

May 21, 2019

TO	:	All Bidders
FROM	:	James P. DiCamillo
PROJECT	:	Rowland High School New Custodial Building 1619700.41
subject Dsa	:	Addendum 1 03-119243 / 19-H54

The following changes, omissions, and/or additions to the Project Manual and/or Drawings shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

In case of conflict between Drawings, Project Manual, and this Addendum, this Addendum shall govern.

### 1. GENERAL

1.1 Refer to the attached document by Ledesma & Meyer Construction Co., Inc. dated May 21, 2019.

#### **PROJECT MANUAL**

- 1.2 SECTION 01 50 00 TEMPORARY FACILITIES AND CONTROLS
  - A. Remove this section in its entirety and replace with the attached Section 01 50 00.

### DRAWINGS

#### <u>Architectural</u>

- 1.3 Replace the following drawings with the attached revised drawings marked with Delta 1.
  - A. A1.2 Enlarged Partial Site Plans.

Addendum 1 Rowland High School New Custodial Building Project 1619700.41 DSA 03-119243 / 19-H54 May 21, 2019 Page 2

- B. A2.1 Floor, Reflected Ceiling, Roof and Enlarged Plans.
- C. 10.1 Specialty Details and Schedules.

## <u>Civil</u>

- 1.4 Replace the following drawings with the attached revised drawings marked with Delta 1.
  - A. C0.02 Abbreviations, Legend and Notes
  - B. C2.01 Precise Grading Plan
  - C. C3.01 Utility Plan
  - D. C4.01 Improvement Plan Details

### <u>Structural</u>

- 1.5 Replace the following drawings with the attached revised drawings marked with Delta 1.
  - A. S1.2 Typical Details
  - B. S2.1 Foundation Reflected Ceiling & Roof Framing Plans
  - C. S7.1 Details

### Mechanical/ Plumbing

- 1.6 Replace the following drawings with the attached revised drawings marked with Delta 1.
  - A. M2.1 Mechanical Floor Plan and Roof Plan
  - B. M7.1 Mechanical Details
  - C. P0.2 Plumbing Schedules
  - D. P2.1 Plumbing Floor Plan& Roof Plan
  - E. P3.1 Plumbing Details

Addendum 1 Rowland High School New Custodial Building Project 1619700.41 DSA 03-119243 / 19-H54 May 21, 2019 Page 3

### <u>Electrical</u>

- 1.7 Replace the following drawings with the attached revised drawings marked with Delta 1.
  - A. E0.1 Electrical Symbols and General Notes
  - B. E1.1 Power Site Plan
  - C. E1.2 Signal Site Plan
  - D. E2.1 Lighting and Power Floor Plan

## END OF ADDENDUM 1



No. C15937 REN. 11-30-2019

JPD:SA:hb/P41619700x1-add

Attachments: Document by Ledesma & Meyer Construction Co., Inc. dated May 21, 2019 Section 01 50 00 - Temporary Facilities and Controls A1.2, A2.1, 10.1, C0.02, C2.01, C3.01, C4.01, S1.2, S2.1, S7.1, M2.1, M7.1, P0.2, P2.1, P3.1, E0.1, E1.1, E1.2, E2.1



9441 Haven Avenue, Rancho Cucamonga, CA 91730-5435 Tel.(909) 476-0590 Fax (909) 476-0592 License # 735139

Tuesday, May 21, 2019

#### Item 1.1 – FRONT END CONTRACT DOCUMENTS

1.1 Reference the Front-End Contract Documents, Notice Calling For Bids, Paragraph 5, Documents Accompanying Bid Proposal. Revise the list of required documents to read as follows;

Bid Security	Verification of Pre-Qualification		
	Application Information		
Subcontractors List	DIR Registration Verification		
Non-Collusion Affidavit			

**1.2** Reference the Front-End Contract Documents, Bid Proposal, Paragraph 2, Documents Accompanying Bid Proposal. Revise the list of required documents to read as follows;

Bid Security	Verification of Pre-Qualification		
	Application Information		
Subcontractors List	DIR Registration Verification		
Non-Collusion Affidavit			

## Item 1.3 - NOTFICATION TO CONTRACTOR OF PROJECT SPECIAL NEEDS AND/OR REQUIREMENTS

Contractor is hereby advised that during the construction of this Project, the campus will be an active campus with classes in session and administrative personnel working between the hours of 7:00 a.m. and 4:00 p.m., Monday through Friday. Contractors Bid shall include all costs necessary to address and resolve the following conditions during the project:

 Project Schedule attached hereto as Attachment A. No deviations or revisions will be accepted or considered and the Bidder's submission of a Bid Proposal for this Project shall be deemed and constitute Contractor's acceptance of the project schedule. Any attempt by Bidder to deviate from or revise the Project Schedule shall result in Bidder's Bid Proposal deemed non-responsive. This Project Schedule shall be the basis for the contract requirements of Specification Section 01 32 17 Construction Schedule.

- 2. As the school campus will be active, Contractor shall provide for the continuous operation of all on-site utilities (wet and dry). No interruption of the facilities shall be permitted. Contractor shall employ his means and methods as to resolving this condition and all means and methods for maintaining the continuous operation shall be at the Contractor's sole expense.
- 3. Since the campus will be active during the Project duration, the Contractor shall allow for all conditions and costs that may arise in the storage and/or placement of the spoils created from the trenching and earthwork activities. Placement of large amounts of earth and spoils in areas during shall be approved by the Construction Manager. Any and all hauling of these spoils shall be at the Contractor's sole expense.
- The attached "Contractor Work Scope" hereto as Attachment B is composed of 67 Work Scope items. All costs associated with the items listed in the attached Work Scope shall be included in the Contractor's bid proposal.
- 5. Contractor shall include a **\$80,000.00** Cash Allowance into the base bid. Cash allowances shall be "NET" cost amounts. The contractor shall include all cost associated with the processing of items that may be charged against the designated allowance amount inlcuding estmating, project management, supervision, withholding of retention, overhead, profit and bond costs in their base bid. The only allowable markup shall be at 10% overhead and profit fee by any subcontractor that may perform work (labor) submitteed under the General Contractor. The General Contactor shall receive no additional markups. If any allowance amount (in whole or part) is deleted by change order at any given point of the project, the General Contractor shall credit back the full or unused portion of the allowance amount stipulated. The general contractor shall not be entitled to withhold any monies for overhead or profit or be obligated to return any overhead or profit included in the base bid. The use of any allowances is at the sole discretion of the Construction Manager.

# Rowland High School - Custodian Compound Project Schedule

Task	DUR.	June	July	Aug	Sept	Oct	Νον	Dec	January
Mobilization and Temp Fencing - June 19 - July 3	10								
Sawcuttiing and demo of Asphalt/Flatwork - July 3 - July 24th	15								
Grading and Excavation - July 24th - August 9th	12								
Building Foundations/Footings August 12 - Agust 23	10								
Rebar August 23 - August 30	5								
Underground Utlities - POC August 30 - September 20	10								
Place footings - Building August 30 - September 10	7								
Block/Retaining Walls August 26th - September 6	10								
Building Flatwork September 11 - 13	2							Winter Break	
Building Framing September 10 - October 8	20							12/23 - 1/10	
Roofing October 8 - October 14	5								
Exterior Finishes October 14 - November 9	20								
Interior Framing and Finishes October 21 - December 6	35								
Site Flatwork	10								
Fencing and Gates	15								
Construction Complete Begin Punch December 06.	10								
Closeout									

## Rowland High School - Custodion Compound Contractor Work Scope Special Conditions

1	Contractor shall be responsible to furnish all labor and materials to install work as shown on the Contract Documents
2	Contractor shall maintain an adequate and safe access in and out site . This shall include BMP/s to avoid any Track out.
З	Contractor shall maintain all utlities to the rest of the site during construction as not to disrupt other buildings. If any damage incurs it will be the Contractors
J	resbonsiblity to repair and pay for all damages.
4	
•	Provide all labor and materials for concrete and Asphalt paving per the Contract Documents. This shall include all excavation and compaction as required.
5	Contractor to provide and install all Bollards. This includes any footings and rebar as required by the Contract Documents
6	Contractor to provide and install all splash blocks at areas shown on the Contract Documents
7	Contractor shall provide and install all fencing and gates. This shall include all the required hardware for complete and operational gates. This shall also include
	any modifications required from existing fencing and/or gates to attach to new.
8	Contractor shall remove the Petro-Mat under existing Asphalt if located. Contractor is responsible to properly demo and dispose of said material at no
	additional cost. See addditional requirments on line Item #66.
0	maintain existing conditions that is not called to be demoved. Any damages to adjacent areas or areas damaged by this work will be the Contractors
9	responsibility to repair. This shall also include any Special Permits that may be required.
	Contractor shall furnish and install driven nest and fencing with Windscreen where the existing retaining/block wall is called out to be demoed in between the
10	adjacent Housings and vards. This shall include replacing or repairing any damage to stuctures or landscaping
11	Contractor shall furnish and maintain all Temporary fencing, barricades E.T.C. as required to protect and safe off all work.
11	
12	The words Demo and/or Remove on the Contract Documents shall include all proper hauling and disposing of. This shall include any and all additional
	requirments that may be needed to dispose of materials/debris as necessary. Contractor shall be responsible for any additiional fees if required.
13	Contractor shall provide and install all Signage per the Contract Documents
14	Contractor shall provide and install the (2) Ceiling mounted fans per the Contract Documents
15	Contractor shall provide and install All Restroom Accessories Per the Contract Documents. This shall include but not limited to, Handrails, Hand Dryers, all
	dispensers and Mirrors.
16	Contractor shall provide and install all Door and Window frames. This shall include all the required Hardware and Glazing per the Contract Documents
17	Contractor shall provide and install all the required Sill Plate Anchors and Bolts or any other Hardware as required. This shall include the Proper layout as
	required by the Contract Documents.
18	
	Contractor shall provide and install all Gutters/Downspouts as required. This shall include Splash Blocks as required per the Contract Documents.

19	Contractor is responsible for any Housekeeping pads that is required per the Contract Documents.
20	Contractor shall furnish and install all the required rough in Plumbing per the Contract Documents. It is the Contractors responsibility to verify all Plumbing connections and drains work properly. Contractor to notify the Construction Manager imeaditly if any discrepenacies occur.
21	Contractor shall provide and install all finish Plumbing per the Contract Documents. This includes but not limited to, Lavatories, Water Closets, Faucets, Floor Drains and Mop Sinks.
22	Contractor shall provide and install all the required Building Materials per the Contract Documents. This shall include but not limited to, all hardware, framing material, insulation, Plaster, Lath, Sheeting, Ceramic Tile, Backer Board, E.TC.
23	Contractor shall provide water truck service for AQMD and SWPPP's requirements. This water truck shall also be available with an operator 7 days a week and shall be mobilized at the direction of the Construction Manager for after hours AQMD situations. The contractor shall be the immediate contact provided to address AQMD and SWPPP concerns. Fugitive dust control must be maintained at all times in accordance with SCAQMD standards.
24	Contractor shall provide on-going water truck service for general on-site and off-site clean up related to the project construction activities. Such clean up shall include, but not be limited to; washing down the site flatwork and structures within <u>and</u> outside of construction areas where dirt and dust has accumulated, water down dirt stock piles to help control dust issues and washing of public access areas.
25	
	Contractor shall furnish, install and continually maintain all temporary erosion control and site drainage measures during the duration of the project. Measures
	to be per the Storm Water Pollution Prevention Plan (SWPPP) as called out in the contract documents. This is not an option of the contractor. This work must
	be in place at the start of the project. All costs to furnish, install and maintain erosion control materials shall be included in the contractors bid. All erosion
	control measures shall be moved and reset as required per phase. Contractors shall modify SWPPP measures as necessary to address project progress.
26	Contractor shall provide, install and maintain wheel shaker plates across the width of the Valencia Street access/haul road and construction entrance/exit at
	Otterbein in an approved location by the construction manager. Barriers are to be set up in order to keep construction vehicles from driving around the plates.
	If dirt track out becomes an issue on public roads it will be the responsibility of the contractor to address the issue immediately by means of providing and
	operating a street sweeper to clean the roads to the satisfaction of the Construction Manager. Contractor to remove snaker plates from the site and end of the
27	project.
27	superintendent and foremen shall provide conies of SCAOMD and SWPPPs training certificates for the job site records
28	Contractor shall furnich, install and maintain all temporary construction newer related items; including generators, "Enider Boyes" and extension cords. The cost
20	of power usage to be borne by the District. All other power related costs are to be included in the contractor's bid.
29	Contractor shall furnish, install and maintain (2 total), and the Inspector adjacent to the Construction Manager's trailer. Toilet stations are to have the hand
_	wash option and the ability to be locked. Service for units shall bi-weekly.
30	Contractor shall provide and maintain temporary restroom and hand wash stations facilities on site for construction workers use. Quantity of units are to be
	provided per OSHA standards and per the construction manager. Toilets are to be serviced and cleaned twice a week. Location of the toilets are to be approved
	by the construction manager. The campus restroom facilities are not to be used at anytime.

31	Contractor shall provide and install the required temporary directional signage throughout the campus to notify public and students of revised path of travel to
	relocated buildings, classrooms and facilities. Sign boards are to be professionally made of 3/4" plywood substrate and painted on both sides with exterior semi
	gloss white paint and 6" blue lettering. Signs are to mounted to a driven post in a secure fashion to last throughout the construction period. Upon removal of
	sign posts the surface area effected is to be patched and repaired to match existing surfaces. Contractor shall be responsible to furnish and install a minimum of
	(60) signs.
32	Contractor shall limit noise levels in particular areas that effect surround buildings during the District's testing periods and daily instruction. Refer to the
	District's front end general and special conditions for details.
33	Contractor shall be responsible for clean up on a daily basis. The site shall kept clean and safe at all times. At no time shall trash and construction debris be
	allowed accumulate and be piled up for future pick up and removal. The Construction Manager and District reserve the right to request areas of special clean
	up, if needed, to take place within a 24 hour period. Costs for special clean up, if necessary, shall be paid by the contractor. All adjoining areas to the
	construction area are to be kept clean and washed down as needed to remove dust on surfaces and structures. Reference project specifications for more
	details.
34	Construction employee parking is to only take place inside the fenced in contractor parking lot as described in CMSK 02. Parking is prohibited anywhere else on
	site. At no time will any employees be permitted to park their vehicles between or around buildings. Only vehicles with consent of the Construction Manager
	will be allowed to park outside the designated parking area.
35	All Construction Personnel shall be confined within the construction limits or work lines. At no time will any construction persons, vehicle's, or equipment, be
	allowed outside the construction area. All staging, parking areas, construction path of travel, delivery schedules, etc. are to be coordinated through the
	Construction Manager.
36	
	Hours of work shall be determined solely by the Construction Manager (generally from 7am to 3pm as approved by the Construction Manager and subject to
	change). Gates and work areas are to remained locked until the contractor superintendent or foreman approved by the construction manager arrives on site.
37	Contractor and sub-contractor employees are to wear the proper work and safety attire; shirts and long pants worn at all times, no offensive graphics to be
	displayed on employee's clothing. It is preferable for all contractor and sub-contractors to wear company issued attire.
38	
	Contractor and sub-contractor employees shall follow proper site etiquette. The following actions are prohibited: Student interaction and conversing of any kind
	before, during or after work hours, playing loud music anywhere on campus in or outside of vehicles, loitering on site before or after job site work hours.
39	Contractor shall pay and maintain cell phone service for their project and sub-contractor foremen throughout the duration of the project for continuous
	communication with the Construction Managers.
40	Contractor shall provide and pay for security of all their site stored materials, tools and equipment.
41	The Construction Manager shall review and approve the placement of all temporary storage containers, trailers and stored materials on site.
42	At no time will a contractor or sub-contractor drive or park on new or existing concrete flatwork without prior consent of the Construction Manager. It will be
	the contractor's responsibility to keep their employees, sub-contractors, suppliers and company vehicles off said concrete. Any damage, tire marks or cracking
	on concrete slabs found at anytime as a result of violation of this Work scope item will cause the contractor to be held responsible for the repairs. At the end of
	the project, all concrete flatwork is to be washed down to remove dirt and tire marks.

43	If required, the contractor shall first obtain permission from the Construction Manager and then carefully remove and reinstall any chain link, ornamental iron
	and/or temporary fencing encountered while installing work and/or obtaining access to their work area to the satisfaction of the Construction Manager. Fencing
	shall be repaired, relocated, and replaced on a daily basis to ensure continual site security and safety.
44	Upon written notice from the Construction Manager, all storage bins, stored materials and trailers will be moved to a location designated by the Construction
	Manager within 48 hours for the purpose of site improvements. If this work is not completed within the timeline given, the materials, storage bins and trailers
	will be moved at the contractor's expense.
45	Contractor shall provide all traffic control, barricades, warning lights, signs, signalmen, etc. required for the execution of the work for the project. Prepare and
	submit traffic control plans and/or pay fees as may be required by the governing authorities.
46	Contractor shall saw cut existing concrete & paving to provide a smooth edge for patching and/or adjoining new work to existing improvements as required.
47	Any area found requiring de-watering (due to ground water table and/or rain fall) in order to perform work shall be performed within the timeline given in a
	written notice from the Construction Manager. Cost associated with this effort shall be borne by the contractor.
48	Contractor shall leave any holes or trenches in an open condition as per Cal OSHA safety standards.
49	It shall be the responsibility of the contractor to properly cap any irrigation and utilities which may be disturbed during the demolition process per the
	applicable specifications
50	All gates separating construction areas from existing campus must remain closed at all times.
51	Contractor shall provide temporary fencing, barricades and trench plates as necessary to safely secure work areas from existing campus which fall outside of the
	limit lines shown on the drawings.
52	Contractor shall load, properly haul, and legally dispose of to an offsite location all unsuitable "spoils". This includes procurement & payment of all hauling
	permits and/or dump fees which may be required.
53	Contractor shall haul excess soils off the site. At no time will soils be stock piled on site. At no time will soils be stock piled on site for use from one phase to
	another phase.
54	Contractor shall furnish, install and pay all costs related to a water meter used for all over excavation, demolition and grading.
55	Contractor shall be responsible to include all costs associated with the import or export of soils necessary to achieve final grades in accordance with the contract
	documents.
56	Contractor shall include in their contract all work identified in the abatement survey and specification documents provided within the contract documents. The
	District will provide an abatement consultant to monitor and oversee the contractor's abatement contractor.
57	During the course of the project, the contractor shall keep the swimming pool and gymnasium facilities operational at all times. The contractor shall provide the
	appropriate sized generator, fuel, electrical cords, maintenance and other related items necessary. Associated costs shall be paid for under the project
	allowance.
58	Contractor shall have all employees fingerprinted per the District Special Conditions. A list of fingerprinted employees, on a company letterhead, is to be
	provided to the Construction Manager prior to the employee reporting to the site. Employees not shown the list will be asked to be leave the site and not
	commence work until they have completed the fingerprinting procedure. The contractor is to have a current, dated, list of fingerprinted employees available on
	site at all times for reference by the Construction Manager.
59	Contractor shall funrinsh and install all Casework as required per the Contract Documents. This shall include any coordination required for keying

60	Contractor shall furnish and install all Fire Extingusher Cabintes as required per the Contract Documents.
62	
	Contractor shall furnish and install the Roll Up Doors as required per the Contract Documents. Contractor is responsible for having Roll Up doors manufactured
	in a timely fashion as not to hold up the completion of the project. Any and all fees will be beared by the Contractor if the schedule is impacted
63	Contractor shall furnish and install a "Complete" and "Operable" Fire Alram System per the Contract Documents. This shall include any Specialty Inspections as
	needed at no additional cost. District and Fire Alarm Monitoring companyshall be notified prior to any testing. If testing is required after hours or weekends this
	will be completed at no additional cost
64	Contractor shall Furnish and install the Heat Pumps as required per the Contract Document.
65	Contractor shall furnish and install all HVAC Equipment as required per the Contract Documents. This shall include but not limited to, Wall mounted Fan Coil,
	Exhaust Fans and Gravity Vents.
66	Contractor shall load, properly haul, and legally dispose of petro-mat asphalt generated during the asphalt demo process. This includes procurement and
	payment of all hauling permits and/or dump fees which may be required and additional trucking fees associated with delivering the spoils to the abatement
	facility. Petro-mat is defined as the oil saturated, fibrous, sheet material, typically, "sandwiched" between the top and bottom layers of asphalt. All the existing
	asphalt throughout the site is presumed to contain petro-mat which needs to be hauled to an approved dump site.
67	
	Contractor is responsible for any additional Demo and patch back of any said utilities that require to be connected ouside the Demo Foot Print area. This
	includes but not ,limited too Sheet C2.01, C3.01 and E1.2.

#### SECTION 01 50 00

#### TEMPORARY FACILITIES AND CONTROLS

#### 1. PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, telephone service, communication service, water, and sanitary facilities.
- B. Temporary Controls: Barriers, enclosures and fencing. Water, erosion, pollution, noise and fire protection control.
- C. Construction Facilities: Access roads, parking, progress cleaning, project signage, and temporary buildings.

#### 1.2 SUBMITTALS

- A. Moisture-Protection Plan:
  - 1. Submit Moisture Protection Plan under provisions of Section 01 33 00.
  - Describe procedures and controls for protecting materials and construction from moisture absorption and damage, including delivery, handling, and storage provisions for materials subject to moisture absorption or moisture damage, discarding moisture-damaged materials, protocols for mitigating moisture intrusion into completed Work, and replacing moisture damaged Work.
  - 3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, sawing and grinding, and describe plans for dealing with water and moisture from there operations.
  - 4. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

#### 1.3 TEMPORARY ELECTRICITY

- A. Connect to existing power service at location as directed. Power consumption shall not disrupt Owner's need for continuous service. Owner will pay for cost of energy used. Exercise measures to conserve energy.
- B. Provide power outlets for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.
- C. Provide main service disconnect and over current protection at convenient location.
- D. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service.
- E. Permanent convenience receptacles may not be utilized during construction.

#### 1.4 TEMPORARY LIGHTING

- A. Provide and maintain lighting for construction operations, observations, inspections, and traffic conditions.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Maintain lighting and provide routine repairs.
- D. Permanent building lighting may not be utilized during construction.

(1)

#### 1.5 TEMPORARY HEATING/COOLING

- A. Provide and pay for devices as required to maintain specified thermal conditions for construction operations.
- B. Only electric or indirect fired combustion heaters shall be used. No direct fired space heaters will be allowed.
- C. Heaters will be equipped with controls to automatically turn off heater if airflow is interrupted or internal temperature exceeds design temperature.
- D. Do not use permanent equipment for temporary purposes.
- E. Maintain minimum ambient temperature of 50 degrees F and maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.
- F. Maintain temperature above dew point of enclosed space based upon relative humidity of enclosed area.
- G. Continuously monitor temperature of enclosed space(s) using an electronic monitoring device (s). Place devices in locations that will record average temperature of building(s). Provide print out to Architect upon request.

#### 1.6 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to assist cure of materials and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Do not use permanent equipment for temporary ventilation purposes.
- C. Ventilate enclosed spaces to dissipate humidity. Maintain a maximum relative humidity level of less than 60 percent. Avoid pockets of high humidity.
- D. Continuously monitor humidity of enclosed space(s) using an electronic monitoring device(s). Place devices in locations that will record average humidity of building(s). Provide print out to Architect upon request.

#### 1.7 TEMPORARY HUMIDITY CONTROL

- A. Provide temporary ventilation during construction activities to protect installed construction from adverse effects of high humidity and moisture.
- B. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- C. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- D. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- E. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.

#### 1.8 TELEPHONE SERVICE

- A. Provide, maintain and pay for telephone service to field office and Owner's/Inspector's field office at time of project mobilization. Inspector's office to have separate telephone line.
- B. Provide mobile telephone service for project superintendent for use when away from field office.
- C. Provide, maintain and pay for Facsimile machine in field office. Provide separate dedicated telephone line for machine.

WLC/1619700	TEMPORARY FACILITIES A	ND CONTROLS 01 50 00
	Addendum 1	(2)

#### 1.9 TEMPORARY WATER SERVICE

- A. Provide, maintain and pay for suitable quality water service required for construction operations. Contractor may obtain water from existing fire hydrant if appropriate clearances are acquired and fees paid.
- B. Extend branch piping with outlets located so water is available by hoses with threaded connections.

#### 1.10 TEMPORARY SANITARY FACILITIES

- A. Provide temporary chemical type toilet facilities and enclosures and hand wash stations for all tradesmen during construction period as required by OSHA. Additional unit facilities to be provided at Construction Manager's request.
- B. Maintain temporary toilet facilities in a sanitary manner. Provide twice a week service as required.
- C. Existing facilities shall not be used.
- D. Facilities shall comply with the accessibility requirements of the CBC California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Section 11B-201.4. In addition to the chemical toilet and hand wash facilities for the construction workers, provide, pay for, and maintain bi-weekly 1 temporary toilet and hand wash facility for the sole use of the Construction Manager and Project Inspector.

#### 1.11 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide protection for plant life and trees designated to remain and for soft and hardscape areas adjacent to work, replace damaged materials in kind.
- C. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

#### 1.12 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks. Post fences and gates with no trespassing signs.

#### 1.13 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Provide water barriers as required to protect site from running water.
- 1.14 EROSION AND SEDIMENT CONTROL
  - A. Conform to Best Management Practices for erosion and sediment control and non-storm water management as defined in Sections 3 and 4 of the Construction Activity Handbook published by the Storm Water Quality Association.
  - B. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
  - C. Minimize amount of bare soil exposed at one time.
  - D. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
  - E. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.

WLC/1619700	TEMPORARY FACILI	TIES AND CONTROLS 01 50 00
	Addendum 1	(3)

#### 1.15 TEMPORARY FIRE PROTECTION

- Maintain temporary fire protection facilities of the types needed until permanent facilities are installed. Α.
- Β. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations".
- C. Fire safety during construction shall comply with CFC - California Fire Code (CCR) California Code of Regulations, Title 24, Part 9, Chapter 33.
- D. Store combustible materials in containers in fire-safe locations.
- Ε. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways, and other access routes.
- F. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.

#### 1.16 NOISE CONTROL

Provide methods, means, and facilities to minimize noise produced by construction operations. Α.

#### 1.17 POLLUTION CONTROL

- Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from Α. discharge of noxious, toxic substances, and pollutants produced by construction operations.
- Conform to Best Management Practices for waste management and material controls as defined in Section 4 Β. of the Construction Activity Handbook published by the Storm Water Quality Association.

#### 1.18 EXTERIOR ENCLOSURES

- Provide temporary weather-tight closure of exterior openings to accommodate acceptable working conditions Α. and protection for materials, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification Sections, and to prevent entry of unauthorized persons.
- В. Provide access doors with self-closing hardware and locks.

#### **1.19 INTERIOR ENCLOSURES**

Provide temporary partitions and ceilings as required to separate work areas from Owner occupied areas, Α. to prevent penetration of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

#### 1.20 SECURITY

- Α. Provide security and facilities to protect Work and existing facilities and Owner's operations from unauthorized entry, vandalism, or theft.
- Β. Coordinate with Owner's security program.

#### 1.21 ACCESS ROADS

- Construct and maintain temporary roads accessing public thoroughfares to serve construction area. Extend Α. and relocate as Work progress requires. Provide detours necessary for unimpeded traffic flow.
- Β. Stabilize temporary vehicle transportation routes and construction entrances to prevent erosion and control dust immediately after grading in accordance with best management practice techniques defined in Section 3 of the Construction Activity Handbook published by the Storm Water Quality Association.
- Maintain stabilization techniques as work progresses. C.

- D. Provide and maintain access to fire hydrants, free of obstructions.
- E. Designated existing on-site roads may be used for construction traffic.

#### 1.22 PARKING

A. Arrange for temporary gravel surface parking areas to accommodate construction personnel.

#### 1.23 TRAFFIC CONTROL

- A. Comply with requirements of authorities having jurisdiction.
- B. Obtain all permits, provide all materials and maintain controls as required of authorities having jurisdiction.
- C. Maintain access for fire-fighting equipment and access to hydrants.

#### 1.24 PROGRESS CLEANING

- A. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- B. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- C. Provide walk-off mats at each building entry.

#### 1.25 WASTE DISPOSAL

- A. Provide waste collection containers in sizes adequate to handle waste from construction operations.
- B. Maintain building areas free of waste materials, debris, and rubbish.
- C. Remove waste materials, debris, and rubbish from site periodically and legally dispose of off site.
- D. Maintain site area in a clean and orderly condition.

#### 1.26 FIELD OFFICES

- A. Field offices will be provided by the District.
- B. Maintain approach to office free of mud and water.
- C. When permanent facilities are enclosed with operable utilities, relocate offices into building, with written agreement of Owner, and remove temporary buildings.
- D. Facilities shall comply with the accessibility requirements of the CBC California Building Code, (CCR) California Code of Regulations, Title 24, Part 2, Section 11B-201.4.

#### 1.27 STORAGE AREAS AND SHEDS

A. Size to storage requirements for products of individual Sections. Allow for access and orderly provision for maintenance and for inspection of products.

#### 1.28 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Maintain temporary equipment, facilities and controls until Substantial Completion or when use is no longer required.
- B. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion review.

WLC/1619700	TEMPORARY FACILITIE	S AND CONTROLS 01 50 00
	Addendum 1	(5)

- C. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- D. Clean and repair damage caused by installation or use of temporary work.
- E. Materials and facilities that constitute temporary facilities are property of the Contractor.
- F. Restore existing facilities used during construction to original condition.
- G. Restore permanent facilities used during construction to specified condition.
- H. Replace construction that cannot be satisfactorily restored.

#### 2. PART 2 PRODUCTS

#### Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

(6)





3/8"=1'-0"





![](_page_18_Figure_1.jpeg)

![](_page_19_Figure_0.jpeg)

			_
-			
JR			
Т			
-			
1	7		3
E			
2"			
2	8		4

![](_page_19_Figure_2.jpeg)

ABBRE	VIATIONS A-M
ABAND.	- ABANDON OR ABANDONED
AC OR A C	- ASPHALT CONCRETE
ACP OR A.C.P.	- ASBESTOS CONCRETE PIPE
AGG OR AGG.	- AGGREGATE
&	- AND - ANGLE
۲ ۲ ۵ ۵	- ANGLE (STRUCTURAL) - ANGLES - AT
APPD. EQ.	- APPROVED EQUAL
APPROX.	- APPROXIMATE
ART	- ARTICLE
ARV OR A.R.V.	- AIR RELEASE VALVE
ASSY	- ASSEMBLY
AV OR A.V.	- AIR VALVE
AVE OR AVE.	- AVENUE
AWWA	- AMERICAN WATER WORKS ASSOCIATION
BC OR B.C.	- BEGINNING OF CURVE
BCR OR B.C. R	- BEGIN CURVE RETURN
BDRY OR BDRY.	- BOUNDARY
B'FLY.	- BUTTERFLY
BLDG OR BLDG.	- BOILDING
BLVD OR BLVD.	- BOULEVARD
BM OR B.M.	- BENCH MARK
BO OR B.O.	- BLOW OFF
BOT.	- BOTTOM
BS OR B S	- BOTTOM OF STEP
BV OR B.V.	- BUTTERFLY VALVE
BW OR B.W.	- BACK OF WALK
CAB OR C.A.B.	- CRUSHED AGGREGATE BASE
CALCS.	- CALCULATIONS
CATV OR C.A.T.V.	- CABLE TELEVISION
CB OR C.B.	- CATCH BASIN
C C	- CENTER TO CENTER
CF OR C.F.	- CURB FACE
CH'KD PL	- CHECKERED PLATE
CI OR C.I.	- CAST IRON
CIP OR C.I.P.	- CAST IRON PIPE
CL OR Ç	- CENTER LINE
CL. CLF OR C.L.F.	- CLASS - CHAIN LINK FENCE - CLEARANCE
CMC OR C.M.C.	- CEMENT MORTAR COATED
CML & C	- CEMENT MORTAR LINED AND COATED
CML & P	- CEMENT MORTAR LINED AND PAINTED
CML & W	- CEMENT MORTAR LINED AND WRAPPED
CMP OR C M P	- CORRUGATED METAL PIPE
CMU OR C.M.U.	- CONCRETE MASONRY UNIT
CO OR C.O.	- CLEAN OUT
CO.	- COMPANY
COEF.	- COEFFICIENT
COL.	- COLUMN
CONC.	- CONCRETE
COND.	- CONDUIT
CONST.	- CONSTRUCT
CONT OR CONT.	- CONTINUOUS
COORD.	- COORDINATE
CORP.	- CORPORATION
CP or C.P.	- CONCRETE PIPE
CPI G or CPI G	- COUPLING
CTR OR CTR. CU OR CU.	- CUBIC
CY OR C.Y. CYL OR CYL. 	- CUBIC YARD - CYLINDER
DBL.	- DOUBLE
DDCA OR D.D.C.A.	- DOUBLE DETECTOR CHECK ASSEMBLY
Δ DEPT OR DEPT.	- DEGREE - DELTA - DEPARTMENT
DET.	- DETAIL
DI OR D.I.	- DUCTILE IRON
DIP OR D.I.P	- DUCTILE IRON PIPE
D, DIA., OR $\phi$	- DIAMETER
DL OR D.L.	- DRIP LINE
DL.	- DAYLIGHT
DN OR DN.	- DOWN
DS	- DOWN SPOUT
DR OR DR.	- DRIVE
DRWY OR DRWY.	- DRIVEWAY
E	- EAST
E/O	- EAST OF
EC OR E.C.	- END OF CURVE
ECR OR E.C.R.	- END OF CURVE RETURN
EG OR E.G.	- EDGE OF GUTTER
EP OR E.P.	- EDGE OF PAVEMENT
EX OR EXIST	- EXISTING
FE OR F.E.	- FLANGED END
FF OR F.F.	- FINISHED FLOOR
FG OR F.G.	- FINISHED GRADE
FH OR F.H.	- FIRE HYDRANT
FL OR F.L.	- FLOW LINE
FLG OR FLG.	- FLANGE
FLGD OR FLGD. FS OR F.S. EW OB E W	- FLANGED - FINISHED SURFACE
FW OK F.W. FT.	- FOOT OR FEET
GA.	- GAGE OR GAUGE
GAL OR GAL.	- GALLONS
GALV OR GALV.	- GALVANIZED
GB OR G.B.	- GRADE BREAK
G.I.P.	- GALVANIZED IRON PIPE
GM OR G M	- GAS METER
GL	- GAS LINE
GND.	- GROUND
GP OR G.P.	- GUY POLE OR GUARD POST
GV OR G.V.	- GAS VALVE
GW OR G.W.	- GUY WIRE
HB OR H.B.	
HDPE OR H.D.P.E.	- HIGH-DENSITY POLYETHYLENE
HL OR H.L.	- HOUSE LATERAL
Horiz.	- HORIZONTAL
HP.	- HORSE POWER
HP or H.P.	- HIGH POINT
HT OR HT.	- HEIGHT
HWY OR HWY.	- HIGHWAY
ICB OR I.C.B.	- IRRIGATION CONTROL BOX
ICV OR I.C.V.	- IRRIGATION CONTROL VALVE
ID OR I.D.	- INSIDE DIAMETER
IN OR "	- INCH
INC.	- INCORPORATED
- INCL.	- INCLUDING
INST.	- INSTALL
INT	- INTERIOR
INTS.	- INTERSECTION
INV OR INV.	- INVERT
IP OR I.P.	- IRON PIPE
IPS OR I.P.S.	- IRON PIPE SIZE
IRRIG OR IRRIG.	- IRRIGATION
JB	- JUNCTION BUILDING
LACFCD	- LA COUNTY FLOOD CONTROL DISTRICT
LAT.	- LATERAL
LE OR LE. LF OR L.F. LG.	- LINEAR FEET - LENGTH OR LONG
LL	- LOT LINE
LN OR LN.	- LANE
L ONG	- LONGITUDINAI
LP OR LP.	- LOW POINT OR LAMP POST
LSA	- LANDSCAPE AREA
LS OR L.S.	- LUMP SUM
LT.	- LEFT
LUB.	- LUBRICATED
MAX.	- MAXIMUM
MR OR MR	- MAIL BOX
MFR.	- MANUFACTURER
MH OR M.H.	- MANHOLE
MHR	- MANHOLE RIM
MI.	- MILE
MID.	- MIDDLE
MIN.	- MINIMUM
Kno	w what's <b>below</b> .
SH-J.®	DIC ALEDET STRICT
	DICALCKI
A Free Public Service Provided by Underground Service Alert of Sout	hern California

ABBREVIATIONS N-Z				
D C. G. C OR N.I.C. D. OR # S. S. M. S OR N.T.S.	- NORTH - NORTH OF - NORMALLY CLOSED - NEGATIVE - NOT IN CONTRACT - NUMBER - NUMBERS - NOMINAL - NOT TO SCALE			
E OR O.A.E. OR O.C. OR O.D.	- OR APPROVED EQUAL - ON CENTER - OUTSIDE DIAMETER			
OR P.A. C OR P.C.C. OR P.E. OR P.L. C OR P.O.C. OR P.P. C OR P.R.C. I OR P.S.I. C OR P.V.C.	<ul> <li>PLANTER AREA</li> <li>PORTLAND CEMENT CONCRETE</li> <li>PAD ELEVATION OR PLAIN END</li> <li>PROPERTY LINE</li> <li>POINT OF CONNECTION</li> <li>POWER POLE</li> <li>POINT OF REVERSE CURVE</li> <li>PRESSURE PER SQUARE INCH</li> <li>POLY VINYL CHLORIDE</li> </ul>			
Y OR QTY.	- QUANTITY			
DR RAD. DR RL B OR R.C.B. P OR R.C.P. OR R.D. F. INF.	- RADIUS - RIDGE LINE - REINFORCED CONCRETE BOX - REINFORCED CONCRETE PIPE - ROOF DRAIN - ROAD - REFERENCE - REINFORCING			
L. S. V. S. OR R.P. P OR R.P.P. OR R.R. 4 V OR R/W	<ul> <li>RELATIVE</li> <li>RESERVOIR</li> <li>REVISION</li> <li>ROUGH GRADE</li> <li>ROOF OVERHANG</li> <li>RADIUS POINT</li> <li>REDUCED PRESSURE PRINCIPAL</li> <li>RAIL ROAD</li> <li>SINGLE FAMILY RESIDENCE</li> <li>RIGHT</li> <li>RIGHT OF WAY</li> </ul>			
/GV OR R.W.G.V.	- RESILIENT WEDGE GATE VALVE - RAILWAY			
D C.C.P. OR S.D. MH OR S.D.M.H. CT. OR S.F. R SEC. T OR SHT. PWC OR S.P.P.W.C. B OR S.L.B. OR S.L. H OR S.M.H. OR S.S. EC'S. OR ST. OR ST. OR ST. L OR STL. R. S1E S1E S2E S M.	<ul> <li>SOUTH</li> <li>SOUTH OF</li> <li>STEEL CYLINDER CONCRETE PIPE</li> <li>STORM DRAIN</li> <li>STORM DRAIN MANHOLE</li> <li>SECTION</li> <li>SQUARE FEET</li> <li>SECOND</li> <li>SHEET</li> <li>STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION</li> <li>SIGNAL LIGHT BOX</li> <li>SQUARE</li> <li>STREET LIGHT</li> <li>SEWER MANHOLE</li> <li>SANITARY SEWER</li> <li>SPECIFICATIONS</li> <li>STREET</li> <li>STREET LIGHT</li> <li>STREET LIGHT</li> <li>STREET LIGHT</li> <li>STREET LIGHT</li> <li>STREET LIGHT</li> <li>STREET LIGHT</li> <li>STREET</li> <li>STREET LIGHT</li> <li>STREET</li> <li>STREET LIGHT</li> <li>SURFACED 1 SIDE &amp; 1 EDGE</li> <li>SURFACED 1 SIDE &amp; 2 EDGES</li> <li>SURFACED 1 SIDE</li> <li>SURFACED 1 EDGE</li> <li>SURFACED 1 EDGE</li> <li>SURFACED 1 EDGE</li> <li>SURFACED 2 EDGES</li> <li>SURFACED 4 SIDES</li> <li>SURFACED 4 SIDES</li> <li>SYMMETRICAL</li> </ul>			
OR T.B. OR T.C. OR T.C. OR T.E. MP. RR. OR T.F. OR T.G. D. DR T.I. OR T.J. H OR T.M.H. OR T.P. S OR T.O.S. ANS. FLT W OR T.R.W. (OR T.W. OR T.S. B OR T.S.B. PB OR T.V. P OR TYP.	<ul> <li>TOP OF BERM</li> <li>TOP OF CURB</li> <li>TRASH ENCLOSURE</li> <li>TEMPERATURE</li> <li>TERRACE</li> <li>TOP OF FOOTING</li> <li>TOP OF GRATE</li> <li>THREAD</li> <li>TRAFFIC INDEX</li> <li>TYTON JOINT</li> <li>TELEPHONE MANHOLE</li> <li>TOP OF PIPE</li> <li>TOP OF PLANTER</li> <li>TRANSITION</li> <li>TRAFFIC LIGHT</li> <li>TOP OF RETAINING WALL</li> <li>TOP OF SLOPE SIGNAL BOX</li> <li>TRAFFIC SIGNAL PULL BOX</li> <li>TELEVISION</li> <li>TYPICAL</li> </ul>			
K OR UNK.				
K. P OR V.C.P. RT.	- VARIES - VITRIFIED CLAY PIPE - VERTICAL			
) / OR W.M. / OR W.V.	- WEST - WEST OF - WITH - WATER METER - WATER VALVE			

TOPOG	RAPHIC	LEGE	ND
		111/4	1/4

CONTROL	A HV-1
EDGE OF CONC.	
EDGE OF ASPH.	
EDGE OF DIRT	
AWNING	
BUILDING	
SIDEWALK	/
CURB AND GUTTER	
FENCE	— <u>×</u> ×
WALL	
RETAINING WALL	

GUARD RAIL PIPE LINE PARKING

# STRIPES

ROAD STRIPING	
POOL	
RAILROAD	
RAIL SIGNAL	
EXISTING ELEVATION	(930.00 FS)
EXISTING GRADE	(102.78) OR 102.78

## CONCENTRATED FLOW LINE $\sim$ SHEET FLOW DRAINAGE EXISTING WATER MAIN EXISTING SEWER MAIN \_\_\_\_\_S\_\_\_\_ EXISTING GAS LINE

EXISTING CABLE TV LINE	CATV
EXISTING TELEPHONE LINE	T
EXISTING STORM DRAIN	
EXISTING STORM DRAIN	
EXISTING OIL PIPELINE	00
TANK	$\bigcirc$
VAULT	
DROP INLET	
VALVE	0

## CATCH BASIN WATER LINE

EXISTING ELECTRICAL CONDUIT

RE HYDRANT	
ANHOLE	

STANDPIPE SIGN

DW	'ER	PC	)LE
UΥ	WIF	RE	

POWER POLE STREET LIGHT

## STREET LIGHT STOP LIGHT

MISCELLANEOUS

TREES

SINGLE TREE

PALM

INDEX CONTOUR INTER CONTOUR

1350.00 0 1350.00
/
/
* * * *

• • • •

\_////////////

\_\_\_\_\_ G \_\_\_\_\_

+O+

O MH

•

 $\sim\sim\sim\sim\sim$ 

\_\_\_\_\_>\_\_\_\_>\_\_\_\_>\_\_\_\_>\_\_\_\_ \_\_\_\_\_X\_\_\_\_X\_\_\_\_\_X\_\_\_\_\_ \_\_\_\_\_GB\_\_\_\_\_\_GB\_\_\_\_\_ \_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_ \_\_\_ ///\_\_\_\_ \_\_\_\_ ///\_\_\_\_ 8"SD

40

₽®-€

R + + K

 $(-\otimes | \bullet | \bullet | \otimes$ 

H

\_ **IV**-I

(1)

SITE IMPROVE	MENT LEGEND
CONSTRUCTION NOTE	
CONCRETE CURB LINE	
CONCRETE CURB & GUTTER	C2.01 SC
DAYLIGHT LINE	
RIDGE LINE	THE SECTION APPEARS
FLOW LINE	
CHAIN LINK FENCE	
GRADE BREAK	
REMOVAL AND RECOMPACTION (R&R) LIMITS	
SAWCUT	
PROPOSED CONDUIT	
EDGE OF A. C. PAVEMENT	
TRENCH DRAIN	
MASONRY WALL	
PROPOSED RETAINING WALL	
LIMITS OF GRADING AND PERMIT	
STORM DRAIN LINE	

(SIZE & TYPE PER PLAN)

# UTILITY PLAN LEGEND AND NOTES

	CONSTRUCTION NOTE		PROP
	PROPOSED FIRE HYDRANT ASSEMBLY	<b>o</b>	DOME
)	POST INDICATOR VALVE, CHECK VALVE AND FIRE DEPARTMENT CONNECTION	Ħ	TRAN
	GATE VALVE OR TAPPING VALVE		PROP
	REDUCER / INCREASER	4"W	PROP
	REDUCED PRESSURE DETECTOR ASSEMBLY		PROP
	90° BEND WITH CONCRETE THRUST BLOCK		SEWE
	45° BEND WITH CONCRETE THRUST BLOCK		SEWE
	TEE WITH CONCRETE THRUST BLOCK	~~~~	

## **PAVEMENT LEGEND**

ASPHALT CC	NCRETE PAVEMENT SCHE	EDULE		
	LOCATION/PAVEMENT UTILIZATION	TRAFFIC INDEX	AC SURFACE COURSE (IN)	CALTRANS CLASS 2 AGGREGATE BASE COURS (IN)
	(A) LIGHT DUTY	-	3.0	-
	(B) NORMAL DUTY (PARKING AREAS)	5	2.5	8.0
	(C) HEAVY DUTY (MAJOR DRIVE LANES)	6	3.0	10.0

NOTE:

THE FOREGOING PAVEMENT SECTIONS ASSUME THAT UTILITY TRENCH BACKFILL BELOW ALL PROPOSED PAVEMENT AREAS WILL BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION (ASTM D 1557). THE UPPER 6 INCHES OF SUBGRADE BELOW ASPHALT CONCRETE PAVEMENT AREAS SHOULD BE COMPACTED TO AT LEAST 90 PERCENT RELATIVE COMPACTION. AGGREGATE BASE SHOULD BE DENSIFIED TO AT LEAST 95 PERCENT RELATIVE COMPACTION.

PORTLAND CEMENT CONCRETE PAVEMENT SCHEDULE

LOCATION/PAVEMENT UTILIZATION	TRAFFIC INDEX	PORTLAND CEMENT CONCRETE (IN)	CALTRANS CLASS 2 AGGREGATE BASE COUR (IN)
(A) LIGHT DUTY	-	4.0	-
(B) HEAVY DUTY	-	6.0	-

NOTE

REFERENCE ARCHITECTURAL PLANS FOR CONCRETE PAVEMENT SECTIONS.

## **FLOOD ZONE**

FLOOD ZONE: X

FIRM PANEL: 06037C1875F

EFFECTIVE DATE: 09-26-2008 ROWLAND HIGH SCHOOL IS LOCATED IN AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.

## **GENERAL NOTES**

- A. CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE AND DEPTH OF EXISTING UNDERGROUND UTILITIES AND POTHOLE AT ALL POINTS OF CONNECTION AND PROPOSED UTILITY CROSSINGS, PRIOR TO COMMENCING CONSTRUCTION. B. SANITARY SEWER AND STORM DRAIN CLEANOUTS SHOWN OR NOT SHOWN ON THIS PLAN SHALL BE INSTALLED AT INTERVALS NOT TO EXCEED ONE HUNDRED
- FEET (100') IN TOTAL DEVELOPED LENGTH AND ANY CHANGE OF HORIZONTAL DIRECTION EXCEEDING ONE HUNDRED-THIRTY FIVE DEGREES (135°), AND PER UNIFORM PLUMBING CODE REQUIREMENTS.
- C. PROVIDE CATCH BASIN FILTER INSERTS TO PROPOSED ON-SITE INLET BASINS.

LLOLIND		
SECTION LETTER		
SCAL	CTION A E: X"=1'-0" C2.01	(
ING NUMBER WHICH ECTION APPEARS	DRAWING NUMBER FROM WHICH THE SECTION WAS TAKEN	(
· · · · · · · · · · · · · · · · · · ·		(
	CONCRETE PAVING HEAVY DUTY (REF. SPECS. AND SOILS REPORT)	(
	CONCRETE PAVING LIGHT DUTY (REF. SPECS. AND SOILS REPORT)	(
	LANDSCAPE AREA (REF. SPECS. AND LANDSCAPE PLANS)	
	HEAVY DUTY ASPHALTIC CONCRETE PAVING (REF. SPECS. AND SOILS REPORT)	
	NORMAL DUTY (PARKING AREAS) ASPHALTIC CONCRETE PAVING (REF. SPECS. AND SOILS REPORT)	
	LIGHT DUTY ASPHALT CONCRETE PAVING (REF. SPECS. AND SOILS REPORT)	(
AND NOTES		
PROPOSEI	D CATCH BASIN	

IESTIC OR IRRIGATION WATER METER & BOX

NSITION COUPLING

POSED FIRE SERVICE LINE POSED DOMESTIC WATER LINE

POSED SEWER LINE

/ER MANHOLE

ER OR STORM DRAIN CLEAN-OUT

STING FIRE HYDRANT

COMPACTED SUBGRADE (IN)
6
6
6

SE	COMPACTED SUBGRADE (IN)
	6
	6

# SITE PREPARATION NOTES

PER SECTECHNICAL INVESTIGATION REPORT PREPARED BY JOHN R. BYERLY. INC. DATED DECEMBER 23, 2013. WE ASSUME THAT THE SITE WILL BE PREPARED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE OR THE CURRENT CITY OF ROWLAND HEIGHTS GRADING angle ordinance, the recommendations presented below are the establish additional grading criteria. These recommendations should be <CONSIDERED RELIMINARY AND ARE SUBJECT TO MODIFICATION OR EXPANSION BASED ON A GEOTECHNICAL REVIEW OF THE PROJECT FOUNDATION AND GRADING PLANS.

- ALL AREAS TO BE GRADED SHOULD BE STRIPPED OF ORGANIC MATTER, MAN-MADE OBSTRUCTIONS, AND OTHER DELETERIOUS MATERIALS. UNDERGROUND UTILITIES SHOULD BE REMOVED AND RELOCATED OR ABANDONED. ALL CAVITIES CREATED DURING SITE CLEARING SHOULD BE CLEANED OF LOOSE AND DISTURBED SOIL, SHAPED TO PROVIDE ACCESS FOR CONSTRUCTION EQUIPMENT, AND BACKFILLED WITH FILL PLACED AND COMPACTED AS DESCRIBED BELOW.
- ARTIFICIAL FILL SHOULD BE REMOVED FROM ALL IMPROVEMENT AREAS. THE MAXIMUM DEPTH OF EXISTING ARTIFICIAL FILL ENCOUNTERED IN OUR TEST BORINGS WAS 9 FEET. THE EXISTING ARTIFICIAL FILL MAY EXTEND TO GREATER DEPTHS IN AREAS NOT EXPLORED.
- OVEREXCAVATION
- BUILDING AREA THE NATURAL SOIL ENCOUNTERED IN THE TEST BORINGS IMMEDIATELY UNDERLYING THE EXISTING ARTIFICIAL FILL WAS MEDIUM DENSE TO VERY DENSE AND STIFF TO HARD AND IS CONSIDERED COMPETENT. SHOULD REMOVAL OF THE EXISTING ARTIFICIAL FILL EXPOSE NATURAL SOIL EXHIBITING A RELATIVE COMPACTION OF LESS THAN 85 PERCENT (ASTM D 1557), THE LOOSE NATURAL SOIL SHOULD BE OVEREXCAVATED UNTIL UNDISTURBED SOIL EXHIBITING A RELATIVE COMPACTION OF AT LEAST 85 PERCENT IS ENCOUNTERED. WHEN COMPETENT NATURAL SOIL IS ENCOUNTERED, THE OVEREXCAVATION CAN BE TERMINATED AT THAT DEPTH AS LONG AS THERE WILL BE AT LEAST 24 INCHES OF COMPACTED FILL BELOW ALL FOOTINGS. COMPETENT NATURAL SOIL IS DEFINED AS UNDISTURBED MATERIAL EXHIBITING A RELATIVE COMPACTION OF AT LEAST 85 PERCENT (ASTM D 1557). THE OVEREXCAVATION SHOULD EXTEND BEYOND THE BUILDING AREAS A HORIZONTAL DISTANCE AT LEAST EQUAL TO THE DEPTH OF OVEREXCAVATION BELOW THE FINAL SURFACE OR FEET, WHICHEVER DISTANCE IS GREATER. A REPRESENTATIVE OF THIS FIRM SHOULD OBSERVE THE BOTTOM OF ALL EXCAVATIONS.
- HARDSCAPE AREAS THE NATURAL SOILS BELOW PORTLAND CEMENT CONCRETE HARDSCAPE AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES BELOW EXISTING GRADE OR 12 INCHES BELOW PROPOSED FINISHED GRADE, WHICHEVER IS DEEPER. FINISHED GRADE IS DEFINED AS THE ELEVATION OF THE TOP OF THE SUBGRADE. THE SCARIFIED SOILS SHOULD BE MOISTENED TO AT LEAST 2 PERCENT ABOVE THE OPTIMUM MOISTURE 🔇 CONTENT AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D 1557).
- SUBEXCAVATED SURFACES AND ALL OTHER SURFACES TO RECEIVE FILL SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES AND MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D 1557).
- THE ONSITE SOILS SHOULD PROVIDE ADEQUATE QUALITY FILL MATERIAL PROVIDED THEY ARE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS AND ARE AT ACCEPTABLE MOISTURE CONTENTS. IMPORT FILL SHOULD BE INORGANIC GRANULAR NON-EXPANSIVE SOIL FREE FROM ROCKS OR LUMPS GREATER THAN 8 INCHES IN MAXIMUM DIMENSION AND SHOULD EXHIBIT A VERY LOW EXPANSION POTENTIAL (EXPANSION INDEX LESS THAN 21), NEGLIGIBLE SULFATE CONTENT (LESS THAN 1,000 PPM SOLUBLE SULFATE BY WEIGHT), AND LOW CORROSION POTENTIAL. PRIOR TO BRINGING IMPORT FILL TO THE SITE, THE CONTRACTOR SHOULD OBTAIN CERTIFICATION TO VERIFY THAT THE PROPOSED IMPORT MEETS THE STATE OF CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL (DTSC) ENVIRONMENTAL STANDARDS. PROPOSED IMPORT SHOULD BE SAMPLED AT THE SOURCE AND TESTED BY THIS 2 FIRM FOR EXPANSION INDEX, SOLUBLE SULFATE CONTENT, AND CORROSION POTENTIAL.
- ALL FILL SHOULD BE PLACED IN 8-INCH OR LESS LIFTS AND EACH LIFT SHOULD BE MOISTURE CONDITIONED. CLAYEY SQIL SHOULD BE MOISTURE CONDITIONED TO AT LEAST 2 PERCENT OVER OPTIMUM MOISTURE CONTENT. FILL WITH NO SIGNIFICANT CLAY CONTENT SHOULD BE MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT. ALL ENGINEERED FILL SHOULD BE DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D 1557).

THE SURFACE OF THE SITE SHOULD BE GRADED TO PROVIDE DRAINAGE AWAY FROM THE STRUCTURE. DRAINAGE SHOULD BE DIRECTED TO ESTABLISHED SWALES AND THEN TO APPROPRIATE DRAINAGE STRUCTURES TO MINIMIZE THE POSSIBILITY OF EROSION. WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO FOOTINGS.

PER GEOTECHNICAL INVESTIGATION REPORT PREPARED BY JOHN R. BYERLY, INC. DATED MAY 22, 2018.

SITE PREPARATION

WE ASSUME THAT THE SITE WILL BE PREPARED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE OR THE CURRENT CITY OF ROWLAND HEIGHTS GRADING ORDINANCE. THE RECOMMENDATIONS PRESENTED BELOW ARE TO ESTABLISH ADDITIONAL GRADING CRITERIA. THESE RECOMMENDATIONS SHOULD BE CONSIDERED PRELIMINARY AND ARE SUBJECT TO MODIFICATION OR EXPANSION BASED ON A GEOTECHNICAL REVIEW OF THE PROJECT FOUNDATION AND GRADING PLANS.

- ALL AREAS TO BE GRADED SHOULD BE STRIPPED OF ORGANIC MATTER, MAN-MADE OBSTRUCTIONS, AND OTHER DELETERIOUS MATERIALS. UNDERGROUND UTILITIES SHOULD BE REMOVED AND RELOCATED OR ABANDONED. ALL CAVITIES CREATED DURING SITE CLEARING SHOULD BE CLEANED 🗸 OF LOOSE AND DISTURBED SOIL, SHAPED TO PROVIDE ACCESS FOR CONSTRUCTION EQUIPMENT, AND BACKFILLED WITH FILL PLACED AND COMPACTED AS DESCRIBED BELOW.
- EXISTING ARTIFICIAL FILL SHOULD BE REMOVED BELOW THE NEW CUSTODIAL BUILDING AREA. ARTIFICIAL FILL WAS ENCOUNTERED IN OUR EXPLORATIONS TO DEPTHS RANGING FROM 2.0 FEET TO 3.0 FEET. THE EXISTING ARTIFICIAL FILL MAY EXTEND TO GREATER DEPTHS IN AREAS NOT EXPLORED. THE REMOVALS SHOULD EXTEND BEYOND THE NEW BUILDING AREA A HORIZONTAL DISTANCE AT LEAST EQUAL TO THE DEPTH OF REMOVAL OR 5 FEET, WHICHEVER DISTANCE IS GREATER. THE EXISTING ARTIFICIAL FILL NEED NOT BE REMOVED TO DEPTHS GREATER THAN 3 FEET WITHIN PROPOSED PAVEMENT AREAS. ORGANIC MATTER AND OTHER UNSUITABLE DEBRIS SHOULD BE SEPARATED FROM THE REMOVED FILL AND HAULED FROM THE SITE. THE REMOVED ARTIFICIAL FILL SHOULD BE STOCKPILED PENDING REPLACEMENT OR BE PLACED IN AREAS PREVIOUSLY PREPARED.
- OVEREXCAVATION
- O CUSTODIAL BUILDING AREA THE EXISTING ARTIFICIAL FILL UNDERLYING THE BUILDING AREA SHOULD BE REMOVED AS DESCRIBED ABOVE. THE NATURAL SOL EXPOSED IN THE BOTTOM OF THE OVEREXCAVATION SHOULD BE EVALUATED BY THE REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER. NATURAL SOIL EXHIBITING A RELATIVE COMPACTION OF LESS THAN 85 PERCENT SHOULD BE FURTHER OVEREXCAVATED UNTIL UNDISTURBED SOIL EXHIBITING A RELATIVE COMPACTION OF AT LEAST 85 PERCENT IS ENCOUNTERED. THE OVEREXCAVATION SHOULD EXTEND BEYOND THE BUILDING AREA A HORIZONTAL DISTANCE AT LEAST EQUAL TO THE DEPTH OF OVEREXCAVATION BELOW THE FINAL GROUND SURFACE OR 5 FEET, WHICHEVER DISTANCE IS GREATER. A REPRESENTATIVE OF THIS FIRM SHOULD OBSERVE THE BOTTOM OF ALL EXCAVATIONS.
- 0 HARDSCAPE AREAS SHOULD NATURAL SOIL BE ENCOUNTERED AT A DEPTH OF LESS THAN 3 FEET BELOW PORTLAND CEMENT CONCRETE PAVEMENT AREAS, THE SOILS EXPOSED IN THE SUBEXCAVATED SURFACE SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES. THE SCARIFIED SOIL SHOULD BE MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A RELATIVE COMPACTION OF A LEAST 90 PERCENT (ASTM D1557).
- THE EXPLORATION DATA INDICATE HIGH MOISTURE CONTENTS WILL LIKELY BE PRESENT IN THE SOILS EXPOSED IN THE SUBEXCAVATED SURFACES, AND INSTABILITY OR "PUMPING" MAY BE ENCOUNTERED. STABILIZATION OF MODERATE PUMPING CAN BE ACHIEVED BY PLACEMENT OF GEOGRID, SUCH AS TENSAR BX1100, ON THE SUBEXCAVATED SURFACE FOLLOWED BY GRAVEL SUCH AS CLASS 2 AGGREGATE BASE (CALTRANS SPECIFICATIONS) OR CRUSHED MISCELLANEOUS BASE (GREENBOOK SPECIFICATIONS). THE THICKNESS OF GRAVEL NEEDED TO STABILIZE THE SUBEXCAVATED SURFACE SOIL WILL DEPEND ON THE SEVERITY OF INSTABILITY, BUT A MINIMUM OF 12 INCHES OF GRAVEL SHOULD BE ANTICIPATED. FIELD CONDITIONS ENCOUNTERED IN THE SUBEXCAVATION WILL DETERMINE THE ACTUAL THICKNESS OF GRAVEL REQUIRED.
- SUBEXCAVATED SURFACES THAT DO NOT REQUIRE GEOGRID/AGGREGATE BASE STABILIZATION, AND ALL OTHER SURFACES TO RECEIVE FILL SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES, MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT, AND DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D1557).
- THE ON-SITE SOILS SHOULD PROVIDE ADEQUATE QUALITY FILL MATERIAL PROVIDED THEY ARE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS AND ARE AT ACCEPTABLE MOISTURE CONTENTS. IMPORT FILL SHOULD BE INORGANIC, GRANULAR, NON-EXPANSIVE SOIL FREE FROM ROCKS OR LUMPS GREATER THAN 8 INCHES IN MAXIMUM DIMENSION AND SHOULD EXHIBIT A VERY LOW EXPANSION POTENTIAL (EXPANSION INDEX LESS THAN 21), NEGLIGIBLE SULFATE CONTENT (LESS THAN 1,000 PPM SOLUBLE SULFATE BY WEIGHT), AND LOW CORROSION POTENTIAL. PRIOR TO BRINGING IMPORT FILL TO THE SITE, THE CONTRACTOR SHOULD OBTAIN CERTIFICATION TO VERIFY THAT THE PROPOSED IMPORT MEETS THE STATE OF CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCE CONTROL (DTSC) ENVIRONMENTAL STANDARDS. PROPOSED IMPORT SHOULD BE SAMPLED AT THE SOURCE AND TESTED BY THIS FIRM FOR EXPANSION INDEX, SOLUBLE SULFATE CONTENT, AND CORROSION POTENTIAL.
- ALL FILL SHOULD BE PLACED IN 8-INCH OR LESS LIFTS, AND EACH LIFT SHOULD BE MOISTURE CONDITIONED. CLAYEY SOIL SHOULD BE MOISTURE CONDITIONED TO AT LEAST 2 PERCENT OVER OPTIMUM MOISTURE CONTENT. FILL WITH NO SIGNIFICANT CLAY CONTENT SHOULD BE MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT. EACH LIFT OF ENGINEERED FILL SHOULD BE DENSIFIED TO A MINIMUM RELATIVE COMPACTION OF 90 PERCENT (ASTM D1557). WHERE THE HORIZONTAL LIMITS OF OVEREXCAVATION CANNOT BE ACHIEVED, THE ENGINEERED FILL SHOULD BE DENSIFIED TO A RELATIVE COMPACTION OF AT LEAST 95 PERCENT.
- THE SURFACE OF THE SITE SHOULD BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE. DRAINAGE SHOULD BE DIRECTED TO ESTABLISHED SWALES AND THEN TO APPROPRIATE DRAINAGE STRUCTURES TO MINIMIZE THE POSSIBILITY OF EROSION. WATER SHOULD NOT BE ALLOWED TO POND ADJACENT TO

![](_page_20_Figure_80.jpeg)

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

![](_page_23_Figure_0.jpeg)

![](_page_23_Picture_4.jpeg)

![](_page_23_Picture_5.jpeg)

![](_page_24_Figure_0.jpeg)

![](_page_24_Picture_2.jpeg)

![](_page_25_Figure_0.jpeg)

## CEILING FRAMING NOTES

1. SEE ROOF FRAMING NOTES.

CEF 2 WT=28 LBS

CEF 1 WT=28 LBS

## ROOF FRAMING NOTES

- 1. FOR SIZE AND LOCATION OF ROOF OPENINGS AND MECHANICAL ROOF MOUNTED EQUIPMENT, (WHERE APPLICABLE) SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
- 2. CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND LATERAL BRACINGS FOR ALL FRAMING ERECTION TO RESIST ALL EXTERNAL LOADS FOR SAFETY.
- 3. FOR ROOF OPENINGS SEE DETAIL
- 4. STRUCTURAL PLYWOOD SHEATHING SHALL CONFORM TO PS I 83 AND SHALL BE IDENTIFIED WITH AN A.P.A. TRADEMARK.
- 5. EACH SHEET OF PLYWOOD SHALL HAVE A MINIMUM OF EIGHT (8) SQUARE FEET AND SHALL EXTEND TO THREE (3) BEARING MINIMUM WITH FACEGRAIN PERPENDICULAR TO SUPPORTING MEMBERS.
- 6. PROVIDE BOUNDARY SCREW AT BEAMS, STRUTS, LEDGERS, WALL PLATES, BLOCKINGS, PERIMETER MEMBERS, AND EDGES OF OPENINGS.

<u>9</u>.9

- 7. FOR HORIZONTAL DIAPHRAGM, SEE DETAIL
- 8. TOP PLATE SPLICE SHALL BE PER DETAIL 4 TYP U.N.O.
- 9. PROVIDE DOUBLE BOX JOIST AT MECHANICAL EQUIPMENT SUPPORTS AT ROOF.
- 10. FOR WALL OPENING FRAMING SEE DETAIL  $\frac{7}{S1.2}$  U.N.O. ON PLAN
- 11. FOR NON-BEARING WALL CONSTRUCTION SEE DETAIL  $\begin{pmatrix} 12\\ S1.2 \end{pmatrix}$
- 12. ALL ROOF MOUNTED MECHANICAL UNITS SHALL BE FRAMED PER  $\begin{pmatrix} 7\\ \$8.1 \end{pmatrix}$
- 13. HDR-# : INDICATES HEADER PER SCHEDULE 9 S1.2

3 S8.1

1200S200-68 @ 16" O.C.-----

![](_page_25_Figure_23.jpeg)

## **REFLECTED CEILING PLAN**

![](_page_25_Figure_25.jpeg)

 <b>1</b> /8" = 1'-0" <b>1</b>	
	_
1/8" = 1'-0" <b>2</b>	
	-
 (1/8" = 1'-0") <b>3</b>	

![](_page_25_Picture_28.jpeg)

![](_page_26_Figure_0.jpeg)

•			INTERIOR SLAB ON GRADE PER PLAN EXTERIOR PAVING #4 DOWELS	48"		
د O				<b>T</b>		1 7/8"Ø 8 CHAIN L SEE AR(
~ 6"X	(18GA METAL STUD					
@ 1 16G 5/8"	16" O.C. U.N.O. GA. CONT. TRACK W/ "Ø X 12" HEADED		GRADE BEAN BORDE U.N.O.	M REINF.	(	8" CMU )
BOL	LT @ 32" O.C.		18" U.N.O. TYP.		(	
GR/	ADE PER PLAN		<u>AT EXTERIOR</u>			
			INTERIOR SLAB ON GRADE PER PLAN	48"		48 MAX
#4	X5'-0" DOWEL @ 18" (	0.C.				
2-#	#5 CONT. T.& B. AT DE #6 CONT. T.& B. AT DE	ET. 2 ET. 2A	#4 TIES @ 12" O.C. Y	M REINF.		
3" CLR 2- # TYP 2- # GR/	¥7 CONT. T.& B. AT DE #8 CONT. T.& B. AT DE ADE BM REINF. & TIE	ET. 2B ET. 2C - REINF.				€ 2#5 T&B
+ ~			18" U.N.O. TYP. AT INTERIOR			
	3/4"=1'-0"	2		3/4"=1'-0"	<b>₹</b> 2 (	RETAINING WALL 4'-0" I
					J	
	E BASE PLATE ADED BOLTS					
	PER ARCH'L					
HSS TO HSS PLAT HSS POST PER PLA	TE AN					
AT ROLL-UP DOOR	{					
CONT. STEEL ANG THICK) AS REQUIR	GLE (1/4" RED FOR					
ROLL-UP DOOR GU	uide Vide Per					
With the fortent						
	3/4"=1'-0"	7		NTS	8	
		40		1	40	
	3/4"=1'-0"	12		3/4"=1'-0"	13	
						#10 S.M.S. EA. STUD, T
						CONC. CURB
	3/4"=1'-0"	17		3/4"=1'-0"	18	
I	-	11	l			

![](_page_26_Figure_2.jpeg)

![](_page_27_Figure_0.jpeg)

![](_page_27_Figure_1.jpeg)

10'-0" CLEAR 10'-0" CLEAR

	1		
	•		
			-
	-		
		) NTH	
		ž	
MECHANICAL ROOF PLAN	1/4" = 1'-0"	2	KEYNOTES
	1		
			(1) 16X16 (SHEET METAL SIZE W/ 1" LINER) FXHAUST DUCT UP THRU POOF TO
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" UNER MOUNT DUCT ACT</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST OBJULT MODEL TITUE 20050, 200 CENT</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 "EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>1NSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUCT</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>4 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>5 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>19 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>10 SULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE. MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6" ABOVE FINISHED FLOOR.</li> <li>20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>9 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>4 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6" ABOVE FINISHED FLOOR.</li> <li>5 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 " EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>4 20° DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-6" ABOVE FINISHED FLOOR.</li> <li>5 20° DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>(2) 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>(3) 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>(4) 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6" ABOVE FINISHED FLOOR.</li> <li>(5) 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>(6) 6" EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>(7) INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>(8) UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>(9) SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>(10) SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1° LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>(2) 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1° LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12° MAX BELOW ROOF.</li> <li>(3) 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>(4) 20° DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE. MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12'-5° ABOVE FINISHED FLOOR.</li> <li>(5) 20° DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>(6) 6° EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>(7) INSULATED REFRIGERANT LINES: 3/8° SUCTION; 1/4° LIQUID, AND ELECTRICAL CONDUIT.</li> <li>(8) UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>(9) SEE DETAIL 17/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>(10) SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE W/ 1° LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1° LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12° MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>4 20° DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6° ABOVE FINISHED FLOOR.</li> <li>5 20° DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 ° EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8° SUCTION; 1/4° LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>(1) SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE WI 1* LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1* LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12* MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>4 20* DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6* ABOVE FINISHED FLOOR.</li> <li>5 20* DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 * EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8* SUCTION; 1/4* LIQUID; AND ELECTRICAL CONDUT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>(1)* SEE DETAIL 19/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE WI 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>3 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>3 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-6" ABOVE FINISHED FLOOR.</li> <li>3 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 "EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION; 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>9 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10 SEE DETAIL 16/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ol> <li>1 16X16 (SHEET METAL SIZE WI 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>2 4X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>2 0" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +- 12-9" ABOVE FINISHED FLOOR.</li> <li>2 0" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 " EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION: 1/4" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>8 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>19 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ol>
			<ul> <li>1 16X18 (SHEET METAL SIZE W/ 1* LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X18 SHEET METAL SIZE EXHAUST DUCT WITH 1* LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 127 MAX BELOW ROOF.</li> <li>2 24X12 EXHAUST GRILLE. MODEL TITUS 300FS. 600 CFM.</li> <li>2 27 DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/: 12*6* ABOVE FINISHED PLOOR.</li> <li>2 20* DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6* EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7* INSULATED REFRIGERANT LINES: 3/8* SUCTION; 1/4* LIQUID; AND ELECTRICAL CONDUT.</li> <li>9* DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO .SEE DETAIL 2/M7.1.</li> <li>9* SEE DETAIL 7/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>10* SEE DETAIL 19/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ul>
			<ul> <li>1 16X18 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X18 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>2 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>2 0" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE, MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12*6* ABOVE FINISHED FLOOR.</li> <li>2 0" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 " EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 38" SUCTION; 14" LIQUID; AND ELECTRICAL CONDUIT.</li> <li>3 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>3 SEE DETAIL 17/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>6 SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ul>
		NORTH	<ul> <li>1 16X18 (SHEET METAL SIZE W/ 1" LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 16X16 SHEET METAL SIZE EXHAUST DUCT WITH 1" LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>2 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>2 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE MODEL TITUS 300FS. BOTTOM OF GRILLE AT +/- 12-8" ABOVE FINISHED FLOOR.</li> <li>2 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 " EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFRIGERANT LINES: 3/8" SUCTION: 1/4" LIQUID: AND ELECTRICAL CONDUT.</li> <li>9 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2/M7.1.</li> <li>9 SEE DETAIL 1/M7.1 FOR WALL MOUNTING OF FAN COIL UNIT.</li> <li>9 SEE DETAIL 1/M7.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ul>
		NORTH	<ul> <li>1 18X10 (SHEET METAL SIZE W/ "LINER) EXHAUST DUCT UP THRU ROOF TO EXHAUST FAN.</li> <li>2 18X10 SHEET METAL SIZE EXHAUST DUCT WITH 1"LINER. MOUNT DUCT AS HIGH AS POSSIBLE SO THAT TOP OF DUCT IS 12" MAX BELOW ROOF.</li> <li>2 24X12 EXHAUST GRILLE, MODEL TITUS 300FS, 600 CFM.</li> <li>2 20" DIAMETER MAKEUP AIR DUCT TRANSITION DOWN TO 24X24 SUPPLY GRILLE MODEL TITUS 300FS, 80TTOM OF GRILLE AT 1-4 12-6" ABOVE FINISHED FLOOR.</li> <li>2 20" DIAMETER MAKEUP AIR DUCT UP THRU ROOF TO GRAVITY VENTILATOR.</li> <li>6 "EXHAUST DUCT UP THRU ROOF TO DISCHARGE ROOF CAP.</li> <li>7 INSULATED REFERIGERANT LINES: 38" SUCTION, 114" LIQUID, AND ELECTRICAL CONDUT.</li> <li>9 UNISTRUT P1000 CHANNEL TRAPEZE DUCT SUPPORT. SEE DETAIL 2MT.1.</li> <li>9 SEE DETAIL 7MT.1 FOR WALL MOUNTING OF FAN COLLUNIT.</li> <li>(6) SEE DETAIL 18/S1.1 FOR OVERHEAD MOUNTING OF VENTILATOR FAN.</li> </ul>

![](_page_27_Picture_4.jpeg)

	I				
		TITLE	NO SCALE	14	
				10	
		IIILE	NO SCALE	13	
		TITI F	NO SCALE	12	
				12	
BIGASS VENTILATOR FAN					115/1/ H
VF 1&2	BIG ASS - FURNISHED			INTER	
	BOX AT FAN			LIGHT DIVISI	S BY ELECTRICAL
FAN MOTOR					
	<u>=</u> === cat 5				
	M				
	WALL-MOUN FAN CONTRO	TED DLLER			

![](_page_28_Figure_1.jpeg)

![](_page_29_Picture_0.jpeg)

PLUMBI	NG FIXTURE A												
			ROUGH-IN	1 CONNE	CTIONS	<del></del>	_						
ITEM	FIXTURE	WASTE	VENT	HOT WATER	COLD WATER	GAS	DESCRIPTION						
<u>WC-1</u>	WATER CLOSET (ADA)	4"	2"		1"		AMERI CHINA CHUR(	AMERICAN STANDARD NO. 3043.001, "MADERA" FLOWISE 16-1/2" HEIGHT, FLOOR MOUNTED, ADA ACCESSIBLE, VITREOUS CHINA ELONGATED BOWL, 1.28 GPF, WATER SAVER, COMPLETE WITH SLOAN "ROYAL" NO. 111-128, 1.28 FLUSH VALVE, CHURCH NO. 9500SSCT SELF-SUSTAINING SEAT AND BOLT CAPS.					
<u>L-1</u>	LAVATORY STUDENT	2"	1 -1/2"		1/2"		AMERI 802-VE McGUI COVEF	AMERICAN STANDARD NO. 0355.012, "LUCERNE", VITREOUS CHINA WALL MOUNTED. COMPLETE WITH CHICAGO NO 802-VE2805-317ABCP, CHICAGO1013-ABCP ANGLE VALVE STOP WITH LOOSE KEY, CHICAGO 337-CP OFFSET GRID DRAIN AND McGUIRE NO. MCT125085NC 17 GAUGE P-TRAP WITH PLUMBEREX MODEL X4444 PRO EXTREME ADA COMPLIANT UNDER-LAV					
<u>S-1</u>	WEARHOUSI SINK (ADA)	E 2"	1-1/2"	1/2"	1/2"		JUST N 16" X 25 STOPS PLUMB	JST NO. CRA-ADA-2225-A-GR, SINGLE_COMPARTMENT, 18 GAUGE-TYPE 304 STAINLESS STEEL, SELF-RIMMING, 3" X 25" X 6-1/2" DEEP. COMPLETE WITH_CHICAGO NO. 1100-GN8AE35-317AB FAUCET AND CHICAGO NO. 1013-ABCP ANGLE TOPS WITH WITH LOOSE KEY, JUST NO. J-ADA-35-FS OFFSET GRID DRAIN AND McGUIRE NO. MCT150090NCGJ P-TRAP_WITH LUMBEREX MODEL X4444 PRO EXTREME ADA COMPLIANT UNDER SINK COVER					
<u>SS-1</u>	SERVICE SINK	3"	2"	3/4"	3/4"		KOHLE & KOHI WITH II	ER MODEL K ILER NO. K-9 INTEGRAL S	K-6710, "WHI 9146 3" IPS I STOPS, PAIL	ITBY" ENAMELED DRAIN STRAINER . HOOK, WALL BF	CAST IRON SE COMPLETE WI ACE, VACUUM I	RVICE SINK INCLUDING KOHLER NO. K-8940 ADJUS TH WALL MOUNTED CHICAGO FAUCETS NO. 897-CP BREAKER.	ABLE TRAP FAUCET
<u>FD-1</u>	FLOOR DRAIN	2"	1 -1/2"		1/2"		ZURN I OPENII	MODEL ZB 4 INGS, FLASH	415N, DURA HING COLLA	A-COATED CAST I AR, TRAP PRIMER	RON BODY AND CONNECTION	GRATE, VANDAL PROOF, HEEL PROOF TOP, 1/2" M/ AND P-TRAP.	λX.
<u>WHA-1</u>	WATER HAMMER ARRESTER				X"		J.R.SM ("X" IS	MITH MODEL SIZE, SEE [	L NO. 5000 S DETAIL 1/P3	SERIES "HYDROTI .1). INSTALL PER	ROLS" STAINLE MANUFACTURI	SS STEEL SHOCK ABSORBERS WATER HAMMER AF ER RECOMMENDATION.	RESTER
<u>TP-1</u>	TRAP PRIMER (SINGLE)				1/2"		P.P.P. I STAINI FINISH	NO. PR-500 ILESS STEEI H FLOOR, BE	), LEAD FREI L SCREEN V EHIND ACCE	E BRASS BODY A WITH 1/2" TYPE "L ESS PANEL.	ND CAP COMPL ' COPPER PIPE	ETE WITH NEOPERL CHECK VALVE, NITRILE O-RING TO RECEPTOR. INSTALL WITH A MINIMUM OF 24" A	S, AND BOVE
<u>HB-1</u>	HOSE BIBE	3			3/4"		ACORI	N MODEL 8	121-LF WITH	I INTEGRAL VACU	IUM BREAKER		
(1) CLE (2) REF (3) CLE (4) SEE	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA	OR FIXTURES ED ON WASTE AL DRAWING F	REQUIRING PIPE BELC OR FIXTUR		NSATE DF AP. TED HEIG	RAIN TAIL HT AND [	-PIECE CC DIMENSIO	ONNECTION	١.				
(1) CLE (2) REF (3) CLE (4) SEE ELECTR	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF	REQUIRING PIPE BELC OR FIXTUR DULE		NSATE DF AP. TED HEIG ELEC			ONNECTION ONS. TANK SIZE	I. OPERATED WEIGHT		RE	MARKS	DETAIL
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND NUT E BRADFO	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3		NSATE DF AP. TED HEIG ELEC	TRIC	DIMENSIO	ONNECTION ONS. TANK SIZE GALLONS)	I. OPERATED WEIGHT (LBS) 600#	5.0 KW LOWE SIMULTANEC	REI R ELEMENT AN US, 38 GPH @ 6	MARKS D UPPER ELEMENT, NON 30° RISE.	DETAIL
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (EWH) 1 EXPANS	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND NUI BRADFO LE HEDULE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3		NSATE DF AP. TED HEIG ELEC	TRIC	DIMENSIO	ONNECTION ONS. TANK SIZE GALLONS) 50	I. OPERATED WEIGHT (LBS) 600#	5.0 KW LOWE SIMULTANEC	REI R ELEMENT AN US, 38 GPH @ 6	MARKS D UPPER ELEMENT, NON 30° RISE.	DETAIL
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL EXPANS SYMBOL	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND NUI BRADFO LE LOCATION	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU			ONNECTION ONS. TANK SIZE GALLONS) 50	V. OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES)	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES)	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.)	MARKS D UPPER ELEMENT, NON 50° RISE.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (EWH) 1 EXPANS SYMBOL (ET) 1	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER)	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF, AND NUI E BRADFO LE HEDULE LOCATION	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU		DIMENSIO	ONNECTION ONS. TANK SIZE GALLONS) 50	I. OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES) 18	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50	MARKS D UPPER ELEMENT, NON S0° RISE.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (EWH) 1 EXPANS SYMBOL (ET) 1 PIPE MA	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF/ AND NUT BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU		PIECE CC DIMENSIO	ONNECTION DNS. TANK SIZE GALLONS) 50	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES) 18	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50	MARKS D UPPER ELEMENT, NON 20° RISE.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (EWH) 1 EXPANS SYMBOL (ET) 1 PIPE MA SERVIC	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF/ AND BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3 MANUFA AND MO AMT THERM- ST-	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU 150 MATERI		PIECE CC DIMENSIO	ONNECTION DNS. TANK SIZE GALLONS) 50 50 JOINING METHOD	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 REMA	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES) 18	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50	MARKS D UPPER ELEMENT, NON 50° RISE.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (EWH) 1 EXPANS SYMBOL (ET) 1 PIPE MA SERVIC DOMEST & HOT W	EANOUT INSTALL FER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF/ AND BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3 MANUFA AND MO AMT THERM- ST- TION	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU 150 MATERI		DIMENSIO	ONNECTION ONS. TANK SIZE GALLONS) 50 50 JOINING METHOD LEAD FREE BRAZED O PROPRESS	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 REMA	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES) 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50	MARKS D UPPER ELEMENT, NON 30° RISE.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) (1) (1) (2) (2) (2) (2) (2) (2) (3) (1) (2) (3) (1) (2) (3) (1) (4) SEE (1) (1) (1) (1) (2) (2) (2) (2) (2) (2) (2) (2	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES TIC COLD VATER	CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND NUI BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3 MANUFA AND MO AMT THERM- ST- TION	CONDEI	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU 150 MATERI ) COPPER		PIECE CC DIMENSIO	ONNECTION	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 E OR ALL F CPC 2	5.0 KW LOWE SIMULTANEC SIMULTANEC 18 18 NRKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 13.10. N SHALL BE PR 13.10. HOT WAT	MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH COVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) (1) (1) (2) (2) (2) (2) (2) (3) (2) (3) (2) (4) SEE (1) (1) (2) (2) (2) (2) (2) (2) (2) (2	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS SES TIC COLD VATER RY WASTE/	OR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND NUI BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3 A MANUFA AND MO AMT THERM- ST- TION ROUND ROUND	CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CAST FITTIN	NSATE DF AP. TED HEIG ELEC Ø 3 3 MAXIN OPERA PRESSU 150 150 150 0PERA PRESSU 150 150 150 0PERA PRESSU		PIECE CC DIMENSIO	ONNECTION	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 E OR ALL F CPC 2	5.0 KW LOWE SIMULTANEC SIMULTANEC 18 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 3.10. HOT WAT N SHALL BE PR 3.10. HOT WAT	MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) (1) EXPANS SYMBOL (1) (1) (1) (1) (1) (1) (1) (1)	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES TIC COLD VATER RY WASTE/	CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF, AND BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3	CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CONDEI CAST FITTIN	NSATE DF AP. TED HEIG ELEC Ø 3 MAXIM OPERA PRESSU 150 150 150 150 150 150 150 150 150 150		PIECE CC DIMENSIO	ONNECTION DNS. TANK SIZE GALLONS) 50 50 JOINING METHOD LEAD FREE BRAZED O PROPRESS LEAD FREE SOLDEREE PROPRESS LEAD FREE SOLDEREE PROPRESS HUBLESS WITH S.S. COUPLING	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 12 E REMA E REMA E REMA E CPC 2 S ALL F CPC 2 S ALL F CPC 2	5.0 KW LOWE SIMULTANEC SIMULTANEC 18 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 3.10. N SHALL BE PR 3.10. N SHALL BE PR 3.10. N SHALL BE PR 3.10.	MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH COVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. COVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS.	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) (1) (1) (1) (1) (1) (1) (1)	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WA ATERIALS DES TIC COLD VATER RY WASTE/ RY VENT	CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF MANUF AND BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3 A MANUFA AND MO AMT THERM- ST- TION ROUND ROUND ROUND ROUND	CONDEI CO	NSATE DF AP. TED HEIG ELEC Ø 3 MAXIN OPERA PRESSU 150 150 150 150 150 150 150 150 150 150	AIN TAIL HT AND I TRIC HZ 60 AUM TING RE PSI IAL IAL IAL IAL IAL IAL IAL IA		ONNECTION DNS. TANK SIZE GALLONS) 50 50 50 50 50 50 50 50 50 50 50 50 50	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 S ALL F CPC 2 S ALL F CPC 2 S ALL F CPC 2	5.0 KW LOWE SIMULTANEC TANK HEIGHT (INCHES) 18 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC	REI RELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 50 N SHALL BE PR 3.10. N SHALL BE PR 3.10. N SHALL BE PR 3.10. N SHALL BE PR 3.10.	MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH COVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. COVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH	DETAIL 2 P3.1
<ol> <li>(1) CLE</li> <li>(2) REF</li> <li>(3) CLE</li> <li>(4) SEE</li> </ol> ELECTR SYMBOL EVH 1 EXPANS SYMBOL ET 1 EXPANS SYMBOL ET 1 EXPANS SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMBOL SYMBOL EXPANS SYMBOL SYMOL SYMBOL SYMBOL SYMOL SYMOL <td>EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES TIC COLD VATER RY WASTE/ RY VENT</td> <td>CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND BRADFO BRADFO LOCATION VAREHOUSE</td> <td>REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3 A AND MO AMT THERM- ST- TION ROUND ROUND ROUND ROUND ROUND ROUND</td> <td>CONDEI CO</td> <td>NSATE DF AP. TED HEIG ELEC Ø 3 MAXIM OPERA PRESSU 150 MATER OPERA PRESSU 150 150 MATER OPERA PRESSU 150 NGS 'IRON SO NGS 'IRON SO NGS</td> <td>AIN TAIL HT AND I TRIC HZ 60 AUM TING RE PSI IAL (TYPE K (TYPE K (TYPE L) IL PIPE &amp; IL PIPE &amp;</td> <td></td> <td>ONNECTION</td> <td>OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 ALL F CPC 2 ALL F CPC 2 ALL F CPC 2 ALL F CPC 2</td> <td>5.0 KW LOWE SIMULTANEC SIMULTANEC INCHES) 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC</td> <td>REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 3.10. N SHALL BE PR 3.10.</td> <td>MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH</td> <td>DETAIL 2 P3.1</td>	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES TIC COLD VATER RY WASTE/ RY VENT	CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF AND BRADFO BRADFO LOCATION VAREHOUSE	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 250S3-3 A AND MO AMT THERM- ST- TION ROUND ROUND ROUND ROUND ROUND ROUND	CONDEI CO	NSATE DF AP. TED HEIG ELEC Ø 3 MAXIM OPERA PRESSU 150 MATER OPERA PRESSU 150 150 MATER OPERA PRESSU 150 NGS 'IRON SO NGS 'IRON SO NGS	AIN TAIL HT AND I TRIC HZ 60 AUM TING RE PSI IAL (TYPE K (TYPE K (TYPE L) IL PIPE & IL PIPE &		ONNECTION	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 ALL F CPC 2 ALL F CPC 2 ALL F CPC 2 ALL F CPC 2	5.0 KW LOWE SIMULTANEC SIMULTANEC INCHES) 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 3.10. N SHALL BE PR 3.10.	MARKS D UPPER ELEMENT, NON 30° RISE.  OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH	DETAIL 2 P3.1
(1) CLE (2) REF (3) CLE (4) SEE ELECTR SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) EXPANS SYMBOL (1) (1) (1) (1) (1) (1) (1) (1)	EANOUT INSTALL ER TO PLANS FO EANOUT INSTALL E ARCHITECTURA RIC WATER HEA LOCATION WAREHOUSE SION TANK SCI AREA SERVED (WATER HEATER) WATERIALS CES TIC COLD VATER RY WASTE/ RY VENT	CR FIXTURES ED ON WASTE AL DRAWING F ATER SCHE MANUF, AND NUI BRADFO LOCATION VAREHOUSE LOCATION VAREHOUSE LOCATION ABOVE G UNDERGI ABOVE G (EXTERIO	REQUIRING PIPE BELC OR FIXTUR DULE ACTURER MODEL MBER DRD WHITE 2250S3-3 MANUFA AND MO AMT THERM- ST- TION ROUND ROUND ROUND ROUND ROUND ROUND	CONDEI CO	NSATE DF AP. TED HEIG ELEC Ø 3 MAXIM OPERA PRESSU 150 MATERI COPPEF COPPEF COPPEF COPPEF COPPEF	AIN TAIL HT AND I TRIC HZ 60 AUM TING RE PSI IAL (TYPE K (TYPE K (TYPE L) IL PIPE & IL PIPE &		ONNECTION	OPERATED WEIGHT (LBS) 600# TANK IAMETER INCHES) 12 12 12 REMA E ALL F CPC 2 ALL F CPC 2 ALL F CPC 2 ALL F CPC 2	5.0 KW LOWE SIMULTANEC SIMULTANEC INCHES) 18 ARKS PIPE PENETRATIC 2016 313.0 AND 3 PIPE PENETRATIC	REI R ELEMENT AN US, 38 GPH @ 6 OPERATING WEIGHT (LBS.) 50 50 N SHALL BE PR 3.10. N SHALL BE PR 3.10.	MARKS D UPPER ELEMENT, NON 30° RISE. OVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. SOVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH TER IS INSULATED WITH 1-1/2" FIBERGLASS. SOVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH SOVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH SOVIDED WITH PIPE SLEEVES IN COMPLIANCE WITH	DET

#### CEC-NRCC-PLB-01-E (Revised 01/16) CERTIFICATE OF COMPLIANCE Water Heating System General Information Project Name: Rowland HS Custodial Building A. GENERAL INFORMATION/SYSTEM INFORMATION EWH-1 01 Water Heater System Name: Central 02 Water Heater System Configuration: Domestic Hot wate 03 Water Heater System Type: Facilities Building 4 Building Type: 05 Total Number of Water Heaters in Systems: Local with temperir 06 Central DHW Distribution Type: NA 07 Dwelling Unit DHW Distribution Type: **B. WATER HEATER INFORMATION** Each water heater type requires a separate compliance document. 01 Water Heater Type: Storage 02 Fuel Type: Electric 02 Fuel Type: Bradford White 03 Manufacture Name: LE250S3-3 04 Model Number: 1 05 Number of Identical Water Heaters: 06 Installed Water Heater System Efficiency: 98% 98% 07 Required Minimum Efficiency: 08 Standby Loss Percent or Standby Loss Total: 6KW 09 Rated Input: N/A 0 Pilot Energy: 1 Water Heater Tank Storage Volume: 50 N/A 2 Exterior Insulation on Water Heater: N/A 13 Volume of Supplemental Storage: 14 Internal Insulation on Supplemental Storage: N/A 15 Exterior Insulation on Supplemental Storage: N/A C. PLUMBING COMPLIANCE FORMS & WORKSHEETS Check box if worksheet is included. For detailed instructions on the use of this and all Energy Standards compliance documents, Note: The Enforcement Agency may require all compliance documents to be incorporated of YES NO Doc/Worksheet # Title NRCC-PLB-01-E Certificate of Compliance, Declaration. Rec NRCI-PLB-01-E Certificate of Installation. Required on plan Certificate of Installation, required on centr NRCI-PLB-02-E otel/motel application. Certificate of Installation, required on single NRCI-PLB-03-E esidential, hotel/motel application. Certificate of Installation, required on HERS

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

URE AND EQUIPMENT SCHEDULE									
	ROUGH-IN CONNECTIONS								
IXTURE	WASTE	VENT	HOT WATER	COLD WATER	GAS	DESCRIPTION			
ATER LOSET ADA)	4"	2"		1"		AMERICAN STANDARD NO. 3043.001, "MADERA" FLOWISE 16-1/2" HEIGHT, FLOOR MOUNTED, ADA ACCESSIBLE, VITREOUS CHINA ELONGATED BOWL, 1.28 GPF, WATER SAVER, COMPLETE WITH SLOAN "ROYAL" NO. 111-128, 1.28 FLUSH VALVE, CHURCH NO. 9500SSCT SELF-SUSTAINING SEAT AND BOLT CAPS.			
/ATORY UDENT	2"	1 -1/2"		1/2"		AMERICAN STANDARD NO. 0355.012, "LUCERNE", VITREOUS CHINA WALL MOUNTED. COMPLETE WITH CHICAGO NO 802-VE2805-317ABCP, CHICAGO1013-ABCP ANGLE VALVE STOP WITH LOOSE KEY, CHICAGO 337-CP OFFSET GRID DRAIN AND McGUIRE NO. MCT125085NC 17 GAUGE P-TRAP WITH PLUMBEREX MODEL X4444 PRO EXTREME ADA COMPLIANT UNDER-LAV COVER.			
.RHOUSE SINK ADA)	2"	1-1/2"	1/2"	1/2"		JUST NO. CRA-ADA-2225-A-GR, SINGLE_COMPARTMENT, 18 GAUGE-TYPE 304 STAINLESS STEEL, SELF-RIMMING, 16" X 25" X 6-1/2" DEEP. COMPLETE WITH_CHICAGO NO. 1100-GN8AE35-317AB FAUCET AND CHICAGO NO. 1013-ABCP ANGLE STOPS WITH WITH LOOSE KEY, JUST NO. J-ADA-35-FS OFFSET GRID DRAIN AND McGUIRE NO. MCT150090NCGJ P-TRAP_WITH PLUMBEREX MODEL X4444 PRO EXTREME ADA COMPLIANT UNDER SINK COVER			
RVICE SINK	3"	2"	3/4"	3/4"		KOHLER MODEL K-6710, "WHITBY" ENAMELED CAST IRON SERVICE SINK INCLUDING KOHLER NO. K-8940 ADJUSTABLE TRAP & KOHLER NO. K-9146 3" IPS DRAIN STRAINER. COMPLETE WITH WALL MOUNTED CHICAGO FAUCETS NO. 897-CP FAUCET WITH INTEGRAL STOPS, PAIL HOOK, WALL BRACE, VACUUM BREAKER.			
-OOR RAIN	2"	1 -1/2"		1/2"		ZURN MODEL ZB 415N, DURA-COATED CAST IRON BODY AND GRATE, VANDAL PROOF, HEEL PROOF TOP, 1/2" MAX. OPENINGS, FLASHING COLLAR, TRAP PRIMER CONNECTION AND P-TRAP.			
ATER VIMER ESTER				X"		J.R.SMITH MODEL NO. 5000 SERIES "HYDROTROLS" STAINLESS STEEL SHOCK ABSORBERS WATER HAMMER ARRESTER ("X" IS SIZE, SEE DETAIL 1/P3.1). INSTALL PER MANUFACTURER RECOMMENDATION.			
RAP IMER NGLE)				1/2"		P.P.P. NO. PR-500, LEAD FREE BRASS BODY AND CAP COMPLETE WITH NEOPERL CHECK VALVE, NITRILE O-RINGS, AND STAINLESS STEEL SCREEN WITH 1/2" TYPE "L" COPPER PIPE TO RECEPTOR. INSTALL WITH A MINIMUM OF 24" ABOVE FINISH FLOOR, BEHIND ACCESS PANEL.			
SE BIBB				3/4"		ACORN MODEL 8121-LF WITH INTEGRAL VACUUM BREAKER			

CERT	IFICATE O	F COMPLIANCE		CALIFORNIA ENERGY COMMISSION							
Nate	er Heating	System General Infor	mation	(Page 1 of 2)							
roject	Name: Ro	wland HS Custo	dial Building	Date Prepared: September 18, 2018							
			and b an an ing								
. GI	NERAL IN	FORMATION/SYSTEM	INFORMATION								
)1	Water He	eater System Name:		EWH-1							
)2	Water He	eater System Configur	ation:	Central							
)3	Water H	eater System Type:		Domestic Hot water							
4	Building	Type:		Facilities Building							
)5	Total Nu	mber of Water Heater	s in Systems:	1							
6	Central D	HW Distribution Type		Local with tempering valves							
)7	Dwelling	Unit DHW Distributio	n Type:	NA							
	В										
. w	ATER HEA	TER INFORMATION									
ach	water hea	ater type requires a se	parate complian	ce document.							
1	Water He	eater Type:		Storage							
2	Fuel Type	2:		Electric							
)3	Manufac	ture Name:		Bradford White							
4	Model N	umber:		LE250S3-3							
5	Number	of Identical Water He	aters:	000/							
6	Installed	Water Heater System	Efficiency:	90% 08%							
17	Required	Minimum Efficiency:		98%							
8	Standby	Loss Percent or Stand	by Loss Total:	6KW							
9	Rated In	out:		N/A							
1	Wotor H	rgy: Datar Tank Storago Vo	lumor	50							
2	Extorior	loculation on Water H	oator:	50 N/A							
3	Volume	of Supplemental Stora	eater.	N/A							
4	Internal	Insulation on Supplemental	ental Storage:	N/A							
15	Exterior	Insulation on Supplem	ental Storage:	N/A							
	Exterior	insulation on supplem	entai storage.	1973							
PLL	JMBING C	OMPLIANCE FORMS	& WORKSHEETS								
neck	box if wo	rksheet is included.									
r de	tailed instr	uctions on the use of this	and all Energy Sta	andards compliance documents, refer to the 2016 Nonresidential Manual							
ote:	The Enforc	ement Agency may requ	ire all compliance	documents to be incorporated onto the building plans.							
YES	NO	Doc/Worksheet #	Title								
D		NRCC-PLB-01-E	Certificate of C	compliance, Declaration. Required on plans for all submittals.							
Z		NRCI-PLB-01-E	Certificate of Ir	nstallation. Required on plans for all submittals.							
	1	NRCI-PLB-02-E	Certificate of In hotel/motel ap	nstallation, required on central systems in high-rise residential, pplication.							
	R	NRCI-PLB-03-E	Certificate of In residential, hot	stallation, required on single dwelling unit systems in high-rise tel/motel application.							
	M	NRCI-PLB-21-H	Certificate of Ir residential, hot	nstallation, required on HERS verified central systems in high-rise tel/motel application.							
	R	NRCI-PLB-22-H	Certificate of Ir rise residential	nstallation, required on HERS verified single dwelling unit systems in high , hotel/motel application.							
NRCI-STH-01-F Certificate of Ir				astallation, required on any solar water heating							

CERTIFICATE OF COMPLIANCE	NRCC-PLB-01-					
Water Heating System General Information	(Page 2 of 2					
Project Name: Rowland HS Custodial Building	Date Prepared September 18, 2018					
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT						
<ol> <li>I certify that this Certificate of Compliance documents Dependence Advantage</li> </ol>	ation is accurate and complete.					
Alfredo Adame	Documentation Author Signature:					
<sup>Company</sup> IDS Mechanical Group	Signature Date: September 18, 2018					
Address: 1 Peters Canyon Road	CEA/ HERS Certification Identification (if applicable):					
City/State/Zip: Irvine Ca 92606	Phone: 949 387 8500					
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the I 1. The information provided on this Certificate of Compl 2. I am eligible under Division 3 of the Business and Profidentified on this Certificate of Compliance (responsible)	laws of the State of California: liance is true and correct. fessions Code to accept responsibility for the building design or system design ole designer).					
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the I</li> <li>The information provided on this Certificate of Complete</li> <li>I am eligible under Division 3 of the Business and Profindentified on this Certificate of Compliance (responsib</li> <li>The energy features and performance specifications, system design identified on this Certificate of Complia California Code of Regulations.</li> <li>The building design features or system design feature information provided on other applicable compliance the enforcement agency for approval with this buildin</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is require one of the compliance is require one of the compliance is require one of the compliance.</li> </ul>	laws of the State of California: liance is true and correct. fessions Code to accept responsibility for the building design or system design ole designer). materials, components, and manufactured devices for the building design or ance conform to the requirements of Title 24, Part 1 and Part 6 of the es identified on this Certificate of Compliance are consistent with the documents, worksheets, calculations, plans and specifications submitted to ng permit application. tificate of Compliance shall be made available with the building permit(s) orcement agency for all applicable inspections. I understand that a completed ed to be included with the documentation the builder provides to the building					
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the I</li> <li>The information provided on this Certificate of Complete</li> <li>I am eligible under Division 3 of the Business and Profidentified on this Certificate of Compliance (responsib</li> <li>The energy features and performance specifications, system design identified on this Certificate of Compliance (California Code of Regulations.</li> <li>The building design features or system design feature information provided on other applicable compliance the enforcement agency for approval with this buildin</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is require owner at occupancy.</li> <li>Responsible Designer Name: Alfredo Adame</li> </ul>	laws of the State of California: liance is true and correct. fessions Code to accept responsibility for the building design or system design ole designer). materials, components, and manufactured devices for the building design or ance conform to the requirements of Title 24, Part 1 and Part 6 of the es identified on this Certificate of Compliance are consistent with the documents, worksheets, calculations, plans and specifications submitted to ng permit application. tificate of Compliance shall be made available with the building permit(s) orcement agency for all applicable inspections. I understand that a completed ed to be included with the documentation the builder provides to the building Besponsible Designer Signature:					
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the I</li> <li>The information provided on this Certificate of Complete</li> <li>I am eligible under Division 3 of the Business and Profidentified on this Certificate of Compliance (responsib</li> <li>The energy features and performance specifications, system design identified on this Certificate of Complia California Code of Regulations.</li> <li>The building design features or system design feature information provided on other applicable compliance the enforcement agency for approval with this buildin</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is require owner at occupancy.</li> <li>Responsible Designer Name: Alfredo Adame</li> </ul>	laws of the State of California: liance is true and correct. fessions Code to accept responsibility for the building design or system design ole designer). materials, components, and manufactured devices for the building design or ance conform to the requirements of Title 24, Part 1 and Part 6 of the es identified on this Certificate of Compliance are consistent with the documents, worksheets, calculations, plans and specifications submitted to ng permit application. tificate of Compliance shall be made available with the building permit(s) orcement agency for all applicable inspections. I understand that a completed ed to be included with the documentation the builder provides to the building Responsible Designer Signature: Date Signed: September 18, 2018					
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the I</li> <li>The information provided on this Certificate of Complete</li> <li>I am eligible under Division 3 of the Business and Profidentified on this Certificate of Compliance (responsib</li> <li>The energy features and performance specifications, system design identified on this Certificate of Complia California Code of Regulations.</li> <li>The building design features or system design feature information provided on other applicable compliance the enforcement agency for approval with this buildin</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is require owner at occupancy.</li> <li>Responsible Designer Name: Alfredo Adame</li> <li>Company: IDS Mechanical Group</li> <li>Atdress: 1 Peters Canyon Road</li> </ul>	laws of the State of California: liance is true and correct. fessions Code to accept responsibility for the building design or system design ole designer). materials, components, and manufactured devices for the building design or ance conform to the requirements of Title 24, Part 1 and Part 6 of the ess identified on this Certificate of Compliance are consistent with the documents, worksheets, calculations, plans and specifications submitted to ng permit application. lificate of Compliance shall be made available with the building permit(s) orcement agency for all applicable inspections. I understand that a completed ed to be included with the documentation the builder provides to the building Responsible Designer Signature: Date Signed: September 18, 2018 License:					

January 2016

CA Building Energy Efficiency Standards - 2016 Nonresidential Compliance

![](_page_29_Picture_11.jpeg)

![](_page_30_Figure_0.jpeg)

![](_page_30_Figure_1.jpeg)

	I	KEYNOTES
		1 PIPING BELOW FLOOR.
		2 PIPING ABOVE CEILING / FLOOR.
		3 CONNECT 4"S TO 4"S, SEE CIVIL DRAWING FOR CONTINUATION.
		4 1 1/2"CW UP IN WALL TO ABOVE CEILING.
		<ul> <li>(5) 1 1/2" VENT UP, 2" WASTE DOWN.</li> <li>(6) 2" VENT UP. 4" SOIL DOWN.</li> </ul>
		7         1/2"CW & 1/2"HW DOWN IN WALL TO FIXTURE.
		8 1/2"H & 1/2"CW DOWN IN WALL TO FIXTURE.
		9 2" VENT UP, 3" WASTE DOWN.
		(10) 3/4"CW DOWN TO WATER HEATER AND 3/4"HW UP FROM WATER HEATER.
		1) 3/4" CONDENSATE UP FROM CONDENSATE PUMP TO CEILING SPACE.
		12 CONNECT 3/4" CONDENSATE TO PAN COIL UNIT.
		(13) 3/4" CONDENSATE DOWN IN WALL, CONNECT TO TAILPIECE OF
	E	
	NORT	
PLUMBING ROOF PLAN	1/4" = 1'-0" 2	
		·
	<b>—</b>	
	, , , , , , , , , , , , , ,	
	NORTH	
	NORTH	

![](_page_30_Picture_3.jpeg)

	-	NO SCALE	16	
İ		1		
	-	NO SCALE	15	
	-	NO SCALE	14	
•		_	, f	
		NO SCALE	13	

![](_page_31_Figure_1.jpeg)

	ELECTRICAL	SYMBO	<u>DL LIST</u>
SYMBOL	DESCRIPTION	SYMBOL	
	CONCEALED BELOW SLAB AS PERMITTED BY ENGINEER.		8' HIGH x 3/4" BACKBOARD, RACK AND SYSTEM COMPONENTS PER SPECS.
	CONDUIT RUN, EXPOSED.		8' HIGH x 3/4" BACKBOARD, RACK AND SYSTEM COMPONENTS PER SPECS.
	CONDUIT RUN CONCEALED UNDERGROUND, BELOW GRADE OR SLAB.	FACP	FIRE ALARM CONTROL PANEL DESIGNATION.
]	CONDUIT STUBBED OUT AND CAPPED. PULL LINE IN PLACE.		FIRE ALARM ANNUNICATOR PANEL DESIGNATION.
$\sim$	FLEXIBLE CONDUIT. SEALITE WHERE EXPOSED TO WEATHER. REFER TO SPECIFICATIONS FOR USE.		FIRE ALARM TERMINAL CABINET & REMOTE POWER SUPPLY DESIGNATION.
#10 	CROSS LINES ON CONDUIT RUNS INDICATE NUMBER OF #12 WIRES CONTAINED THEREIN. GROUND WIRE IS REQUIRED BUT NO INDICATED. TWO #12 ARE INDICATED WHEN CROSS LINES ARE NOT SHOWN. NUMERALS ADJACENT TO CROSS LINES ON		INTRUSION ALARM SYSTEM CONTROL PANEL DESIGNATION.
B_1 3 5_7_	CONDUIT RUNS INDICATE SIZE OF CONDUCTORS IN LIEU OF #12.	СТВ	COMMUNICATION TERMINAL BACKBOARD DESIGNATION
	ELECTRICAL PANEL AND CIRCUIT NUMBER. CIRCUITS 1,3,5 WITH SHARED NEUTRAL AND CIRCUIT 7 WITH DEDICATED NEUTRAL.		TELEPHONE TERMINAL BACKBOARD DESIGNATION.
C.O.	CONDUIT ONLY, WITH PULL ROPE.		MAIN COMMUNICATION TERMINAL BACKBOARD DESIGNATION
0	LED LIGHT FIXTURE OUTLET.		MAIN TELEPHONE TERMINAL BACKBOARD DESIGNATION.
	SHADED SYMBOL INDICATES EMERGENCY LIGHTING FIXTURE.		ENERGY MANAGEMENT SYSTEM PANEL DESIGNATION
на	WALL-MOUNTED LIGHT FIXTURE OUTLET.	-	SINGLE LINE NOTES
_ ⊢∎ 	SHADED SYMBOL INDICATES EMERGENCY LIGHTING FIXTURE.		CONTRACTOR SHALL BALANCE ALL SINCLE BUASE LOADS ON BUASE A. B. AND
⊗ <sub>LL</sub>	MOUNTED AT +10" ABOVE FLOOR.		SWITCHBOARDS AND DISTRIBUTION BOARDS SHALL BE FULLY BUSSED
<b>©</b>	EXIT LIGHT FIXTURE WITH SINGLE OR TWO FACES. LIGHTING FIXTURE IDENTIFICATION SYMBOL. LETTER INDICATES TYPE OF FIXTURE.	- 3. PRC SW1	OVIDE CONTINUOUS GROUND BUSSING THROUGH ALL DISTRIBUTION BOARDS AND TCHBOARD SECTIONS.
A 90 +20'-0"	NUMERALS IN LOWER HALVE OF HEXAGON INDICATE FIXTURE WATTAGE (INCLUDING BALLAST WHERE APPLICABLE). NUMERAL AT TOP OF HEXAGON INDICATES NUMBER OF FIXTURES REQUIRED. NUMBER AT BOTTOM OF HEXAGON INDICATES MOUNTING HEIGHT FROM FLOOR TO BOTTOM OF FIXTURE. OMMISSION OF MOUNTING HEIGHT INDICATES CEILING MOUNTING.	4. PRC COM 5. SER	OVIDE ALL CABLE TERMINATION'S AT MAIN SERVICE SWITCHBOARD PER UTILITY IPANY REQUIREMENTS. IES RATING OF EQUIPMENT IS NOT ALLOWED.
S <sub>abcd</sub>	(+48"AFF TO TOP OF BOX OR +45" AFF TO CENTER BOX)	6. PRC EQU FAU	OVIDE SHORT CIRCUIT OR FAULT CURRENT AND COORDINATION STUDIES. ALL IIPMENT AND CIRCUIT BREAKERS AIC RATING SHALL EXCEED THE AVAILABLE ILT CURRENT.
<u> </u>	LINE VOLTAGE PASSIVE INFRARED, WALL MOUNTED, OCCUPANCY SENSOR FOR LIGHTING CONTROL BY WATT STOPPER #PW-101 OR APPROVED EQUAL. LOW VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR CEILING MOUNTED FOR	7. CON STE	ITRACTOR SHALL BOND ALL METAL PIPING SYSTEMS AND EXPOSED STRUCTURAL EL PER NEC 250.104.
os	LIGHTING CONTROL. REFER TO PLANS AND SPECIFICATIONS.	8. PRC	OVIDE NAMEPLATES FOR ALL MISSING IDENTIFICATIONS, USE SCREW-ON TYPE.
	ABOVE CEILING ROOM CONTROLLER. REFER TO PLANS AND SPECIFICATIONS.	10. REF	CATED ON PANEL SCHEDULES. ERENCES FEEDER LOCATION SHOWN ON E1.1 SITE PLAN.
PC	PHOTO CELL. REFER TO PLANS AND SPECIFICATIONS.	11. THE RAT	CONTRACTOR SHALL PROVIDE AND INSTALL NEW CIRCUIT BREAKER OF THE ING INDICATED ON THE SINGLE LINE DIAGRAM TO MATCH OR EXCEED UTILITY
Sm	DUPLEX GROUNDING TYPE RECEPTACLE WALL MOUNTED (+18" ABOVE FINISHED		DRT CIRCUIT DUTY. THE NEW CIRCUIT BREAKER SHALL BE COMPLETE WITH ALL DUIRED MOUNTING HARDWARE.
₩	FLOOR UNLESS OTHERWISE NOTED). DOUBLE DUPLEX GROUNDING TYPE RECEPTACLE, WALL MOUNTED	13. UND	DERGROUND CONDUCTORS SHALL BE LISTED FOR UNDERGROUND USE AND WET ATION RATED AT 90°C.
<del>₩</del>	(+18" ABOVE FINISH FLOOR UNLESS OTHERWISE NOTED).		S SHALL BE LISTED FOR CU/AL AND 90°C.
_ <del>, ∠=</del>	ABOVE COUNTER TOP, CABINET OR SHELF WITH GFI. DUPLEX GROUNDING TYPE RECEPTACLE, FLOOR MOUNTED. FLUSH FLOOR MOUNTED	15. FEE	DER, PANELBOARD AND TRANSFORMER SHALL BE COPPER.
- m	AND BRASS OUTLET COVER PLATE.	-	
т Ф	30 AMP, 250V. 2 POLE, 3 WIRE SINGLE RECEPTACLE. WITH STAINLESS STEEL	-	
0	JUNCTION BOX		
ЧF	FUSED DISCONNECT SWITCH. COMPLETE WITH REQUIRED NUMBER OF "DUAL ELEMENT TIME DELAY" FUSES MANUFACTURER RECOMMENDATION AND		
	SIZED PER EQUIPMENT NAMEPLATE RATING. BRANCH CIRCUIT PANEL, MOUNTING AS SHOWN ON SCHEDULES.	1	
$\sim$	MOTOR.	1	
TV	T.V. SYSTEM CONDUIT. 3/4" UNLESS OTHERWISE NOTED. (REFER TO SPECIFICATIONS FOR CABLING)		
IC	INTERCOM CONDUIT, 3/4" MINIMUM SIZED AS REQUIRED BY MANUFACTURER'S WIRING DIAGRAMS (SEE INTERCOMMUNICATION SECTION OF THE SPECIFICATIONS).		
	INTRUSION ALARM SYSTEM CONDUIT. 3/4" UNLESS OTHERWISE NOTED.		
D2	DATA NETWORK SYSTEM CONDUIT. (2) 4PAIR CAT 6, LEVEL 6 CABLES ROUTED IN 1" CONDUIT, UNLESS OTHERWISE NOTED		
S	SPEAKER WITH BAFFLE AND BACKBOX RECESSED. CEILING MOUNTED.	1	
ч©	SPEAKER WITH BAFFLE AND BACKBOX, WALL MOUNTED AT +7'-2".		
V S <sub>WP</sub>	OUTDOOR WEATHER PROOF SPEAKER, MOUNTED AT +90".	1	
▽	COMPUTER/DATA OUTLET, PROVIDE 4S DEEP BOX SINGLE GANG RING, WITH RJ—45 CAT 6 JACK (QUANTITY AS SHOWN ON PLAN), MOUNT AT +18" A.F.F.	]	
_ 🖾 <sub>F</sub>	COMPUTER/DATA OUTLET FLUSH FLOOR, MOUNTED IN FLOOR BOX, COMPLETE WITH GASKETS, CARPET FLANGES AND BRASS OUTLET COVER PLATE		
Φ	SYSTEM CLOCK TO MATCH EXISTING		
	TERMINAL BACKBOARD, 8' $-$ 0" HIGH x 3/4" FIRE TREATED PLYWOOD, LENGTH AS INDICATED.		
MD	INTRUSION ALARM SYSTEM MOTION DETECTOR. $C = CEILING MOUNTED$ .		
SKP	INTRUSION ALARM SYSTEM SECURITY KEY PAD, SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION	VO BU MA	$\begin{array}{c} \text{LTAGE}  \underline{120/208} \\ \text{S AMPS}  \underline{225} \\ \text{IN BREAKER IN } \underline{225} \\ \text{A.F}  \underline{200} \\ \text{A.T.}  \underline{1} \\ \text{CS ONLY} \\ \end{array} $
	WIRELESS INTRUSION ALARM SYSTEM DOOR CONTACT. JAMB MOUNTED.		DESCRIPTION VOLT-AMPS L OUTLETS C K BUS K C OUTLETS L A B C L L R M B T ABC T B L R M L
$\bigcirc$	PANEL DESIGNATION.	GENE EXTER 101 C	RAL LIGHTING     766     •     20/1     1     ABC     1     C     N     M     L       RIOR LIGHTING     294     •     20/1     3     ++     4     20/1     2     3       OFFICE REC.     720     4     20/1     5     ++     6     20/1     2
$\bigcirc$	REFERENCE NOTE DESIGNATION	102 E 102 E FCPS-	BREAK/103 TOILET REC.       750       3       20/1       7         BREAK REC.       500       2       20/1       9         -G (RED LOCK-ON)       250       1       20/1       1
WP	WEATHERPROOF	0U-1 CEF- CEF- FWH-	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
(N)	NEW EQUIPMENT	- - 103 1	2000     -     -     21       2000     -     -     22     20/1     1       2000     -     -     23       2000     -     -     23       1     20/1     1     20/1       1     20/1     1     20/1
GFI	"GFI" ADJACENT TO SYMBOL INDICATES GROUND FAULT INTERRUPTING TYPE RECEPTACLE	PALLE - ROLL-	ET JACK     2000     1     30/2     27       2000     -     -     28     30/2     1       2000     -     -     29     -     30     -     -       -UP DOOR 1     500     1     20/1     31     -     -     -       -UP DOOR 2     500     1     20/1     31     -     -     -
(E)	EXISTING EQUIPMENT TO REMAIN		Source     Source
(RR)	EXISTING EQUIPMENT TO BE DISCONNECTED AND RELOCATED TO NEW LOCATION		TOTALS     6636     5342     5028     33       N. PHASE TOTAL:     A     9876     B     10612     C     9798     ;     CONN. PANEL TOTAL     30286     VA;     MA
EN	EXISTING CONDUIT WITH NEW CONDUCTORS	(KV/	A) PANEL TOTAL <u>30.29</u> + L.C.L. (,25) <u>1.13</u> = <u>31.42</u> KVA; BALANCED CURRENT

- ALL ITEMS SUCH AS SERVICE CONDUITS, CONDUCTORS, DUCTS, PAD MOUNT, RISERS, PULLBOX AND PROTECTIVE COVERING FROM SERVICE POLE LOCATION SHALL BE PROVIDED AND/OR INSTALLED AND SHALL BE VERIFIED WITH TURLOCK IRRIGATION DISTRICT. THE CONTRACTOR SHALL INSTALL THE SERVICE IN COMPLIANCE WITH THE SERVING UTILITY COMPANY AND PAY ALL CHARGES LEVIED BY THE SERVING UTILITY COMPANY FOR THIS SERVICE AND EXCEPTING FIRST BILLING DEPOSIT.
- ALL TELEPHONE WORK SHALL BE IN THE COMPLIANCE WITH THESE DRAWINGS AND REQUIREMENTS OF THE TELEPHONE COMPANY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE TELEPHONE COMPANY AND RECEIVE COMPLETE INFORMATION ON THEIR REQUIREMENTS PRIOR TO SUBMISSION OF THE BID. THE ACT OF SUBMITTING THE BID SHALL CONSTITUTE THE FULL RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SERVICE IN COMPLIANCE WITH THE SERVING UTILITY AND TO PAY ALL CHARGES LEVED BY THE SERVING UTILITY. LIGHT FIXTURE SUPPORTS:
- A. ALL RECESSED FIXTURES LOCATED IN DRY WALL OR PLASTER CEILINGS SHALL HAVE 1 1/2" CARRIER CHANNEL ON EACH SIDE OF THE FIXTURE. THIS CARRIER CHANNEL SHALL SET ON TOP OF AND BE WIRED TO TWO PARALLEL MAIN CHANNELS OF THE CEILING SUSPENSION SYSTEM. THE FIXTURES SHALL BE MECHANICALLY ATTACHED TO THE CARRIER CHANNELS USING (2) 3/8" BOLTS ON EACH SIDE OF THE 4' OF FIXTURE LENGTH.
- B. ALL RECESSED LIGHT FIXTURES LOCATED IN A SUSPENDED ACOUSTICAL CEILING SHALL BE SUPPORTED DIRECTLY FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE WITH A MINIMUM OF TWO 12 GAGE WIRES, LEVELING AND POSITIONING OF FIXTURE MAY BE PROVIDED BY THE CEILING GRID. FIXTURE SUPPORT WIRES MAY BE SLIGHTLY LOOSE TO ALLOW FIXTURE TO SEAT IN GRID SYSTEM.
- SURFACE MOUNTED FIXTURES IN DRYWALL OR PLASTER CEILINGS SHALL BE MOUNTED WITH (2) 3/8" BOLTS AND RODS (PER 4' OF FIXTURE LENGTH) UP THROUGH CEILING AND BOLTED TO 1 1/2" CHANNELS 1 TO FIXTURE. ATTACH CHANNELS TO MAIN CHANNELS OF CEILING SYSTEM. FIXTURES IN SUSPENDED ACOUSTICAL CEILINGS SHALL BE MOUNTED TO SAME EXCEPT THAT EACH CHANNEL SHALL BE SUPPORTED WITH ONE 12 GAGE WIRE TO THE STRUCTURE ABOVE.
- THE CONTRACTOR SHALL SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY THE LOCAL GOVERNMENT AGENCIES.
- ALL OUTLETS LOCATION SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION. THIS CONTRACTOR SHALL SUPPLY POWER TO AND MAKE CONNECTION TO ALL MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS SHOWN ON THE MECHANICAL AND PLUMBING DRAWINGS, INCLUDING ALL FRACTIONAL HORSEPOWER MOTORS. IT SHALL BE THE
- SEE SINGLE LINE DIAGRAM FOR CONDUIT AND CONDUCTOR SIZES, PANEL, TRANSFORMERS, MOTOR CONTROL CENTERS, MECHANICAL EQUIPMENT, ETC. HOMERUNS TO PANELS MAY NOT BE SHOWN ON PLANS BUT IS PART OF THE CONTRACT.
- 8. UNLESS OTHERWISE NOTED ALL RECESSED PANELS AND CABINETS SHALL HAVE (8) 3/4"C.O. SPARE CONDUIT STUBBED UP INTO ACCESSIBLE CEILING SPACE AND CAPPED.
- 9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPE OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILINGS. WHERE FIXTURES ARE RECESSED IN PLASTER CEILINGS THEY SHALL BE COMPLETE WITH NECESSARY MOUNTING HARDWARE AND PLASTER FRAMES.
- 10. EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES AND SPEAKERS SHALL BE AS INDICATED ON ARCHITECTURAL REFLECTED CEILING PLANS.
- 11. UNLESS OTHERWISE NOTED MOUNTING HEIGHTS INDICATED ON ELECTRICAL OUTLETS ARE FROM FINISHED FLOOR TO CENTER OF OUTLETS.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT-OUTS IN THE TILE OR COUNTER SPLASHES WHERE RECEPTACLES, OUTLETS, ETC., OCCUR. 13. ALL RECESSED LIGHTING FIXTURES, SPEAKERS, ETC. MOUNTED IN FIRE RATED CEILINGS SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING.
- 14. ALL SURFACE MOUNTED LIGHTING FIXTURES SHALL BE APPROVED FOR DIRECT MOUNTING ON LOW DENSITY COMBUSTIBLE CEILINGS.
- 15. THE NUMERAL(S) SHOWN AT THE TOP LIGHT FIXTURE IDENTIFICATION SYMBOL WHICH INDICATES NUMBER OF LIGHT FIXTURES REQUIRED SHALL NOT BE USED BY THE CONTRACTOR FOR HIS QUANTITY TAKEOFF AT BIDDING OR FOR DETERMINATION OF HOW MANY LIGHT FIXTURES WILL BE INSTALLED. THE CONTRACTOR SHALL INSTALL A LIGHT FIXTURE WHEREVER A FIXTURE OUTLET IS SHOWN ON DRAWINGS.
- 16. ALL LAMPS SHALL BE BY GENERAL ELECTRIC, PREFERABLY OF THE SAME BATCH.

FOUIPMENT.

- 17. ALL PLASTIC LENSES OR DIFFUSERS FOR FLUORESCENT AND INCANDESCENT FIXTURES SHALL BE 100% VIRGIN ACRYLIC. 18. ATTENTION IS CALLED TO THE FACT THAT THE CEILING SYSTEMS FOR THE MOST PART ARE CONSIDERED TO BE INACCESSIBLE. THEREFORE, THE CONTRACTOR MUST STRATEGICALLY LOCATE BOXES, ETC., WHICH MUST BE CONSIDERED READILY ACCESSIBLE.
- 19. NO CONDUIT SHALL BE RUN HORIZONTALLY IN CONCRETE FLOOR SLABS.
- 20. ALL WRING AND ELECTRICAL EQUIPMENT INSTALLED FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH THESE DRAWINGS AND THE WIRING DIAGRAMS ON THE MECHANICAL AND PLUMBING DRAWINGS.
- 21. ALL FINAL CONNECTION TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR.
- 22. SWITCH Sa SHALL CONTROL THE TWO OUTSIDE LAMPS IN EACH FIXTURE, Sb SHALL CONTROL THE REMAINING LAMPS IN EACH FIXTURE. 23. USE OF POWDER DRIVEN CONCRETE FASTENERS:
- USE OF POWER DRIVEN CONCRETE FASTENERS FOR TENSION LOADS IS LIMITED TO SUPPORT OF MINOR LOADS LIKE ACOUSTICAL CEILINGS, DUCT WORK, CONDUIT.
- ALLOWABLE LOADS IN GENERAL, LOADS SHOULD BE LIMITED TO LESS THAN 100 POUNDS. HOWEVER, GREATER LOADS MAY BE PERMITTED FOR SPECIAL CASES WHEN APPROVED BY THE CHECKING SUPERVISOR FIELD ENGINEER.
- TESTING THE OPERATOR, TOOL AND FASTENER SHALL BE PREQUALIFIED BY THE PROJECT INSPECTOR. HE SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENER INSTALLATIONS. A TEST "PULL-OUT" LOAD WHICH IS NOT LESS THAN TWICE THE DESIGN LOAD OR 200 POUNDS. WHICHEVER IS GREATER, SHALL BE APPLIED TO THEPIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN. THEREAFTER. RANDOM TEST UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE TESTED. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL INSTALLATION MUST BE TESTED AND UNFAIR PINS REPLACED.
- THESE REQUIREMENTS ARE TO BE NOTED ON THE PLANS, OR IN THE SPECIFICATIONS.
- 24. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND SERVICES REQUIRED FOR THIS COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS AS INDICATED AND SPECIFIED. ALL WORK SHALL BE NEW UNLESS NOTED OR SHOWN OTHERWISE.

-AMP	S	L	OUTLET		TS	c	C	BUS		S C	с	OUTLETS		TSL		VOLT-AMPS		rs	DECODIDITION
в	С		L	R	Μ	B	K	A	BC	К :   Т	B	L	R	М		A	В	С	DESCRIPTION
		•				20/1	1	-	Ħ	- 2	20/1		2		_	360			100 WAREHOUSE REC.
.94		0				20/1	3	+-	<b>♦</b> ∔	- 4	20/1		2				360		100 WAREHOUSE REC.
	720			4		20/1	5	+-	┼┿	- 6	20/1		2					360	100 WAREHOUSE REC.
				3		20/1	7	+-	++	- 8	20/1		2			360			100 WAREHOUSE REC.
00				2		20/1	9	+-	<b>♦</b>	- 10	20/1		2				360		100 WAREHOUSE REC.
	250				1	20/1	11	+	┼┿	- 12	2 20/1		2					360	100 WAREHOUSE REC.
		•			1	20/1	13	+	++	- 14	<b>J</b> 30/2			1	•	920			VF-1
18					1	15/1	15	+-	<b>♦</b> ∔	- 10	5 -			I	0		920		-
	48				1	15/1	17	+	┼┿	- 18	3 30/2			1				920	VF-2
					1	30/3	19	-┿-	┼┼	- 20	) –			I		920			-
000					-	-	21	-	<b>♦</b> ∔	- 2:	<b>2</b> 20/1			1			1130		EF-1
	2000				I	-	23	-	┼┿	⊦ <b>2</b> 4	<b>4</b> 20/1			1				1130	EF-2
					1	20/1	25	-┿-	╂╂	- 20	<b>3</b> 20/1		1			180			EXTERIOR REC.
000					1	30/2	27	+-	<b>♦</b> ╂	- 21	<b>3</b> 30/2			1			2000		WELDER
	2000				-	-	29	+-	┼┿	- 3	– ו			I				2000	_
					1	20/1	31	+	╂╂	- 32	<b>2</b> 20/1		1			500			IDF-S
00					1	20/1	33	+	<b>♦</b> ┤	- 34	<b>1</b> 20/1		1				500		CTC-S
	10				1	15/1	35	+	┼┿	- <b>3</b> (	5								
							37	-┿-	+	- 3	3								
							39	+	<b>♦</b>	- 4	כ								
							41		┼┿	<b>-  4</b> 2	2								
542	5028															3240	5270	4770	SUB TOTA

# **REFERENCE NOTES**

1 INSTALL NEW UNDERGROUND 2-1/2"C-4#4/0 & 1#2 GND (THWN-2 COPPER). VERIFY EXACT ROUTING IN FIELD.

# **GENERAL NOTES**

# RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE DRAWINGS OF THE MECHANICAL AND PLUMBING DRAWINGS FOR DUCTS, LINES AND

- 25. CONTRACTOR SHALL VISIT THE SITE INCLUDING SPECIFICALLY ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THESE EXISTING CONDITIONS AND BY SUBMITTING A BID ACCEPTS CONDITIONS UNDER WHICH HE WILL BE REQUIRED TO PERFORM HIS WORK.
- 26. ALL ELECTRICAL EQUIPMENT MATERIAL AND DETAILS OF INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, OF THE STATE OF CALIFORNIA TITLE 24, BASIC ELECTRICAL REGULATIONS OF THE STATE FIRE MARSHALL AND OTHER APPLICABLE CODES. NOTHING IN THE PLANS OR THESE SPECIFICATIONS SHALL BE CONSTRUED AS PERMITTING WORK NOT CONFORMING TO THE MOST STRINGENT OF THE APPLICABLE CODES.
- 27. THE BIDDER SHALL VISIT THE SITE AND MAKE A SURVEY OF EXISTING CONDITIONS WHICH MAY AFFECT OR BE AFFECTED BY THE WORK UNDER THIS SECTION. REFERENCE MADE IN THE SPECIFICATIONS OR ON THE DRAWINGS TO EXISTING WORK OR CORRECTNESS OF WAYS AND MEANS OF PERFORMING SHALL BE SUBJECT TO VERIFICATIONS BY THE CONTRACTOR IN HIS SURVEY AND ON THE PROGRESS OF THE WORK 28. WIRE SHALL BE COPPER TYPE THWN. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE. WIRES SMALLER THAN #6 AWG
- SHALL BE SOLID AND #6 AWG AND LARGE SHALL BE STRANDED. 29. SPLICES IN #10 AWG AND SMALLER CONDUCTORS SHALL BE MADE WITH CONICAL SHAPED SPRING STEEL CONNECTORS PLATED FOR CORROSION PROTECTION. CONNECTORS MAY HAVE AN INSULATING, SEMI-RIGID OUTER SHELL. TWIST ON CONNECTORS OF PHENOLIC COMPOUND OR CRIMP-TYPE CONNECTIONS SHALL NOT BE USED.
- 30. WHEREVER CONDUCTORS ARE SPLICED OR TERMINATED IN A JUNCTION OR PULLBOX THEY SHALL BE MARKED WITH THEIR CIRCUIT NUMBER USING "BRADY" ADHESIVE MARKERS.
- 31. ALL CONDUIT SHALL BE ELECTRICAL METALLIC TUBING (EMT) AND RIGID STEEL CONDUIT INCLUDING COUPLING, CONNECTORS AND OTHER FITTINGS SHALL BE GALVANIZED OR SHERARDIZED. FITTINGS FOR EMT SHALL BE GLAND RING, WATER TIGHT COMPRESSION TYPE. UNLESS NOTES OTHERWISE 32. FLEXIBLE STEEL CONDUIT SHALL BE GALVANIZED WITH FLEXIBLE OR CADMIUM-PLATED CONNECTORS OF THE TWIST-IN TYPE. FLEXIBLE
- CONDUIT SHALL ONLY BE USED AS APPROVED BY THE ENGINEER.
- 33. ALL EMPTY CONDUITS SHALL HAVE A 1/8" DIAMETER NYLON PULL CORD UNLESS OTHERWISE SPECIFIED. 34. ALL CONDUITS RUN EXPOSED SHALL BE INSTALLED PARALLEL OR AT RIGHT ANGLES TO BUILDING CONSTRUCTION.
- 35. NO SPLICES ARE TO BE MADE IN UNDERGROUND PULLBOXES.
- 36. BOXES SHALL BE GALVANIZED OR SHERARDIZED ONE PIECE PRESSED STEEL KNOCKOUT TYPE. MINIMUM SIZE BOX SHALL BE 4" BY 1 1/2" DEEP UNLESS OTHERWISE SPECIFIED OR INDICATED. BOXES SHALL HAVE PLASTER RINGS AS REQUIRED.
- 37. WIRING INSTALLED CONCEALED ABOVE GROUND IN DRY PLACES NOT IN CONCRETE WHERE NOT SUBJECT TO MECHANICAL DAMAGE SHALL BE IN EMT OR RIGID STEEL CONDUIT. 38. THE CONTRACTOR SHALL NOT DISCONNECT OR TURN OFF ANY SERVICES UNTIL SUCH ACTION IS APPROVED BY THE OWNER. ALL OUTAGES
- SHALL BE SCHEDULED WITH THE OWNER MAINTENANCE SUPERVISOR AT LEAST FIVE (5) WORKING DAY PRIOR TO THE OUTAGE. 39. EXACT ROUTING OF ALL CONDUIT WITHIN EXISTING BUILDING SHALL BE DETERMINED BY THE CONTRACTOR. ANY COST REQUIRED TO ROUTE CONDUIT DIFFERENT THAN IS SHOWN ON THESE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR.
- 40. THE CONTRACTOR SHALL SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY THE LOCAL GOVERNMENT AND STATE AGENCIES.
- 41. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO DO ALL CORING, CUTTING, PATCHING AND REFINISHING OF EXISTING WALLS AND SURFACES WHEREVER IT IS NECESSARY FOR HIM TO PENETRATE FOR HIS WORK. ALL OPENINGS MADE SHALL BE SEALED TO MEET THE RATED INTEGRITY OF THE PARTICULAR WALL, FLOOR OR CEILING.
- 42. EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND/OR OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE DIRECTED BY THE STRUCTURAL ENGINEER.
- 43. ALL ELECTRICAL EQUIPMENT SHALL BE EMBRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE OF 20% OF ITS OPERATING WEIGHT ACTING IN ANY DIRECTION. WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ELECTRICAL ENGINEER.
- 44. FINAL INSPECTION AND ACCEPTANCE: AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. CONTRACTOR SHALL PROVIDE COMPETENT PERSONAL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM, TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
- 45. SHOP DRAWINGS SHALL BE SUBMITTED WITHIN TEN (10) DAYS AFTER AWARD OF THE CONTRACT. SUBMIT SIX (6) COPIES OF A COMPLETE LIST OF MATERIALS AND EQUIPMENT PROPOSED FOR THE JOB. INCLUDE JOB DESCRIPTION ARCHITECT, AND ENGINEER IDENTIFICATION; ALL DATA WITH CAPACITIES, SIZES, DIMENSIONS, CATALOG NUMBERS. MANUFACTURER'S BROCHURES. ETC.
- 46. THE CONTRACTOR SHALL FURNISH ONE (1) YEAR WRITTEN GUARANTEE ON MATERIALS AND WORKMANSHIP FROM DATE OF ACCEPTANCE. 47. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF RECORD DRAWINGS AND AFTER COMPLETION OF HIS WORK TURN THEM OVER TO THE ENGINEER/OWNER.
- 48. FINAL CONNECTIONS TO ALL MECHANICAL EQUIPMENT SHALL BE MADE BY THIS CONTRACTOR.
- 49. ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, AND FLOORS SHALL BE SLEEVED WITH A NON-COMBUSTABLE METAL SLEEVE. ALL SUCH PENETRATIONS SHALL BE FIRE STOPPED WITH HILTI FIRESTOP SEALANT CS240 WITH A MINIMUM 1/2" DEPTH FOR A 2 HOUR FIRE BARRIER RATING AND 1" DEPTH FOR A FIRE RATING OF 3 HOURS. THE FIRE STOP MATERIAL SHALL MEET ASTM E-814 AND UL 1479. 50. ALL FIRE ALARM DEVICES SHALL BE U.L. LISTED AND APPROVED BY THE CALIFORNIA STATE FIRE MARSHAL.
- 51. FUSES, INDICATED ON THESE PLANS, FOR OVER CURRENT PROTECTION OF MECHANICAL EQUIPMENT, HAVE BEEN SIZED IN ACCORDANCE WITH INFORMATION PROVIDED BY THE MECHANICAL ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE FUSES THAT EXCEED THE MINIMUM CIRCUIT AMPACITY RATING (MCA) BUT DO NOT EXCEED THE MAXIMUM OVER CURRENT PROTECTION RATING (MOCP), AS PROVIDED BY THE MANUFACTURER OF THE ACTUAL EQUIPMENT BEING INSTALLED UNDER THIS PROJECT.
- 52. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE SHUT-DOWN SCHEDULE AND TIME REQUIRED PRIOR TO DEMOLITION AND INSTALLATION OF NEW CONDUIT, WIRE, PANEL BOARDS FROM THE EXISTING SYSTEM. THE SHUTDOWN SHALL BE SCHEDULED IN SUCH A MANNER TO MINIMIZE INTERRUPTION OF REGULAR ACTIVITIES. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL PREMIUM TIME REQUIRED FOR THE NEW CONNECTIONS. (NO EXCEPTIONS WILL TAKEN DURING NORMAL BUSINESS HOURS).

![](_page_32_Figure_73.jpeg)

![](_page_32_Picture_74.jpeg)

![](_page_33_Figure_0.jpeg)

![](_page_33_Picture_1.jpeg)

![](_page_34_Figure_0.jpeg)

![](_page_34_Picture_1.jpeg)

![](_page_35_Figure_0.jpeg)

	NOTES
	<ol> <li>REFER TO GENERAL NOTES, DRAWING E0.1, FOR ADDITIONAL REQUIREMENTS.</li> <li>REFER TO LIGHTING FIXTURE SCHEDULE THIS SHEET FOR TYPE OF FIXTURE TO BE PROVIDED AND INSTALLED.</li> <li>THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE LIGHT SENSOR MANUFACTURER REPRESENTATIVE PRIOR TO ROUGH-IN AND COORDINATE THE EXACT LOCATION OF THE LIGHT SENSORS TO PROVIDE PROPER AREA COVERAGE.</li> <li>THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CEILING MOUNTED DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN AND MAKING REQUIRED ADJUSTMENTS TO AVOID INTERFERENCE WITH THE LIGHTING FIXTURES AND CEILING GRIDS.</li> <li>THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL EXHAUST FANS AND PROVIDING A 20A, SPST, 120V COIL RELAY CONTROLLED BY LIGHT SWITCH.</li> <li>THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POWER PACK FOR OCCUPANCY SENSOR IF REQUIRED FOR COMPLETE AND OPERABLE SYSTEM.</li> <li>EXACT LOCATION OF OUTLETS SHOWN ON THESE DRAWINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN AND SHALL BE LOCATED IN SUCH A MANNER TO AVOID INTERFERENCES WITH OTHER OUTLETS AND CASEWORK</li> </ol>
3 EM	REFERENCE NOTES
NORTH SCALE: 1/4*=1-0 1	<ol> <li>PROVIDE CONSTANT HOT WIRE ON ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS. TYPICAL.</li> <li>INSTALL CEILING MOUNTED DUAL TECHNOLOGY SENSOR BY WATTSTOPPER #LMDC100 SERIES COMPLETE WITH RELAY PACK OR POWER SUPPLY #LMRC211 AS REQUIRED AND CAT 5¢ CABLE TO RELAY PACK OR POWER SUPPLY #LMRC211 AS REQUIRED AND CAT 5¢ CABLE TO RELAY PACK OR POWER SUPPLY #LMRC211 AS REQUIRED AND CAT 5¢ CABLE TO RELAY PACK OR POWER SUPPLY #LMRC211 AS REQUIRED CONTROLLER COMPLETE WITH CABLES PER MANUFACTURER'S REQUIREMENTS. COORDINATE WITH MANUFACTURER FOR RECOMMENDED PLACEMENT AND ADJUSTMENT. TYPICAL.</li> <li>INSTALL WALL SWITCH BY WATT STOPPER #LMS—500 AND CONTROLLER COMPLETE WITH CABLES PER MANUFACTURER'S REQUIREMENTS. TYPICAL.</li> <li>INSTALL WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR AND 0–10V DIMMER BY WATTSTOPPER #DW-311. TYPICAL.</li> <li>INSTALL WALL MOUNTED PASSIVE INFRA-RED OCCUPANCY SENSOR BY WATTSTOPPER #PW100.</li> <li>ROUTE ALL EXTERIOR LIGHTING CIRCUITS THROUGH DIGITAL LIGHTING CONTROL BY WATT-STOPPER #LMRC-101. TYPICAL.</li> <li>INSTALL ONE LOAD CONTROLLED PLUG BY LEVITON #16352 SERIES (DECORA) OR LEVITON #5632 SERIES (DUPLEX) OR APPROVED EQUAL. CONTROLLED PLUG SHALL BE CONNECTED TO LIGHTING CONTROL RELAY. INSTALL MINIMAL ONE LOAD CONTROLLED PLUG FOR DOUBLE DUPLEX INSTALLATION. TYPICAL.</li> <li>INSTALL ONE LOAD CONTROL RELAY. INSTALLATION. TOPICAL.</li> <li>INSTALL 20, RJ-45 CAT-6 DATA OUTLETS AND (2) CAT-6 CABLES TO MDF/IDF IN IT ROOM. VERIFY EXACT LOCATION OF MDF/IDF AND LOCATION OF EACH OUTLET IN FIELD. TYPICAL.</li> <li>INSTALL ANALOG SYSTEM CLOCK AND WIRE TO MATCH EXISTING. VERIFY EXACT LOCATION AND MOUNTING BEIGHT IN FIELD. TYPICAL.</li> <li>INSTALL SECURITY MOTION DETECTOR AND SECURITY CABLE. TYPICAL.</li> <li>INSTALL SECURITY MOTION</li></ol>
	ITPEDESCRIPTIONMANUFACTURER(A) 314' SURFACE MOUNTED WRAP AROUND LED LIGHT FIXTURE AND 0-10V DIMMING DRIVER.COLUMBIA #LWC-4-40-MW-EDU(B) 194' SURFACE MOUNTED WRAP AROUND LED LIGHT FIXTURE AND 0-10V DIMMING DRIVER.COLUMBIA #LWC-4-40-XW-EDU
	C4' SURFACE MOUNTED STRIP LED LIGHT FIXTURE, 0-10V DIMMING DRIVER AND ALL NECESSARY MOUNTING HARDWARE.COLUMBIA #LBIL-4-40ML-EDU
	4' SURFACE MOUNTED STRIP LED LIGHT       COLUMBIA         FIXTURE, 0-10V DIMMING DRIVER AND       #LBIL-4-40ML-EDU-ELL14         42       ALL NECESSARY MOUNTING HARDWARE.
	(90-MIN. BATTERY PACK)       D       LED EXIT SIGN WHITE HOUSING AND GREEN LETTER. (90-MIN. EM.       DUAL-LITE #EVE-U-G-W-I
	BATTERY)       BATTERY)         XE       WALL MOUNTED LED LIGHT FIXTURE         WITH FLAT LENS, BUILT-IN OCCUPANCY       KIM LIGHTING         #WDS-D-24L-40-4K8-3-UNV-BL-
	SENSOR AND 0-10V DIMMING DRIVER.       SCP-20F         XE1       WALL MOUNTED LED LIGHT FIXTURE         WITH FLAT LENS, BUILT-IN OCCUPANCY       KIM LIGHTING         42       SENSOR AND 0-10V DIMMING DRIVER
NORTH	(90-MIN. BATTERY PACK)

![](_page_35_Picture_4.jpeg)