

- WAINSCOT **DSA ADMIN. REQUIREMENTS** - PLUS/MINUS

- WOOD

- WIDE FLANGE

- WOOD SCREW

ALL WORK SHALL BE IN ACCORDANCE WITH THE CALIFORNIA CODE OF REGULATIONS TITLE DOCUMENTS) AND ALL OTHER LOCAL CODES AND ORDINANCES OF THE GOVERNING AUTHORITY HAVING JURISDICTION AND AS IDENTIFIED UNDER APPLICABLE CODES ON THIS SHEET. IT IS THE INTENT OF THESE DOCUMENTS TO COMPLY HERETO

- HORIZONTAL

- INSIDE DIAMETER

GENERAL NOTES

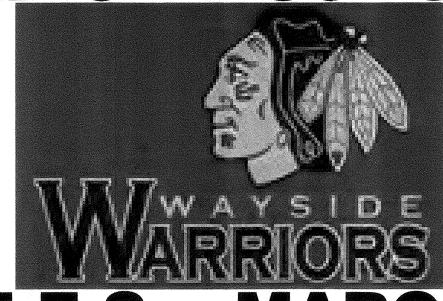
- HOT WATER

- ALL DRAWINGS SHALL BE USED IN CONCERT WITH EACH OTHER. IF THICONTRACTOR DISCOVERS ANY DISCREPANCY BETWEEN THEDOCUMENTS, THE CONTRACTOR SHALL REQUEST IN WRITING A CLARIFICATION FROM THE ARCHITECT. REFER TO THE ARCHITECTURAL AND ENGINEERING DRAWINGS FOR PLACEMENT, ORIENTATION AND COORDINATION OF WORK. INFORMATION SHOWN IN LARGER SCALE IS INTENDED TO SUPPLEMENT INFORMATION OF SMALLER, PRECEDING REFERENCE DRAWINGS. LARGER SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
- NOTATIONS MARKED "TYPICAL" (TYP.) SHALL BE CONSISTENT THROUGHOUT ALSUCH REFERENCE NOMENCLATURE, SYMBOLS AND DRAWING INDICATIONS OF LIKE OR SIMILAR
- DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY CONSTRUCTION CONDITIONS AND DIMENSIONS PRIOR TO ORDERING. FABRICATING OR INSTALLING ANY ASSOCIATED WORK. IF DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL REQUEST IN WRITING A CLARIFICATION FROM THE ARCHITECT PRIOR TO COMMENCEMENT OF ANY ASSOCIATED WORK.
- CONTRACTOR SHALL VERIFY, AT THE SITE, ALL EXISTING CONDITIONS PRIOR TO SUBMITTAL OF BIDS. SITE VISITS DURING BIDDING SHALL BE COORDINATED WITH THE OWNER IN ACCORDANCE WITH THE PROVISIONS OF THE SPECIFICATIONS.
- CONTRACTOR SHALL PROTECT ALL EXISTING WORK. ANY DAMAGED WORK SHALL BE REPLACED WITH THE SAME MATERIALS, INCLUDING MATCHING THE EXISTING COLORS AND TEXTURES.
- EXISTING WORK IS SHOWN FOR REFERENCE ONLY. THE OWNER AND/OR ARCHITECT DO NOT GUARANTEE EXISTING CONDITIONS AS SHOWN ON THESE DOCUMENTS.
- CONTRACTOR(S) SHALL BE RESPONSIBLE FOR THEIR OWN CLEANUP AS WORK
- MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS THAT ARE DISCOVERED DURING THE PROGRESS OF THE WORK SHALL BE REPORTED TO THE OWNER IN WRITING. WORK IN THAT PARTICULAR AREA SHALL BE SUSPENDED UNTIL THE OWNER TESTS THE SUSPECT MATERIAL AND IT IS FOUND TO BE SAFE, OR THE MATERIAL HAS BEEN PROPERLY ABATED.
- ALL WORK IS NEW UNLESS OTHERWISE NOTED.
- IN THE EVENT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE CONSTRUCTION DOCUMENTS. THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN.
- STORAGE OF CONSTRUCTION MATERIAL AND EFFECT OF WORK ON EXISTING OCCUPIED AREAS SHALL BE APPROVED BY THE LOCAL FIRE AUTHORITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.
- KEYNOTES USED ON THE ARCHITECTURAL DRAWINGS ARE FOR ASSEMBLIES. MATERIAL REFERENCES AND NOTES. REFER TO THE KEYNOTE LIST ON THE RESPECTIVE DRAWING FOR THE INFORMATION WHICH RELATES TO EACH KEYNOTE.
- DURING CONSTRUCTION, COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION WILL BE ENFORCED.
- DURING CONSTRUCTION, COMPLIANCE WITH CBC CHAPTER 33, SAFETY WILL BE
- NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEMS UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO DSA FOR APPROVAL
- SUBSTITUTIONS AFFECTING DSA REGULATIONS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA AND APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION

- A COPY OF PARTS 1 TO 5, TITLE 24, C.C.R. SHALL BE KEPT ON THE JOB
- CHANGE TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- NO CHANGES OR REVISIONS SHALL BE MADE FOLLOWING WRITTEN APPROVAL WHICH AFFECTS ACCESS COMPLIANCE ITEMS UNLESS SUCH CHANGES OR REVISIONS ARE SUBMITTED TO THE DSA FOR APPROVAL.
- SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE SUBMITTED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION.
- CONSTRUCTION CHANGE DOCUMENTS MUST BE SIGNED BY THE FOLLOWINGS:
 - ARCHITECT OR ENGINEER OF RECORD. STRUCTURAL ENGINEER (WHEN APPLICABLE) DELEGATED PROFESSIONAL ENGINEER.
- MATERIALS AND THEIR INSTALLATION SHALL COMPLY WITH APPLICABLE CODES. STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
- PER CBC 11B-104.1 "ALL DIMENSIONS ARE SUBJECT TO CONVENTIONAL INDUSTRY TOLERANCES EXCEPT WHERE THE REQUIREMENT IS STATED AS A RANGE WITH SPECIFIC MINIMUM AND MAXIMUM END POINTS."
- ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335. PART 1, TITLE 24, AND APPROVED TESTS AND INSPECTIONS SHEET.
- A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT AL THE REQUIRED TESTS AND INSPOECTIONS FOR THE PROJECT: AND SHALL BE IN ACCORDANCE WITH SECTION 4-335, PART 1, TITLE 24. COSTS OF RE-TEST SHALL BE PER GENERAL
- DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO THE PLACEMENT OF CONCRETE PER SECTION 4-331, PART 1,TITLE 24.
- A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE
- 2. SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH SECTION 4-334, PART 1, TITLE 24.
- 13. CONTRACTOR, INSPECTOR, ARCHITECT, AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (Form SSS-6) IN ACCORDANCE WITH SECTIONS 4-336 AND 4-
- THE ARCHITECT AND THE STRUCTURAL ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341, PART 1, TITLE 24.
- THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTIONS 4-343, PART 1, TITLE 24.
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHERE IN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. A CONSTRUCTION CHANGE DIRECTIVES-C.C.D., OR SEPARATE SET OF PLANS AND SPECIFCATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE
- GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
- 8. A 'DSA CERTIFIED' INSPECTOR WITH CLASS (3) CERTIFICATION IS REQUIRED FOR THIS PROJECT.

PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR)

BAKERSFIELD CITY SCHOOL DISTRICT



WAYSIDE E.S. - MARQUEE SIGN

1000 MING AVE., BAKERSFIELD, CA 93307

DSA FILE NO.:15-6

AGENCY TRACKING NO.: 63321-273 DSA APP NO.: 03-118201

SUBMITTING BIDS.

SHEET INDEX

GENERAL NOTES Total:

ARCHITECTURAL

GENERAL

OVERALL & PARTIAL SITE PLANS Total:

STRUCTURAL

STRUCTURAL NOTES STRUCTURAL NOTES S1101 STRUCTURAL DETAILS

ELECTRICAL

SYMBOLS & GENERAL NOTES E1.1 **GENERAL ELECTRICAL SPECIFICATIONS**

E2.0 SITE ELECTRICAL PLAN E2.1 SINGLE LINE DIAGRAM

E3.0 DETAILS

Total: 5

Total: 3

Grand Total: 10 Sheets

SCOPE OF WORK

THE FOLLOWING IS A BRIEF DESCRIPTION OF THE SCOPE OF WORK AS REQUIRED BY DSA, CONTRACTOR SHALL DETERMINE/VERIFY THE ENTIRE SCOPE AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS PRIOR TO

INSTALLATION OF POLE MOUNTED MARQUEE SIGN ONTO AN EXISTING SITE.

APPLICABLE CODES

CALIFORNIA CODE OF REGULATIONS, TITLE 24 - BUILDING STANDARDS

CALIFORNIA ADMINISTRATIVE CODE (CAC) (Title 24, Part 1, CCR) CALIFORNIA BUILDING CODE (CBC), Volumes 1 & 2 (Title 24, Part 2, CR) (2015 International Building Code with 2016 California

2016 CALIFORNIA ELECTRICAL CODE, Title 24, Part 3, CCR) (2014 National Electrical Code with 2016 California amendments) CALIFORNIA MECHANICAL CODE (CMC), Title 24, Part 4, CCR) (2015 Uniform Mechanical Code with 2016 California amendments CALIFORNIA PLUMBING CODE (CPC), Title 24, Part 5, CCR)

CALIFORNIA ENERGY CODE, (Title 24, Part 6)

(2015 International Building Code with 2016 California amendments) CALIFORNIA FIRE CODE (CFC), Title 24, Part 9, CCR) (2015 International Fire Code with 2016 California amendments) CALIFORNIA EXISTING BUILDING CODE, (Title 24, Part 10, CCR) (2015 International Building Code with 2016 California amendments) CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN).

Title 24, Part 11, CCR) - 2016 California Green Building Standards Code applies at those portions designated by California Building Standards 2016 CALIFORNIA REFERENCE STANDARDS CODE, (Title 24, Part 12,

(2015 Uniform Plumbing Code with 2016 California amendments)

CALIFORNIA HISTORICAL BUILDING CODE, (Title 24, Part 8, CCR)

2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN, U.S. Department of Justice 2016 NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER

2016 NFPA 72, NATIONAL FIRE ALARM CODE AND SIGNALING CODE, 2015 Edition NOTE: SOME CODES MAY NOT APPLY IF WORK REGULATED BY SUCH CODES IS NOT WITHIN THE SCOPE OF THIS PROJECT.

PROJECT DIRECTORY

OWNER:

BAKERSFIELD CITY SCHOOL DISTRICT 1501 FELIZ DRIVE BAKERSFIELD, CA 93307 PHONE: (661) 636-4000

(661) 636-4130 **CONTACT: RANDY ROWLES** PRINCIPAL ARCHITECT

ARCHITECT: IBI GROUP ARCHITECTURE PLANNING 4119 BROAD STREET, SUITE 210

> CONTACT: **RICK MELLO** PRINCIPAL

SAN LUIS OBISPO, CA 93401 (805) 546-0433 PHONE: FAX: (805) 546-0504

FERRANTI ENGINEERING 1211 MARICOPA HWY; SUITE 250 OJAI, CA 93023 PHONE: FAX:

CONTACT:

PRINCIPAL

STRUCTURAL:

PHONE: (805) 439-2110

ELECTRICAL:

SMITH STRUCTURAL GROUP, LLP

811 EL CAPITAN WAY, SUITE 240

SAN LUIS OBISPO, CA 93401

DALE FERRANTI

(805) 705-4772

CONTACT: MICHAEL PAROLINI

Kern County Fair **O** Fastrip

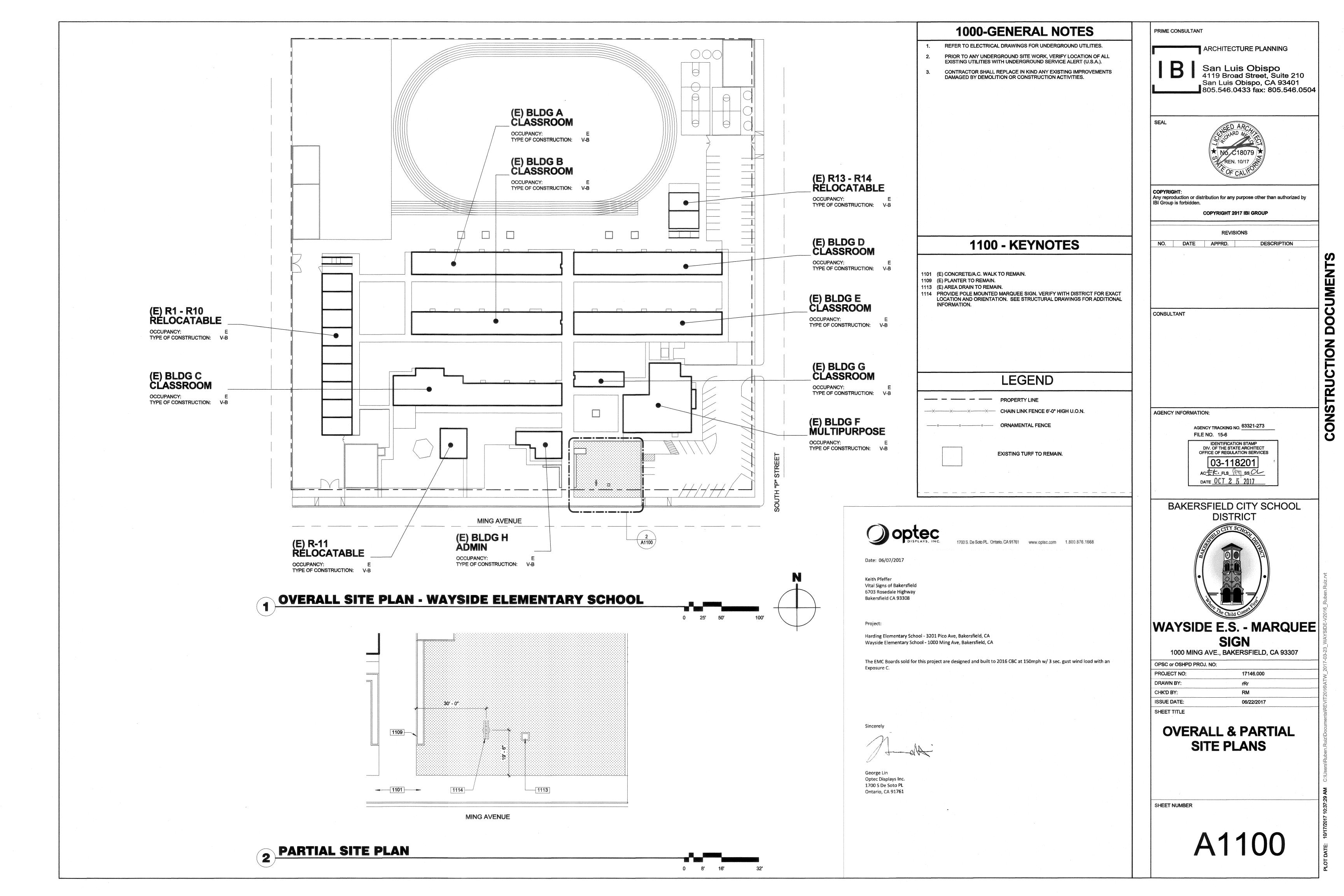
VICINITY MAP

WAYSIDE **ELEMENTARY**

OPSC or OSHPD PROJ. NO: PROJECT NO: 17146,000 DRAWN BY: CHK'D BY: ISSUE DATE: 06/22/2017 SHEET TITLE

GENERAL NOTES

SHEET NUMBER



- 3. All materials and workmanship shall conform to the minimum standards of the 2016 edition of the California Building Code (CBC) and such other regulating agencies exercising authority 3. over any portion of the work. The contractor shall have a current copy of the CBC on the job
- 4. The "Contract or Construction Documents" shall consist of these notes, details, schedules, plans, and drawings, as well as attached specifications.
- 5. All specifications, including but not limited to materials and products, shall be those put forth in the "Contract or Construction Documents". No substitutions shall be permitted to be used or assumed to be used in the bidding or construction process without written approval by the Engineer of Record.
- 6. The contractor shall examine the "Contract or Construction Documents" and shall notify the Architect or Engineer of Record of any discrepancies he may find before proceeding with the
- 7. All information on existing conditions shown on drawings are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall verify and be responsible for all dimensions and conditions at the site and shall notify the Architect or Engineer of Record of any discrepancies between actual site conditions and information shown on or in the "Contract or Construction Documents" before proceeding with work.
- 8. The Contractor shall immediately notify the Architect or Engineer of Record of any condition which in his opinion might endanger the stability of the structure or cause distress of the 10. De-water footings, as required, to maintain dry working conditions. structure.
- 9. All work shall conform to the best practice prevailing in the various trades comprising work. The Contractor shall be responsible for coordinating the work of all trades.
- 10. These "Contract or Construction Documents" represent the finished structure, and do not indicate the method of construction. The Contractor shall supervise and direct the work and shall be solely responsible for construction means, methods, techniques, sequences and procedures.
- 11. Inspection and approval for fabricator's shops used for fabrication of structural load bearing members, components, materials or assemblies shall conform to CBC Section 1704A.2.5.
- A. Labeling (as required or specified) shall be provided in accordance with CBC Section
- B. Evaluation and follow-up inspection services (as required or specified), shall conform to CBC Section 1703A.6.
- 12. The Contractor shall refer to the specifications for information not covered by these drawings and General Notes.
- 13. The Contractor shall provide temporary bracing and shoring for all structural members as required for structural stability of the structure during all phases of construction.
- 14. The Contractor shall take all steps necessary to ensure proper alignment of the structure after the installation of all structural and finish materials. This shall include any necessary preloading of the structure to determine final position of the completed work.
- 15. Observation visits to the project site by field representatives of Architect and/or Engineer of Record (support services) shall not include inspections of safety or protective measures, nor construction procedures, techniques or methods. Any support services performed by Architect or Engineer of Record during any phase of construction, shall be distinguished from continuous and detailed inspection services (as required by any regulating governmental agency, e.g. the Authority Having Jurisdiction) provided by others. these support services, whether of material or work, are performed solely for the purpose of assisting in quality control and in achieving conformance with contract documents, but do not guarantee Contractor's performance and shall not be construed as supervision of construction.
- 16. Provide openings and supports as required per typical details and notes for mechanical, plumbing, and electrical equipment, vents, ducts, piping, etc. All mechanical, plumbing and electrical equipment shall be properly "sway braced" against lateral forces.
- 17. These notes, details, drawings and specifications (Contract or Construction Documents) do not carry necessary provisions for construction safety. These documents and all phases of construction hereby contemplated are to be governed, at all times, by applicable provisions of the current California Occupational Safety and Health Act.
- 18. Where any conflict occurs between the requirements of federal, state and local laws, codes, ordinances, rules and regulations, the most stringent shall govern.
- 19. Refer to the Architectural Drawings to coordinate with Structural Drawings. Any discrepancy between these drawings shall be referred to the Architect or Engineer of Record for clarification before start of construction.
- 20. Written dimensions shall have precedence over scaled dimensions.
- 21. Drawings (notes, schedules, details and plans) shall have precedence over Structural 22. In the event that certain features of the construction are not fully shown on the drawings or
- called for in the General Notes or Specifications, then their construction shall be of the same character as for similar conditions that are shown or called for.
- 23. The Contractor shall have a copy of the Project Soils Investigation on the job site.
- 24. ASTM designation and all standards refer to the latest amendments.
- 25. These structural "Contract or Construction Documents" shall not be modified without prior written approval of the Engineer of Record.
- 26. Only structural working drawings approved by the Authority Having Jurisdiction are permitted to be used for construction on this project. All other drawings or documents are obsolete and are not permitted on the job site, nor shall they be used for any construction purposes. Contractors using unapproved drawings or documents are solely responsible for all work not performed in accordance with the "approved" drawings.
- 27. Refer to Architectural Drawings for all fire protection requirements.

FOUNDATION NOTES

- 2. Unexpected soil conditions: Allowable values and foundation design are based upon soil conditions shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the Project Soils Engineer immediately.
- See Project Soils Investigation for compaction, fill, backfilling, and site preparation requirements and procedures.
- Excavate to required depths and dimensions (as indicated in drawings and Project Soils Investigation), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbing of soils around higher
- Footings shall be poured in neat excavations, without side forms whenever possible.
- 6. Carry all foundations to required depths into compacted fill or natural soil (as per Structural Plans and Details, and Project Soils Investigation).
- Foundations shall not be poured until all required reinforcing steel, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the Authority having
- 8. All foundation excavations shall be inspected and approved by Project Soils Engineer, prior to forming and placement of reinforcing or concrete.
- 9. The sides and bottoms of excavations which are to have concrete contact must be moistened several times just prior to pouring upon them.

- 1. All concrete shall have a minimum ultimate compressive strength (f'_c) as outlined below at
- 28 days. All concrete shall be regular weight (unless specifically noted otherwise). Concrete for footings and slab on grade: 3.000 psi w/c = 0.50 max3.000 psi w/c = 0.50 max. B. Concrete for site retaining walls:

Concrete for building walls and columns:

Concrete for elevated slabs and beams:

Maximum Fly Ash content shall be 15%, by weight, of total cementitious materials and shall conform to ASTM C618.

3,000 psi w/c = 0.45 max.

3,000 psi w/c = 0.45 max.

- 3. All concrete work shall comply with CBC Chapter 19A and ACI 318-14 and latest edition of ACI Manual of Concrete Practice.
- Special Inspection (as required or specified) shall conform to CBC Chapter 17A.
- Cement shall be portland cement Type II/V and shall conform to ASTM C150.
- Aggregates shall conform to ASTM C33, provide aggregates from a single source
- Water shall conform to ASTM C94 and be potable.
- 8. All splices are to be Class B unless specifically noted otherwise.
- Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be: Concrete cast against and permanently exposed to earth or weather: Concrete placed against forms, but exposed to earth or weather:
- Slabs, wall & joists, not exposed to earth or weather: D. Beams, girders & columns, not exposed to earth or weather:
- 10. Reinforcing bars larger than #8 are not permitted unless specifically detailed or noted 11. Location of all construction joints, other than specified, shall be approved by
- Architect/Engineer of Record prior to pouring. Construction joints shall be thoroughly air and 5. All welding shall be done by qualified and certified welders. vater cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to receive concrete shall be maintained continuously wet at least three hours in advance of 6. No field welding permitted, unless specifically noted otherwise.
- 12. All reinforcing steel, anchor bolts, dowels, inserts and any other hardware to be set in concrete shall be well secured in position prior to pouring of concrete.
- 13. The Contractor shall obtain approval from Architect/Engineer of Record prior to placing 8. sleeves, pipes, ducts, chases, coring and openings on or through structural concrete beams, walls, floors and roof slabs, unless specifically detailed or noted. All pipes or conduits passing pipe through footing.
- 14. Vibrate all concrete (including slabs on grade) as it is placed, with a mechanical vibrator operated by experienced personnel. The vibrator shall be used to consolidate the concrete, not transport it. Reinforcing and forms shall not be vibrated.
- 15. Formwork design and removal shall conform to ACI 318-14 Section 26.11. Remove forms in accordance with the following minimum schedule:

Minimum 48 hours

- A. Side forms of footings:
- Minimum 24 hours B. Edge forms of slab on grade:
- Wall/retaining wall forms: 72 hours & 70% of design strength 72 hours & 70% of design strength Column forms: E. Elevated beams and slabs: 14 days & 80% of design strength
- 16. Concrete shall not free fall more than six feet. Use tremie, pump or other approved methods.
- 17. Concrete shall be maintained in a moist condition for a minimum of 5 days after placement.
- 18. The Contractor may use concrete admixtures as a construction means and methods to execute "Contract or Construction Documents". Use of admixture is solely the responsibility of the Contractor.
- 19. Mix designs shall be prepared by an approved testing laboratory, signed by a licensed engineer and shall be submitted to the Engineer of Record for approval.
- 20. Only one grade of concrete shall be allowed on project site at any one time
- 21. Unless specifically detailed or noted otherwise, construction and control joints shall be provided in all concrete slabs, and shall be located such that the area within joints does not exceed 375 sq. ft., and is roughly square.
- A. For all structural slabs (suspended or ongrade) where Architectural "exposed" conditions are desired, the Contractor shall provide control joint layout for review by Architect or Engineer of Record.
- 22. Every opening (exceeding 24" in either direction) shall have a minimum of 2-#5 (U.N.O.) directly adjacent to all sides as well as top and bottom (unless at foundation). Reinforcing bars shall extend a minimum of 24" past edge of opening.
- 23. Dowel all concrete walls and columns to supporting concrete with bars of the same size and spacing as vertical bars in wall and columns. Do not "hickey" bars. All dowels shall be
- 24. At the end, as well as top, of walls shall be a minimum of 2-#5 continuous (U.N.O.)
- 25. Concrete strength shall be verified by standard cylinder tests (in accordance with CBC Section 1705A.3) made by an approved testing laboratory.
- 26. Concrete placed when the air temperature has fallen to, or is expected to fall below 40° shall conform to ACI 318-14 Section 26.54, and ACI 306R-16.
- 27. Concrete placed during hot weather shall conform to ACI 318-14 Section 26.5.5, and ACI
- 28. Conduits and sleeves placed within structural concrete shall not be tied directly to structural
- A. 1" concrete cover shall be maintained around all reinforcement.

REINFORCING STEEL

- All reinforcing steel shall be deformed intermediate grade bars conforming to ASTM A615, Grade 60 ($f_v = 60$ ksi) unless noted otherwise.
- A. Grade 40 ($f_v = 40 \text{ ksi}$) may be used for #3 bars and smaller.
- 2. Reinforcing steel shall not be welded, unless specifically noted otherwise.
- Welding of reinforcing steel (where specifically noted or detailed) shall conform to ACI 318-14, Section 26.6.4 and AWS D1.4. Welded rebar shall be low-alloy steel conforming to
- To hold reinforcing bars in their true position and prevent displacement, standard tie and anchorage devices must be provided. Placing of reinforcement shall conform to ACI 318-14
- 5. Shop drawings for fabrication of any reinforcing steel shall be approved by Contractor and submitted to Architect or Engineer of Record, for their review, prior to fabrication.
- 6. Refer to typical details for minimum splice length and minimum radius of bend of reinforcing 6. Caisson/piers are to be poured by end of day after completion of drilling operation. all
- All reinforcing steel splices shall be staggered 24", unless specifically noted or detailed
- All reinforcing bar bends shall be made cold.
- Fabrication, erection and placement of reinforcing steel shall conform to Concrete Reinforcing Steel Institute of Standard Practice.
- 10. All welded wire mesh shall conform to ASTM A185. Lap all wire mesh two modules.
- 11. Reinforcing steel shall be clean of rust, grease or other material likely to impair bond.
- 12. Epoxy-coated reinforcement (where specifically noted or detailed) shall conform to ASTM

STRUCTURAL STEEL AND WELDING

- 1. All structural steel construction shall conform to AISC 360-10 and AISC 341-10.
- A. Fabrication of all structural steel shall be done in the shop of an approved fabricator Inspection and approval for fabricator's shops used for fabrication of structural load bearing members, components, materials or assemblies shall conform to CBC Section
- All structural steel shall conform to the following specifications:
- A. Angles, channels, plates, bars, rounds, and other miscellaneous shapes: Shall conform to ASTM A36 and shall have a minimum yield stress (F_v) of 36 ksi.
- B. Wide-flange shapes: Shall conform to ASTM A992 and shall have a minimum yield stress (F_v) of 50 ksi
- C. Steel pipe columns:
- Shall be welded seamless pipe conforming to ASTM A53, Grade B, and shall have a minimum yield stress (F_v) of 35 ksi.
- D. Structural tubes: Shall be ASTM A500, Grade B, and shall have a min. yield stress (F_v) of 46 ksi.
- Shall be ASTM A500, Grade B, and shall have a min. yield stress (F,) of 42 ksi.
- 3. Special Inspection shall be provided for all structural steel and welding, in accordance with CBC Chapter 17A.
- All structural steel shall be fabricated, erected and welded in accordance with AISC Specifications for Structural Steel Buildings (AISC 360-10) and Code of Standard Practice for Steel Buildings and Bridges (AISC 303-10).

E. Round structural tubes:

- Shop drawings for the fabrication of any structural steel shall be approved by the Contractor and submitted to Architect or Engineer of Record for their review, prior to fabrication.
- No holes other than those specifically detailed shall be allowed through structural steel members. Burning of holes is not permitted.
- through concrete members shall be sleeved with standard steel pipes. See typical detail for 9. All structural steel shall be painted one shop coat and field touched-up, as necessary, with
 - approved "Zinc Rich" or other high quality exterior primer.
 - 10. All bolts shall conform to ASTM, A307 (U.N.O.)
 - 11. All welding shall conform to 'AWS D1.1 and D1.8' specifications for welding. (E-70XX
 - 12. All headed studs (for concrete anchorage) shall be manufactured by 'Nelson' or approved
 - 13. Where fillet weld size is not indicated, use 'AWS' minimum size based on the thickness of the thinner part being welded, as specified in AISC Specifications for Structural Steel Buildings (AISC 360-10), Section J2.2.
 - 14. All butt welds to be complete joint penetration, unless specifically noted otherwise.
 - 15. Welder qualification requirements, welding procedure and welding electrodes for all structural steel (except structural sheet steel, see steel decking) shall conform to CBC Sections 1705A.2.1 and 2204A.1.
 - 16. Provide hot dip galvanizing or 3" minimum concrete cover around all structural steel below
 - 17. Structural steel embedded into concrete or masonry shall be unpainted
 - 18. ASTM A1852 bolts are an acceptable substitution for A325 bolts.

ABV.

ADD'L

ADJ.

AISC

AITC

AOR

ASCE

AWS

BLK.

BLKD.

BLK'G

B.O.

BOT.

BRG.

CAC

CANT.

CBC

CLR.

CMU

COL.

CONC.

CONN.

CONST.

CONT.

CSK.

DBL.

DCW

DET.

DIAG.

DSA

DWGS.

ELEC.

ELEV.

EOR

EQ.

E.S.

E.W.

EXP.

EXT.

FDN.

FLR.

F.O.

FRMG.

FTG.

GA.

GALV.

GEOR

GLB

HDR.

HORIZ.

HSS

HT.

HD.

GYP. BD.

EMBED.

DEMO

APPROX.

- Excavations for drilled caissons/pier shall be performed in compliance with local grading codes and ordinances as well as CBC Chapters 18A and 33A, and as recommended by Project
- 2. Provide Special Inspection in accordance with CBC Section 1705A.8 and Table 1705A.8.
- Excavations for all drilled caissons/piers shall be approved by the Project Soils Engineer prior to placing of concrete.
- Reinforcement for drilled caissons/pier shall be approved by the Engineer of Record prior to placing in caisson/pier excavation.
- De-water caisson/pier footings and building excavation as required to maintain dry working

concrete for a particular caisson/pier shall be on the job site prior to drilling the pile hole.

- The Contractor shall be responsible for all shoring, bracing, etc. necessary to support cut and/or fill banks, and existing structures during excavation, and the forming and placement of concrete.
- Bottom of caissons/piers shall be thoroughly cleaned prior to placement of concrete.

9. Grade beam reinforcement:

A. Stagger splices in horizontal reinforcement.

DRILLED CAISSON/PIER AND GRADE BEAM NOTES

B. Locate splices between the $\frac{1}{4}$ and $\frac{1}{3}$ spans (between caisson/piers) of grade beams, unless noted otherwise.

ABBREVIATIONS

Anchor Bolt

Construction

Architect of Record

American Society of Civil

Architect, Architecture

American Society of Testing

American Welding Society

Approximate(ly)

and Materials

All Thread Rod

Engineers

Building

Blocked

Blocking

Bottom of _____

California Administrative Code

California Building Code

Concrete Masonry Unit

Continue, Continuous

Demand Critical Weld

Division of State Architect

Embedded, Embedment

Complete Joint Penetration

Block

Beam

Bottom

Bearing

Between

Cantilever

Cast-in-place

Control Joint

Centerline

Ceiling

Column

Concrete

Connection

Construction

Countersink

Diameter

Penny

Double

Detail

Demolition

Douglas Fir

Dead Load

Diagonal

Drawings

Each Face

Elevation

Equal

Edge Nailing

Equipment

Each Side

Each Way

Existing

Expansion

Fabricated

Foundation

Finish floor

Face of _____

Floor

Framing

Footing

Foot, Feet

Galvanized

Gypsum Board

Record

Header

Height

Holdown

Horizontal

Geotechnical Engineer of

Glued-Laminated Beam

Hollow Steel Section

I nternational Building Code

I nternational Code Council

I nsulated Concrete Form

Exterior

Electric, Electrical

Engineer of Record

Each

Clear

- Inch, Inches Above American Concrete Institute INT. T nterior Additional **Adjacent Authority Having Jurisdiction** Kips per Square Inch American Institute of Steel Construction American Institute of Timber
- Live Load Lightweight Laminated Strand Lumber American Plywood Association LVL Laminated Veneer Lumber
 - MAX. Maximum Machine Bolt Metal Building Manufacturer MBM MECH. Mechanical Mechanically Stabilized Earth MFR. Manufactured, Manufacturer MIN. Minimum Miles per Hour MPH
 - MTL. Metal New NDS National Design Specification N.T.S. Not to Scale
 - On Center OD. Outside Diameter OSB Oriented Strand Board Office of State Health Planning OSHPD
 - and Development OWSJ Open Web Steel Joist Penetration Plywood Partial Joint Penetration Pounds per Square Inch

PEN.

PL.

PSF

PERF.

PTDF

PW

Q.A.

Q.C.

RBS

RDWD

REBAR

REINF.

REQ'D

SIP

SQ.

RET.

- Pounds per Square Foot Parallel Strand Lumber (Paralam) Pre-Engineered Metal Building Perforated Pressure Treated Douglas Fir Puddle Weld
- Quality Assurance Quality Control
- Reduced Beam Section Redwood Reinforcing Bar Reinforcement Retaining Required
- Square Feet SHT. Sheet SHT'G Sheathing SIM. Similar Structural Insulated Panel Steel Joist Institute Seismic Load Resisting System SLRS SMS Sheet Metal Screw
- Select Structural Standard STD. STL. SW Shearwall SEOR Structural Engineer of Record
- T&B Top and bottom T&G **Tongue and Groove** THR'D Threaded
- T.O. Top of _____ TRL. Triple TYP. Typical UNBLKD. Unblocked
- U.N.O. **Unless Noted Otherwise** URM Unreinforced Masonry VERT. Vertical
- Verify in Field VIF Water/Cement Ratio WD. W.D. **Working Point**
- W.S.M.F. Welded Steel Moment Frame WSS Welded Steel Stud WT. WWM
- Welded Wire Mesh

I nside Diameter

PRIME CONSULTANT

San Luis Obispo 4119 Broad Street, Suite 210 San Luis Obispo, CA 93401 805.546.**0433** fax: 805.546.0504

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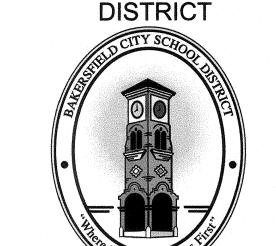
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CONSULTANT

AGENCY INFORMATION:

BAKERSFIELD CITY SCHOOL



WAYSIDE E.S. - MARQUEE

1000 MING AVE., BAKERSFIELD, CA 93307 OPSC or OSHPD PROJ. NO: 17146.000 SEA

SHEET TITLE

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SIGN

PROJECT NO: DRAWN BY: CHK'D BY: **ISSUE DATE:** 10/25/2017

STRUCTURAL

SHEET NUMBER

PRIME CONSULTANT

CAST-IN-PLACE DEEP FOUNDATIONS

Inspect drilling operations and maintain

complete and accurate records for each

Verify placement locations and plumbness,

bedrock (if applicable) and adequate end

bearing strata capacity. Record concrete or

For concrete elements, perform additional

inspections and see Concrete Construction

chart, this sheet, in accordance with CBC

applicable), lengths, embedment into

confirm element diameters, bell diameters (if

Continuous

Periodic

Verification and Inspection

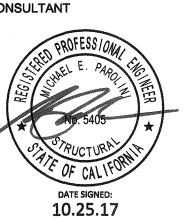
grout volumes.

Section 1705A.3.

Notes: Cast-in-place Deep Foundations

a. CBC Section 1705A.8 and Table 1705A.8

CONSULTANT



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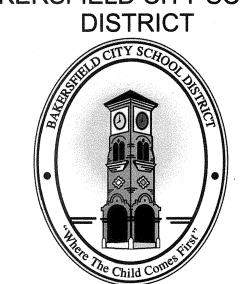
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AGENCY INFORMATION:

AGENCY TRACKING NO. 63321-273

FILE NO. 15-6 DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 03-118201 AC__FLS__SS_CL DATE OCT 2 5 2017

BAKERSFIELD CITY SCHOOL DISTRICT



WAYSIDE E.S. - MARQUEE SIGN

1000 MING AVE., BAKERSFIELD, CA 93307

OPSC or OSHPD PROJ. NO	D:
PROJECT NO:	17146.000
DRAWN BY:	SEA
CHK'D BY:	JMM
ISSUE DATE:	10/25/2017
SHEET TITLE	

STRUCTURAL **NOTES**

SHEET NUMBER

SPECIAL INSPECTION

All values reported are unfactored and st	rength level, unless noted otherwise	
Gravity Design Data		Value
Dead Loads:		
Electronic Sign		800 lbs.
Wind Design Data		Value
Design Wind Speed (3-sec gust)	, V _{ULT}	115 mph
Design Wind Speed (3-sec gust)	, V _{ASD}	85 mph
Risk Category		Ш
Exposure Category		С
Applicable Internal Pressure Co	efficient	± 0.18
Design Wind Pressure(s)		$q_z = 24.8 \text{ psf}$
Design Wind Force		F = 1,730 lbs.
Earthquake Design Data		Value
Risk Category		Ш
Importance Factor, I e		1.25
Mapped Spectral Response Acc	elerations	S _s = 1.113 g S ₁ = 0.412 g
Site Class		D
Spectral Response Coefficients		S _{DS} = 0.783 g S _{D1} = 0.436 g
Seismic Design Category		D
Analysis Procedure Used	Equivalent Lateral Force Pro (ASCE 7, 12.8)	cedure
Nonbuilding Structure, not Similar to Building System	Signs and Billboards, Chapte	r 15 ASCE 7-10
Response Modification Fac	tor	R= 3

Seismic Response Coefficient

Design Base Shear

Design Skin Friction, fs

Geotechnical Design Data

Geotechnical Report prepared by:

2016 California Building Code, Chapter 18A

Design Passive Pressure, Unconstrained, P.

Allowable Soil Bearing Pressure (DL + LL)

GENERAL NOTES All Special Inspection shall be provided in accordance with CBC Section 1704A and

- Where Special Inspection is required, all inspection or testing shall be provided by an "approved agency" in accordance with CBC Section 1702A.1, 1703A.1 and
- Special Inspectors shall keep records of inspections. The Special Inspector shall furnish inspection reports to the Authority Having Jurisdiction, and to the Architec or Engineer of Record. Reports shall indicate that work inspected was done conformance to approved construction documents. Discrepancies shall be brough to the immediate attention of the contractor for correction. If the discrepancie are not corrected, the discrepancies shall be brought to the attention of the Authority Having Jurisdiction and to the Architect or Engineer of Record prior to the completion of that phase of work. A final report documenting required Specia Inspections and correction of any discrepancies noted in the inspections shall be submitted at a point in time agreed upon by the permit applicant and the Authority Having Jurisdiction prior to the start of work.
- Special Inspectors shall be approved by local Authority Having Jurisdiction accordance with CBC Section 1704A.2.1.
- Local Authority Having Jurisdictions may require Special Inspection for "Specia Cases" in accordance with CBC Section 1705A.1.1
- Contractor's responsibility: Each contractor responsible for the construction of a Main Lateral-Force-Resisting System, listed in the Statement of Special Inspection shall submit a written statement of responsibility to the Authority Having Jurisdiction and the owner prior to the commencement of work on the system of component. The contractor's statement of responsibility shall contain the following A. Acknowledgement of awareness of the special requirements contained in the statement of special inspections;
- B. Acknowledgement that control will be exercised to obtain conformance with the construction documents approved by the Authority Having Jurisdiction; C. Procedures for exercised control within the contractor's organization, the method and frequency of reporting and the distribution of the reports; and D. Identification and qualifications of the person(s) exercising such control and
- Refer to Special Inspection requirements by other disciplines not included herein.

CONCRETE CONSTRUCTION^{ao}

their position(s) in the organization.

 $C_s = 0.323$

V=520 lbs.

1500 psf

100 pcf

100 psf

Value

ling t. ^c ng in n 5b. ^d	Continuous	Periodic ✓
t. ^c ng in		/
ng in n 5b. ^d	<u> </u>	
		/
te. ^e		
in		
g		-
d to ts, perform ermine	/	
e chniques.	/	
fied curing		/
s	/	
ers. ^I		
gth, prior oned		
bres and bs. ^m		
	ied curing sting rs.! gth, prior oned ires and	sting sting gth, prior oned ores and

	tes: Concrete Construction	
a.	Where applicable, see also CBC Section 1705A.12, Special Inspections for seismic	
	resistance	

- Specific requirements for Special Inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 318-14 Section 17.8.2 or other requirements. Where specific requirements are not provided, Spec Inspection requirements shall be specified by the Registered Design Professional and shall be approved by the Building Official prior to the commencement of the work. ACI 318: Ch. 20, 25.2, 25.3, 26.5-1-26.5.3, CBC: 1908A.4
- AWS D1.4, ACI 318: 26.5.4
- ACI 318: 17.8.2
- ACI 318: 17.8.2.4, 17.8.2
- ACI 318: Ch. 19, 26.4.3, 26.4.4, CBC: 1904A.1, 1904A.2 ASTM C172, ASTM C31, ACI 318: 26.4.5, 26.12, CBC: 1908A.10, 1908A.2, 1908A.3
- ACI 318: 26.4.5, CBC: 1908A.6, 1908A.7, 1908A.8
- ACI 318: 26.4.7-26.4.9, CBC: 1908A.9 ACI 318: 26.9.2.1, 26.9.2.3
- ACI 318: Ch. 26.8
- . ACI 318: 26.10.2
- ACI 318: 26.10.1 (b)
- CBC Section 1705A.3 and Table 1705A.3
- See Special Cases Special Inspection for more requirements

Vei	rification and Inspection	Continuous	Perio
Req	uired verification and inspection of steel construct	<u>l</u> tion	
1.	Material verification of structural steel, cold-formed steel deck, high-strength bolts, nuts and washers:		
	 For structural steel, identification markings to conform to AISC 360, or ASTM Standards Specified in approved Construction Documents. Manufacturer's certificate of compliance required. 		/
2.	Material verification of structural steel or cold-form steel deck:		
	 a. Identification markings to conform to ASTM standards specified in the approved construction documents. 		/
	b. Manufacturer's certified test reports.		✓
3.	Inspection of high-strength bolting:		
	a. Snug-tight joints		✓
	 Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist off bolt or direct tension indicator methods of installation 		/
	 Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation 	/	
4.	Material verification of weld filler materials:		
and the second	a. Identification markings to conform to AWS specification in the approved Construction Documents		
	b. Manufacturer's certificate of compliance required		/
5.	Inspection of welding:		
ugayikali (Kilikha esilaru	a. Structural steel and cold formed steel deck:		
wysion or stands	Complete and partial joint penetration groove welds	/	
Wydronolysodiaddy	2) Multi-pass fillet welds	/	
ulicyclic his response	3) Single-pass fillet welds > ⅓6"	/	
one and the State Sta	4) Plug and slot welds	✓	
	5) Single-pass fillet welds < 5/16**		
,	6) Floor and roof deck welds ^c		✓
austretischer von	b. Reinforcing steel: ^d		
	 Verification of weldability of reinforcing steel other than ASTM A706. 		/
	 Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement. 	✓	
	3) Shear reinforcement	/	
	4) Other reinforcing steel		✓
6.	Inspection of steel frame joint details for compliance:		Parameter season
***************************************	a. Details such as bracing and stiffening		/
n tag Cerro Mercelona	b. Member locations		_
enephini politica anti-	c. Application of joint details at each connection		
Insp	ection tasks prior to welding		
1.	Welding procedure specifications (WSPs) available		
2.	Manufacturer certifications for welding consumables available	/	
3.	Material identification (type/grade)		_
4.	Welder identification system ^e		_
5.	Fit-up of groove welds (including joint geometry) Joint preparation, dimensions, cleanliness,		
en e	tacking, backing type and fit		
6. 7.	Configuration and finish of access holes Fit-up of fillet welds		
	Dimensions, cleanliness, tacking		
8.	Check welding equipment		
edusini musika par	ection tasks during welding		
1. 2.	Use of qualified welders Control and handling of welding consumables		
L	Control and handling of welding consumables Packaging, exposure control		/
		1	_

No welding over cracked tack welds

Wind speed within limits, precipitation and

Environmental conditions

temperature

STEEL CONSTRUCTION, CONTINUED Verification and Inspection Continuous Periodic nspection tasks during welding (Continued) WPS followed Settings on welding equipment, travel speed, selected welding materials, shielding gas type/flow rate, preheat applied, interpass temperature maintained min./max.), proper position (F, V, H, OH) Welding techniques Interpass and final cleaning, each pass within profile limitations nspection tasks after welding Welds cleaned Size, length and location of welds Welds meet visual acceptance criteria Crack prohibition, weld/base-metal fusion, crater cross section, weld profiles, weld size, undercut, porosity Arc strikes k-Area^f Backing removed and weld tabs removed (if required) Repair activies Document acceptance or rejection of welded joint or member rspection tasks prior to bolting^g Manufacturer's certifications available for fastener materials Fasteners marked in accordance with ASTM requirements Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane) Proper bolting procedure selected for joint Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements Pre-installation certification testing by installation personnel observed and documented for fastener assemblies and methods used Proper storage provided for bolts, nuts, washer and other fastener components rspection tasks during bolting Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required Joint brought to the snug-tight condition prior to the pretensioning operation Fastener component not turned by the wrench prevented from rotating Fasteners are pretensioned in accordance with the RCSC specification, progressing systematically from the most rigid point toward the free edges, see Minimum Bolt Pretension table below nspection tasks after bolting Document acceptance or rejection of bolted connections

Notes: Steel Construction a. CBC Section 1705A.2 and Table 1705A.2.2

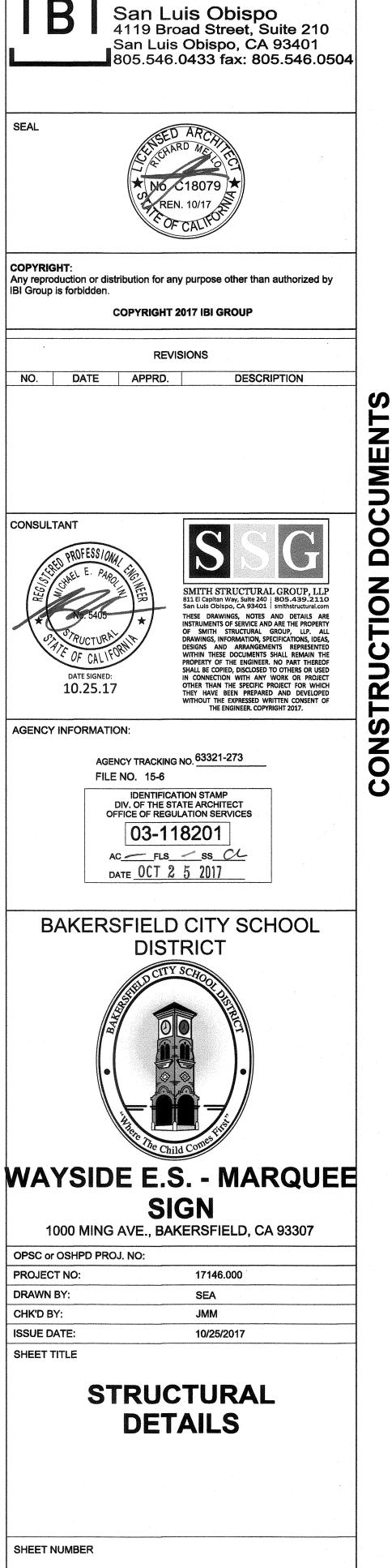
CBC Section 1707A.11.1

AWS D1.3 AWS D1.4, ACI 318: Section 3.5.2

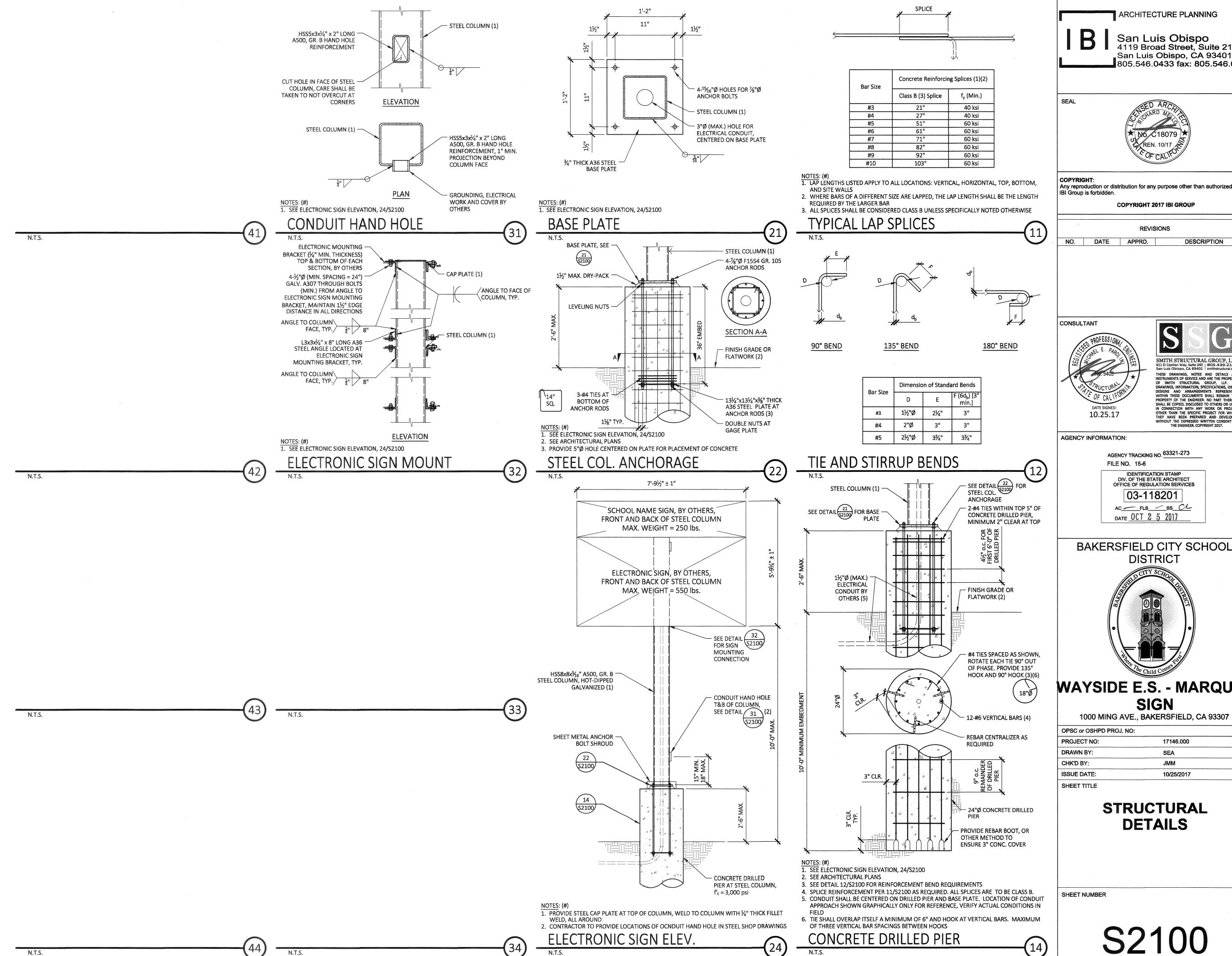
The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the

low-stress type. When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 inches of the weld

All methods of installation for high strength bolts shall require verification of pre-tension by a Skidmore-Welhelm calibrator for each batch or source of bolts used (see minimum pre-tension chart below).



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ABBREVIATIONS

U.L. STANDARD 486B TORQUING RECOMMENDATIONS

TIGHTENING TORQUE FOR SCREWS (a) TORQUE, POUND - INCHES

25

35

40

50

50

50

200

SLOTTED HEAD

NO. 10 AND LARGER (b)

SLOT WIDTH (IN.) SLOT LENGTH (IN.)

TO 3/64 OVER 3/64 TO 1/4 OVER 1/4

MANUFACTURER MOTOR—GENERATOR

VISCELLANEOUS

NORMALLY CLOSED
NATIONAL ELECTRICAL CODE

SCALE

POLYVINYL CHLORIDE

INLESS OTHERWISE NOTED

VEATHERPROOF

SPLIT-BOLT

ONNECTORS

165

1100

1100

1100

75

110

150

150

180

325

325

375

375

375

500

600

600

600

110

SALVANIZED STEEL CONDUIT

PUBLIC ADDRESS PHASE PANFI

AMP FRAME/AMP FUSE AVAILABLE FAULT CURRENT

ABOVE FINISHED GRADE

RREAKER

O NOT SWITCH

ILOVOLI ILOVOLT-AMPERE

18-10 AWG

250 kcmil

1250

1750

2000

CALIFORNIA BUILDING CODE

CONDUIT ONLY
COMMUNICATION
CALIFORNIA ELECTRICAL CODE
CALIFORNIA FIRE CODE

FIRE ALARM CONTROL PANEL FULL LOAD AMPS

GENERAL CONTRACTOR GROUND FAULT INTERRUPTING

ORSEPOWER IGH INTENSITY DISCHARGE

MAGNETIC

CONTINUOUS LOAD TIGHT FLEXIBLE METAL CONDUIT

(a) MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE. WHERE THE NUMBER OF CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPACITIES SHALL BE REDUCED AS SHOWN IN THE FOLLOWING TABLE: NUMBER OF CURRENT-CARRYING CONDUCTORS 4 THROUGH 6 PERCENT OF VALUES IN TABLES AS ADJUSTED FOR AMBIENT TEMPERATURE IF NECESSARY 7 THROUGH

O THROUGH 1 THROUGH 30 1 THROUGH 40 41 AND ABOVE WHERE SINGLE CONDUCTORS OR MULTICONDUCTOR CABLES ARE STACKED OR BUNDLED LONGER THAN 24 INCHES (610 mm) WITHOUT MAINTAINING SPACING AND ARE NOT INSTALLED IN RACEWAYS, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED AS SHOWN IN THE ABOVE TABLE

EXCEPTION NO. 1: WHERE CONDUCTORS OF DIFFERENT SYSTEMS, AS PROVIDED IN SECTION 300-3, ARE INSTALLED IN A COMMON RACEWAY OR CABLE, THE DERATING FACTORS SHOWN ABOVE SHALL APPLY TO THE NUMBER OF POWER AND LIGHTING (ARTICLES 210, 215, 220, AND 230) CONDUCTORS ONLY. EXCEPTION NO. 2: FOR CONDUCTORS INSTALLED IN CABLE TRAYS, THE PROVISIONS OF SECTION 392.11

EXCEPTION NO. 3: DERATING FACTORS SHALL NOT APPLY TO CONDUCTORS IN NIPPLES HAVING A LENGTH NOT EXCEEDING 24 INCHES (600mm).

EXCEPTION NO.4: DERATING FACTORS SHALL NOT APPLY TO UNDERGROUND CONDUCTORS ENTERING OR LEAVING AN OUTDOOR TRENCH IF THOSE CONDUCTORS HAVE PHYSICAL PROTECTION IN THE FORM OF RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, OR RIGID NONMETALLIC CONDUIT HAVING A LENGTH NOT EXCEEDING 10 FEET (3.05m) ABOVE GRADE AND THENUMBER OF CONDUCTORS DOES NOT EXCEED FOUR.

CEC	WIRE FI	LL TABI	E 370-	16		
JUNCTION BOX DIMENSION,	MIN. CU. IN.		MAXIMUM NI	JMBER OF (CONDUCTORS	}
INCHES TRADE SIZE OR TYPE	CO. IN.	NO. 14	NO. 12	NO. 10	NO. 8	NO. 6
4 x1-1/4 ROUND OR OCTAGONAL	12.5	6	5	5	4	2
4 X1-1/2 ROUND OR OCTAGONAL	15.5	7	6	6	5	3
4 X2-1/8 ROUND OR OCTAGONAL	21.5	10	9	8	7	4
4 x1-1/4 SQUARE	18.0	9	8	7	6	3
4 X1-1/2 SQUARE	21.0	10	9	8	7	4
4 X2-1/8 SQUARE	30.3	15	13	12	10	6
4-11/16 x1-1/4 SQUARE	25.5	12	11	10	8	5
4-11/16 X1-1/2 SQUARE	29.5	14	13	11	9	5
4-11/16 X2-1/8 SQUARE	42.0	21	18	16	14	8
3 x2 x1-1/2 DEVICE	7.5	3	3	3	2	1
3 x2 x2 DEVICE	10.0	5	4	4	3	2
3 x2 x2-1/4 DEVICE	10.5	5	4	4	3	2
3 x2 x2-1/2 DEVICE	12.5	6	5	5	4	2
3 x2 x2-3/4 DEVICE	14.0	7	6	5	4	2
3 x2 x3-1/2 DEVICE	18.0	9	8	7	6	3
4 X2-1/8 X1-1/2 DEVICE	10.3	5	4	4	3	2
4 X2-1/8 X1-7/8 DEVICE	13.0	6	5	5	4	2
4 X2-1/8 X2-1/8 DEVICE	14.5	7	6	5	4	2
3-3/4 x2 x2-1/2 MASONRY BOX / GANG	14.0	7	8	5	4	2
3-3/4 x2 x3-1/2 MASONRY BOX / GANG	21.0	10	9	8	7	4
FS — MINIMUM INTERNAL DEPTH 1-3/4 SINGLE COVER / GANG	13.5	6	6	5	4	2
FD — MINIMUM INTERNAL DEPTH 2-3/8 SINGLE COVER / GANG	18.0	9	8	7	6	3
FS - MINIMUM INTERNAL DEPTH 1-3/4 MULTIPLE COVER / GANG	18.0	9	8	7	6	3
FD — MINIMUM INTERNAL DEPTH 2—3/8 MULTIPLE COVER / GANG	24.0	12	10	9	8	4

THE DRAWINGS AND THESE GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND SYSTEMS. THE MATERIAL REQUIRED FOR THE WORK SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING PRINCIPAL SYSTEMS AND EQUIPMENT.

GENERAL ELECTRICAL NOTES

PERMITS AND CHARGES:
OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING JURISDICTION.

REGULATIONS AND CODES:
PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, CALIFORNIA ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND MANUFACTURERS

VERIFYING EXISTING CONDITIONS:
BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE BUILDING SITE. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREINAFTER. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE, NO REQUIEST FOR ADDITIONAL PAYMENT WILL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS

COORDINATION:
COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT. ELECTRICAL EQUIPMENT LOCATIONS INDICATED ARE SHOWN DIAGRAMMATICALLY, EXACT LOCATION SHALL BE

SERVICE CONTINUITY:
UNINTERRUPTED EXISTING ELECTRICAL POWER SHALL BE MAINTAINED TO OTHER TRADES FOR TEMPORARY
POWER AREAS OF THE SITE DURING CONSTRUCTION. PROVIDE ANY TEMPORARY SERVICES AS MAY BE
REQUIRED. IDENTIFY AT BID TIME, ALL WORK TO BE DONE ON PREMIUM TIME AND THE TOTAL OVERTIME MAN-HOURS REQUIRED FOR COMPLETION.

PROVIDE RECORD DRAWINGS TO THE OWNER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF

MARK PROJECT RECORD DOCUMENTS DAILY TO INDICATE ALL CHANGES MADE IN THE FIELD. A.) IN ADDITION TO GENERAL REQUIREMENTS OF PROJECT RECORD DRAWINGS, INDICATE ON DRAWINGS, CHANGES OF EQUIPMENT LOCATIONS AND RATINGS, TRIP SIZES, AND SETTINGS ON CIRCUIT BREAKERS, ALTERATIONS IN RACEWAY RUNS AND SIZES, CHANGES IN WIRE SIZES, CIRCUIT DESIGNATIONS, NSTALLATION DETAILS. ONE-LINE DIAGRAMS. CONTROL DIAGRAMS AND SCHEDULES

A.) USE THE SAME SYMBOLS AND FOLLOW THE SAME DRAFTING PROCEDURES USED ON THE CONTRACT

LOCATE UNDERGROUND CONDUIT STUBBED-OUT FOR FUTURE USE, UNDERGROUND FEEDER CONDUITS, AND FEEDER PULL BOX LOCATIONS USING BUILDING LINES BY INDICATING ON THE PROJECT RECORD DRAWINGS. CONNECTORS AT THE COMPLETION OF UNDERGROUND CONDUIT INSTALLATION, PROVIDE UNDERGROUND CONDUIT RECORD DOCUMENTS TO OWNER'S REPRESENTATIVE.

> TWO COPIES, IN BINDER FORM, OF ALL TEST RESULTS AS REQUIRED BY THESE DOCUMENTS. TWO COPIES OF LOCAL AND/OR STATE CODE ENFORCING AUTHORITIES FINAL INSPECTION CERTIFICATES. FIRE ALARM SYSTEM RECORDS AND TESTING REPORTS AS OUTLINED IN NFPA 72, CHAPTER 10. TWO COPIES, IN BINDER FORM, OF ELECTRICAL EQUIPMENT CUT SHEETS, MANUFACTURER'S INSTALLATION INSTRUCTIONS, WARRANTY CERTIFICATES, AND PRODUCT LITERATURE FOR ALL PRODUCTS UTILIZED ON

GUARANTEE:
CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR.

SHOP DRAWINGS:
SUBMIT SHOP DRAWINGS AND MATERIAL LIST FOR REVIEW PRIOR TO COMMENCING ANY WORK, ALL EQUIPMENT
ADDRATORY SHOP DRAWINGS MUST BE TO BEAR U.L. LABEL OR THAT OF ANOTHER ACCEPTABLE TESTING LABORATORY. SHOP DRAWINGS MUST BE STAMPED BY THE CONTRACTOR FOR CONFORMANCE PRIOR TO SUBMITTAL. SUBMIT SIX SETS OF SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASING ALL BREAKER MOUNTING HARDWARE, DISCONNECT SWITCHES, FUSES, CONTROLLERS, LIGHTING FIXTURES, LIGHT SWITCHES,

CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. IF CONTRACTOR PROPOSES TO SUBSTITUTE FOR EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION OF THE OWNER AND ENGINEER PRIOR TO BID IN WRITING. ALL SUBSTITUTIONS SHALL BE REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. AND THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS/HER OWN EXPENSE FOR ANY CHARGES RESULTING FROM HIS PROPOSED BSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS/HER OWN WORK, THE OWNER, ENGINEER OF RECORD OR THE WORK OF OTHER CONTRACTORS.

ALL MATERIALS SHALL BE NEW AND LISTED BY UNDERWRITERS LABORATORY (U.L.).
ALL WORK AND MATERIAL SHALL CONFORM TO THE LATEST RULES OF THE GÖVERNING ELECTRICAL CODE AND INSTALLATION SHALL BE OF THE LATEST INDUSTRY STANDARDS OF WORKMANSHIP.

CONDUITS:
CONDUIT SHALL BE EMT, PVC, IMC, RIGID OR FLEXIBLE STEEL TYPE. CONDUIT SHALL BE
MANUFACTURED IN ACCORDANCE WITH UL-1. A GROUND WIRE IS REQUIRED IN ALL FLEXIBLE
CONDUIT AND UNDERGROUND CONDUIT. BUSHINGS SHALL BE COMMUNICATION, TELEPHONE & SPEAKER CONDUITS. PROVIDE 3/16" NYLON PULL STRING IN ALL EMPTY CONDUITS. NO MC, BX, OR AC90 SHALL BE PERMITTED.

SWITCHES AND RECEPTACLES: PROVIDE 20 AMP NEMA RATED SWITCHES AND RECEPTACLES OF SPECIFICATION GRADE. ALL SWITCHES SHALL BE RATED 120 AND/OR 277 VOLT AND RECEPTACLES SHALL BE NEMA 5-20R. IN ALL OFFICES AND OFFICE AREAS, DEVICES SHALL BE DECORA TYPE WITH COLOR SELECTION BY CONTRACTOR/OWNERS REPRESENTATIVE.

FEEDERS AND BRANCH CIRCUITS IDENTIFICATION:
IDENTIFY FEEDERS WITH THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT
DEVICE, LOAD END, AND IN PULL BOXES WITH E-Z CODE OR OTHER APPROVED WIRE MARKER.
IDENTIFY BRANCH CIRCUITS WITH I.D. MARKERS, THE CORRESPONDING CIRCUIT DESIGNATION AT
THE OVER-CURRENT DEVICE, AT ALL SPLICES, IN JUNCTION BOXES, AND IN OUTLETS. USE PLASTIC COATED SELF-STICKING MARKERS SUCH AS THOMAS & BETTS E-Z CODE FOR IDENTIFICATION OF CONDUCTORS. IDENTIFY SIGNAL & COMMUNICATION CABLES AT TERMINAL AND OUTLET.

CONDUCTORS:
DELIVER ALL CONDUCTORS TO THE JOB SITE IN ORIGINAL UNBROKEN CARTON OR REEL, PROPERLY TAGGED WITH U.L. LABEL, SIZE, TYPE, MANUFACTURER, TRADE NAME AND THE DATE OF MANUFACTURE. CONDUCTORS MUST BE MANUFACTURED WITHIN 6 MONTHS. PROVIDE COPPER CONDUCTORS #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. PROVIDE STRANDED COPPER CONDUCTORS FOR ALL WIRING. USE CONDUCTORS WITH THHN/THWN 600 VOLTS INSULATION, UNLESS OTHERWISE NOTED.

PANELBOARDS:
DISTRIBUTION AND LIGHTING PANELBOARDS WITHIN PROJECT AREA SHALL BE OF THE COPPER
DISTRIBUTION AND LIGHTING PANELBOARDS WITHIN PROJECT AREA SHALL BE ARRANGET BUS THREE PHASE, FOUR WIRE DISTRIBUTED PHASING TYPE. CIRCUITING SHALL BE ARRANGED TO PROVIDE, AS NEARLY AS POSSIBLE, AN EVENLY BALANCED LOAD ON ALL PHASES. PANELBOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE. AVAILABLE FAULT CURRENT IS STATED ON PANELBOARD SCHEDULE. PROVIDE PANEL IDENTIFICATION NAMEPLATE (ENGRAVED ON -ADHESIVE 1/2" MINIMUM LETTERS) AND TYPEWRITTEN LIST OF CIRCUITS IN THE DIRECTORY FRAME.

STRUCTURAL SUPPORT: EACH SECTION OF FLOOR MOUNTED SWITCHBOARD, DISTRIBUTION BOARD, MCC, ETC. SHALL BE BOLTED TO THE CONCRETE HOUSEKEEPING PAD USING (6) 3/4"-10 GRADE 2 BOLTS AND CONICAL WASHERS TORQUED TO 70LB-FT. PROVIDE MINIMUM 4000 PSI STRENGTH CONCRETE BELOW ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. THE THE TOP OF ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT TO THE BUILDING STRUCTURE IN A SEISMICALLY APPROVED MANNER.

DEMOLITION:
NOTIFY THE OWNER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, AND WHICH IS NOT INDICATED ON THE PLANS. 1. ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY THE OWNER, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP.

2. ALL DEVICES, CIRCUIT CONDUCTORS, FEEDERS, ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVER-CURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS LAST ACTIVE DEVICE SHALL BE LABELED AS "SPARE". COORDINATE ALL OUTAGES WITH OWNER'S REPRESENTATIVE.

EXECUTION:
CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THE WORK

1.) EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY

2.) DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES, AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC. 3.) ALL CONDUIT RUNS SHALL BE CONCEALED, UNLESS SHOWN OTHERWISE. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS. 4.) EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND IS

5.) ALL WORK SHOWN IS NEW UNLESS SPECIFICALLY INDICATED AS EXISTING (X). ALL ELECTRICAL EQUIPMENT

TELEPHONE SYSTEMS:
PROVIDE RACEWAYS, AND ALL MATERIAL INCLUDING PULLING CABLE IN EACH RACEWAY AS REQUIRED FOR THE TELEPHONE SYSTEM PER THE SERVING TELEPHONE COMPANY REQUIREMENTS.

SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE.

MOUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CODES.

GROUNDING AND BONDING:
FURNISH AND INSTALL COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODES. CONTINUITY
OF GROUNDING SHALL BE MAINTAINED MECHANICALLY AND ELECTRICALLY THROUGHOUT THE SYSTEM. A GREEN
GROUNDING CODE SIZED CONDUCTOR SHALL BE CARRIED THROUGH IN ALL CONDUITS.

IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES,

1.) PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES, ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE DRAWINGS AUTHORIZES DEVIATION FROM APPLICABLE CODES.

DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH CIRCUIT HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS.

3.) PROVIDE A CODE APPROVED DISCONNECT SWITCH OR CIRCUIT BREAKER WITHIN SIGHT OF EVERY MOTOR AND FEED MOTORS NOT EQUIPPED WITH "BUILT IN" PROTECTION THROUGH A MAGNETIC OR MANUAL STARTER WITH OVERLOAD HEATERS SIZED TO COMPLY WITH MOTOR MANUFACTURER'S RECOMMENDATIONS AND 4.) FOR CONNECTIONS TO EXHAUST FANS, PUMPS, COMPRESSORS, SPACE HEATERS, WATER HEATERS, AQUASTATS, SOLENOID VALVES, AND OTHER MECHANICAL EQUIPMENT AND FOR CONDUITS AND WIRE REQUIRED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS, REFER TO MECHANICAL PLANS AND DETERMINE EXACT

LOCATIONS UNDER DIRECTION OF HEATING AND VENTILATING CONTRACTOR. 5.) DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. LOCATE CONDUITS WITHIN THE MIDDLE OF THE SLAB. WHERE CONDUITS ARE GROUPED IN PARALLEL RUNS, SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN THE SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT.

6.) SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GUAGE OF CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP.

7.) ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING SÉRVICING, MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH, OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN ALONG SIDE OR ACROSS SUCH LINES. CONDUIT SHALL NOT BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNER'S REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL, CON-OR MASONRY, BUT NOT TO PIPING. HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF THE VISUAL ENVIRONMENT, ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO LANDLORD FOR APPROVAL OF APPEARANCE. ALL HANGERS MUST BE UNIFORMLY SPACED AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED APPEARANCE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES.

8.) ALL WALL SWITCHES AND RECEPTACLES SHALL BE MOUNTED BETWEEN 18" AND 48" PER A.D.A. REQUIREMENTS UNLESS OTHERWISE NOTED.

ELECTRICAL SWITCHES: CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE LOCATED NO MORE THAN 48" MEASURED FROM THE TOP OF OUTLET BOX NOR LESS THAN 15" MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM.

ELECTRICAL RECEPTACLE OUTLETS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES. SHALL BE LOCATED NO MORE THAN 48" MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15" MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE

CÉILINGS AND FLOORS. CONTRACTOR SHALL SEAL ALL ELECTRICAL SYSTEM PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS AND FLOORS WITH U.L. LISTED MATERIAL APPROVED BY THE AUTHORITY HAVING

) SURFACE MOUNTED RACEWAY COMPLETENESS: CONTRACTOR SHALL PROVIDE ALL RACEWAY, FITTINGS, SUPPORTS, BOXES, DEVICES, PLATES ETC. NECESSARY FOR A COMPLETE AND WORKABLE SURFACE MOUNTED ELECTRICAL RACEWAY SYSTEM. PRIOR TO INSTALLATION, CONTRACTOR SHALL PERFORM A PRE-INSTALLATION SURFACE MOUNTED RACEWAY JOB WALK WITH OWNER & ARCHITECT FOR CONTRACTOR TO FIELD VERIFY EXACT ROUTING OF ANY & ALL SURFACE MOUNTED RACEWAYS.

ELECTRICAL SYSTEM ANCHORAGE:
ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR SEISMICALLY ANCHORED BY THE CONTRACTOR TO RESIST SEISMIC FORCES ACTING IN ANY DIRECTION. PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING FOR SUPPORT OF ELECTRICAL RACEWAYS, CONDUITS, CABLE TRAYS, ELECTRICAL EQUIPMENT, ETC. IN ACCORDANCE WITH THE UNIFORM BUILDING CODE WITH CALIFORNIA AMENDMENT THE SEISMIC BRACING AND ANCHORAGE SHALL BE PROVIDED PER THE LATEST EDITION OF THE SMACNA

ALL ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA GUIDELINES. WHERE BRACING DETAILS ARE NOT SHOWN ON THE PLANS, THE FIELD INSTALLATIONS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEERS, AND THE ARCHITECT. A COPY OF LATEST SMACNA GUIDELINES SHALL BE KEPT AT THE JOB SITE AT ALL TIMES.

FIRE ALARM SYSTEM BY CONTRACTOR
CONTRACTOR SHALL FURNISH AND INSTALL A FIRE ALARM SYSTEM FOR THE PROJECT AREA TO INCLUDE:

A.) SMOKE DETECTORS IN ALL REQUIRED AREAS B.) HEAT DETECTORS IN ALL REQUIRED AREAS

C.) DUCT DETECTORS IN ALL REQUIRED SPACES D.) STROBES/ALARMS IN ALL REQUIRED AREAS

E.) PULL STATIONS AT ALL LEGAL FIRE EXITS - WHERE REQUIRED) TAMPER AND FLOW SWITCHES AT FIRE SPRINKLER RISERS AND BACKFLOW PREVENTERS G.) BRANCH CIRCUIT AND CONTROL WIRING TO FIRE SPRINKLER ALARM BELLS H.) SMOKE/FIRE DAMPER/HVAC UNIT SHUT-DOWN BRANCH CIRCUIT WIRING, CONTROL WIRING, CONTROL

1. CONTRACTOR SHALL SUBMIT FOR THE OWNER'S SIGNED APPROVAL, APPROVED FIRE DEPARTMENT FIRE ALARM DRAWINGS FOR THE PROJECT SPACE.

2. ALL DEVICES AND EQUIPMENT SHALL BE CALIFORNIA STATE FIRE MARSHAL APPROVED.

3. CONTRACTOR SHALL WARRANTY ALL DEVICES AND SYSTEMS FOR A PERIOD OF TWO YEARS.

4. CONTRACTOR SHALL PROVIDE SIX (6) SETS OF FIRE ALARM MANUALS FOR ALL SYSTEMS AND DEVICES IN ADDITION TO SIX (6) SETS OF A SYSTEM OPERATIONAL MANUAL TAILORED FOR THE PROJECT SPACE. 5. CONTRACTOR SHALL PROVIDE A SATISFACTORY TEST IN THE PRESENCE OF THE OWNER, FIRE PREVENTION

6. CONTRACTOR SHALL PROVIDE ALL CONNECTIONS TO POWER PANELS, CONDUIT AND WIRE AND CONNECTIONS REQUIRED TO PROVIDE AN OPERATIONAL FIRE ALARM SYSTEM. SUBMITTAL DOCUMENTS FOR DEFERRED ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH DESIGN OF THE BUILDING. THE DEFERRED ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL. ELECTRICAL SYMBOL LIST

DIMENSIONS INDICATED ARE MEASURED TO CENTERLINE OF ENCLOSURE. UNLESS OTHERWISE NOTED NOTE: SOME SYMBOLS SHOWN MAY NOT APPLY TO THIS PROJECT

ANNOTATIONS & CALLOUTS 1) ELECTRICAL KEYNOTE: DENOTES KEYNOTE #1 OF NOTES ON SAME SHEET. PANELBOARD PER PLANS, FLUSH MOUNTED IN WALL @ +6'-6" TO TOP OF TRIM A INDICATES LIGHTING FIXTURE TAG NUMBER 162 INDICATES WATTAGE OF LIGHT FIXTURE SINGLE RECEPTACLE, WALL MOUNTED @ +18" AFF, NEMA 5-20R UON (FOUND ON LIGHT FIXTURE SCHEDULE) DUPLEX RECEPTACLE, WALL MOUNTED @ +18" AFF, NEMA 5-20R UON INDICATES MECHANICAL/PLUMBING EQUIPMENT OR DEVICE (FOUND ON ELECTRICAL SCHEDULE FOR MECHANICAL EQUIPMENT OR ON MECHANICAL PLANS (GFI DENOTES GROUND FAULT INTERRUPTER RECEPTACLE) DUPLEX RECEPTACLE, WALL MOUNTED HORIZONTALLY • +18" AFF, NEMA 5-20R UON - MECHANICAL/PLUMBING TAG NUMBER DUPLEX TVSS RECEPTACLE, WALL MOUNTED @ +18" AFF, NEMA 5-20R UON 1 INDICATES DETAIL NUMBER DUPLEX RECEPTACLE, WALL MOUNTED @ +18" AFF, NEMA 5-20R UON E3.0 INDICATES SHEET NUMBER TO FIND DETAIL TOP RECEPTACLE SWITCHED CEILING MOUNTED DUPLEX RECEPTACLE, NEMA 5-20R UON BREAK LINE INDICATES WORK EXTENDED BEYOND LIMITS SHOWN ON DRAWING. DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED @ +18" AFF, NEMA 5-20R UON CONDUIT & WIRING SYMBOLS SPECIAL PURPOSE ELECTRICAL OUTLET PER PLAN IN WALL @ +18", UON -A5-1-3-5.7

INDICATES A HOMERUN TO PANEL A5, CKTS 1-3-5 WITH SHARED JUNCTION BOX (ACCESSIBLE CEILING SPACE MTD.) SIZE PER TABLE AND NEC ARTICLE 370 NEUTRAL & CKT 7 WITH DEDICATED NEUTRAL. JUNCTION BOX (WALL MTD.) SIZE PER TABLE AND NEC ARTICLE 370 CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS RECESSED FLUSH FLOORBOX, FLOOR MOUNTED. SEE POWER AND SIGNAL PLANS. VERIFY EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN. COORDINATE COVER CONDUIT RUN CONCEALED BELOW FLOOR OR UNDERGROUND FINISH/COLOR WITH ARCHITECT PRIOR TO ORDERING. 3/4"C - 2 #12 & 1 #12 CU GND

THERMOSTAT OUTLET BOX. 4S BOX WITH SINGLE GANG RING @ +42" AFF

voice/data system

TELE/DATA OUTLET BOX IN WALL @ +18", STUB A 1" CO UP 12" ABOVE ACCESSIBLE CEILING WITH BUSHING, 5S BOX WITH 1-GANG P-RING, UON

TELE/DATA OUTLET BOX, MOUNTED IN WALL +6" ABOVE COUNTER OR SPLASH, STUB A 1" CO UP 12" ABOVE ACCESSIBLE CEILING WITH BUSHING, 5S BOX WITH

FLUSH CEILING MOUNTED TELE/DATA OUTLET, 5S BOX WITH SINGLE GANG PLASTER RING, UON

TELEVISION OUTLET IN WALL @ +84", 5S BOX WITH 1-GANG RING, UON

SWITCHES SINGLE-POLE SWITCH MOUNTED @ +42" AFF

SINGLE POLE SWITCH © +42", UON a INDICATES LIGHT FIXTURE TO BE SWITCHED TWO-POLE SWITCH MOUNTED @ +42" AFF

3-WAY SWITCH MOUNTED @ +42" AFF 4-WAY SWITCH MOUNTED @ +42" AFF

KEYED SWITCH MOUNTED @ +42" AFF HORSEPOWER RATED SWITCH MOUNTED @ +42" AFF

DIMMER SWITCH MOUNTED @ +42" AFF, 0-10V DIMMER COMPATIBLE WITH LED LIGHT FIXTURE, UON.

OCCUPANCY SENSOR WALL SWITCH PER PLANS, MOUNTED @ +42" AFF

SINGLE-POLE SWITCH (WITH PILOT LIGHT) @ +42" AFF TIME SWITCH, FLUSH MOUNTED @ +42" AFF. WATTSTOPPER, TS-400-W

CEILING MOUNTED OCCUPANCY SENSOR COMPLETE WITH OUTLET BOX, PER PLANS.

CHELSEA DIGITAL WALL SWITCH MOUNTED @ +42" AFF PUSH BUTTON WALL SWITCH MOUNTED @ +42" AFF

CIRCUIT BREAKERS AND FUSES

MOLDED CASE CIRCUIT BREAKER 225 AMP FRAME, 150 AMP TRIP RATING, 3-POLE

100AS FUSED SWITCH, 100 AMP SWITCH RATING WITH 60 AMP FUSES, 3-POLE

100A UTILITY METER (OR AS NOTED)

DISCONNECT SWITCH, 60AMP SWITCH, 35 AMP FUSES, 3-POLE WITH OVERCURRENT PROTECTION UON

COMBINATION STARTER / DISCONNECT SWITCH SIZED PER PLAN

EXHAUST FAN/MOTOR, SIZE AS INDICATED ON PLANS

FIRE ALARM SYMBOLS FIRE ALARM CONTROL PANEL

SMOKE DETECTOR W/ BASE PULL STATION WALL MOUNT STROBE

WALL MOUNT HORN/STROBE

DUCT DETECTOR

CEILING MOUNT AUDIBLE/VISIBLE

CEILING MOUNT VISIBLE

HD HEAT DETECTOR W/ BASE

END-OF-LINE RESISTOR

HORN WITH WEATHERPROOF ENCLOSURE

M MINI-HORN

WALL MOUNT SPEAKER/STROBE

OUTDOOR WALL MOUNT SPEAKER

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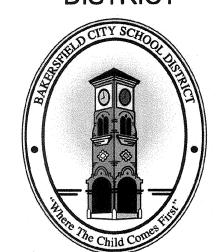
San Luis Obispo

AGENCY INFORMATION:

AGENCY TRACKING NO. 63321-273 FILE NO. 15-6

DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 03-118201 ACFK. FLS FIN SS CL DATE OCT 2 5 2017

BAKERSFIELD CITY SCHOOL DISTRICT



WAYSIDE E.S. - MARQUEE SIGN

1000 MING AVE., BAKERSFIELD, CA 93307 OPSC or OSHPD PROJ. NO: PROJECT NO: DRAWN BY: VΖ CHK'D BY: DF ISSUE DATE: 10/19/2017 SHEET TITLE

> SYMBOLS & **GENERAL NOTES**

SHEET NUMBER

APPLICABLE CODES AND REGULATIONS

CALIFORNIA CODE OF REGULATIONS (C.C.R.). TITLE 24 (APPLIES AFTER JANUARY 1, 2017): PART 1-CALIFORNIA BUILDINGS STANDARD ADMINISTRATIVE CODE 2016 EDITION PART 2-CALIFORNIA BUILDING CODE 2016 EDITION 2016 EDITION PART 3-CALIFORNIA ELECTRICAL CODE 2016 EDITION PART 4-CALIFORNIA MECHANICAL CODE PART 5-CALIFORNIA PLUMBING CODE 2016 EDITION 2016 EDITION PART 6-CALIFORNIA ENERGY CODE PART 7-NO LONGER PUBLISHED PART 8-CALIFORNIA HISTORICAL BUILDING CODE 2016 EDITION PART 9-CALIFORNIA FIRE CODE 2016 EDITION PART 10-CALIFORNIA EXISTING BUILDING CODE 2016 EDITION PART 11-CALIFORNIA GREEN BUILDING STANDARDS CODE 2016 EDITION

2016 EDITION PART 12-CALIFORNIA REFERENCE STANDARDS CODE PARTIAL LIST OF NFPA STANDARDS: 2016 EDITION NFPA 13-AUTOMATIC SPRINKLER SYSTEM, NFPA 14-STANDPIPES SYSTEMS, 2016 EDITION 2017 EDITION NFPA 17A-WET CHEMICAL SYSTEMS, NFPA 20-STANDARD FOR THE INSTALLATION OF STATIONARY 2016 EDITION PUMPS FOR FIRE PROTECTION NFPA 24-PRIVATE FIRE MAINS. 2016 EDITION NFPA 70-NATIONAL ELECTRICAL CODE NFPA 72-NAT. FIRE ALARM & SIGNALING CODE (CALIFORNIA AMENDED)

2017 EDITION 2016 EDITION 2016 EDITION

NFPA 96-STANDARD FOR VENTILATION CONTROL AND FIRE 2017 EDITION

3/4"C - 2 #12 & 1 #12 CU GND

3/4"C - 2 #10 & 1 #10 GND

3/4°C - 3 #10 & 1 #10 GND

3/4°C - 4 #10 & 1 #10 GND

3/4°C - 5 #10 & 1 #10 GND

CONDUIT STUB, CAP AND IDENTIFY

(RECESSED, SURFACE MOUNTED)

(RECESSED, SURFACE MOUNTED)

CEILING RECESSED DOWNLIGHT FIXTURE

EXIT SIGN WITH OUTLET BOX

-ARROW DENOTES DIRECTIONAL CHEVRON

SHADING DENOTES FACE OF EXIT SIGN.

CEILING RECESSED WALL WASH DOWNLIGHT FIXTURE

TRACK LIGHTING (TRIANGLES INDICATE # OF HEADS)

LIGHT FIXTURE, WALL MOUNTED WITH OUTLET BOX

EXIT SIGN, END MOUNT ON WALL, WITH OUTLET BOX.

EXIT-EMERGENCY LIGHTING UNIT COMBO WITH OUTLET BOX.

PENDANT MOUNTED LIGHT FIXTURE WITH OUTLET BOX.

EMERGENCY LIGHTING UNIT WITH OUTLET BOX.

Q. FLEXIBLE CONDUIT CONNECTION. SEE PLAN.

LIGHTING FIXTURE SYMBOLS

_ a & b, ETC. INDICATES SWITCH IDENTIFICATION

NUMBER INDICATES LIGHT FIXTURE BRANCH CIRCUIT

2'X4' CEILING MOUNTED FLUORESCENT LIGHT FIXTURE W/OUTLET BOX

2'X2' CEILING MOUNTED FLUORESCENT LIGHT FIXTURE W/OUTLET BOX

FLUORESCENT LIGHT FIXTURE WITH INTEGRAL 90 MINUTE EMERGENCY BATTERY

CEILING MOUNTED FLUORESCENT LIGHTING FIXTURE WITH 4S OUTLET BOX

PACK WITH 4S OUTLET BOX. (RECESSED, SURFACE MOUNTED)

CEILING SURFACE MOUNTED LIGHTING FIXTURE WITH OUTLET BOX

SURFACE MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE WITH 4S BOX

PROTECTION OF COMMERCIAL COOKING OPERATIONS

NFPA 72-NATIONAL FIRE ALARM & SIGNALING CODE

U

T SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM AS SHOWN ON THE

CALIFORNIA ELECTRICAL CODE-LATEST EDITION

1. CALIFORNIA ADMINISTRATIVE CODE, TITLE 24
2. CALIFORNIA ADMINISTRATIVE CODE, TITLE 19 FIRE CODE UNDERWRITERS LABORATORY

AMERICAN NATIONAL STANDARD INSTITUTE 5. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
6. ALL OTHER APPLICABLE STATE, LOCAL LAWS AND REGULATIONS

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL WORK IN ACCORDANCE WITH STAMPED PLANS APPROVED BY THE ELECTRICAL DIVISION OF THE DEPARTMENT OF BUILDING AND SAFETY.

PRIOR TO CONTRACTOR SUBMITTING HIS/HER BID. HE/SHE SHALL VISIT THE JOB SITE TO BECOME COMPLETELY FAMILIAR WITH ALL ASPECTS OF THE NEW CONSTRUCTION AND ALL REQUIREMENTS THAT MAY BE IMPOSED BY THE OWNER. FAILURE TO DO THIS WILL RELIEVE OWNER OF ANY FINANCIAL OBLIGATION FOR EXTRA WORK OR COST INCURRED BY THE CONTRACTOR. CONTRACTOR SHALL TAKE NOTICE OF ALLOWABLE WORK HOURS, ON-SITE STORAGE FACILITIES, AND AVAILABLE PARKING AND INCLUDE THIS IN HIS/HER BID. ALL PERMITS SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR.

ACCURATE RECORD DRAWINGS SHALL BE MAINTAINED AND PRESENTED TO THE OWNER AND ELECTRICAL ENGINEER AT THE TIME OF

THE CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL HIS/HER WORK FOR ONE YEAR AFTER ACCEPTANCE AND FURNISH ALL MANUFACTURER WARRANTIES FOR THE EQUIPMENT HE/SHE FURNISHES.

THE CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER. ELECTRICAL EQUIPMENT SHALL FIRMLY SECURED TO THE SURFACE ON WHICH IT IS MOUNTED.

SHOP DRAWINGS SHALL BE SUBMITTED ON ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT, INCLUDING SERVICE—ENTRANCE EQUIPMENT. LIGHTING FIXTURES, PANELBOARDS, SWITCHES, WIRING DEVICES, AND PLATES, AND EQUIPMENT FOR MISCELLANEOUS SYSTEMS. EACH ITEM OF EQUIPMENT PROPOSED SHALL BE A STANDARD CATALOG PRODUCT OF AN ESTABLISHED MANUFACTURER. THE SHOP DRAWING SHALL GIVE COMPLETE INFORMATION ON THE PROPOSED EQUIPMENT. EACH ITEM OF THE SHOP DRAWING SHALL BE PROPERLY LABELED, INDICATING THE INTENDED SERVICE OF THE MATERIAL. THE JOB NAME, AND THE ELECTRICAL CONTRACTOR'S NAME.

WHERE EQUIPMENT IS IDENTIFIED BY MANUFACTURER AND CATALOG NUMBER, IT SHALL BE CONSTRUED AS THE BASE OF REQUIREMENTS FOR EQUIPMENT AND PERFORMANCE. WHERE MANUFACTURERS FOR EQUIPMENT ARE IDENTIFIED BY NAME, THE ELECTRICAL CONTRACTOR MAY PLACE TO THE BOX. THE FLOATING OF ANY SWITCH OR RECEPTACLE WILL NOT BE PERMITTED. SUBMIT FOR APPROVAL, SIMILAR EQUIPMENT BY OTHER MANUFACTURERS AS SUBSTITUTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT SUPPORTING DATA TO PERMIT EVALUATION OF THE PROPOSED SUBSTITUTE WITH RESPECT TO QUALITY, PERFORMANCE, SERVICEABILITY, AND WARRANTY. THE ENGINEER'S DECISION AS TO WHETHER THE SUBMITTED EQUIPMENT IS ACCEPTABLE SHALL BE FINAL AND BINDING.

ALL CHANGES NECESSARY TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT SHALL BE MADE AT THE CONTRACTOR'S EXPENSE, AND SHALL BE AS APPROVED BY THE ENGINEER. DETAILED DRAWINGS INDICATING THE REQUIRED CHANGES SHALL BE SUBMITTED FOR APPROVAL AT THE TIME THE SUBSTITUTION IS REQUESTED.

IF SUBSTITUTIONS ARE MADE IN LIEU OF THE LIGHTING FIXTURES SPECIFIED, PHOTOMETRIC PERFORMANCE, FORM, DIMENSION, DESIGN AND PROFILE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

AT COMPLETION OF WORK, THIS CONTRACTOR SHALL CLEAN UP AND REMOVE ALL DEBRIS AND MATERIALS NOT INSTALLED IN WORK, DISPOSE IN AN ENVIRONMENTALLY APPROVED MANNER, LEAVING PREMISES CLEAN.

ELECTRICAL CONTRACTOR SHALL PROVIDE A TEMPORARY CONSTRUCTION SERVICE IF REQUIRED FOR THIS PROJECT TO MAINTAIN ESSENTIAL SERVICES DURING CIRCUIT CUT-OVER PERIODS.

SECURE PERMISSION FROM THE OWNER BEFORE PERFORMING ANY CUTTING OR PATCHING WORK WHICH IS LIKELY TO AFFECT THE STRENGTH OF A STRUCTURAL MEMBER. ALL PENETRATIONS THROUGH CONCRETE CONSTRUCTION SHALL BE DONE BY THE MEANS

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL EQUIPMENT AND WIRING AS REQUIRED AND AS INDICATED ON THE ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. SEE MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LAYOUTS AND REQUIREMENTS INCLUDING SIZES, VOLTAGES, CONTROL WIRING, CONTROL DEVICES TO BE FURNISHED AND/OR INSTALLED, LOCATIONS AND REGUIREMENTS.

CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS AND ROUTING SHALL BE DETERMINED IN THE FIELD TO SUIT CONDITIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE AND OBTAIN APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATIONS OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY APPROVED AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD (AS-BUILT) DRAWINGS.

ALL MATERIAL AND EQUIPMENT SHALL BE NEW, UL LISTED, APPROVED BY THE LOCAL JURISDICTION AND, UNLESS OTHERWISE NOTED, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT EXPOSED TO WEATHER SHALL BE UL LISTED WEATHERPROOF.

ALL MOTORS OR EQUIPMENT LOCATED OUT OF SIGHT OR MORE THAN 50 FEET FROM AN ELECTRICAL PANEL, SHALL HAVE HORSEPOWER

THE OWNER'S CONVENIENCE AND AT A TIME DESIGNATED BY HIM/HER AND BE FULLY COORDINATED WITH THE OWNER'S REPRESENTATIVE. A MINIMUM OF 48 HOURS OF ADVANCED NOTICE SHALL BE GIVEN TO THE OWNER OF TIME DESIRED. OWNER SHALL APPROVE TIME OF OUTAGE BEFORE THIS CONTRACTOR DISCONNECTS ANY CIRCUITS. CONTRACTOR SHALL FURNISH, INSTALL AND REMOVE ANY TEMPORARY JUMPERS ETC. TO MAINTAIN ALL LOADS THAT THE OWNER DESIGNATES AS NOT BEING ABLE TO SHUT DOWN DURING CONSTRUCTION.

WHERE CONDUIT, CABINETS, OR BOXES PENETRATE FIRE RATED CEILINGS, WALLS OR FLOORS PROVIDE A FIRE RATED ENCLOSURE OR FIRE STOP. RATING OF ENCLOSURE OR FIRE STOP. RATING OR FIRE STOP. RATING OR

SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS THAT CAUSE DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL IN A TIMELY MANNER SO NOT TO IMPAIR THE CONSTRUCTION SCHEDULE OR SEQUENCE OF EVENTS, SUBMIT A WRITTEN REPORT OF THE CONDITIONS FOUND TO THE OWNER'S REPRESENTATIVE FOR APPROPRIATE DIRECTION ON HOW TO COMPLETE THE WORK IN QUESTION.

PRIOR TO START OF INSTALLATION THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EACH OUTLET AND DEVICE WITH THE INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTION AUTHORITY AND KEPT AT THE JOB SITE OWNER'S REPRESENTATIVE. THE OWNER RESERVES THE RIGHT TO RELOCATE ANY OUTLET OR DEVICE UP TO 8 FEET FROM THE LOCATION INDICATED ON THE PLANS AT NO ADDITIONAL COST.

ALL FEEDER LENGTHS INDICATED ON SINGLE LINE DIAGRAMS OR FEEDER SCHEDULE ARE FOR VOLTAGE DROP PURPOSES ONLY AND ARE SINGLE-POLE SWITCHES SHALL BE 20 AMPERES, 120/277 VOLT, AC, SIDE AND BACK WIRED, HUBBELL CAT. #HBL-1221-W, OR EQUAL BY G.E., PASS & SEYMOUR, OR LEVITON. VERIFY FINISH COLOR WITH ARCHITECT.

COORDINATE ALL EXIT SIGN LOCATIONS WITH THE LOCAL FIRE MARSHAL PRIOR TO BEGINNING WORK.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS TO VERIFY DIMENSIONS, CLEARANCES, OBSTRUCTIONS, TYPE OF CONSTRUCTION, DOOR SWINGS, SINK AND SPLASH BOARD DIMENSIONS AND BATH MIRRORS, TO CLEAR SWITCHES AND RECEPTACLES PRIOR TO INSTALLATION.

WHERE ACCESS PANELS FOR ACCOMMODATING ELECTRICAL WORK ARE LOCATED AND/OR SIZED ON THESE DRAWINGS, OR DRAWINGS PREPARED UNDER SEPARATE DIVISIONS OF THE WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RE-SIZE AND/OR PROVIDE SUITABLE ACCESS PANELS FOR THE CONDITIONS. WHERE INSUFFICIENT SPACE EXISTS TO ACCOMMODATE LARGER ACCESS PANELS, A SUITABLE ALTERNATIVE IS TO MOUNT THE ELECTRICAL COMPONENTS TO THE BACKSIDE OF THE HINGED DOOR WITH AN APPROPRIATELY SIZED AND CODE APPROVED FLEXIBLE FITTING, THUS ALLOWING ACCESS TO ELECTRICAL COMPONENTS FROM THE OCCUPIED SPACE IN

WHERE ELECTRICAL RACEWAYS ARE INSTALLED THROUGH 2 TO 4-HOUR RATED FLOORS OR WALLS, THE CONTRACTOR SHALL PROVIDE APPROPRIATE FITTINGS APPROVED BY THE LOCAL AUTHORITIES FOR THE INTENDED PURPOSE AND APPLICATION. FITTINGS SHALL SEAL TIGHT THE INTERIOR AND EXTERIOR OF EACH RACEWAY PENETRATION TO PROHIBIT FIRE PASSING FROM ONE AREA TO ANOTHER. WHERE EMPTY CONDUITS ARE INSTALLED FOR FUTURE USE, THE CONTRACTOR SHALL PROPERLY SEAL THE RACEWAY TO COMPLY WITH THE PROVISIONS INDICATED ABOVE. THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW THE PROPOSED FITTINGS TO BE USED AND DETAILS REGARDING THE INSTALLATION METHODS PRIOR TO THEIR INSTALLATION. THE INSTALLATION SHALL NOT BE COMPLETED UNTIL FINAL APPROVAL HAS BEEN RECEIVED FROM THE ARCHITECT TO PROCEED.

AS A CONDITION FOR FURNISHING MATERIAL TO THIS PROJECT, THE MANUFACTURERS AND SUPPLIERS AGREE TO DEFEND, HOLD HARMLESS, AND TO INDEMNIFY OWNER, ARCHITECT, ELECTRICAL ENGINEER, AND ALL RELATED SUBSIDIARIES AGAINST ANT LIABILITY ARISING OUT OF PRODUCT FAILURE OR MANUFACTURING DEFECT OF THE EQUIPMENT THEY FURNISH.

DEMOLITION: THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OF THE NECESSARY DEMOLITION WORK REQUIRED TO ACCOMMODATE THE REMODELING WITHIN THE VARIOUS PROJECT AREAS. RESTORE CONTINUITY OF ALL EXISTING CIRCUITING THAT IS TO REMAIN THAT BECOMES DISTURBED AS A RESULT OF THE WORK PERFORMED DURING CONSTRUCTION. FURNISH ALL LABOR AND MATERIALS TO REROUTE CIRCUITRY TO REMAIN, CONCEAL FROM VIEW IN PUBLIC AREAS AND MAINTAIN ALL CODE REQUIRED CLEARANCES AND ACCESSIBILITY. FIELD VERIFY ALL CONDITIONS AND REQUIREMENTS PRIOR TO STARTING WORK. WHERE EXISTING CONDUITS BECOME EXPOSED AS A RESULT OF THE NEW WORK, CONTRACTOR SHALL REWORK AS REQUIRED TO SUIT CONDITIONS TO CONCEAL SUCH

WIRING WITHIN EXISTING OUTLETS ARE TO BE RE-IDENTIFIED WITH EASY-MARKERS TO REFLECT THE NEW CIRCUIT DESIGNATIONS WHERE REWORK OR EXISTING IS REQUIRED TO COMPLETE NEW WORK.

A LOCATION ON THE PROPERTY THAT HE/SHE DESIGNATES. WHERE EXISTING OUTLETS, AFFECTED BY THE NEW WORK ARE TO BE ABANDONED, REMOVE EXISTING OUTLET AND WIRING, CUT OFF AND PLUG EXISTING CONDUIT. WHERE THERE IS A POSSIBILITY TO REUSE A PORTION OF THE EXISTING CONDUIT SYSTEM, EXTEND EXISTING CONDUIT TO NEAREST ACCESSIBLE LOCATION AND PROVIDE JUNCTION BOX WITH SUITABLE COVER. COORDINATE EXTENT OF THIS WORK WITH OWNER'S REPRESENTATIVE.

ALL EXISTING ELECTRICAL EQUIPMENT AND MATERIAL THAT IS REMOVED AS A PART OF THIS WORK SHALL BE DELIVERED TO OWNER AT

COLOR CODE SECONDARY SERVICE. FEEDER AND BRANCH CIRCUIT CONDUCTORS WITH FACTORY APPLIED COLOR AS FOLLOWS:

480Y/277 VOLTS BROWN ORANGE YELLOW WHITE BLACK **NEUTRAL**

GROUND

CONDUIT FROM VIEW IN ALL PUBLIC AND BACK OF HOUSE AREAS.

GREEN

TERMINAL CABINETS SHALL BE FLUSH OR SURFACE MOUNTED AS INDICATED WITH HINGED DOORS AND LOCK, MATCH PANEL BOARD LOCK. EXTERIOR FINISH TO BE SAME AS FOR PANEL BOARDS. PROVIDE 3/4" PLYWOOD BACKING INSIDE OF CABINET. PROVIDE PROPER NUMBER OF TERMINALS IN CABINETS AS REQUIRED.

GREEN

PROVIDE FLAT MOUNT TERMINAL BLOCKS MOUNTED ON PLYWOOD BACKING INSIDE TERMINAL CABINETS FOR CONDUCTOR TERMINATION. PROVIDE QUANTITY OF TERMINAL BLOCKS FOR EACH SYSTEM AS REQUIRED. TERMINAL BLOCKS SHALL BE KULKA STANDARD 600-600A SERIES AS MANUFACTURED BY MARATHON SPECIAL PRODUCTS.

PROVIDE A BAKELITE NAMEPLATE FASTENED WITH SCREWS TO THE FACE OF EACH TERMINAL CABINET WHICH WILL IDENTIFY IT. MATCH PANEL KEY

PROVIDE CIRCUIT DIRECTORY AND HOLDER ON INSIDE OF DOOR WITH ONE LINE FOR EACH CONDUCTOR ENTERING AND EACH CONDUCTOR LEAVING CABINET.

RGROUND HANDHOLES AND BOXES.

DRAWING'S. THE COMPLETE INSTALLATION SHALL MEET THE REQUIREMENTS OF THE LATEST NATIONAL ELECTRICAL CODE AND ALL LOCALLY INSTALL HANDHOLES AND BOXES LEVEL AND PLUMB AND WITH ORIENTATION AND DEPTH COORDINATED WITH CONNECTING CONDUITS TO ADOPTED AMENDMENTS, INCLUDING BUT NOT NECESSARILY LIMITED TO THE FOLLOWING: UNLESS OTHERWISE INDICATED, SUPPORT UNITS ON A LEVEL BED OF CRUSHED STONE OR GRAVEL, GRADED FROM 1/2 INCH SIEVE TO NO. 4 SIEVE AND COMPACTED TO SAME DENSITY AS ADJACENT UNDISTURBED EARTH.

ELEVATION: IN PAVED AREAS, SET SO COVER SURFACE WILL BE FLUSH WITH FINISHED GRADE. SET COVERS OF OTHER ENCLOSURES INCH ABOVE FINISHED GRADE.

INSTALL HANDHOLES WITH BOTTOM BELOW FROST LINE, BELOW GRADI INSTALL REMOVABLE HARDWARE, INCLUDING PULLING EYES, CABLE STANCHIONS, CABLE ARMS, AND INSULATORS, AS REQUIRED FOR WHERE THESE SPECIFICATIONS CALL FOR A HIGHER STANDARD THAN THE ABOVE—MENTIONED RULES, THE SPECIFICATIONS SHALL GOVERN. INSTALLATION AND SUPPORT OF CABLES AND CONDUCTORS AND AS INDICATED. SELECT ARM LENGTHS TO BE LONG ENOUGH TO PROVIDE

PARE SPACE FOR FUTURE CABLES BUT SHORT ENOUGH TO PRESERVE ADEQUATE WORKING CLEARANCES IN ENCLOSURE. FIELD_CUT OPENINGS FOR CONDUITS ACCORDING TO ENCLOSURE MANUFACTURER'S WRITTEN INSTRUCTIONS. CUT WALL OF ENCLOSURE WITH A TOOL DESIGNED FOR MATERIAL TO BE CUT. SIZE HOLES FOR TERMINATING FITTINGS TO BE USED, AND SEAL AROUND PENETRATIONS AFTER FITTINGS ARE INSTALLED.

DRAWINGS INDICATE THE ARRANGEMENT OF OUTLETS ON EACH BRANCH CIRCUIT AND THE CIRCUIT TAGS SHOW THE NUMBER OF CIRCUIT, AND THE BOARD TO WHICH IT WILL BE CONNECTED. CIRCUITS INDICATED WITH THE SAME NUMBERS SHALL BE CONNECTED.

ILL FEEDERS AND BRANCH CIRCUITS SHALL BE TAGGED IN ALL PULL BOXES AND IN THE GUTTERS OF ALL PANELS TO WHICH THEY

WIRING SHALL BE INSTALLED WITH IDENTIFIED NEUTRAL CONDUCTORS WIRE SHALL BE INSTALLED UNTIL ALL WORK OF OTHER CONTRACTORS THAT MIGHT CAUSE INJURY TO THE SAID WIRE HAS BEEN COMPLETED. CARE SHALL BE USED TO PULL WIRES TO INSURE THAT NO DAMAGE OCCURS TO THE INSULATION. POWDERED SOAPSTONES OR WIRE EASE SHALL BE USED FOR PULLING IN WIRES. IN MAKING THE CONNECTION OF ALL BRANCH CIRCUITS TO THE TERMINALS OF SWITCHES, BASE PLUGS, ETC. THE WIRES SHALL BE LOOPED AROUND THE BINDING SCREWS OR BE FITTED WITH CONNECTING LUGS. AT THE CEILING OUTLETS, THE CONTRACTOR SHALL

LEAVE NOT LESS THAN 6" OF FREE ENDS ON EACH WIRE FOR CONNECTIONS TO THE FIXTURES. NO SPLICES SHALL BE PERMITTED EXCEPT IN OUTLET BOXES, AND IN PANEL BOARD GUTTERS.

ALL SIGNAL AND COMMUNICATIONS CONDUCTORS SHALL BE IDENTIFIED IN TERMINAL CABINETS AS TO TYPE OF SYSTEM, E.G.: CLOCK, BELL, FIRE ALARM, ETC. AS WELL AS THE LOCATION OF THE OTHER END OF THE CONDUCTOR BY ROOM NUMBER OR NAME, AS DIRECTED BY THE OWNER. IDENTIFICATION SHALL BE BY NUMBERS AT TERMINAL STRIPS AND A NUMBERED DIRECTORY IN A CARD HOLDER INSIDE THE TERMINAL CABINET.

FIRE ALARM SYSTEM WIRING SHALL BE COLOR—CODED AS FOLLOWS:

MATING DEVICES - TWO YELLOW WIRES, TWO ORANGE WIRES. NOTIFICATION DEVICES - TWO BLACK WIRES, TWO RED WIRES.

ELECOMMUNICATION SYSTEM WIRING SHALL BE COLOR—CODED GREEN AND YELLOW.

SECURITY SYSTEM WIRING SHALL BE COLOR—CODED BLUE AND YELLOW. ALL POWER WIRING #6 GAUGE AND SMALLER SHALL BE FACTORY COLOR CODED. FOR LARGER THAN #6, MARK CONDUCTORS ON EACH END AND AT ALL JUNCTION AND/OR PULL BOXES WITH A 1" BAND OF COLORED PRESSURE—SENSITIVE PLASTIC TAPE. FOR ISOLATED GROUND WIRES, MARK WITH A 1" BAND OF GREEN TAPE, FOLLOWED BY A 1" BAND OF YELLOW TAPE, FOLLOWED BY A 1" BAND OF GREEN TAPE. COLORS FOR EACH PHASE AND THE NEUTRAL SHALL BE CONSISTENT THROUGHOUT THE SYSTEM.

THE WHITE OR GRAY CONDUCTOR SHALL BE THE NEUTRAL AT EACH OUTLET. CONDUCTORS HAVING WHITE, GRAY OR GREEN COVERING SHALL NOT BE USED TO INDICATE OTHER THAN NEUTRAL OR GROUNDING. THIS LIMITATION APPLIES TO ALL POWER, LIGHTING, AND

INSTALLATION OF CONDUCTORS SHALL BE MADE IN A NEAT AND WORKMANLIKE MANNER TO MEET CODE REQUIREMENTS AND SHALL BE RUN CONTINUOUS WITHOUT WELD, SPLICE OR JOINT BETWEEN BOXES. DO NOT INSTALL WIRES IN CONDUIT UNLESS THE ENTIRE SYSTEM OF CONDUIT AND OUTLET BOXES ARE PERMANENTLY IN PLACE. ALL CONDUCTORS SHALL BE PULLED USING A U.L. APPROVED WIRE

MAKE ALL TERMINATIONS AT MOTORS USING 3M SERIES 5300 MOTOR LEAD/CABLE SPLICING KITS. MAKE CONNECTION PER 3M WRITTEN INSTALLATION PROCEDURES.

N ALL BOLTED ELECTRICAL CONNECTIONS, THE CONTRACTOR SHALL USE BELVILLE WASHERS.

ILL WIRING TO BE NEATLY BUNDLED AND TIED WITH NYLON CORD OR PLASTIC STRAPS

PLICES IN UNDERGROUND BOXES SHALL BE MADE WITH CRIMP ON COMPRESSION CONNECTORS AND INSULATED WITH HEAT SHRINK SLEEVES OR WITH SPLICE KITS LISTED BY THE MANUFACTURER FOR WET LOCATIONS. WIRE NUTS ARE NOT PERMITTED.

WHERE OUTLET BOXES ARE RECESSED ON OPPOSITE SIDE OF A FIRE RATED WALL, BOXES SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES. WHERE OPENING FOR STEEL ELECTRICAL OUTLET BOXES EXCEED 15 SQ. INCHES IN AREA, OR AN AGGREGATE OF MORE THAN 100 SQ. INCHES FOR ANY 100 SQ. FEET OF WALL OR PARTITION AREA, FIRE STOPPING IS REQUIRED.

PENETRATIONS IN WALLS, FLOOR OR CEILINGS REQUIRING PROTECTED OPENINGS SHALL BE FIRE—STOPPED. FIRE—STOPPING SHALL BE C AN APPROVED MATERIAL, SECURELY INSTALLED AND CAPABLE OF MAINTAINING ITS INTEGRITY WHEN SUBJECTED TO THE TIME-TEMPERATURE CURVE OF STATE FIRE MARSHAL STANDARD 12-43-3 AND STANDARD 12-43-1. MANUFACTURER'S INSTALLATION

THREE-WAY SWITCHES SHALL BE 20 AMPERES, 120/277 VOLT, AC, SIDE AND BACK WIRED, HUBBELL CAT. #HBL-1223-W, OR EQUAL BY G.E., PASS & SEYMOUR, OR LEVITON. VERIFY FINISH COLOR WITH ARCHITECT. DUPLEX RECEPTACLES FOR 120 VOLT, SINGLE-PHASE SERVICE TO BE RATED 20 AMPERES, 125 VOLT, BACK AND SIDE WIRED, 2-WIRE (NEMA 5-20R) GROUNDING TYPE, VERIFY FINISH COLOR WITH ARCHITECT, HUBBELL CAT. #HBL8300 OR EQUAL BY PASS & SEYMOUR,

DOUBLE DUPLEX RECEPTACLES (4-PLEX): TO BE SAME AS DUPLEX RECEPTACLES. TWO DUPLEX RECEPTACLES IN 4" X 4" OUTLET BOX WITH ONE TWO-GANG FACEPLATE. LEVITON, PASS & SEYMOUR, G.E., OR HUBBELL. ALL DEVICE PLATES SHALL BE OF THE UNBREAKABLE PLASTIC TYPE, MANUFACTURED BY PASS & SEYMOUR, LUTRON, LEVITON, G.E., OR HUBBELL AND VERIFY FINISH COLOR WITH ARCHITECT. DEVICE PLATES FOR EQUIPMENT, STORAGE, KITCHEN, AND LABORATORY AREAS

OUTLETS AND DEVICES SHALL BE SET RIGID, PLUMB, FASTENED SECURELY; WHERE CONCEALED, SET FLUSH WITH FINISH SURFACE. MIRING CONNECTIONS: CURL WIRE AROUND TERMINAL SCREWS AND TIGHTEN FIRMLY. SNAP-IN, PRESSURE-TYPE TERMINALS ARE NOT

GFI/GFCI TYPE RECEPTACLES FOR 120 VOLT, SINGLE-PHASE SERVICE TO BE RATED 20 AMPERES, 125 VOLT, BACK AND SIDE WIRED, 2-WIRE (NEMA 5-20R) GROUNDING TYPE, VERIFY FINISH COLOR WITH ARCHITECT, HUBBELL CAT #GFR8300H. ALL RECEPTACLE AND SWITCH COVER PLATES SHALL CLEARLY INDICATE, WITH PERMANENT BLACK MARKER ON THE INSIDE OF THE PLATE THE CIRCUIT NUMBER AND THE SOURCE OF POWER FEEDING THAT SWITCH OR RECEPTACLE.

LIGHTING CONTROLS SHALL BE +48" TO +36" AND WITHIN SIGHT OF LIGHTING FIXTURES. CAC-24. ALL CONVENIENCE RECEPTACLES SHALL BE +15". CAC-24.

ALL HEATING AND COOLING CONTROLS SHALL BE +48". CAC-24

ALL LIGHTING FIXTURES SHALL BE U.L. LISTED.

COVIDE LIGHTING FIXTURES WHERE INDICATED ON PLANS AND AS INDICATED IN LIGHT FIXTURE SCHEDULE. LAMPS SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL INCLUDE IN HIS/HER BID ALL LABOR AND MATERIAL TO INSTALL ALL LIGHT FIXTURES, NCLUDING THOSE FURNISHED BY THE OWNER. PROVIDE 1-1/2" CEILING SPACERS FOR FLUORESCENT FIXTURES WHERE REQUIRED ALL RECESSED LIGHTING FIXTURES SHALL HAVE JUNCTION BOXES APPROVED FOR THE NUMBER OF CONDUCTORS REQUIRED. BOXES MAY BE LOCATED IN NEARBY ACCESSIBLE AREAS SUCH AS STORAGE ROOMS, EQUIPMENT ROOMS, CLOSETS, ACCESSIBLE CEILING SPACES, OR

REMOTE AREAS AS APPROVED. BUT NOT WHERE VISIBLE TO PUBLIC. PROVIDE LENSED LIGHTING FIXTURES WITH LENSES OF 100% PURE VIRGIN ACRYLIC.

ROJECT SHALL BE BID WITH LIGHTING FIXTURES AND OTHER EQUIPMENT AS SPECIFIED ON PLANS, SUBSTITUTIONS SHALL BE LISTED AS

WHERE THERE IS INSUFFICIENT SPACE FOR A SPECIFIED RECESSED FIXTURE, PROVIDE EITHER A MORE SHALLOW FIXTURE AS APPROVED. ALL WIRING SHALL BE COPPER, MINIMUM SIZE #12-AWG. USE THHN IN DRY LOCATIONS ONLY AND THWN IN WET LOCATIONS. ALL FIXED ELECTRICAL APPLIANCES SHALL BE WIRED IN APPROVED ENCLOSURES. ALL FINAL FLEX CONDUIT CONNECTIONS TO ANY EQUIPMENT SHALL INCLUDE SUFFICIENT SLACK IN FLEX TO MOVE WITH THE EQUIPMENT. ROVIDE ALL NECESSARY SUPPORTS FOR LIGHTING FIXTURES AS REQUIRED. WHERE FIXTURES ARE INSTALLED ON OR IN SUSPENDED

CEILINGS, SECURE FIXTURES TO CEILING FRAME SYSTEM AND PROVIDE FIXTURE SUPPORTS INDEPENDENT OF THE CEILING SUSPENSION SYSTEM, AS REQUIRED.
PROVIDE PENDANT FIXTURES WITH SWIVEL HANGER, LEGALLY APPROVED FOR WEIGHT SUPPORTED AND FOR EARTHQUAKE COMPLIANCE. WHEN INSTALLED, ALL PENDANT FIXTURES INCLUDING CONTINUOUS FLUORESCENT ROWS SHALL SWING A MINIMUM OF 20" IN ANY

RECESSED FIXTURES IN FIRE RATED CEILINGS AND SUPPLY AIR PLENUMS SHALL BE EITHER APPROVED FOR THE FIRE RATINGS OF THE CEILING, OR SHALL BE FULLY ENCLOSED IN A FIRE RATED HOUSING ACCEPTABLE TO LEGAL AUTHORITIES. SEAL ALL OPENINGS AS COORDINATE LOCATION OF ALL LIGHTING FIXTURES WITH THE EXISTING CONDITIONS PRIOR TO STARTING WORK. PROVIDE MOUNTING

METHOD AS REQUIRED BY CEILINGS AND FIXTURES TO BE INSTALLED. ALL LIGHTING FIXTURES SHOWN AND SPECIFIED ON THE ELECTRICAL DRAWINGS AS WELL AS THOSE REFLECTED ON THE ARCHITECTURAL INTERIOR DESIGN OR OTHER DRAWINGS PREPARED UNDER OTHER DIVISIONS OF WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE STATED.

THE BUILDING STRUCTURAL REINFORCING STEEL.

INDUIT INSTALLED WITHIN CONCEALED AREAS MAY BE EMT OR RIGID STEEL. IN EXPOSED AREAS SUBJECT TO CONDUIT DAMAGE, ONL' GALVANIZED RIGID STEEL CONDUIT MAY BE USED, ALL CONDUIT IN FINISHED AREAS SHALL BE CONCEALED, A MAXIMUM OF 4' OF

ALL CONDUITS INSTALLED UNDERGROUND SHALL BE A MINIMUM OF 1". UNDERGROUND CONDUITS SHALL BE PVC, SCHEDULE 40 ELECTRICAL CONDUIT, AS MANUFACTURED BY CARLON OR EQUAL, UNLESS OTHERWISE NOTED.

CONDUITS SHOWN ON THE DRAWINGS HAVE BEEN SIZED BASED ON METALLIC RACEWAYS UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR MAY OPT TO USE SCHEDULE 40 PVC WHERE PERMITTED BY CODE AND THE OWNER. IF PVC IS USED, ELECTRICAL CONTRACTOR SHALL SIZE ALL SUCH CONDUITS AS REQUIRED TO INCLUDE GROUND CONDUCTOR, AND SHALL SIZE GROUND WIRE PER CODE. PVC RACEWAYS SHALL NOT BE INSTALLED ABOVE GRADE. ALL FLEX CONDUITS SHALL INCLUDE A GROUNDING CONDUCTOR SIZED

ALL PVC UNDERGROUND CONDUITS SHALL UTILIZE COATED OR WRAPPED RIGID STEEL ELBOWS AND RISERS WHEN RISING ABOVE GRADE, EXCEPT IN AREAS NOT SUBJECT TO MECHANICAL DAMAGE AND WITH PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER. MAINTAIN A MINIMUM OF 6" CLEARANCE BETWEEN ALL CONDUIT SLEEVES. VERIFY WITH GENERAL CONTRACTOR.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE EXPANSION/DEFLECTION FITTINGS FOR CONDUITS CROSSING EXPANSION JOINTS. FITTINGS SHALL BE SUITABLE FOR CONDITIONS TO BE ENCOUNTERED. VERIFY WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.

CONCEALED CONDUIT SYSTEM SHALL BE INSTALLED FOR ALL INTERIOR WIRING INCLUDING CONTROLS. CONDUIT SHALL BE RUN

CONTINUOUS BETWEEN OUTLETS, ETC., AND WITH THE MINIMUM NUMBER OF BENDS.

CONDUIT RUNS FOR CIRCUITS OPERATING OVER 600V SHALL HAVE A GROUNDING BUSHING INSTALLED AT EACH TERMINATION. L CONDUIT RUNS ON ROOF AND UP TO TEN FEET ABOVE FINISH GRADE SHALL BE GALVANIZED RIGID STEEL CONDUIT WITH THREADED

PVC 40 OR RIGID STEEL FACTORY WRAPPED WITH PVC TAPE SHALL BE USED FOR UNDERGROUND RUNS WHERE UNDERGROUND CONDUIT CANNOT BE RUN BELOW BUILDING FOOTINGS THE CONTRACTOR SHALL PROVIDE PVC-80 SLEEVES THROUGH THE FOOTINGS (CONTRACTOR SHALL OBTAIN APPROVAL FOR ALL SLEEVE SIZES AND LOCATIONS WITH THE STRUCTURAL

NLL CONDUIT RISERS THROUGH SLAB SHALL BE RIGID STEEL OR IMC (FACTORY WRAPPED WITH PVC TAPE OR WITH FACTORY APPLIED PVC COATING) AND SHALL EXTEND A MINIMUM OF FOUR INCHES (4") ABOVE FINISHED FLOOR.

ALL CONDUIT SHALL BE DELIVERED TO THE SITE OF CONSTRUCTION IN THEIR ORIGINAL BUNDLES. EACH LENGTH OF CONDUIT SHALL BEAR THE LABEL OF THE NATIONAL BOARD OF FIRE UNDERWRITERS. ALL CONDUIT SUBJECTED TO ROUGH USAGE WHILE ON THE JOB BEFORE INSTALLATION AND NOT ACCEPTABLE TO THE ARCHITECT SHALL BE REMOVED FROM THE PREMISES UPON NOTICE. CONDUIT INSTALLED IN MASONRY WALLS SHALL BE RIGID STEEL GALVANIZED CONDUIT OR PVC, NOT IN THE SAME MASONRY CELL AS

WEATHER, SHALL BE MADE LIQUID AND GAS-TIGHT. ALL UNDERGROUND CONDUIT OUTSIDE OF THE BUILDINGS SHALL BE BURIED TO A DEPTH OF NOT LESS THAN 24" BELOW FINISH GRADE. UTILITY SERVICES SHALL COMPLY WITH UTILITY COMPANY REQUIREMENTS. TWO (MORE POWER OR TELECOMMUNICATIONS CONDUIT RUNS INSTALLED IN A COMMON TRENCH SHALL BE SEPARATED HORIZONTALLY BY AT LEAST FOUR INCHES (4"). TWO OR MORE POWER AND TELECOMMUNICATIONS CONDUIT RUNS INSTALLED IN A COMMON TRENCH SHALL BE SEPARATED HORIZÒNŤALLY BY AT LEAST TWELVE (12"). ELECTRICAL CONDUIT RUNS INSTALLED IN A COMMON TRENCH WITH OTHER

UTILITY LINES SHALL BE SEPARATED HORIZONTALLY FROM SUCH LINES BY AT LEAST TWELVE INCHES (12"). CHANGES IN DIRECTION SHALL BE MADE WITH CONDUIT SWEEP ELBOWS OR LONG RADIUS BENDS MADE ON THE JOB. WHERE TWO OR MORE CONDUITS ARE GROUPED IN EXPOSED LOCATIONS, THE SWEEPS SHALL BE STRUCK FROM THE SAME CENTER FORMING

ALL JOINTS IN CONDUIT SHALL BE MADE WITH STANDARD COUPLING. IN MAKING JOINTS, CONDUITS MUST BE TRULY AND ACCURATELY CUT AND THREADED (WHERE APPLICABLE) WITH STRAIGHT THREAD, SMOOTHLY REAMED AND SQUARELY BUTTED. ALL CONDUIT SHALL BE KEPT CORKED AND DRY DURING CONSTRUCTION, USING PLASTIC CAPS OR CONDUIT PENNIES HELD IN PLACE WITH CONDUIT BUSHINGS. SHOULD DIRT OR MOISTURE COLLECT IN ANY CONDUIT, THE CONTRACTOR SHALL SWAB THEM OUT TO THE SATISFACTION OF THE

CONDUITS ENDING AT THE MOTORS SHALL BE CARRIED AS CLOSE AS POSSIBLE TO THE TERMINAL BLOCKS MAKING ALLOWANCE FOR THE MOVEMENT OF THE MOTORS WHEN THEY ARE EQUIPPED WITH SLIDE RAILS. THE CONNECTION BETWEEN THE CONDUIT TERMINALS ON THE L CONDUITS WHERE THEY ENTER PANEL BOXES, PULL BOXES, OR OUTLET BOXES SHALL BE SECURED IN PLACE BY GALVANIZED LOCKNUTS — ONE (1) LOCKNUT INSIDE OF BOX. AN INSULATED THROAT SHALL BE USED WHERE CONDUCTORS ARE #4 OR LARGER.

WHERE CONDUITS ARE RUN EXPOSED, THE SAME SHALL BE INSTALLED STRAIGHT AND TRUE WITH REFERENCE TO THE ADJACENT CONSTRUCTION.

CONDUIT 1" AND ABOVE SHALL HAVE INSULATED THROAT BUSHINGS.

ALL BOXES FOR BRACKET OUTLETS SHALL BE EQUIPPED WITH 3/8" "NO-BOLT" FIXTURE STUD. THESE BOXES SHALL BE SO SET WHEN IN PLACE THE FIXTURE SHALL BE AT RIGHT ANGLES TO THE CEILING OR WALLS. NLL EMPTY CONDUIT SHALL BE EQUIPPED WITH A #12 GALVANIZED IRON PULL WIRE OR NYLON PULL ROPE CONTINUOUS FROM OUTLET

FLEXIBLE CONDUIT WILL BE PERMITTED FOR CONNECTING LIGHTING FIXTURES TO JUNCTION BOXES.

THE MAXIMUM ALLOWED LENGTH OF FLEX CONDUIT AT EQUIPMENT CONNECTIONS IS 18".

LEXIBLE CONNECTION IN OUTDOOR AND DAMP LOCATIONS SHALL BE FLEXIBLE LIQUID—TIGHT METAL CONDUIT INSTALL ROOF JACKS FOR THIS CONSTRUCTION IN ACCORDANCE WITH OTHER SECTIONS OF THIS SPECIFICATION.

EXPANSION JOINTS FOR CONDUIT SHALL BE PROVIDED WHERE REQUIRED TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION NO CONDUIT SMALLER THAN 1/2 INCH ELECTRICAL TRADE SIZE SHALL BE USED. OUTLET. PULL BOXES & JUNCTION BOXES:

JUNCTION BOXES AND OUTLET BOXES SHALL BE SIZED PER CODE, BUT IN NO CASE LESS THAN THE FOLLOWING: OUTLETS WITH (9) OF LESS #12 CONDUCTORS SHALL BE 4"/S X 2-1/2"/D AND OUTLETS WITH (10) THROUGH (18) CONDUCTORS SHALL BE 4-11/16"/S X

ALL JUNCTION BOXES SHALL CLEARLY INDICATE WITH PERMANENT BLACK MARKER, IN 1/2" LETTERING, THE CIRCUIT NUMBERS AND THE SOURCE OF POWER OF ALL CONDUCTORS CONTAINED WITHIN THAT JUNCTION BOX. OUTLETS FOR THE ATTACHMENT OF THE FIXTURES TO BE PROVIDED WITH 3/8" MALLEABLE IRON FIXTURE STUDS AND BOX HANGERS WHERE REQUIRED. FELEPHONE OUTLETS SHALL BE DOUBLE GANG BOX WITH SINGLE GANG 1—HOLE TELEPHONE COVER PLATE, UNLESS OTHERWISE NOTED CABLE TELEVISION OUTLETS SHALL BE DOUBLE GANG BOX WITH SINGLE GANG 1-HOLE CATV COVER PLATE, UNLESS OTHERWISE NOTED

INTERIOR BOXES SHALL BE GALVANIZED STEEL, MANUFACTURERS: B & C METAL STAMPING, BRYANT, GENERAL ELECTRIC, LEVITON COMPANY, NORRIS STEEL CITY, CROUSE—HINDS, APPLETON, RACO, CARLON. EXTERIOR BOXES SHALL BE "FS" TYPE BOXES WITH THREADED HUBS AS REQUIRED AND FULLY GASKETED UNLESS OTHERWISE NOTED.

PANELBOARDS: L SWITCHBOARDS AND PANELBOARDS SHALL BE CONSTRUCTED PER THE NATIONAL ELECTRICAL CODE AND ALL LOCALLY ADOPTED AMENDMENTS. WHERE REGULATIONS APPLY, CONSTRUCTION SHALL MEET REQUIREMENTS OF SERVING UTILITY COMPANY.
ALL SWITCHBOARDS AND MOTOR CONTROL CENTERS SHALL HAVE WITHSTAND RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT WITH 42,000 AMP BEING THE MINIMUM. CONFIRM CONDITIONS WITH SERVING UTILITY COMPANY. SUBMIT CERTIFICATION OF COMPLIANCE

AND SWITCHBOARDS SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC AND ALL LOCALLY ADOPTED AMENDMENTS. WALL-MOUNTED PANELS SHALL BE PROVIDED WITH TRIM AND DOOR CONSTRUCTED OF CODE GUAGE SHEET STEEL AND SHALL HAVE FACTORY FINISH. DOOR SHALL BE FITTED WITH HINGES, SPRING CATCH LATCH AND CYLINDER LOCK. PROVIDE 2 KEYS WITH EACH PANEL. PROVIDE DIRECTORY CARD HOLDER AND TYPEWRITTEN PANEL SCHEDULE. PANELBOARD SHALL BE SO CONSTRUCTED AS TO PROVIDE FOR

ALL OVERCURRENT DEVICES IN EQUIPMENT SHALL BE U.L. LISTED TO INTERRUPT THE AVAILABLE FAULT CURRENT. ALL PANELBOARDS

Provide Engraved nameplates identifying switchboards and panelboards. All equipment nameplate identifications shown on THE DRAWINGS ARE FOR REFERENCE ONLY. PRIOR TO FABRICATING THE FINISHED NAMEPLATES, CONSULT WITH THE OWNER'S BUILDING ENGINEER FOR THE ACTUAL NOMENCLATURE TO BE USED.

UNLESS OTHERWISE INDICATED ON PLANS, PANEL SHALL BE INSTALLED WITH TOP OF CABINET AT 6'-6" A.F.F.

PROVIDE PANELBOARDS WITH SEPARATE GROUND BAR

DEGREES CELSIUS.

FUSES:

MANUFACTURERS SHALL BE SQUARE D OR EQUAL APPROVED BY ENGINEER PRIOR TO BID PROPOSAL.

WHERE LOADS ARE ADDED TO EXISTING PANELBOARDS, THE PANEL SCHEDULE SHALL BE UPDATED AND SHALL INDICATE THE LOCATION AND DESCRIPTION OF THE LOAD. . LUG CONNECTIONS TO PANEL BUSSING, SWITCHES, AND BREAKERS TO BE SIZED TO ACCOMMODATE CONDUCTOR SIZES INDICATED

ON THESE DRAWINGS. REDUCTION OF CIRCULAR MIL CAPACITY OF CONDUCTORS IS NOT PERMITTED. ALL LUGS SHALL BE RATED FOR 75

MOLDED CASE CIRCUIT BREAKERS SHALL BE OF THE QUICK—MAKE, QUICK—BREAK, TRIP—FREE, THERMAL MAGNETIC BOLT—ON TYPE WITH

ON-OFF-TRIPPED POSITIONS. CIRCUIT BREAKERS ABOVE 225 AMPERE RATING SHALL HAVE INTERCHANGEABLE TRIP ELEMENTS.

ALL CIRCUIT BREAKERS SHALL BE CALIBRATED FOR OPERATION IN AN AMBIENT TEMPERATURE OF 40 DEGREES CELSIUS. ALL MUTI-POLE BREAKERS SHALL BE SO DESIGNED THAT AN OVERLOAD IN ONE POLE AUTOMATICALLY CAUSES ALL POLES TO OPEN. NLL PANELBOARD CIRCUIT BREAKERS USED FOR DIRECT SWITCHING OR LIGHTING CIRCUITS, SHALL BE SWITCH DUTY RATED. ALL CIRCUIT BREAKERS SHALL HAVE A MINIMUM 10,000 AIC RATING FOR 250V PANELS AND 14,000 AIC RATING FOR 600V PANELS.

ALL FUSES SHALL BE MANUFACTURED BY GOULD SHAMUT, LITTLEFUSE, OR BUSSMANN MANUFACTURING CO.

. FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS OPERATING AT 120 VOLTS SHALL HAVE A HARMONIC DISTORTION OF NOT MORE

LL FLUCRESCENT FIXTURES WITH ELECTRONIC BALLASTS OPERATING AT 277 VOLTS SHALL HAVE A HARMONIC DISTORTION OF NOT MORE

ALL FLUORESCENT FIXTURES IN INDOOR LOCATIONS SHALL BE INSTALLED WITH A DISCONNECTING MEANS PER NEC ART. 410.73(G).

INCANDESCENT LAMPS SHALL BE OF THE EXTENDED SERVICE TYPE, INSIDE FROSTED. RATING TYPE, ENVELOPE AND OTHER BASE AS RECOMMENDED BY FIXTURE MANUFACTURER UNLESS SPECIFIED OTHERWISE.
FLUORESCENT LAMPS SHALL BE T8, 3500 KELVIN, RAPID START, UNLESS OTHERWISE SHOWN ON DRAWINGS.
HIGH INTENSITY DISCHARGE LAMPS SHALL BE CALIFORNIA TITLE 20 COMPLIANT AND OF TYPE RECOMMENDED BY FIXTURE MANUFACTURER, G.E., SYLVANIA, OR PHILLIPS.

NSFORMERS SHALL BE TP-1 RATED, DRY TYPE, SHEET METAL ENCLOSED, CLASS 220 DEGREES INSULATION, TWO WINDING, H PRIMARY AND SECONDARY VOLTAGES AND KVA RATINGS AS SHOWN ON THE DRAWINGS. THREE-PHASE TRANSFORMERS SHALL BE DELTA CONNECTED ON PRIMARY WINDINGS. SECONDARY WINDINGS SHALL BE WYE

TRANSFORMERS SHALL BE PROVIDED WITH FOUR (4) 2-1/2% TAPS. TWO ABOVE AND TWO BELOW NOMINAL VOLTAGE ON

ERMINALS SHALL BE READILY ACCESSIBLE FROM TOP AND FRONT OF TRANSFORMER, WITH TOP AND/OR FRONT PANELS

TRANSFORMERS 15 KVA AND LARGER SHALL BE IN A HEAVY GUAGE, SHEET STEEL, VENTILATED ENCLOSURE. THE VENTILATING OPENINGS SHALL BE DESIGNED TO PREVENT ACCIDENTAL ACCESS TO LIVE PARTS IN ACCORDANCE WITH UL, NEMA, AND NATIONAL ELECTRICAL CODE STANDARDS FOR VENTILATED ENCLOSURES. SINGLE PHASE TRANSFORMERS THROUGH 167 KVA, AND THREE PHASE TRANSFORMERS THROUGH 112.5 KVA SHALL BE DESIGNED SO THEY CAN BE EITHER FLOOR OR WALL MOUNTED. TRANSFORMERS ABOVE 112.5KVA SHALL BE FLOOR MOUNTED DESIGN.

ALL TRANSFORMERS SHALL BE INSTALLED TO MEET THE MANUFACTURERS RECOMMENDED NAMEPLATE CLEARANCES. TRANSFORMERS SHALL BE MOUNTED ON VIBRATION ISOLATORS FINAL CONDUIT CONNECTIONS TRANSFORMERS SHALL USE FLEXIBLE CONDUIT AS VIBRATION ISOLATION.

GENERAL: PROVIDE A COMPLETE GROUNDING SYSTEM AND SAFELY GROUND ALL SERVICE DISTRIBUTION EQUIPMENT AN RELATED METALLIC EQUIPMENT IN AN APPROVED MANNER AND AS REQUIRED BY THE NEC AND AS SHOWN ON THE DRAWINGS. GROUNDING CONNECTIONS SHALL BE MADE WITH THE FOLLOWING TYPES OF CONNECTORS AS MANUFACTURED BY BURNDY, ILLSCO OR AN EQUIVALENT MANUFACTURER.

. CABLE TO WATER PIPE B. CABLE TO UFER SYSTEM . CABLE TO BOX OR CABINET

ALL GROUNDING CONDUCTORS SHALL BE RUN IN CONDUIT AND SHALL BE INSULATED AS SPECIFIED

THE MAIN GROUNDING CONNECTIONS FOR THE SERVICE EQUIPMENT SHALL BE MADE TO THE UFER GROUNDING SYSTEM AND THE WATER MAIN OR NEAREST ACCESSIBLE WATER PIPE WITH CLAMP OR FITTINGS MADE OF COPPER BRONZE, OR OTHER

resistance to ground shall not exceed 25 ohms as measured by either the "fall of potential" method or b' "DIRECT READING GROUND RESISTANCE." CONNECTIONS TO THE WATER MAIN SHALL BE MADE ON THE "STREET SIDE" OF THE WATER METERS. IF THE CONNECTION IS MADE ON THE "BUILDING SIDE" OF THE METERS, SUITABLE COPPER JUMPERS OF FLEXIBLE, STRANDED INSULATED CABLE, BY-PASSING ALL METERS, SHALL BE PROVIDED AND INSTALLED, ALL IN ACCORDANCE WITH LOCAL CODE.

ALL GROUNDING CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND SHALL BE RIGIDLY SUPPORTED. UNLESS OTHERWISE SHOWN, GROUND CONDUCTORS SHALL NOT BE RUN IN CONCRETE SLAB OR FILL UNLESS PROTECTED BY STEEL CONDUIT AND BOTH ENDS OF THE CONDUIT SHALL BE PROVIDED WITH A CODE—APPROVED TYPE OF SOLDERLESS CONNECTOR AND SHALL BE BOLTED OR CLAMPED TO EQUIPMENT OR CONDUIT. NO SOLDER CONNECTIONS ALLOWED.

GROUND ALL INTERIOR METALLIC WATER AND GAS PIPING PER REQUIREMENTS OF THE LOCAL AUTHORITIES.

PROVIDE A SEPARATE GREEN GROUND IN ALL CONDUIT.

CONTRACTOR SHALL FURNISH AND INSTALL NEW LIFE SAFETY DEVICES IN THE AREAS OF WORK, ALL DEVICES ARE TO BE OF THE SAME MANUFACTURER UNLESS NOTED AS THE EXISTING BUILDING LIFE SAFETY SYSTEM AND FULLY APPROVED FOR INSTALLATION BY ALL AUTHORITIES, AT NO TIME SHALL THE CONTRACTOR DISCONNECT OR DISABLE ANY PART OF THE BUILDING LIFE SAFETY SYSTEM WITHOUT APPROVAL OF THE BUILDING LIFE SAFETY DIRECTOR. COORDINATE ALL REQUIRED WORK WITH

FIRE ALARM RELATED BACK BOXES, JUNCTION BOXES, AND BLANK COVER PLATES SHALL BE PAINTED DARK RED IN COLOR FOR IDENTIFICATION. ALL FIRE ALARM CONTROLS SHALL BE +48". CAC-24

ELECTRICAL CONTRACTOR SHALL COORDINATE ALL ELECTRICAL AND TELEPHONE SERVICES, EQUIPMENT LOCATIONS, ETC. WITH UTILITY COMPANIES PRIOR TO BID AND START OF WORK. INCLUDE ALL RELATED COSTS FOR THIS PROJECT AS PART OF BID

PRIME CONSULTANT

ARCHITECTURE PLANNING San Luis Obispo 4119 Broad Street, Suite 210 San Luis Obispo, CA 93401 805.546.0433 fax: 805.546.0504



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REVISIONS NO. DATE APPRD. DESCRIPTION

CONSULTANT



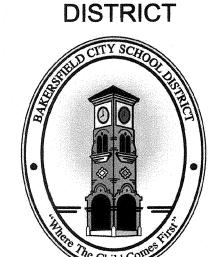
FERRANTI ENGINEERING CONSULTING LECTRICAL ENGINEERS 1211 MARICOPA HWY, SUITE 250 OJAI, CA 93023 (805) 705-4772 DALEFERRANTIOLIVE.COM

AGENCY INFORMATION:

AGENCY TRACKING NO. 63321-273

FILE NO. 15-6 DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES ACF.K. FLS SPHSS CL DATE OCT 2 5 2017

BAKERSFIELD CITY SCHOOL



WAYSIDE E.S. - MARQUEE SIGN

1000 MING AVE., BAKERSFIELD, CA 93307 OPSC or OSHPD PROJ. NO: PROJECT NO:

DRAWN BY VZ CHK'D BY: DF ISSUE DATE 10/19/2017

> **GENERAL ELECTRICAL SPECIFICATIONS**

SHEET NUMBER

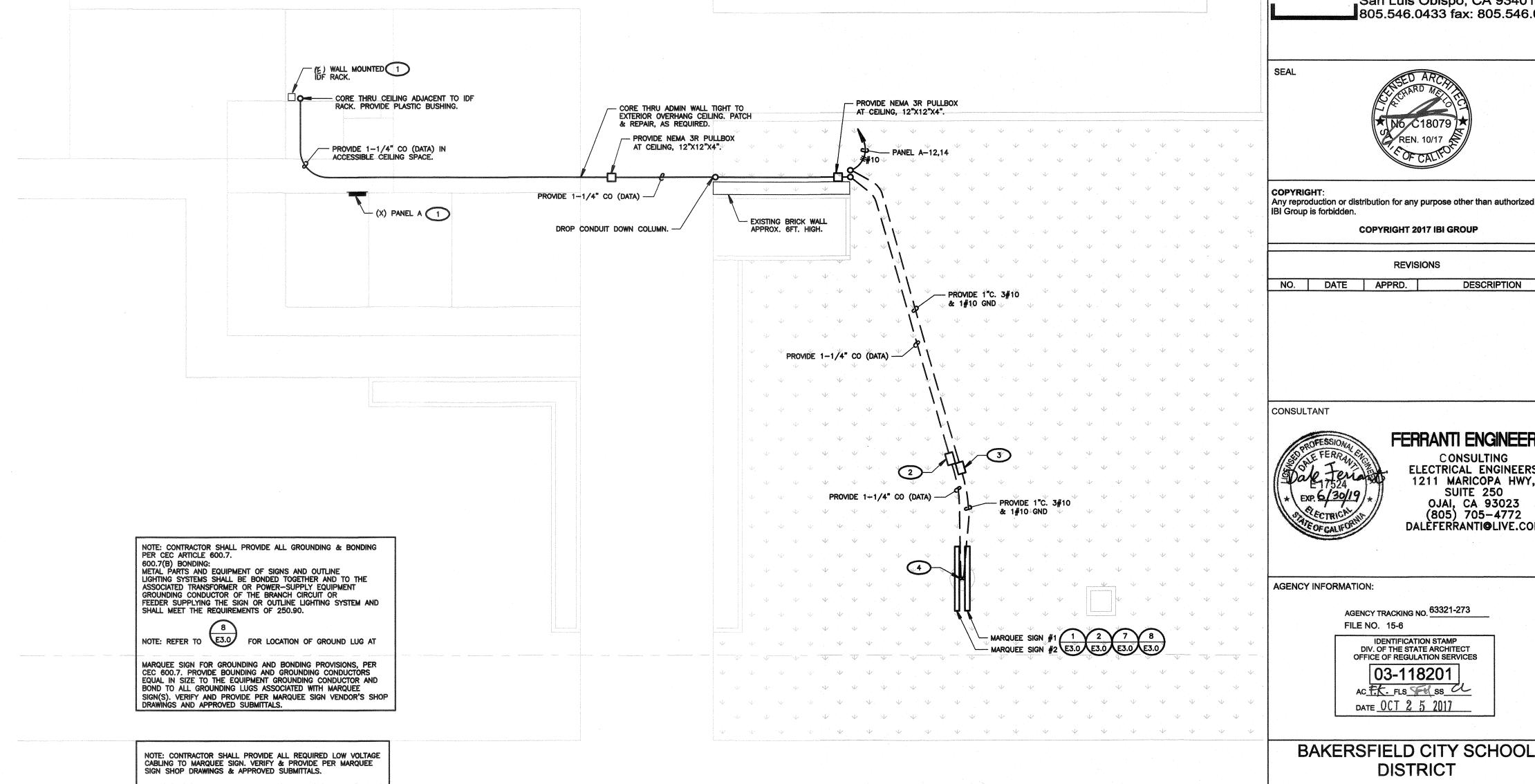
SHEET TITLE

SCALE: 1"=60'-0"

SHEET NOTES

- CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 811
 TO LOCATE UNDERGROUND UTILITIES AT LEAST 2 WORKING DAYS
 PRIOR TO DIGGING. CONTRACTOR SHALL FIELD VERIFY LOCATION
 AND DEPTH OF EXISTING IMPROVEMENTS PRIOR TO START OF
- VERIFY LOCATION OF ALL BUILDINGS AND APPENDITURES ON ARCHITECTURAL AND CIVIL PLANS.
- FIELD VERIFY LOCATION ON ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. SCHEDULE AND COORDINATE ALL SITE WORK WITH OWNER PRIOR TO ANY TRENCHING.
- 4. CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL DEVICES/EQUIPMENT REQUIRING ELECTRICAL CONNECTION PRIOR TO BID PROPOSAL, ROUGH—IN, AND FINISH.
- 5. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWINGS. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET)
- 6. ALL 90 DEGREE CONDUIT BENDS AND RISERS SHALL BE PVC COATED RIGID STEEL.
- 7. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SITE ELECTRICAL SERVICE REQUIREMENTS WITH SERVING UTILITY.
- 8. ALL SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL UTILITY COMPANY FOR APPROVAL, WITH WRITTEN APPROVAL RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL ENGINEER FOR APPROVAL.
- 9. VERIFY LOCATION OF ALL EQUIPMENT ON ARCHITECTURAL AND CIVIL PLANS.
- 10. MINIMUM CONDUIT BURIAL DEPTH IS 24", 36" MINIMUM BELOW STREETS AND PARKING LOTS. FOR 0-600 VOLT SYSTEMS.
- 11. PROVIDE CODE SIZED EQUIPMENT GROUNDING CONDUCTORS IN ALL OCCUPIED CONDUITS.
- 12. 1" CONDUIT MINIMUM UNDERGROUND.
- 13. COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED. WHETHER SHOWN ON THE ELECTRICAL DRAWINGS OR NOT.
- 14. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL CONDUCTORS PER CONDUCTOR MANUFACTURERS RECOMMENDATIONS, PER THE NATIONAL ELECTRICAL CODE, AND PER LOCAL AUTHORITIES HAVING JURISDICTION.
- 15. FIELD CONDITIONS GOVERN DEMOLITION AND NEW CONSTRUCTION.
 CONTRACTOR SHALL VERIFY ACTUAL CONDITIONS PRIOR TO START
 OF WORK. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED OF
 POSSIBLE FIELD PROBLEMS PRIOR TO DEMOLITION. CONTRACTOR
 SHALL NOTIFY DISTRICT REPRESENTATIVE OF WORK BEING
 PERFORMED. COORDINATE WITH DISTRICT REPRESENTATIVE.
- 16. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH DIMENSIONED NYLON PULL STRING.
- 17. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION OR TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING/REMAINING UTILITIES IN PLACE. CONTRACTOR, AT HIS SOLE EXPENSE, SHALL REPAIR ANY UTILITY SYSTEMS DAMAGED DURING CONSTRUCTION.

- KEY NOTES (NOTE: THESE NOTES MAY NOT APPEAR ON ALL SHEETS) APPROXIMATE LOCATION. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
- PROVIDE COMMUNICATIONS PULLBOX.
 PROVIDE 11"X17" TRAFFIC RATED PULLBOX WITH STEEL CHECKER PLATE COVER ENGRAVED WITH "COMMUNICATIONS". #B1017BOX WITH #B1017-51JH COVER, BY CHRISTY CONCRETE.
- PROVIDE POWER PULLBOX. PROVIDE
 11"X17" TRAFFIC RATED PULLBOX WITH
 STEEL CHECKER PLATE COVER ENGRAVED
 WITH "ELECTRIC". #B1017BOX WITH #B1017-51JH COVER. BY CHRISTY CONCRETE.
- COMMUNICATIONS CABLES SHALL BE PROVIDED IN SEPARATE RACEWAY WITHIN METAL POLE. PROVIDE 1-1/4" LIQUID TITE FLEXIBLE NONMETALLIC CONDUIT FOR COMMUNICATIONS CABLES. VERIFY & PROVIDE PER MARQUEE SIGN VENDOR'S SHOP DRAWINGS & APPROVED SUBMITTALS.



MARQUEE SIGN ELECTRICAL PLAN



Know what's below. Call before you dig. **WAYSIDE E.S. - MARQUEE**

AGENCY TRACKING NO. 63321-273

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

ACTION FLS FELSS CL

DISTRICT

DATE OCT 2 5 2017

FILE NO. 15-6

PRIME CONSULTANT

ARCHITECTURE PLANNING

4119 Broad Street, Suite 210 San Luis Obispo, CA 93401

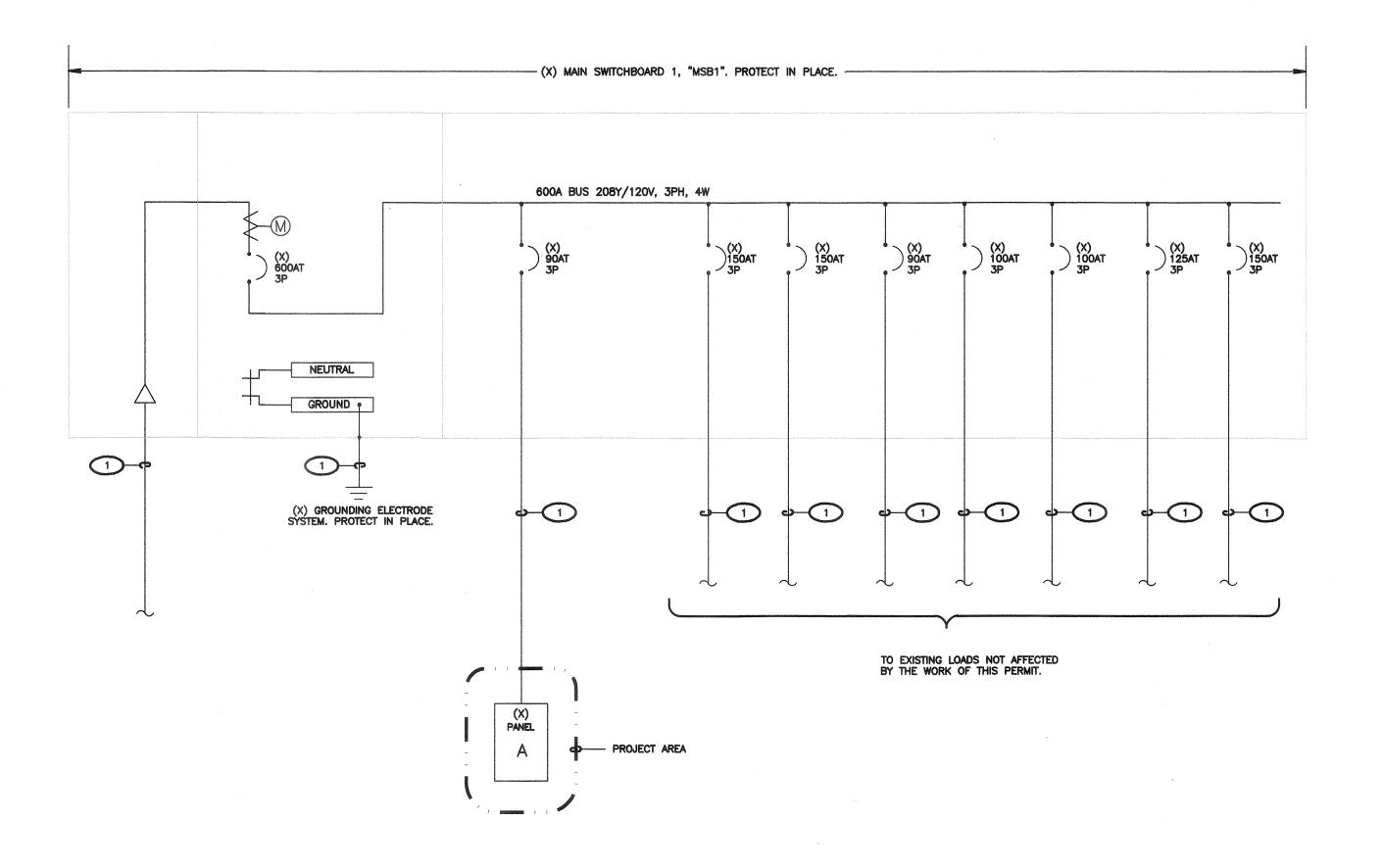
805.546.0433 fax: 805.546.0504

San Luis Obispo

REVISIONS

AKERSFIELD, CA 93307
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EXISTING PANEL GENERAL NOTES:

1. UON, ALL LOAD DESCRIPTIONS ARE EXISTING.

2. UON, ALL CIRCUIT BREAKERS DESIGNATED IN PANEL SCHEDULE ARE EXISTING.

* EXISTING CIRCUIT BREAKER IN SPACE #12 SHALL BE RELOCATED TO THIS POSITION. PROVIDE ALL NECESSARY WORK & MATERIALS IN ORDER TO MAINTAIN INTEGRITY OF EXISTING BRANCH CIRCUIT.

PROVIDE CIRCUIT BREAKER IN EXISTING SPACE.

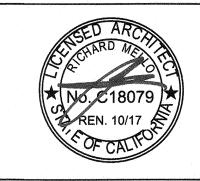
- VERIFY LOCATION OF ALL BUILDINGS AND APPENDITURES ON ARCHITECTURAL AND CIVIL PLANS.
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- 7. 1" CONDUIT MINIMUM UNDERGROUND.
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- 13. UNLESS NOTED OTHERWISE, ALL DEVICES AND TERMINATIONS SHALL BE RATED FOR 75 DEGREES CELSIUS.
- 14. ALL CONDUCTORS #8 AND SMALLER SHALL BE THHN/THWN CU. ALL CONDUCTORS #6 AND LARGER SHALL BE XHHW-2 CU.
- 15. PER CEC 110.24, SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- 16. PER CEC 110.16, ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

(NOTE: THESE NOTES MAY NOT APPEAR ON ALL SHEETS)

1 EXISTING FEEDER PROTECT IN PLACE,

SHEET NOTES

PRIME CONSULTANT



ARCHITECTURE PLANNING

San Luis Obispo

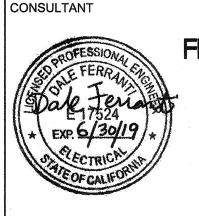
4119 Broad Street, Suite 210 San Luis Obispo, CA 93401

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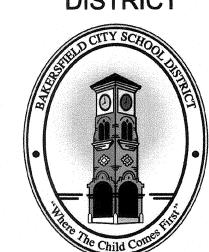


AGENCY INFORMATION:

AGENCY TRACKING NO. 63321-273

FILE NO. 15-6 IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT OFFICE OF REGULATION SERVICES 03-118201 ACTIK FLS SS OL DATE OCT 2 5 2017

BAKERSFIELD CITY SCHOOL DISTRICT



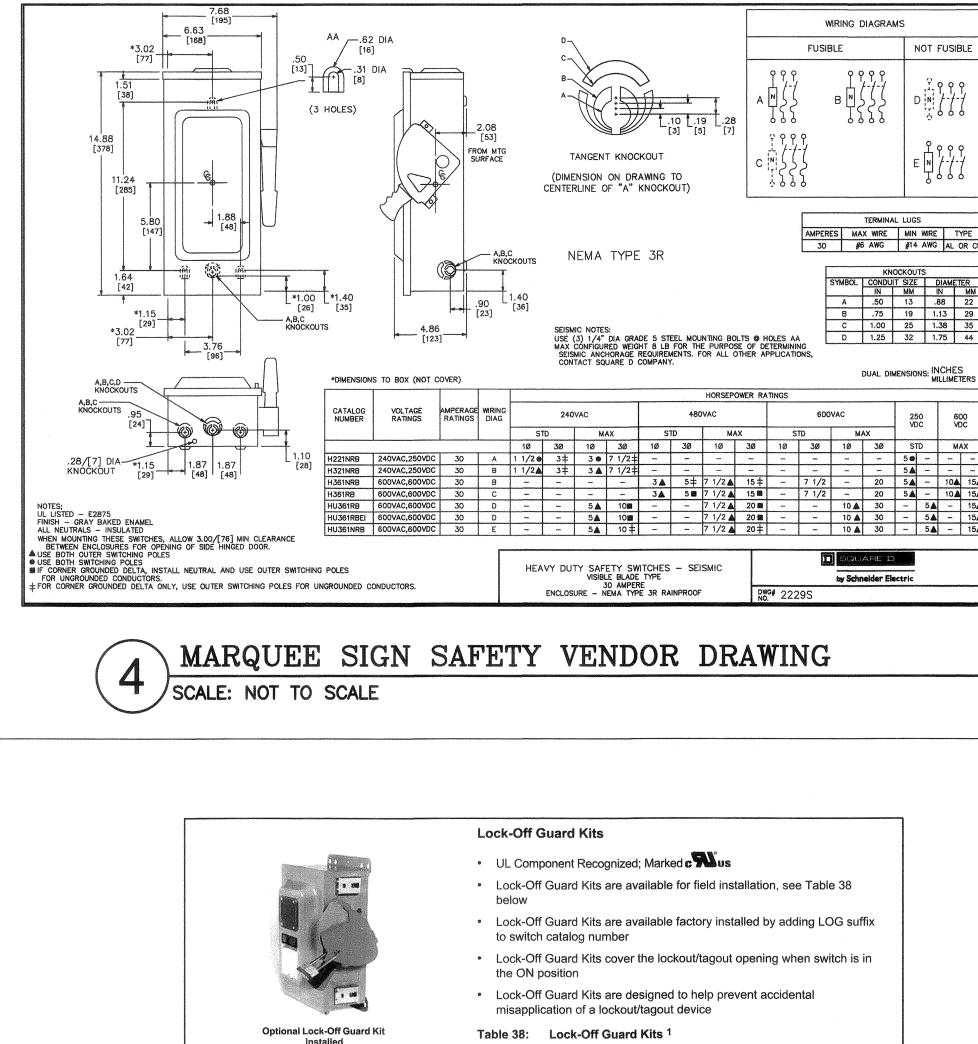
WAYSIDE E.S. - MARQUEE SIGN

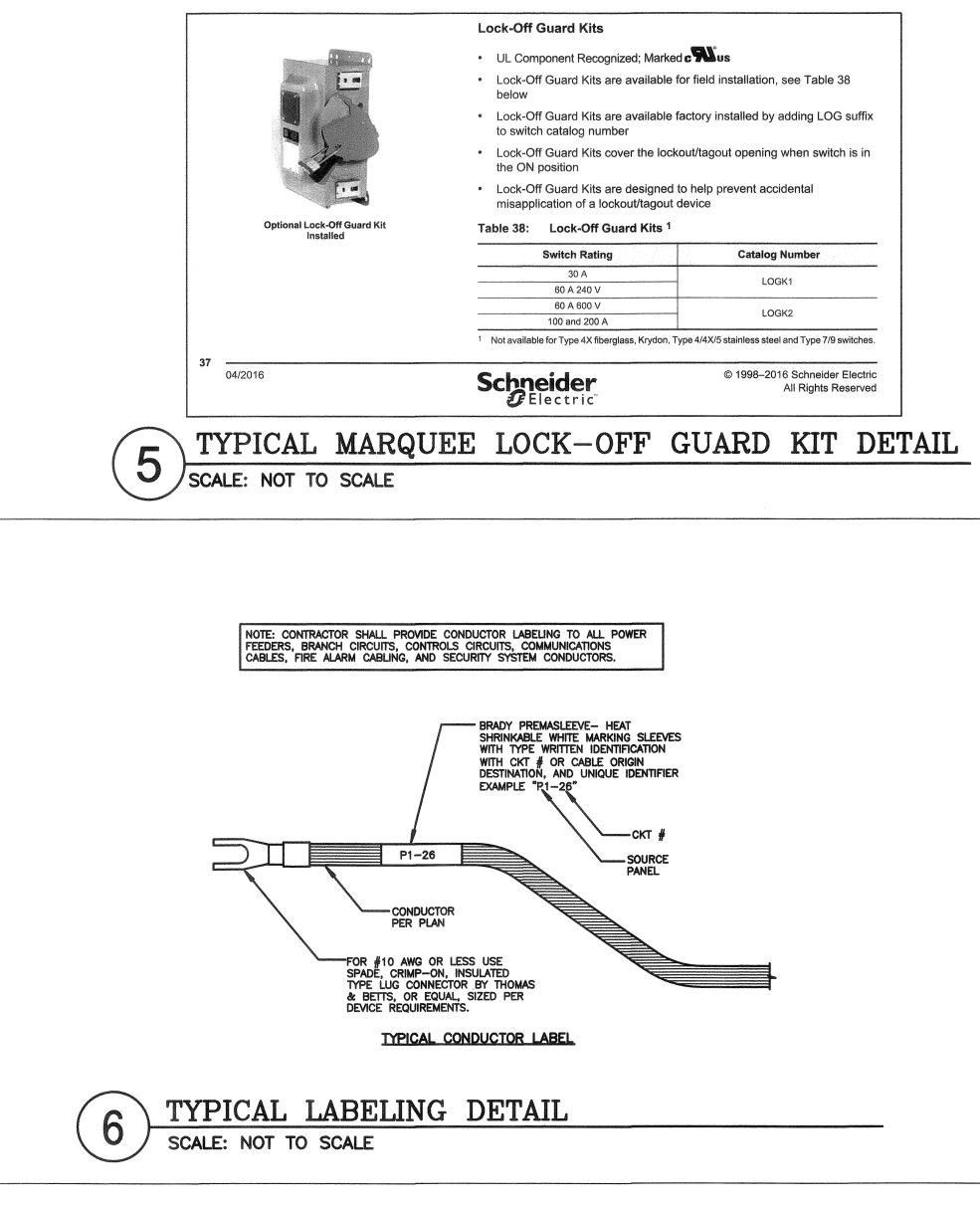
OPSC or OSHPD PROJ. NO:	
PROJECT NO:	
DRAWN BY:	VZ
CHK'D BY:	DF
ISSUE DATE:	10/19/2017
SHEET TITLE	

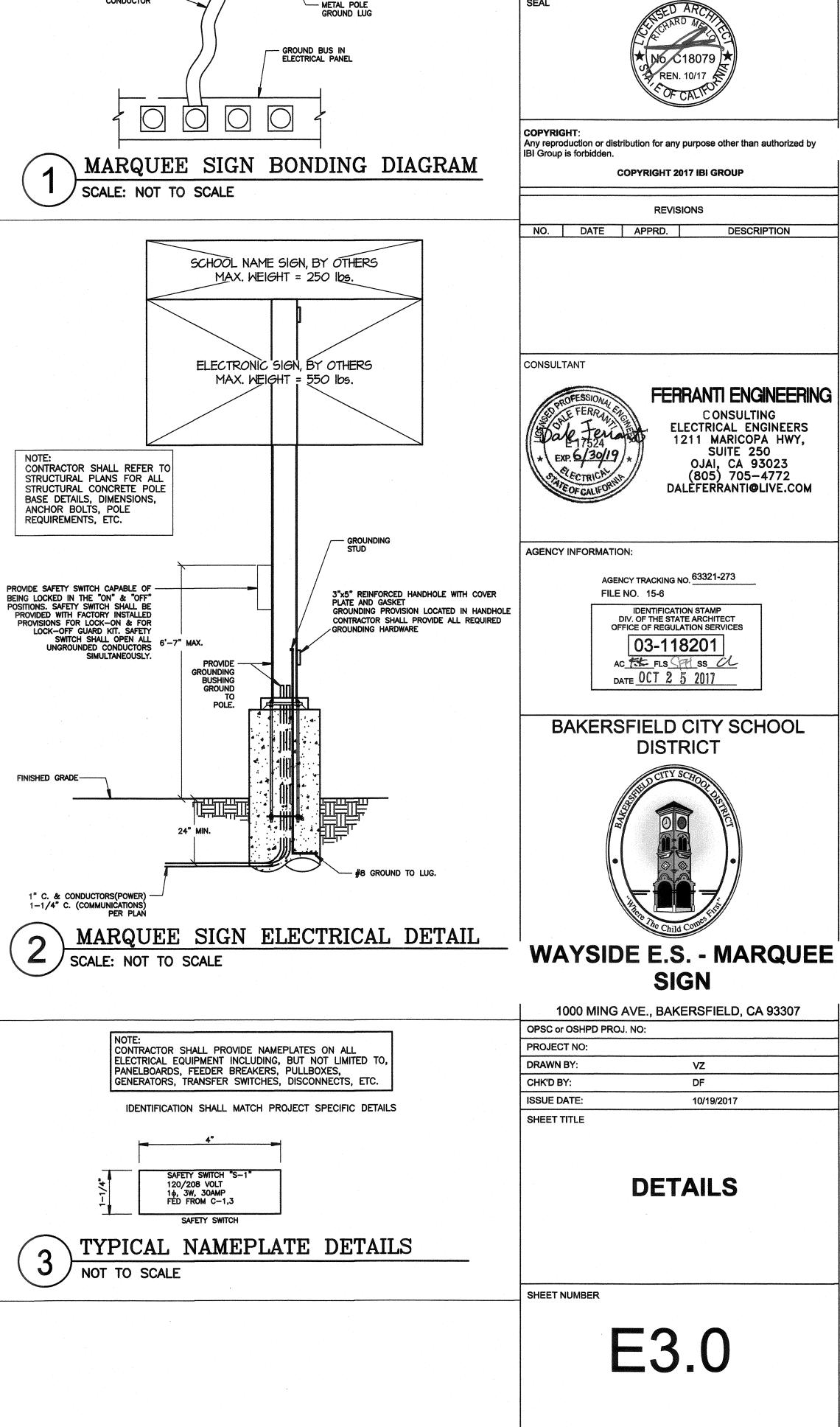
SINGLE LINE DIAGRAM

SHEET NUMBER

ONSTRU







MARQUEE SIGN GROUNDING LUG.

BONDING CONDUCTOR

EQUIPMENT GROUNDING -

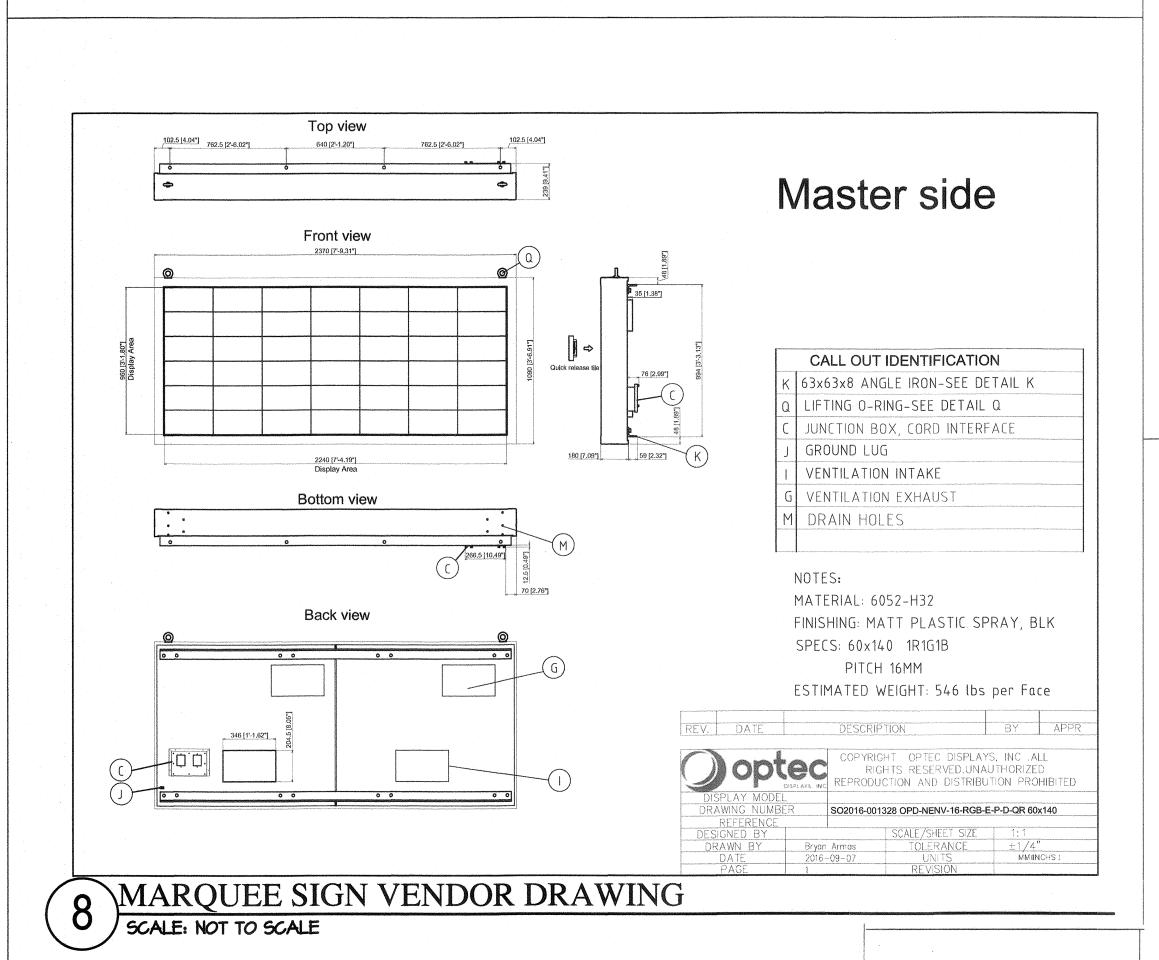
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4119 Broad Street, Suite 210 San Luis Obispo, CA 93401

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San Luis Obispo



AC Power cable

COMMUNICATIONS

PHOTO SENSOR

TEMP SENSOR

MARQUEE SIGN VENDOR DRAWING

DEVICE

POWER DISCONNECT

TYP. BY CUSTOMER.

/DISTRIBUTION

SEE POWER

TABLE

REQUIREMENTS

CAT5 Master/Slave data Cable

Back view

Total Power Required: 1260 Watt/Face

Avg.Operating Power: 365 Watt/Face

1260 10.5

INPUT VOLTAGE FOR DISPLAY MUST BE

**Electrical must be installed in accordance

with the requirements of National Electrical

COPYRIGHT OPTEC DISPLAYS, INC. ALL

SO2016-001328 OPD-NENV-16-RGB-E-P-D-QR 60x140

DETAIL K

1260 10.5

SPECIFIED AT TIME OF ORDER

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| Bryon Armas | TOLERANCE | ±1/4" | | 2016-09-07 | UNITS | MMINCHS | |

Codes or local codes.

REV. DATE DESCRIPTION

Max.Power Load Per Single Face

120 VOLT Each Circuit 240 VOLT Each Circuit

WATTS AMPS WATTS AMPS