Provide C-shaped joists with stiffened flanges (S-sections in SSMA). Spans are assumed to be continuously sheathed at the top flange. A minimum 3-1/2" bearing shall be provided at each end of each joist. Add web stiffeners if bearing is less than 3-1/2", but no less than 1-1/2".

CONNECTORS and FASTENERS: Connectors shall be installed per the manufacturer's instructions. All screws shall be snug with the steel surface and shall penetrate into steel studs by a minimum of three exposed threads. Connections shall not be stripped. Screws shall be installed a minimum of 3/8" from steel edges and with no less than ¾" o.c. spacing.

MEMBER CONDITION: All structural cold-formed framing members must be in good condition. Damaged members, members with cracking in the steel at the bend radius locations, and members with significant red rusting or scaling of the protective coating are unacceptable and must be replaced, unless approved by the SER. Members not meeting tolerances listed below shall be replaced prior to loading.

ERECTION and TOLERANCES: Cold-formed steel framing shall be erected true and plumb per the requirements and within the specified tolerances listed below. For purposes of this section, camber is defined as the deviation from straightness of a member or any portion of a member with respect to its major axis, and sweep is defined as the deviation from straightness of a member or any portion of a member with respect to its minor axis.

- For joists, track, and axial load bearing studs, out of plumbness and out of straightness (camber and sweep) shall not exceed 1/1000th of the member length (1/8" over 10'-0").
- Erect framing in accordance with manufacturer's instructions.
- Studs shall seat into top and bottom tracks. The gap between the end of the stud and the web of the track shall not exceed 1/16" for axial load bearing studs.
- Joists and end stiffeners shall be located directly over studs. The use of a wall top track as a load distribution member is not permitted.

PERMANENT WALL BRACING AND BRIDGING: Double flat strap or channel bridging as specified on the structural drawings shall be installed at 4'-0" oc maximum unless noted otherwise **[**on the plan notes or bridging details**]** and connected prior to loading studs. Bridging anchorage design to be based on "All Steel Design" (mechanically braced) or "Sheathing Braced Design" per AISI S211. Reference the **[**framing plan notes**]** for type of design used.

TEMPORARY BRACING: Reference "Temporary Shoring, Bracing" in the "General Requirements" section above.

DRAWING LEGEND

MARK	DESCRIPTION	MARK	DESCRIPTION
F2.0	FOOTING SYMBOL (REFER TO SPREAD FOOTING SCHEDULE)		INDICATES WIDE FLANGE COLUMN
P1	PILE CAP SYMBOL (REFER TO PILE CAP SCHEDULE)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR TUBE STEEL (TS) COLUMN
A	TILT-UP/PRECAST CONCRETE WALL CONNECTION SYMBOL (REFER TO CONNECTION DETAIL)		INDICATES HOLLOW STRUCTURAL SECTION (HSS) COLUMN OR STEEL PIPE COLUMN
W6	SHEAR WALL SYMBOL (REFER TO SHEAR WALL SCHEDULE)		INDICATES WOOD POST
1	REVISION TRIANGLE		INDICATES BUNDLED STUDS
1	TILT-UP/PRECAST CONCRETE WALL PANEL NUMBER (REFER TO TILT-UP/ PRECAST CONCRETE WALL ELEVATIONS)		INDICATES CONCRETE COLUMN
1	CMU WALL REINFORCING SYMBOL (REFER TO CMU WALL REINFORCING SCHEDULE)		INDICATES PRECAST CONCRETE COLUMN
8"	CONTINUITY PLATE LENGTH (REFER TO TYPICAL DETAIL)		INDICATES MOMENT FRAME CONNECTION
DS	INDICATES DOUBLE SHEAR CONNECTION (REFER TO THE DOUBLE SHEAR PLATE CONNECTIONS DETAIL)		INDICATES DRAG CONNECTION
SR	INDICATES NUMBER OF STUD RAIL REQUIRED AT COLUMN (REFER TO STUD RAIL DETAILS)		INDICATES WOOD OR STEEL STUD WALL
1	ROOF/FLOOR DIAPHRAGM NAILING SYMBOL (REFER TO DIAPHRAGM NAILING SCHEDULE)		INDICATES MASONRY/CMU WALL
C1	STEEL COLUMN SYMBOL (REFER TO STEEL COLUMN SCHEDULE)		INDICATES CONCRETE/TILT-UP CONCRETE WALL
T/SLAB X'-X"	ELEVATION SYMBOL (T/ REFERS TO COMPONENT THAT THE ELEVATION REFERENCES)		INDICATES WOOD OR STEEL STUD SHEAR WALL
3	STUD BUBBLE (INDICATES NUMBER OF STUDS REQUIRED IF EXCEEDS NUMBER SPECIFIED IN PLAN NOTE)		INDICATES BEARING WALL BELOW
	INDICATES STEP IN FOOTING (REFER TO TYPICAL STEP IN FOOTING DETAIL)		INDICATES EXISTING WALL
X/SX.X	DETAILS OR SECTION CUT (DETAIL NUMBER/SHEET NUMBER)		POST-TENSION DEAD END (PLAN)
2 S2.1	DETAILS OR SECTION CUT IN PLAN VIEW (DETAIL NUMBER/SHEET NUMBER)		POST-TENSION STRESSING END (PLAN)
X/SX.X	INDICATES LOCATION OF CONCRETE WALLS, SHEAR WALLS OR BRACED FRAME ELEVATIONS	3	POST-TENSION PROFILE (PLAN) (IN INCHES)
	SPAN INDICATOR (INDICATES EXTENTS OF FRAMING MEMBERS OR OTHER STRUCTURAL COMPONENTS)		INTERMEDIATE STRESSING (PLAN)
	INDICATES DIRECTION OF DECK SPAN		

ABBREVIATIONS

∠	Angle	FIN	Finish	PSI	Pounds Per Square Inch
AB	Anchor Bolt	FLR	Floor	PSL	Parallel Strand Lumber
ADDL	Additional	FRP	Fiberglass Reinforced Plastic	P-T	Post-Tensioned
ADH	Adhesive	FRT	Fire Retardant Treated	PT	Pressure Treated
ALT	Alternate	FTG	Footing	R	Radius
ARCH	Architectural	F/	Face of	RD	Roof Drain
B or BOT	Bottom	GA	Gage	REF	Refer/Reference
B/	Bottom Of	GALV	Galvanized	REINF	Reinforcing
BLDG	Building	GEOTECH	Geotechnical	REQD	Required
BLKG	Blocking	GL	Glue Laminated Timber	RET	Retaining
BMU	Brick Masonry Unit	GWB	Gypsum Wall Board	SCBF	Special Concentric Braced Frame
BP	Baseplate	HDR	Header	SCHED	Schedule
BRBF	Buckling Restrained Braced Frame	HF	Hem-Fir	SFRS	Seismic Force-Resisting System
BRG	Bearing	HGR	Hanger	SHTHG	Sheathing
BTWN	Between	HD	Hold-down	SIM	Similar
℄	Centerline	HORIZ	Horizontal	SLBB	Short Leg Back-to-Back
C	Camber	HP	High Point	SMF	Special Moment Frame
CB	Castellated Beam	HSS	= TS (Hollow Structural Section)	SOG	Slab on Grade
C'BORE	Counterbore	IBC	International Building Code	SP	Southern Pine
CIP	Cast in Place	ID	Inside Diameter	SPEC	Specification
CJ	Construction or Control Joint	IE	Invert Elevation	SQ	Square
CJP	Complete Joint Penetration	IF	Inside Face	SR	Studrail
CLG	Ceiling	INT	Interior	SF	Square Foot
CLR	Clear	k	Kips	SST	Stainless Steel
CLT	Cross-Laminated Timber	KSF	Kips Per Square Foot	STAGG	Stagger/Staggered
CMU	Concrete Masonry Unit	LF	Lineal Foot	STD	Standard
COL	Column	LL	Live Load	STIFF	Stiffener
CONC	Concrete	LLBB	Long Leg Back-to-Back	STL	Steel
CONN	Connection	LLH	Long Leg Horizontal	STRUCT	Structural
CONST	Construction	LLV	Long Leg Vertical	SWWJ	Solid Web Wood Joist
CONT	Continuous	LP	Low Point	SYM	Symmetrical
C'SINK	Countersink	LONGIT	Longitudinal	T	Top
CTRD	Centered	LSL	Laminated Strand Lumber	T/	Top Of
ø	Diameter	LVL	Laminated Veneer Lumber	T&B	Top & Bottom
DB	Drop Beam	MAS	Masonry	TC AX LD	Top Chord Axial Load
DBA	Deformed Bar Anchor	MAX	Maximum	TCX	Top Chord Extension
DBL	Double	MECH	Mechanical	TDS	Tie Down System
DEMO	Demolish	MEZZ	Mezzanine	T&G	Tongue & Groove
DEV	Development	MFR	Manufacturer	THKD	Thickened
DF	Douglas Fir	MIN	Minimum	THRD	Threaded
DIAG	Diagonal	MISC	Miscellaneous	THRU	Through
DIST	Distributed	NIC	Not In Contract	TRANSV	Transverse
DL	Dead Load	NLT	Nail-Laminated Timber	TYP	Typical
DN	Down	NTS	Not To Scale	UBC	Uniform Building Code
DO	Ditto	OC	On Center	UNO	Unless Noted Otherwise
DP	Depth/Deep	OCBF	Ordinary Concentric Braced Frame	URM	Unreinforced Masonry Unit
DWG	Drawing	OD	Outside Diameter	VERT	Vertical
(E)	Existing	OF	Outside Face	W	Wide
EA	Each	OPNG	Opening	W/	With
EF	Each Face	OPP	Opposite	W/O	Without
EL	Elevation	OWSJ	Open Web Steel Joist	WHS	Welded Headed Stud
ELEC	Electrical	OWWJ	Open Web Wood Joist	WP	Working Point
ELEV	Elevator	ℙ	Plate	WWF	Welded Wire Fabric
EMBED	Embedment	PAF	Powder Actuated Fastener	±	Plus or Minus
EQ	Equal	PC	Precast		
EQUIP	Equipment	PERP	Perpendicular		
EW	Each Way	PLWD	Plywood		
EXP	Expansion	PP	Partial Penetration		
EXP JT	Expansion Joint	PREFAB	Prefabricated		
EXT	Exterior	PSF	Pounds per Square Foot		
FD	Floor Drain				
FDN	Foundation				

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Project Owner:
BEAVERTON SCHOOL DISTRICT

Project Name:
WESTVIEW HIGH SCHOOL

Project Adress:
4200 NW 185TH AVE PORTLAND, OR 97229

Revisions to Sheet

No.	Revision	Date

Status: **100% CD/BID**

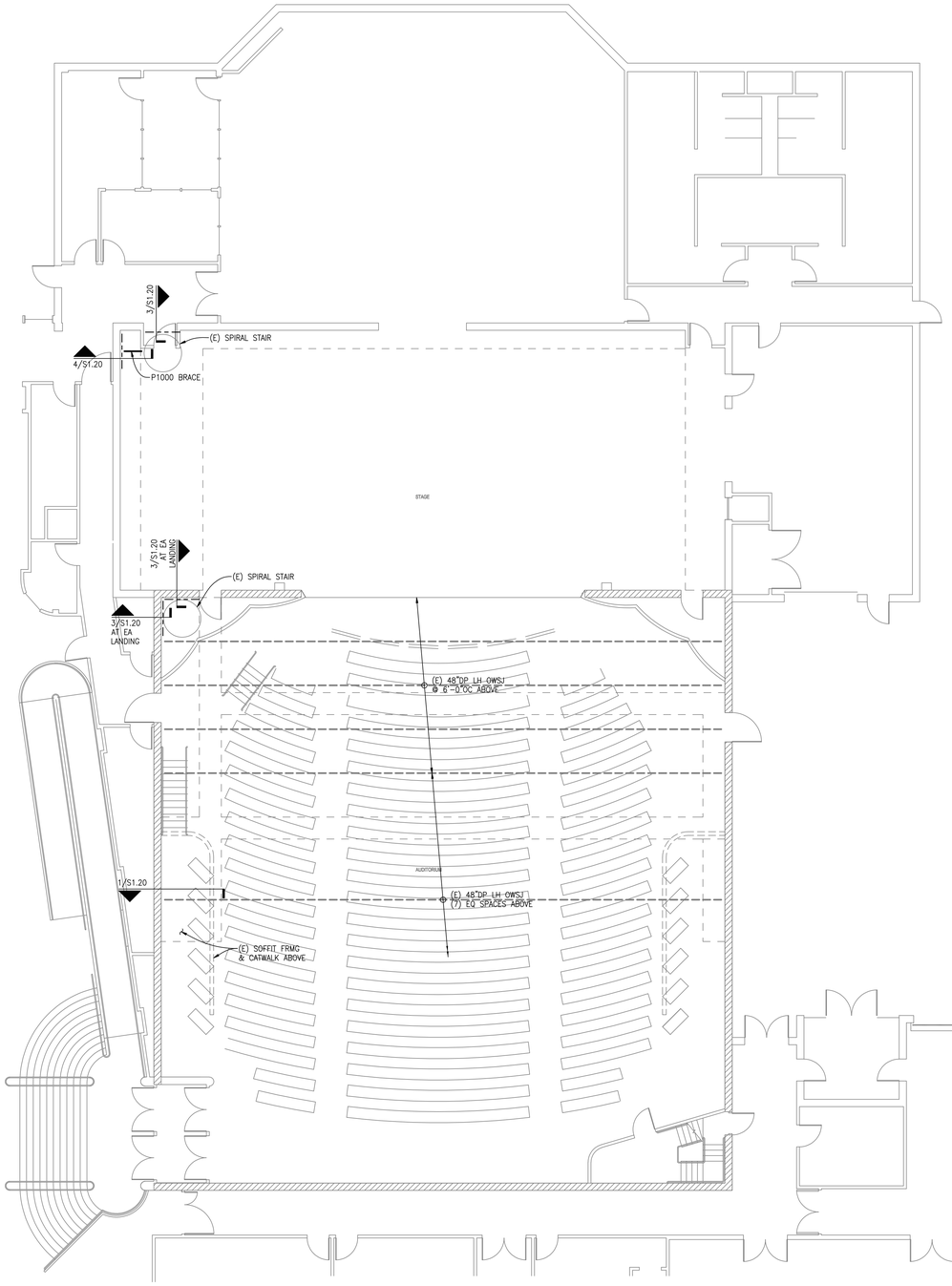
Date: **01.24.2019**

Sheet Title
STRUCTURAL GENERAL NOTES, LEGEND & ABBREVIATIONS

Sheet No.
S0.11

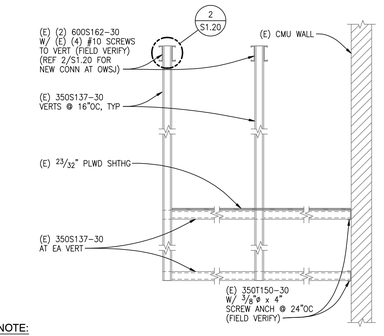
DCI Job No.
16031-0008

16031-0008-ARCTHDR-2011.rvt Jan-19 11:08 AM JoshVonch



AUDITORIUM OVERALL PLAN

SCALE: 1/8"=1'-0"



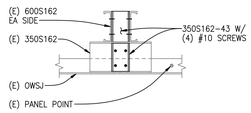
NOTE:

MAXIMUM LOAD = 20PSF (LIVE LOAD)

SECTION AT SOFFIT

SCALE: NTS

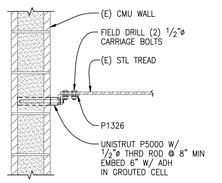
1



REINFORCEMENT AT JOIST

SCALE: 1"=1'-0"

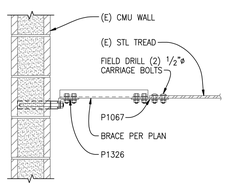
2



SPIRAL STAIR REINFORCEMENT

SCALE: 1"=1'-0"

3



NOTE:

ADDITIONAL INFORMATION PER 3/S1.20.

SPIRAL STAIR BRACE

SCALE: 1"=1'-0"

4

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These drawings are sufficiently complete for submission to the jurisdiction having authority for permit. The Contractor shall not use these drawings for construction until Contractor receives written approval for use in construction by the jurisdiction having authority and DCI Engineers.

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STRUCTURAL PLANS & DETAILS

Sheet No.
S1.20

DCI Job No.
16031-0008