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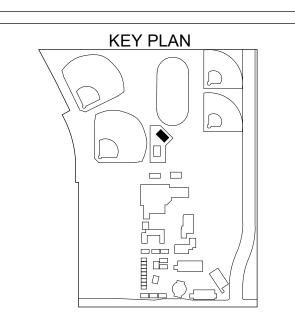
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PROJECT

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Natomas Unified School District

PROJECT STATUS

NUSD Natomas HS BOILER/DHW REPLACEMENT 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

COVER SHEET

Application Number

Project Number

Checked Drawn

APPLICABLE STATE CODES AND REGULATIONS WITH LATEST AMENDMENTS AND FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, NATOMAS [T] 916-254-5615 INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED [E] ChrisG@StudioW-Architects.com HIGH SCHOOL DESIGN PROFESSIONALS AND/OR CONSULTANTS 2022 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 CCR PLUMBING SCHEDULES, LEGEND & NOTES 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR (2021 IBC & PLUMBING DETAILS CALIFORNIA AMENDMENTS) PLUMBING DEMO SITE PLAN AQUATIC DESIGN GROUP 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR (2020 PLUMBING SITE PLAN NATIONAL ELECTRICAL CODE & CALIFORNIA AMENDMENTS) PLUMBING DEMO FLOOR PLAN 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR (2021 The drawings or sheets listed on the cover or index sheet 2226 FARADAY AVENUE SAN JUAN ROAD UNIFORM MECHANICAL CODE & CALIFORNIA AMENDMENTS) (all C, L, S, M, P, E, T and FA drawings) P2.1 PLUMBING FLOOR PLAN CARLSBAD, CA 92008 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR (2021 This drawing, page of specifications/calculations UNIFORM PLUMBING CODE & CALIFORNIA AMENDMENTS) DENNIS BERKSHIRE 2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CBSC have been prepared by other design professionals or consultants who are licensed and/or ELECTRICAL SYMBOL LEGEND, NOTES, & ABBREVIATIONS Γ] 760-444-8303 2022 CALIFORNIA HISTORICAL BUILDING CODE, PART 8, TITLE 24 CCR authorized to prepare such drawings in this state. It has been examined by me for: 2022 CALIFORNIA FIRE CODE, PART 9. TITLE 24 CCR (2021 INTERNATIONAL E1.1 ELECTRICAL OVERALL SITE PLAN [E] dberkshire@aquaticdesigngroup.com E2.0 ELECTRICAL DEMO FLOOR PLAN FIRE CODE & CALIFORNIA AMENDMENTS) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and E2.1 | ELECTRICAL FLOOR PLAN (2021 INTERNATIONAL EXISTING BUILDING CODE & CALIFORNIA coordination with my plans and specifications and is acceptable for incorporation into the E4.1 ELECTRICAL PANEL SCHEDULES TOTAL SHEET COUNT: 23 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE PART 11, TITLE 24 LP CONSULTING ENGINEERS 2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 CCR The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections TITLE 8 CCR, CH. 4, SUB-CH. 6 - ELEVATOR SAFETY ORDERS 13. TITLE 19 CCR, PUBLIC SAFETY, SFM REGULATIONS 4-336, 4-341 and 4-344" of Title 24, Part 1. (Title 24, Part 1, Section 4-317 [b]) 1209 PLEASANT GROVE BOULEVARD ROSEVILLE, CA 95678 APPLICABLE FEDERAL CODES AND STANDARDS: [X] All drawings or sheets listed on the cover or index sheet RYAN ENNIS 14. AMERICANS WITH DISABILITIES ACT (ADA), TITLE 11] This drawing or page [T] 916-771-0778 UNIFORM FEDERAL ACCESSIBILITY STANDARDS (UFAS) or ADA STANDARDS [E] rennis@lpengineers.com FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36) [X] is/are in general conformance with the project design and [X] has/have been coordinated with the project plans and specifications APPLICABLE REFERENCED STANDARDS: SPEC WRITER 16. NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA BYUN PARTNERS NFPA 24, PRIVATE FIRE MAINS (CA AMENDED), 2019 EDITION NFPA 72, NATIONAL FIRE ALARM CODE (CA AMENDED), 2022 EDITION Architect or Engineer designated to be in general responsible charge. NFPA 80, FIRE DOOR AND OTHER OPENING PROTECTIVES, 2019 EDITION 1205 HAZEL PLACE 20. NFPA 2001, CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2018 EDITION Brian P. Whitmore COSTA MESA, CA 92626 REFERENCE CODE SECTION FOR NFPA STANDARDS - 2022 CBC CHAPTER 35 AND DAVID BYN CFC CHAPTER 80. SEE CHAPTER 80 FOR STATE OF CALIFORNIA AMENDMENTS TO [T] 310-800-0353 NFPA STANDARDS. License Number [E] david@byunpartners.com STATEMENT OF GENERAL CONFORMANCE AND SIGNATURE BLOCK PER IR A-18

DRAWING INDEX

ARCHITECTURAL SYMBOLS AND ABBREVIATIONS

A2.0 FLOOR PLAN - (E) RESTROOM/ POOL EQUIPMENT

EXISTING MECHANICAL ROOM LAYOUT PLAN

MECHANICAL SCHEDULES, LEGEND, & NOTES

DESCRIPTION

COVER SHEET

A1.1 SITE PLAN OVERALL

GENERAL NOTES

SITE PLAN ENLARGED

MECHANICAL SITE PLAN

MECHANICAL FLOOR PLAN

MECHANICAL DEMO FLOOR PLAN

PROJECT DIRECTORY

NATOMAS UNIFIED SCHOOL DISTRICT

JEN MELLOR, PROJECT MANAGER, FACILITIES, & STRATEGIC PLANNING

<u>CLIENT</u>

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SACRAMENTO, CA 95811

BRIAN WHITMORE, PRINCIPAL

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CHRIS GARCIA, SENIOR PROJECT MANAGER

NUSD Natomas HS

BOILER/DHW REPLACEMENT

3301 FONG RANCH ROAD

SACRAMENTO, CA 95834

Natomas Unified School District

SHEET

A0.2

ARCHITECTURAL

/IECHANICAL

MR.2 DETAILS

PROJECT DESCRIPTION

STATEMENT OF GENERAL

CONFORMANCE

APN: 225-017-0063

THE PROJECT INCLUDES: Replace existing pool boiler

Replace existing domestic hot water heater

DEFERRED APPROVALS

ADD ALTERNATES

CODES AND REGULATIONS

NONE

NONE

GENERAL NOTES

- PRIOR TO SUBMITTING PROPOSAL, BIDDER SHALL EXAMINE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE VISITED THE CONSTRUCTION SITE. HE SHALL BE FAMILIAR WITH THE CONDITIONS UNDER WHICH HE WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. THE GENERAL CONTRACTOR SHALL NOT DISPUTE, COMPLAIN OR ASSERT THAT THERE IS ANY MISUNDERSTANDING IN REGARDS TO LOCATION, EXTENT, NATURE OR AMOUNT OF WORK TO BE PERFORMED UNDER THIS CONTRACT DUE TO THE CONTRACTOR'S FAILURE TO INSPECT THE SITE. BIDDERS SHALL NOTIFY THE ARCHITECT OF ANY
 - CONTRACT DOCUMENTS. THERE WILL BE NO SUBSTITUTION FOR SPECIFIED ITEMS WITHOUT PRIOR APPROVAL UNLESS OTHERWISE NOTED. REQUESTS FOR SUBSTITUTIONS SHALL BE MADE IN ACCORDANCE WITH GENERAL CONDITIONS & DIVISION 1 THE GENERAL BUILDING CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS REQUIRED BY GOVERNING AGENCIES IN ORDER TO PERFORM THE WORK. THE FINAL LOCATION OF ALL ELECTRICAL AND SIGNAL EQUIPMENT, PANEL BOARDS, FIXTURES, ETC., SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION.

CONDITIONS REQUIRING WORK WHICH ARE NOT COVERED IN THE

- DEFINITIONS "TYPICAL" MEANS IDENTICAL FOR ALL CONDITIONS, UNLESS OTHERWISE NOTED. "SIMILAR" MEANS COMPARABLE CHARACTERISTICS FOR THE
- CONDITION NOTED. VERIFY DIMENSIONS AND ORIENTATIONS. "PROVIDE" MEANS TO FURNISH AND INSTALL. "FURNISH" MEANS TO FURNISH AND OTHERS WILL INSTALL DIMENSIONING RULES:
- ALL HORIZONTAL DIMENSIONS SHALL BE TO FACE OF STUD OR TO CENTERLINE OF COLUMN GRID LINE, U.O.N DIMENSIONS NOTED "CLEAR", "CLR", OR "MINIMUM" MUST BE
- DIMENSIONS CAN NOT BE MODIFIED WITHOUT APPROVAL OF THE ARCHITECT UNLESS OTHERWISE NOTED. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB UNLESS OTHERWISE NOTED. DO NOT SCALE DRAWINGS. IF ANY ITEM OF WORK CANNOT BE

PRECISELY MAINTAINED.

- LOCATED, DO NOT PROCEED WITH THE WORK WITHOUT THE ARCHITECT'S APPROVAL DIMENSIONS MARKED "V.I.F." OR "VERIFY" SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
- VERIFY ALL ROUGH OPENING DIMENSIONS FOR FABRICATED ITEMS WITH THE MANUFACTURER PRIOR TO PROCEEDING WITH
- CONSTRUCTION. PROVIDE REQUIRED BACKING, BLOCKING, AND BRACING FOR ALL WALL -MOUNTED FIXTURES, ACCESSORIES AND EQUIPMENT.
- STRUCTURAL AND/OR EQUIPMENT REQUIREMENTS. ALL GLAZING SHALL CONFORM TO FEDERAL GLAZING REGULATIONS AND CHAPTER 24, CBC. ALL CONTRACTORS SHALL REMOVE TRASH AND DEBRIS STEMMING FROM THEIR WORK ON A DAILY BASIS. PROJECT SITE SHALL BE MAINTAINED IN A

THICKNESS OR FRAMING DUE TO ELECTRICAL, MECHANICAL, PLUMBING,

VERIFY AND COORDINATE WALLS THAT MAY REQUIRE NON-TYPICAL

- CLEAN AND ORDERLY CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL LEFT-OVER MATERIALS, DEBRIS, TOOLS AND EQUIPMENT INVOLVED IN HIS OPERATIONS AT THE CONCLUSION OF THE INSTALLATION. HE SHALL LEAVE ALL AREAS
- CLEAN AND FREE FROM DUST. HAZARDOUS MATERIALS: THE ARCHITECT AND THE ARCHITECT'S CONSULTANTS SHALL HAVE NO RESPONSIBILITY FOR THE DISCOVERY. PRESENCE, HANDLING, REMOVAL, DISPOSAL OF OR EXPOSURE OF PERSONS TO ASBESTOS OR HAZARDOUS OR TOXIC SUBSTANCES IN ANY FORM AT THE PROJECT SITE, PROFESSIONAL SERVICES RELATED OR IN ANY WAY CONNECTED WITH THE INVESTIGATION, DETECTION, ABATEMENT, REPLACEMENT, USE, SPECIFICATION, OR REMOVAL OF PRODUCTS. MATERIALS, OR PROCESSES CONTAINING ASBESTOS OR HAZARDOUS OR TOXIC MATERIALS ARE BEYOND THE SCOPE OF THIS AGREEMENT.
- THE GENERAL CONTRACTOR & SUBCONTRACTORS ARE RESPONSIBLE FOR LOCATING & VERIFYING ALL EXISTING UNDERGROUND UTILITIES IN ALL AREAS OF NEW WORK PRIOR TO COMMENCEMENT OF EXCAVATION. EXISTING UTILITIES SHOWN ON THE DRAWING ARE APPROXIMATE ROUTING LOCATION AS BEST DETERMINED FROM EXISTING DRAWINGS AND THE SCHOOL DISTRICT. BUT SHOULD NOT BE CONSTRUED TO REPRESENT ALL THE EXISTING UNDERGROUND UTILITIES. ALL TEMPORARY WORK SHALL BE CONSIDERED A PART OF THIS CONTRACT
- AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED AIR/WATER TIGHT. ALL INTERIOR PENETRATIONS SHALL BE SEALED TO PROVIDE A PROFESSIONAL AND FINISHED APPEARANCE
- THE DRAWINGS AND SPECIFICATIONS DO NOT UNDERTAKE TO SHOW OR LIST EVERY ITEM TO BE PROVIDED. BUT RATHER TO DEFINE THE REQUIREMENTS. FOR A FULL AND WORKING SYSTEM FROM THE STANDPOINT OF THE END USER. FOR THIS REASON, WHEN AN ITEM NOT SHOWN OR LISTED IS CLEARLY NECESSARY FOR PROPER USE CONTROL/ OPERATION OF EQUIPMENT WHICH IS SHOWN OR LISTED, PROVIDE ALL ITEMS WHICH WILL ALLOW THE SYSTEM TO FUNCTION PROPERLY AT NO INCREASE IN CONTRACT PRICE OR TIME. THE DETAILS REFLECT THE DESIGN INTENT FOR TYPICAL CONDITIONS. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND SHALL INCLUDE, IN HIS SCOPE. THE COST FOR COMPLETE FINISHED INSTALLATIONS. INCLUDING ANOMALIES, OF ALL TRADES.
- 18. ALL WORK SHALL CONFORM TO CALIFORNIA CODES, TRADE STANDARDS WHICH GOVERN EACH PHASE OF THE PROJECT, AND ALL APPLICABLE LOCAL CODES AND AUTHORITIES HAVING JURISDICTION. THIS DRAWING SET SHALL BE USED IN CONJUNCTION WITH THE CSI FORMAT PROJECT MANUAL PUBLISHED IN BOOK FORM, COMBINED, THEY ARE THE "CONTRACT DOCUMENTS". NO WORK SHALL COMMENCE WITH UNAPPROVED MATERIALS. ANY WORK DONE WITH UNAPPROVED MATERIALS AND EQUIPMENT IS AT THE
- CONTRACTOR'S RISK. SEE SPECIFICATIONS FOR SUBMITTAL AND SUBSTITUTION REQUIREMENTS. CONSTRUCTION MATERIAL STORED ON THE SITE SHALL BE PROPERLY STACKED AND PROTECTED TO PREVENT DAMAGE OR DETERIORATION. FAILURE IN THIS REGARD MAY BE CAUSE FOR REJECTION OF MATERIAL AND/OR WORK. SECURITY OF MATERIALS ARE THE SOLE RESPONSIBILITY OF ALL EQUIPMENT/CABINETS SHALL BE FABRICATED FROM FIELD VERIFIED DIMENSIONS AND APPROVED SHOP DRAWINGS. COORDINATE MECHANICAL,
- PLUMBING AND ELECTRICAL EQUIPMENT WITH THIS WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE AND COSTS ATTRIBUTED TO RAIN WATER DAMAGE DURING THE DURATION OF THIS PROJECT. PROTECT AREAS FROM DAMAGE WHICH MAY OCCUR DUE TO TEMPERATURES, WIND, DUST, WATER, ETC. PROVIDE AND MAINTAIN
- TEMPORARY BARRICADES, CLOSURE WALLS, ETC., AS REQUIRED DURING CONSTRUCTION. MAINTAIN EXISTING PEDESTRIAN ACCESS ALONG EXISTING ADJACENT STREETS. 26. ALL PUBLIC IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE
- LATEST ADOPTED CITY/COUNTY STANDARDS. ALL TYPICAL DETAILS SHALL APPLY UNLESS NOTED OTHERWISE. NOTIFY THE ARCHITECT IN WRITING AND SEEK CLARIFICATION IF ANY DISCREPANCIES OR OMISSIONS ARE FOUND. CONTRACTOR SHALL BE RESPONSIBLE FOR REMEDIAL WORK IF RELATED WORK IS CONTINUED AFTER A DISCREPANCY IS IDENTIFIED.
- NEW FINISHES AND CONSTRUCTION SHALL BE PROTECTED BY THE CONTRACTOR FROM POTENTIAL DAMAGE CAUSED BY CONSTRUCTION ACTIVITY. DAMAGE TO FINISHES OR CONSTRUCTION SHALL BE REPAIRED OR REPLACED (OWNER'S DECISION) BY THE CONTRACTOR WITH IDENTICAL MATERIAL AND/OR FINISHES. CONTRACTOR SHALL MAKE AND MAINTAIN A PHOTOGRAPHIC RECORD NOTEBOOK WITH DATED/INDEXED PHOTOGRAPHS SEE ELECTRICAL DRAWINGS FOR INFORMATION RELATED TO TELECOMMUNICATION EQUIPMENT, POWER, AND LIGHTING FIXTURES AND
- EQUIPMENT. SEE ARCHITECTURAL PLANS, REFLECTED CEILING PLAN AND INTERIOR ELEVATIONS FOR COORDINATED EQUIPMENT LOCATIONS. IF NOT SHOWN, CONTACT ARCHITECT FOR REVIEW AND DECISION. PROVIDE ACCESS DOORS REQUIRED FOR ACCESS TO CONCEALED MECHANICAL. PLUMBING, AND ELECTRICAL EQUIPMENT.
- ALL NOTED WORK IS UNDERSTOOD TO BE NEW, UNLESS LABELED AS "(E)" OI

SUPPLEMENTAL GENERAL NOTES

CONSTRUCTION SAFETY. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREIN OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE EXECUTION OF THIS WORK. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN. AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF STUDIO W ARCHITECTS, AND ARE NOT TO BE USED. IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF STUDIO W ARCHITECTS. EACH BIDDER SHALL POSSESS AT THE TIME OF BID, A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE

THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR

FIRE SAFETY DURING CONSTRUCTION & DEMOLITION GENERAL: FIRE SAFETY DURING CONSTRUCTION & DEMOLITION SHALL COMPLY WITH 2022 CALIFORNIA FIRE CODE (CFC) CH. 33 (PART 9, TITLE CONSTRUCTION SAFEGUARDS: SHALL COMPLY WITH APPLICABLE

SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE

THROUGHOUT THE DURATION OF THIS CONTRACT.

PER CBC 3308.1.

DRAWINGS.

PROCEDURES.

- PROVISIONS OF CBC 3302. DEMOLITION: SHALL COMPLY WITH APPLICABLE PROVISIONS OF CBC BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALI NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES
- MEANS OF EGRESS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF WATER SUPPLY: APPROVED WATER SUPPLY SHALL BE MADE

AVAILABLE IN ACCORDANCE WITH CBC 3313.

- FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL AND WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL PER CBC 3314 PENETRATIONS IN FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED. NONRESIDENTIAL ENERGY STANDARDS COMPLIANCE STATEMENT (TITLE 24,
- THE DESIGN INDICATED HEREIN COMPLIES WITH THE REQUIREMENTS OF THE ENERGY CONSERVATION STANDARDS OF TITLE 24, PART 6. CALIFORNIA CODE OF REGULATIONS. THE PROPOSED BUILDINGS WILL BE IN COMPLIANCE WITH THE ENERGY CONSERVATION STANDARDS PROVIDED THEY ARE BUILT ACCORDING TO THESE DRAWINGS AND SPECIFICATIONS AND PROVIDED ANY FUTURE IMPROVEMENTS ARE COMPLETED ACCORDING TO THE REQUIREMENTS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THESE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO INCLUDE ALL SIGNIFICANT ENERGY CONSERVATION FEATURES REQUIRED FOR COMPLIANCE WITH THE STANDARDS. BUILDING AREAS THAT ARE UNCONDITIONED

AND/OR NOT SUBJECT TO THE STANDARDS ARE INDICATED ON THE

- **ENVELOPE MANDATORY MEASURES:** INSTALLED INSULATING MATERIALS SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF TITLE 24, PART 2, CALIFORNIA
- CODE OF REGULATIONS, SECTIONS 719 ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL AND OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED
- SITE CONSTRUCTED DOORS, WINDOWS, AND SKYLIGHTS SHALL BE CAULKED BETWEEN THE UNIT AND THE BUILDING. AND SHALL BE WEATHERSTRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS).

MANUFACTURED DOORS AND WINDOWS INSTALLED SHALL

HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER IN ACCORDANCE WITH TITLE 24, PART 6. CALIFORNIA CODE OF REGULATIONS, SECTION 116(a)1. MANUFACTURED FENESTRATION PRODUCTS IN THE ENVELOPE OF THE BUILDING, INCLUDING, BUT NOT LIMITED TO, WINDOWS, SLIDING GLASS DOORS, FRENCH DOORS, SKYLIGHTS, CURTAIN WALLS, AND GARDEN WINDOWS MUST BE LABELED FOR U-VALUE IN ACCORDANCE WITH THE (NFRC) NATIONAL

FENESTRATION RATING COUNCIL'S INTERIM U-VALUE RATING

- PROCEDURE. DEMISING WALL INSULATION SHALL BE INSTALLED IN ALL OPAQUE PORTIONS OF FRAMED WALLS (EXCEPT DOORS). PROOF LOAD TESTS FOR EXPANSION TYPE ANCHOR BOLTS: ANCHOR DIAMETER REFERS TO THE THREAD SIZE FOR THE WEDGE
- APPLY PROOF TEST LOADS TO WEDGE & SLEEVE ANCHORS WITHOUT REMOVING THE NUT IF POSSIBLE. IF NOT, REMOVE NUT AND INSTALL A THREADED COUPLER TO THE SAME TIGHTNESS OF THE ORIGINAL NUT USING A TORQUE WRENCH AND APPLY LOAD. FOR SLEEVE INTERNALLY THREADED CATEGORIES, VERIFY THAT THE ANCHOR IS NOT PREVENTED FROM WITHDRAWING BY A BASEPLATE OF

CATEGORY AND TO THE ANCHOR OUTSIDE DIAMETER FOR THE SLEEVE

OTHER FIXTURES. IF RESTRAINT IS FOUND, LOOSEN AND SHIM OR REMOVE FIXTURE(S) PRIOR TO TESTING REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED. PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE FIXTURE(S). TEST EQUIPMENT IS TO BE CALIBRATED BY AN APPROVED TESTING

LABORATORY IN ACCORDANCE WITH STANDARD RECOGNIZED

THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF **INSTALLED ANCHORS:** HYDRAULIC RAM METHOD: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. FOR WEDGE AND SLEEVE TYPE ANCHORS, A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE. DROP-IN ANCHORS ARE ONLY TO BE TESTED WITH THIS METHOD. TORQUE WRENCH METHOD: THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS: WEDGE OR SLEEVE TYPE: ONE-HALF (1/2) TURN OF THE NUT. ONE-

QUARTER (1/4) TURN OF THE NUT FOR THE 3/8 IN. SLEEVE

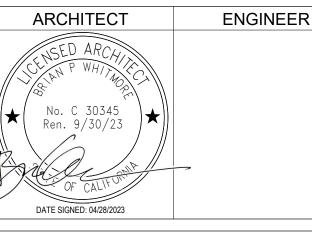
- ANCHOR ONLY. TESTING SHOULD OCCUR 24 HOURS MINIMUM AFTER INSTALLATION OF THE SUBJECT ANCHORS. ALL ANCHOR BOLTS OF THE EXPANSION TYPE (LOADED IN EITHER PULLOUT OR SHEAR) SHALL HAVE 50 PERCENT OF THE BOLTS (ALTERNATE BOLTS IN ANY GROUP ARRANGEMENT ALLOWED BY THE TYPE OF SUBSTRATE AND DIAMETER OF BOLT LISTED BELOW UNDER TEST VALUES TABLE) PROOF TESTED IN TENSION OR TORQUE LOADS AS LISTED IN THE TABLE BELOW. IF THERE ARE ANY FAILURES, THE IMMEDIATELY ADJACENT BOLTS MUST THEN ALSO BE TESTED. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH TITLE 24, PART 2, SECTION 1910A.5, "TESTS FOR POST-INSTALLED ANCHORS IN CONCRETE."
- ALL BOLTS MUST HAVE AN ENGINEERING EVALUATION REPORT THAT IS ACCEPTABLE UNDER THE REQUIREMENTS OF DSA INTERPRETATION OF REGULATIONS IR A-5. ALL ANCHOR BOLTS OF THE EXPANSION TYPE SHALL BE ONE OF THE FOLLOWING: HILTI KB-TZ2 ANCHOR ICC NO. ESR 4266

MINIMUM TEST VALUES									
NORMAL WEIGHT OR LIGHTWEIGHT CONCRETE									
<u>ANCHOR</u>		WEDGE							
DIA. (IN)	TENSION LOAD (LBS)	TORQUE (FT-LBS)	EFFECTIVE MIN. EMBEDMENT						
3/8	6,490	30	1 1/2" - 2 1/2"						
1/2	11,240	50	1 1/2" - 3 1/4"						
5/8	17,535	40	2 3/4" - 4"						
3/4	25,335	110	3 1/4" - 4 3/4"						

- POWDER-DRIVEN CONCRETE FASTENERS: GENERAL: USE OF POWDER 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 OR 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 OF NOT LESS THAN TWICE THE DESIGN LOAD, OR 200 POUNDS. WHICHEVER IS GREATER. SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN. THEREAFTER, RANDOM TESTS UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE OF APPROXIMATELY 1 IN 10 PINS, EXCEPT THAT WHEN THE DESIGN LOAD EXCEEDS 100 POUNDS, ONE HALF OF THE PINS SHALL BE TESTED. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL INSTALLATIONS MUST BE TESTED AND UNFAIR PINS REPLACED.
- ALL POWDER DRIVEN CONCRETE FASTENERS SHALL BE ONE OF THE FOLLOWING: HILTI, INC. 1. 0.145 DIA. PAF X-CR INTO STEEL BASE MATERIAL ICC NO. ESR 1663
- 0.138 DIA. PAF X-CR INTO CONCRETE BASE MATERIAL ICC NO. ESR 1663



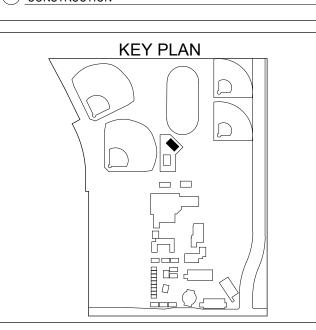
Studio W Architects 1930 H Street Sacramento, California 95811 [T] 916.254.5600 www.StudioW-Architects.com



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Natomas Unified Schoo

PROJECT STATUS

BOILER/DHW REPLACEMENT 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

GENERAL NOTES

04/28/2023

Drawing Number

Project Number

Drawn Checked Checker

Application Number

AND/OR EMERGENCY COMMUNICATIONS AUTHORITY TO OBTAIN DESIGN AND

ACCEPTANCE TESTING

THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT). MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED

MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S

A LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

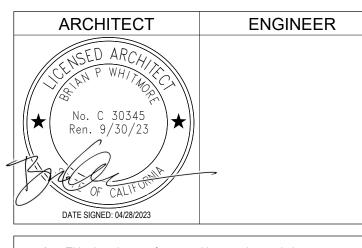
PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

EMERGENCY RESPONDER RADIO COVERAGE

ARCHITECT OF RECORD (AOR) SHALL CONTACT THE LOCAL FIRE DEPARTMENT

EQUIPMENT SPECIFICATIONS, AND TESTING AND ACCEPTANCE CRITERIA. IT IS THE RESPONSIBILITY OF THE DESIGN PROFESSIONAL / AOR TO SUBMIT PLANS AND REQUESTED DOCUMENTATION, AND APPLICABLE FEES, TO THE LOCAL AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL, UPON COMPLETION, COPIES OF THE APPROVED PLANS, EQUIPMENT DATA SHEETS, AND PROOF OF TESTING AND ACCEPTANCE DOCUMENTATION SHALL BE PROVIDED TO THE SCHOOL DISTRICT. THE PROJECT INSPECTORS SHALL VERIFY THAT DOCUMENTATION IS PROVIDED TO THE SCHOOL DISTRICTS.





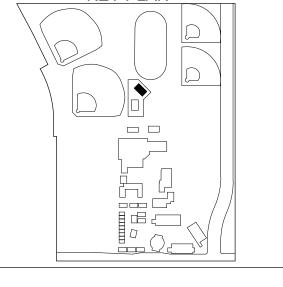
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) CONSTRUCTION KEY PLAN



Natomas Unified School

PROJECT STATUS

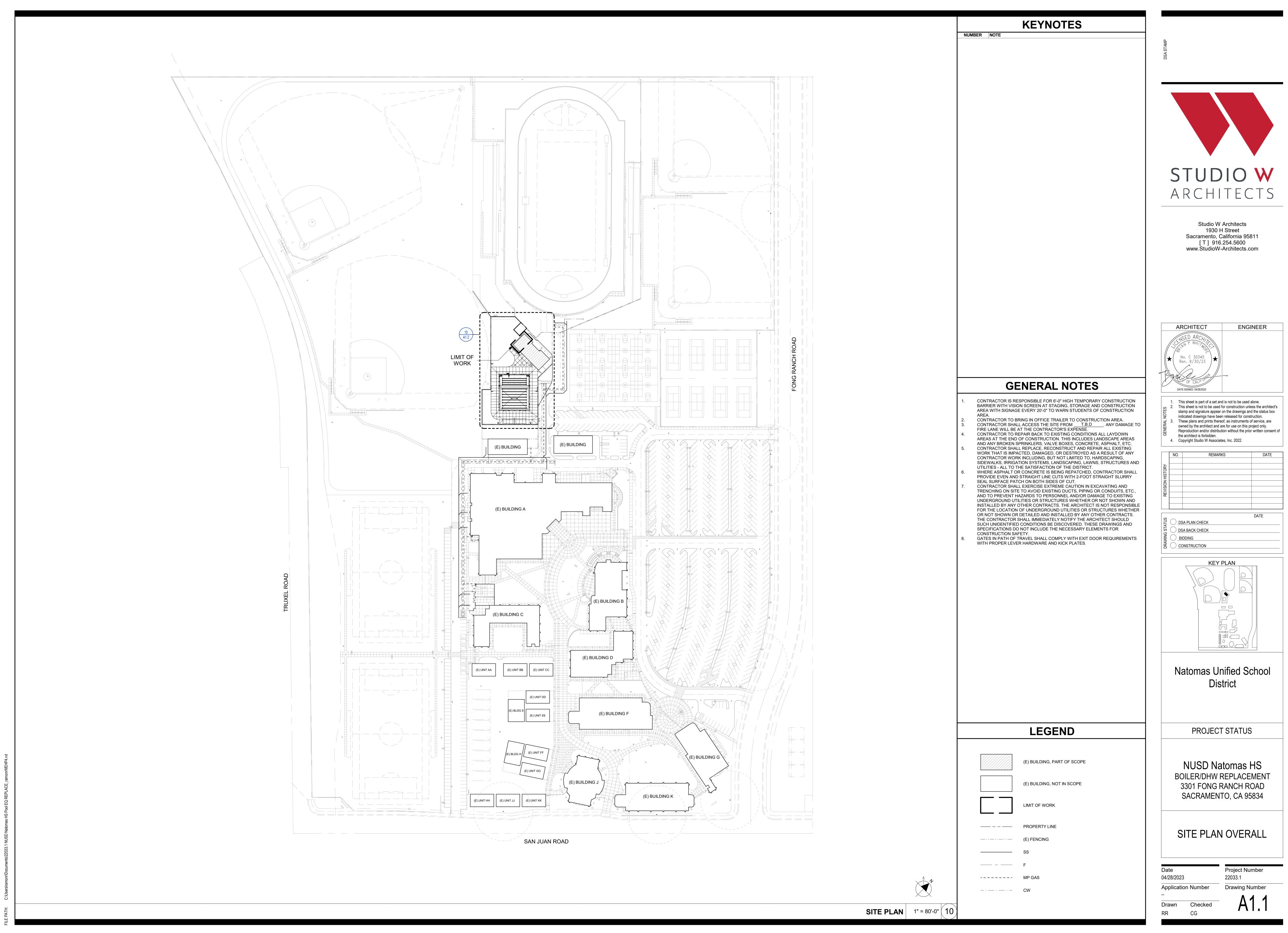
NUSD Natomas HS BOILER/DHW REPLACEMENT 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

ARCHITECTURAL SYMBOLS AND **ABBREVIATIONS**

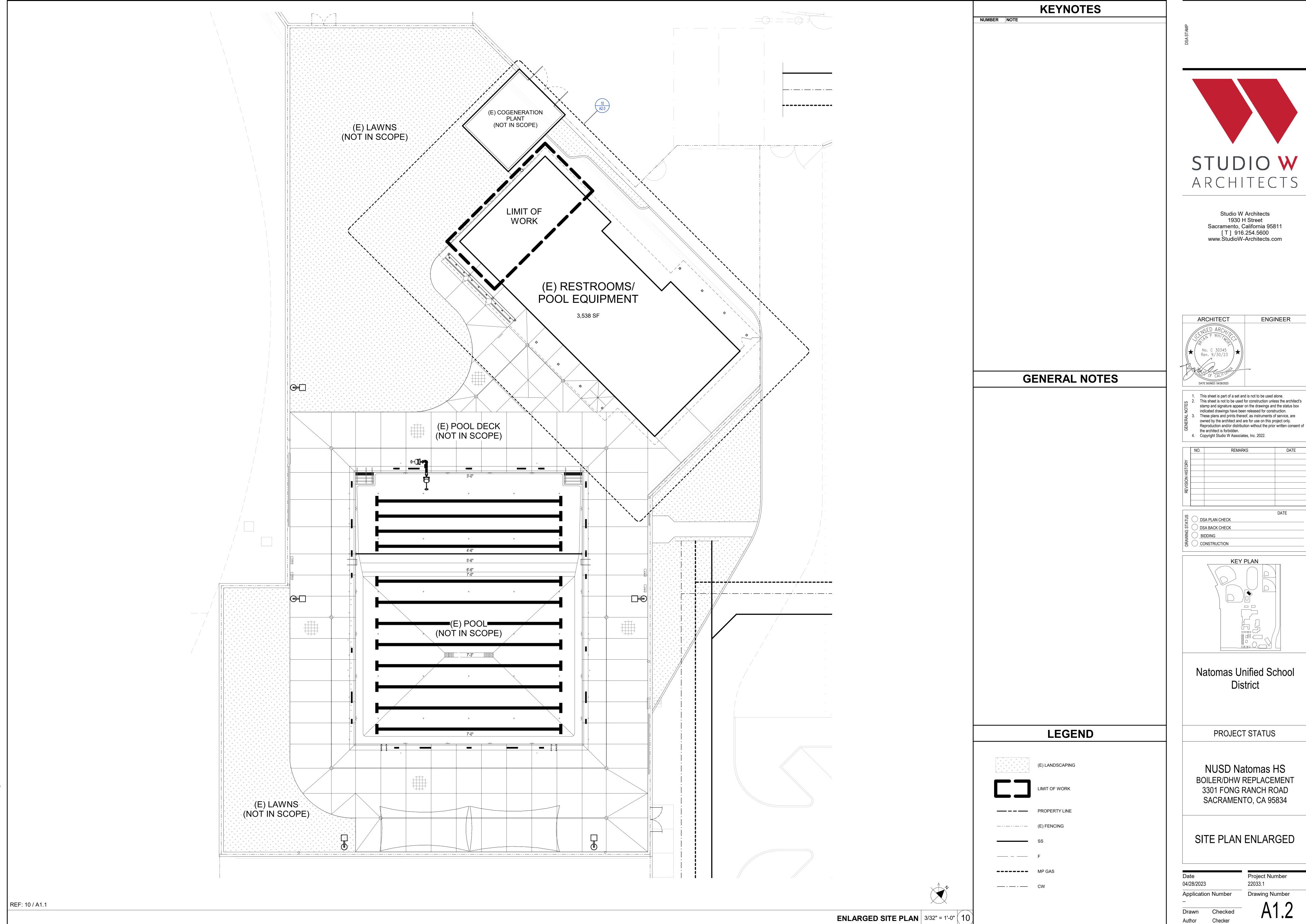
04/28/2023 Application Number

Project Number 22033.1 Drawing Number

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ARCHITECTS

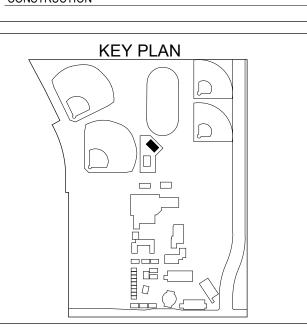
ENGINEER ARCHITECT

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Natomas Unified School

PROJECT STATUS

NUSD Natomas HS BOILER/DHW REPLACEMENT 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

> FLOOR PLAN - (E) RESTROOM/ POOL **EQUIPMENT**

Application Number

Project Number Drawing Number

Drawn Checked

FLOOR PLAN - (E) RESTROOM/ POOL EQUIP. 3/16" = 1'-0" (10)

Studio W Architects 1930 H Street

[T] 916.254.5600

DESIGN GROUP

2226 Faraday Ave. Carlsbad, CA 92008 AquaticDesignGroup.com 760.438.8400

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indicated drawings have been released for construction.

REMARKS

KEY PLAN

District

PROJECT STATUS

POOL MODERNIZATION

ENGINEER

ARCHITECT

Sacramento, California 9581²

www.StudioW-Architects.com

LEGEND

BFV = BUTTERFLY VALVE CHECK VALVE

FLOWMETER

BACKWASH = FLOOR SINK

EXISTING

NEW

PIPE SUPPORT (UTILIZE (E) FLOOR MOUNTED UNISTRUT SYSTEM)

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2019 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP). MECHANICAL DUCTS (MD), PLUMBING PIPING (PP) ELECTRICAL DISTRIBUTION SYSTEMS (E): MP \boxtimes MD \square PP \boxtimes E \square 1. SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) OPM #0043-13

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA - APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

- 1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
- 2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT
- PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT, FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT
- B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE
- SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL. THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL
- ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

MECHANICAL ANCHORAGE

- 1. EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI KB TZ 2 (ICC ESR-4266) TO BE INSTALLED IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.
- 2. EXPANSION OR WEDGE ANCHORS INTO MASONRY: HILTI KB TZ 2 (ICC ESR-4561) TO BE INSTALLED IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS
- 3. FASTENERS SHALL BE STAINLESS STEEL FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
- 4. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT WITH CONCRETE STRENGTH EQUAL TO OR GREATER THAN BASE MATERIAL. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE STRUCTURAL ENGINEER WILL DETERMINE A NEW
- 5. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.
- 6. ANCHORS SHALL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY.
- 7. TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION. 8. APPLY TEST LOAD BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION OF THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK, TORQUE WRENCH, OR CALIBRATED SPRING LOADING DEVICES, ETC.
- 9. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY A BASE PLATE OR OTHER FIXTURE. IF RESTRAINT IS FOUND, LOOSEN AND SHIM OR REMOVE THE
- FIXTURE PRIOR TO TESTING. 10. UNLESS OTHERWISE NOTED, PROVIDE MINIMUM EMBEDMENT OF ANCHORS AS SHOWN IN TABLES BELOW.
- 11. TEST 50% OF ANCHORS PER ONE OF THE FOLLOWING METHODS AND IN ACCORDANCE WITH THE VALUES SHOWN IN THE TABLE:
- A. HYDRAULIC RAM METHOD: APPLY PROOF TEST LOAD WITHOUT REMOVING THE NUT. IF IT IS NOT POSSIBLE TO TEST WITH THE NUT INSTALLED, REPLACE THE NUT WITH A THREADED COUPLER TO THE LOAD. ANCHOR IS ACCEPTABLE IF NO MOVEMENT IS OBSERVED AT THE TEST LOAD. MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES
- B. TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED IN THE TABLE WITH ONE-HALF TURN OF THE NUT.
- 12. IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE TESTS PASS, THEN RESUME INITIAL TESTING FREQUENCY. CCD WILL BE REQUIRED.

		WEDGE, EXP	ANSION OR ADI	HESIVE	ANCHOR I	EMBEDMENT DE	PTH AN	ND TEST LOAD		
CIZE	MIN. EMBED	HILTI KB TZ 2 (55) ANCHORS IN CONCRETE			KB TZ 2 (SS) ANCHORS IN CMU			HILTI HIT-HY 200 ADHESIVE ANCHORS IN CONCRETE		
SIZE		TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)	MIN. EMBED	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)	MIN. EMBED	PULL TEST LOAD (LBS)	TORQUE LOAD (FT-LBS)	
¼" DIA.	1½"	800	6	1¾"	145	6	-	-	-	
%" DIA.	2½"	1,500	30	3"	590	15	3"	2,910	15	
½" DIA.	3¼"	3,000	40	3¾"	640	25	4"	5,165	30	
%" DIA.	3¼"	4,900	60	4½"	940	35	5"	8,245	60	
34" DIA.	3¾"	6,300	125	5½"	1,385	50	6"	10,150	100	



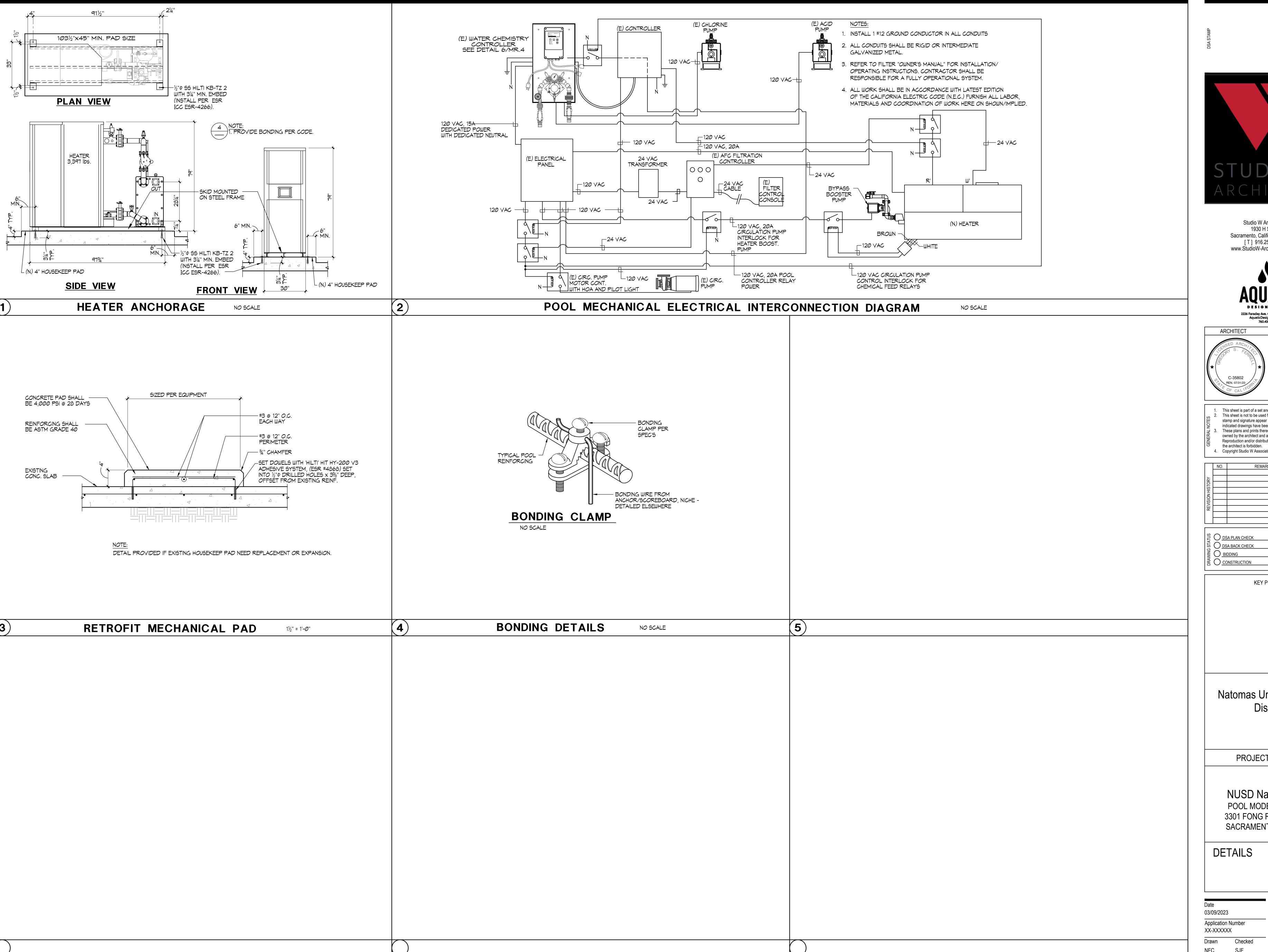
Natomas Unified School NUSD Natomas HS 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

> **EXISTING MECHANICAL** ROOM LAYOUT PLAN

> > MR.1

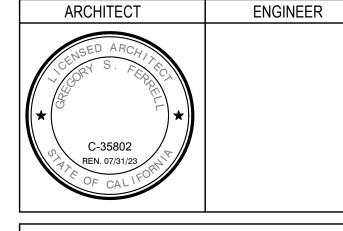
Project Number **Drawing Number Application Number** XX-XXXXXX

EXISTING MECHANICAL ROOM LAYOUT PLAN ½"=1'**-⊘**"









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KEY PLAN

Natomas Unified School **District**

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

> Project Number Drawing Number

EQUIPMENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

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 TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY
 ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS
 ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INLUDE ALL
 ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES
 HAVING A FLEXIBLE CABLE.
- 3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF

SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE

PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT | X | SPECIFIC NOTES AND DETAILS.

MP MD PP E OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL ☐ ☐ ☐ ☐ (OPM#) #0043-13.

MECHANICAL LEGEND SYMBOL ITEM SUPPLY AIR SA RETURN AIR EXHAUST AIR OSA OUTSIDE AIR TRANSFER AIR DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN EQUIPMENT DESIGNATION UNIT ABBREVIATION NUMBER A 10x10-3 NECK SIZE & BLOW (4 UON) FIRE DAMPER WHERE REQ'D ₹===₹ ACOUSTIC LINED DUCT TURNING VANES → DUCT FLEXIBLE CONNECTION DUCT RISER DUCT DROP RECTANGULAR TO ROUND FITTING ── VOLUME CONTROL DAMPER FIRE DAMPER W/ ACCESS FSD FIRE SMOKE DAMPER W/ ACCESS FSD ハハ OPPOSED BLADE DAMPER OBD BACKDRAFT DAMPER M MOTORIZED DAMPER THERMOSTAT @ +48" AFF T-STAT SENSOR @ +48" AFF TIMECLOCK @ +48" AFF TEMPERATURE CONTROL PANEL SD DUCT SMOKE DETECTOR SD — PIPE RISER/DROP ABOVE FINISHED FLOOR AFF UNLESS OTHERWISE NOTED UON TYPICAL BOTTOM OF DUCT BOTTOM OF PIPE BOP AUTOMATIC AIR VENT AAV MANUAL AIR VENT TEMP. CONTROL CONTRACTOR TCC TEMPERATURE CONTROL VALVE TCV COMBUSTION AIR NEW - EXISTING POINT OF DIS/CONNECTION ---- HEATING HOT WATER SUPPLY ---- HEATING HOT WATER RETURN ____ 2-WAY CONTROL VALVE BACKFLOW PREVENTER BFP → BALL VALVE → NA BUTTERFLY VALVE ———∃ CAP CHECK VALVE ——── AUTOMATIC BALANCE VALVE (B&G ULTRA SET) → AUTOMATIC BALANCE VALVE

(B&G CIRCUIT SETTER)

CONTROL VALVE (2-WAY)

ビ
⇒ TEMPERATURE SENSORTEST PORT (PETE'S PLUG)

FLEX CONNECTOR
FLOW ARROW
GATE VALVE

PRESSURE GAUGE

→ PLUG VALVE

REDUCER

STRAINER

□- THERMOMETER

──── TRIPLE DUTY VALVE

MECHANICAL SPECIFICATIONS

- A. THIS CONTRACTOR SHALL COMPLY WITH ALL CODES AND REGULATIONS IN EFFECT AT THE JOB SITE, INCLUDING, BUT NOT LIMITED TO:
- A.1. 2022 CALIFORNIA BUILDING CODE
- A.2. 2022 CALIFORNIA MECHANICAL CODE
- A.3. 2022 CALIFORNIA PLUMBING CODE
 A.4. 2022 CALIFORNIA ELECTRICAL CODE
- A.5. 2022 CALIFORNIA GREEN BUILDING STANDARDS
- A.6. 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS TITLE 24
- A.7. NATIONAL FIRE PROTECTION ASSOCIATION
 A.8. CALIFORNIA STATE FIRE MARSHAL
- B. ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL DAMAGED ITEMS INSTALLED
- UNDER THIS CONTRACT WITHOUT ADDITIONAL COST TO OWNER.

 C. THE MECHANICAL CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF OPERATION, MAINTENANCE AND PREVENTATIVE
- MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF MECHANICAL EQUIPMENT.

 D. CHECK AND VERIFY EXISTING CONDITIONS AT THE JOB SITE BEFORE BEGINNING WORK. ADJUST THE LOCATION AND CONDITIONS AND OTHER TRADES. AND CHARGE BEGINNING WORK AND CHARGE BEGINNING WORK AND CHARGE BEGINNING WORK.
- CONFIGURATION OF THE WORK NECESSARY TO SUIT ACTUAL CONDITIONS AND OTHER TRADES. ANY CHANGES REQUIRED MUST FIRST BE APPROVED BY THE ARCHITECT OR ENGINEER.
- E. THE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK AND SYSTEMS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. CHANGES REQUIRED TO SUIT EXISTING CONDITIONS AND DUE TO COORDINATION WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST TO THE OWNER.

. SUBMIT MANUFACTURER'S PRODUCT DATA INCLUDING NAME OF MANUFACTURER, TRADE NAME, MODEL, CAPACITY,

- OPTIONS, DIMENSIONS, WEIGHTS, INSTALLATION AND STARTUP DATA. EQUIPMENT PERFORMANCES SCHEDULED ARE MINIMUM CAPACITY, AIR FLOW, EFFICIENCY, ETC. REQUIRED. WEIGHTS AND ELECTRICAL DATA SCHEDULED IS MAXIMUM AVAILABLE OR ALLOWABLE.

 G. ALL EQUIPMENT IS TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. USING ALL ACCESSORY EQUIPMENT
- AVAILABLE FROM THE MANUFACTURER FOR SUPPORTS, CONTROLS, ETC., TO MAKE A COMPLETE SYSTEM. ALL EQUIPMENT OR ACCESSORIES NEEDED AND NOT SHOWN OR SPECIFIED SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. ADJUST THE EQUIPMENT FOR PROPER OPERATION, CHECK ALL CONTROLS AND VERIFY THAT ALL SAFETY DEVICES ARE FUNCTIONING PROPERLY.

 H. PROVIDE ACCESS DOORS WHERE ACCESS THROUGH FLOORS, WALLS OR CEILINGS IS REQUIRED TO ACCESS MECHANICAL
- ACCESS FOR MAINTENANCE, TESTING OR OBSERVATION. COORDINATE THE EXACT TYPE AND LOCATION OF ACCESS DOORS TO PROVIDE PROPER ACCESS TO THE ITEM CONCEALED.

 I. CHECK ALL PIPE AND DUCTWORK FOR LEAKS AND EXCESSIVE AIR LOSS AND NOISE. CORRECT ANY DEFICIENCIES AS

CONTROL SYSTEM COMPONENTS, FIRE/SMOKE DAMPERS, SMOKE DETECTORS, ETC., OR OTHER SYSTEMS REQUIRING

- SOON AS DISCOVERED. OPERATE THE SYSTEMS AS A TEST AND DEMONSTRATE TO THE OWNER AND ARCHITECT OR ENGINEER THAT THE SYSTEM IS FUNCTIONING PROPERLY.
- J. GALVANIZED STEEL DUCTS SHALL BE ASTM A 653/A 653M GALVANIZED STEEL SHEET, FORMING STEEL (FS) DESIGNATION, WITH G90/Z275 ZINC COATING.
- K. FABRICATE, SUPPORT AND SEAL DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAGES, REINFORCING, AND SEALING FOR 4" STATIC PRESSURE UPSTREAM OF TERMINAL UNITS (VAV, CAV BOXES) AND 2" STATIC PRESSURE DOWNSTREAM OF TERMINAL UNITS (VAV, CAV BOXES).
- L. CONSTRUCT DUCTWORK T'S, BENDS, AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE. WHERE NOT POSSIBLE RECTANGULAR ELBOWS MUST BE USED, PROVIDE AIR FOIL TURNING VANES. WHERE ACQUISTICAL LINING IS INDICATED. PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION.
- ACOUSTICAL LINING IS INDICATED, PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION.

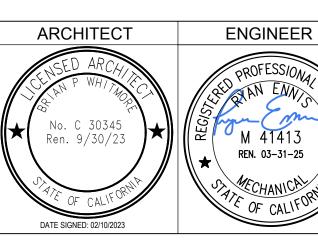
 M. COMBINATION FIRE AND SMOKE DAMPERS SHALL MEET THE REQUIREMENTS OF NFPA 90A, UL 555, UL 555S, AND AS
- N. ALL INSULATION AND LINER PRODUCTS SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723.

INDICATED. PROVIDE FACTORY SLEEVE AND COLLAR FOR EACH DAMPER.

MECHANICAL SHEET INDEX						
SHEET NUMBER	SHEET NAME					
M0.0	MECHANICAL SCHEDULES, LEGEND & NOTES					
M1.1	MECHANICAL SITE PLAN					
M2.0	MECHANICAL DEMO FLOOR PLAN					
M2.1	MECHANICAL FLOOR PLAN					



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NO.	REMARKS	DATE

DATE

SOLVE DSA PLAN CHECK

DSA BACK CHECK

BIDDING

CONSTRUCTION

KEY PLAN

Natomas Unified School

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

MECHANICAL SCHEDULES, LEGEND & NOTES

Date
02/10/2023
Application Number

Author

XX-XXXXXX

Drawn Checked

Checker

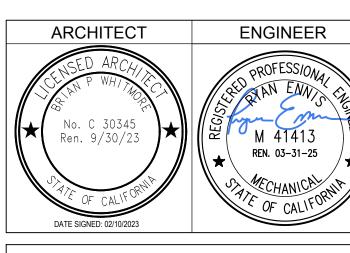
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Project Number

Drawing Number







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	DSA BACK CHECK BIDDING

KEY PLAN

Natomas Unified School District

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

MECHANICAL SITE PLAN

Author Checker

Project Number 22033 Application Number

XX-XXXXXX

Drawing Number Drawn Checked



AREA OF WORK

1) REMOVE (E) WATER HEATER FLUE THROUGH ROOF. (E) OPENING TO BE REUSED AND PATCHED FOR (N) CONCENTRIC VENT.

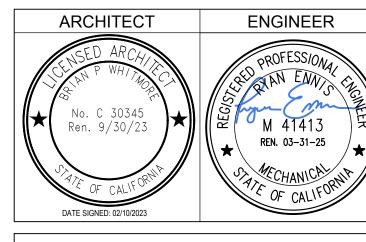
GENERAL NOTES

FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK AND NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

2 REMOVE (E) POOL BOILER FLUE THROUGH ROOF. SEE POOL EQUIPMENT DRAWINGS FOR NEW WORK.



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KEY PLAN

Natomas Unified School **District**

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

MECHANICAL DEMO FLOOR PLAN

Application Number

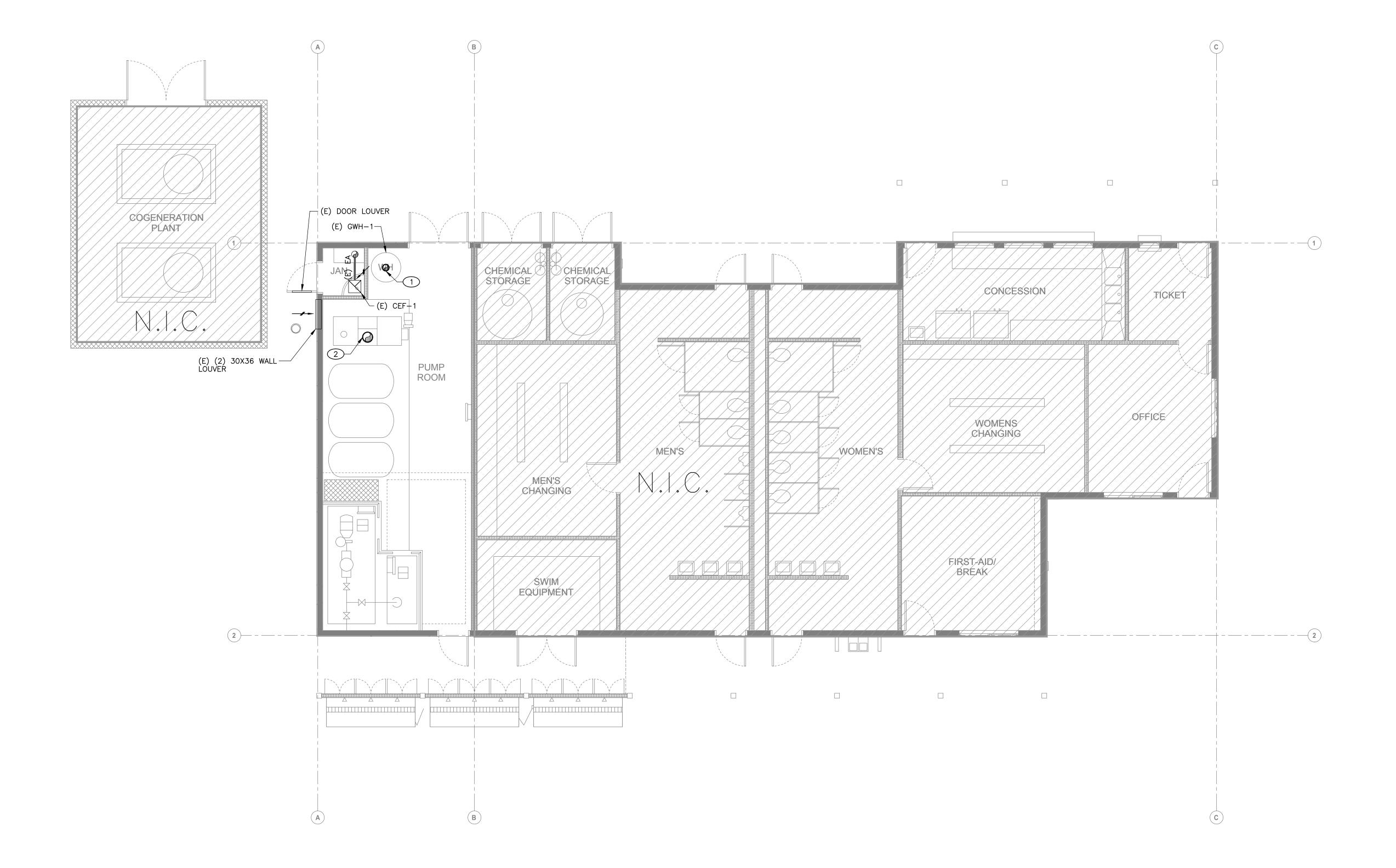
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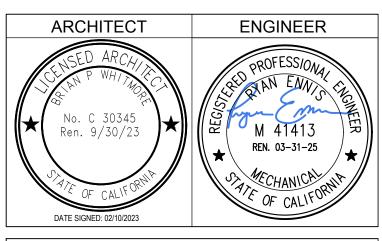
1 INSTALL (N) PVC FLUE AND COMBUSTION AIR WITH CONCENTRIC VENT THROUGH ROOF IN (E) ROOF OPENING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE ARCHITECTURAL DRAWINGS FOR ROOF PATCHING.

GENERAL NOTES

FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK AND NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.



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KEY PLAN

Natomas Unified School **District**

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

MECHANICAL NEW FLOOR PLAN

Application Number

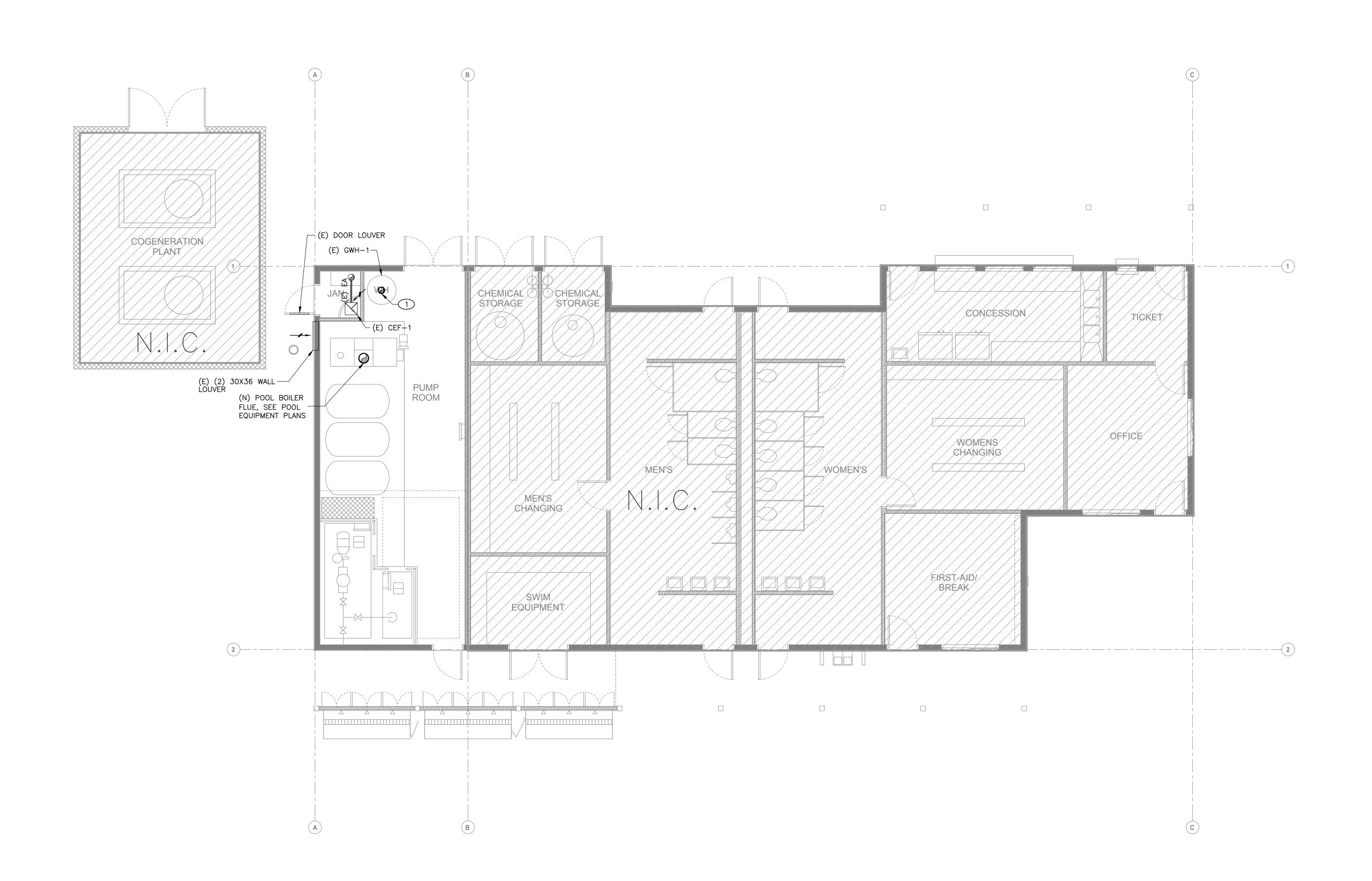
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Project Number Drawing Number

Checked Checker

MECHANICAL NEW FLOOR PLAN 3/16" = 1'-0" (1)



SITE GAS CALC NATURAL GAS SIZING TABLE BASED ON 2022 CPC EQUATION 1215.3(2) HIGH PRESSURE (SCHEDULE 40 METALLIC) INLET PRESS (PSIA)= 5 PRESSURE DROP (PSIA)= 3.5 PIPE LENGTH (FT)= 1,050 MAXIMUM LOAD (MBH)= 18,519 MAX. MBH PIPE SIZE PIPE ID 0.824 1-1/4 1.38 2,172 3,255 1-1/2 1.61 2-1/2 2.469 9,999 3.068 4 4.026 36,085 GAS EQUIPMENT CAPACITIES EQUIPMENT GAS LOAD (MBH) (E) PRV-1 (E) PRV-2 (E) PRV-3 (E) PRV-4 (E) BLDG A (E) BLDG B (E) BLDG C (E) BLDG D (E) BLDG F (E) BLDG G (E) BLDG J (E) BLDG K (E) MECH YARD POOL BLDG 2,472 COGEN YARD EQUIP 5,400

NATUR	AL GAS	SIZING TABL
BASED ON	2022 CPC E	QUATION 1215.3(1) LC
PRES	SURE (SCHE	DULE 40 METALLIC)
	PIPE LENG	ГН (FT)= 160 [^]
MAX	XIMUM LOAD	(MBH)= 2472
PIPE SIZE	PIPE ID	MAX. MBH
1/2	0.622	38
3/4	0.824	80
1	1.049	152
1-1/4	1.38	312
1-1/2	1.61	468
2	2.067	903
2-1/2	2.469	1440
3	3.068	2547
4	4.026	5198
	UIPMENT CA	
EQUIPMEN		GAS LOAD (MBH
(E) POOL A		72
POOL BOIL	_ER	2000
POOL WH		400
1		

EQUIPMENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26 AND 30.

- 1. ALL PERMANENT EQUIPMENT AND COMPONENTS. 2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
- 3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY

ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF
- LEVEL THAT DIRECTLY SUPPORT THE COMPONENT. B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING AND DUCTWORK DISTRIBUTION SYSTEM **BRACING NOTES**

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT ☐ ☐ ☐ SPECIFIC NOTES AND DETAILS.

MP MD PP E OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL (OPM#) #0043-13.

PLUMBING EQUIPMENT SCHEDULE						
MARK	FIXTURE	S or W	٧	CW	HW	DESCRIPTION
WH 1	GAS WATER HEATER			1"	1"	A.O. SMITH MODEL BTH-400(A), STORAGE TANK TYPE, 119 GALLON CAPACITY, 110 VAC POWER VENT ELECTRICAL CONNECTION. 460 GPH RECOVERY AT 100°F RISE, 399,900 BTUH INPUT. 95% THERMAL EFFICIENCY. MEETS OR EXCEEDS U.S. DOE, ASHRAE 90.1 AND SCAQMD RULE 1146.2 REQUIREMENTS. PROVIDE OPTIONAL POWER-DIRECT VENT AND CONCENTRIC VENT KIT TERMINATION, 4°Ø PVC INTAKE AND EXHAUST PIPING. 120VAC/60HZ ELECTRICAL SERVICE, 2.2 F.L. AMPS BLOWER, 4.0 AMPS IGNITER. UL LISTED. OPERATING WEIGHT= 1850 LBS. SET AT 140°F. PROVIDE ACID-NEUTRALIZER KIT.
ET 2	EXPANSION TANK			1/2"		BELL & GOSSETT MODEL PT-12, STEEL SHELL, BUTYL DIAPHRAGM TYPE EXPANSION TANK PRE-CHARGED TO 40 PSI WITH 4.4 GALLON TANK CAPACITY, 3.2 GALLON ACCEPTANCE CAPACITY.
FS 1	FLOOR SINK	2"	1-1/2"	TP		JAY R. SMITH MODEL 3150, COATED CAST IRON, ACID RESISTANT COATED INTERIOR, 12-1/2" SQUARE TOP, 10" DEEP, SEDIMENT BASKET, NICKLE-BRONZE RIM, 3/4 GRATE, DOUBLE DRAINAGE FLANGE, TRAP PRIMER CONNECTION SMITH 2697.
TP 1	TRAP PRIMER			1/2"		PRECISION PLUMBING PRODUCTS, INC. #PO-500 PRIME-RITE TRAP PRIMER. PROVIDE 12 X 12 ACCESS DOOR FOR CONCEALED UNIT. COORDINATE ACCESS DOOR LOCATION WITH ARCHITECTURAL INTERIOR ELEVATIONS AND FINISHES.
BFP 1	BACKFLOW PREVENTER			3/4"-2"		ZURN MODEL 975XL2 POINT OF USE LEAD-FREE DOUBLE CHECK VALVE. SEE PLAN FOR SIZE.

PIPE HANGER SCHEDULE

PER	2022	CPC	TABLE	313.3

		MATERIALS	TYPES OF JOINTS	HORIZONTAL	VERTICAL
l		COPPER TUBE AND PIPE	SOLDERED OR BRAZED	1-1/2 INCHES AND SMALLER, 6 FEET; 2 INCHES AND LARGER, 10 FEET	EACH FLOOR, NOT TO EXCEED 10 FEET; NOTE 5
		STEEL PIPE FOR GAS	THREADED OR WELDED	1/2 INCH, 6 FEET; 3/4 INCH AND 1 INCH, 8 FEET; 1-1/4 INCHES AND LARGER, 10 FEET; NOTE 7	1/2 INCH, 6 FEET; 3/4 INCH AND 1 INCH, 8 FEET; 1-1/4 INCHES AND LARGER, EVERY FLOOR; NOTE 7
		SCHEDULE 40 PVC AND ABS DWV	SOLVENT CEMENTED	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET; NOTES 3,6	BASE AND EACH FLOOR; PROVIDE MID—STORY GUIDES; PROVIDE FOR EXPANSION EVERY 30 FEET; NOTE 6
1	r				

- SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18".
- SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION. HANGERS SHALL NOT BE PLACED ON THE COUPLING.
- PRINCIPLES WITH REGARD TO EXPANSION AND CONTRACTION, WHERE FIRST APPROVED BY THE AUTHORITY HAVING

SCHEDULE 40 PVC AND ABS DWV	SOLVENT CEMENTED	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET; NOTES 3,6	BASE AND EACH FLOOR; I MID—STORY GUIDES; PROV EXPANSION EVERY 30 FEET
IOTES:	•		_

BRACE NOT TO EXCEED 40 FOOT INTERVALS TO PREVENT HORIZONTAL MOVEMENT.

- VERTICAL WATER LINES SHALL BE PERMITTED TO BE SUPPORTED IN ACCORDANCE WITH RECOGNIZED ENGINEERING
- JURISDICTION. SEE THE APPROPRIATE IAPMO INSTALLATION STANDARD FOR EXPANSION AND OTHER SPECIAL REQUIREMENTS. NATURAL GAS PIPING TO BE SUPPORTED PER 2019 CPC TABLE 1210.2.4.1.

PLUMBING SPECIFICATIONS

INCLUDING, BUT NOT LIMITED TO:

A.1. 2022 CALIFORNIA BUILDING CODE

A.3. 2022 CALIFORNIA PLUMBING CODE

A.4. 2022 CALIFORNIA ELECTRICAL CODE

A.8. CALIFORNIA STATE FIRE MARSHAL

A.5. 2022 CALIFORNIA GREEN BUILDING STANDARDS

A.7. NATIONAL FIRE PROTECTION ASSOCIATION

A.6. 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS — TITLE 24

ITEMS INSTALLED UNDER THIS CONTRACT WITHOUT ADDITIONAL COST TO OWNER.

A.2. 2022 CALIFORNIA MECHANICAL CODE

PLUMBING LEGEND				
SYMBOL	ITEM	ABBR.		
S 1	FIXTURE DESIGNATION UNIT ABBREVIATION NUMBER			
1- P-1	DETAIL DESIGNATION DETAIL NUMBER SHEET NO. WHERE SHOWN			
-cw	DOMESTIC COLD WATER	CW		
-HW	DOMESTIC HOT WATER	HW		
	DOMESTIC HOT WATER SUPPLY	HWS		
	DOMESTIC HOT WATER RETURN	HWR		
V	VENT	٧		
<u>——</u> G—	GAS	G		
— мс —	MEDIUM PRESSURE GAS	MG		
— LPG —	LIQUID PROPANE GAS	LPG		
— s—	SEWER	S		
— -GW —	GREASE WASTE	GW		
— 0S —	OIL/SAND WASTE	0S		
——AW——	ACID WASTE	AW		
—SD—	STORM DRAIN	SD		
— RD —	ROOF DRAIN	RD		
— OD —	OVERFLOW DRAIN	OD		
<u>—с—</u>	CONDENSATE DRAIN	С		
—SCD—	SECONDARY DRAIN	SCD		
		_		

— T&P — TEMPERATURE & PRESSURE RELIEF T&P

SOV

FC0

WCO

CHK.V

TMV

soc

BLV

I TP

VTR

UG

TA/TB

ROD SIZE

3/8

1/2

5/8

FA/FB

— FS — FIRE SPRINKLER

── PIPE RISER/DROP

CO 👉 FLOOR CLEANOUT

⊶I WALL CLEANOUT

→ CLEANOUT

BALL VALVE

GATE VALVE

CHECK VALVE

MIXING VALVE

→ SHUT-OFF COCK

BALANCING VALVE

TYPICAL

── CONTINUATION

- EXISTING

VENT THRU ROOF

UNDERGROUND

UNDER FLOOR

TO ABOVE/BELOW

POINT OF DIS/CONNECTION

PER 2022 CPC TABLE 313.6

SIZE (IN) 1/2 - 4

5 – 8

10 -12

HANGER ROD SIZING

FROM ABOVE/BELOW

TRAP PRIMER

CIRCULATION PUMP

TG**Ф──** CLEANOUT TO GRADE

——⊗—— SHUT-OFF VALVE IN BOX

OVERFLOW DRAIN OUTLET

PIPE CAP

ANY CHANGES REQUIRED MUST FIRST BE APPROVED BY THE ARCHITECT OR ENGINEER. E. THE LOCATIONS OF EQUIPMENT, PIPING, AND SYSTEMS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. CHANGES REQUIRED TO SUIT EXISTING CONDITIONS AND DUE TO COORDINATION WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST TO THE OWNER. SUBMIT MANUFACTURER'S PRODUCT DATA INCLUDING NAME OF MANUFACTURER, TRADE NAME, MODEL, CAPACITY, OPTIONS, DIMENSIONS, WEIGHTS, INSTALLATION AND STARTUP DATA. EQUIPMENT PERFORMANCES SCHEDULED ARE MINIMUM CAPACITY, FLOW, EFFICIENCY, ETC. REQUIRED. WEIGHTS AND ELECTRICAL DATA SCHEDULED IS MAXIMUM AVAILABLE OR ALLOWABLE. 3. ALL FOUIPMENT IS TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER, USING ALL ACCESSORY

SERVICES ARE NOT AS SHOWN.

ACCESSIBILITY REQUIREMENTS.

EQUIPMENT AVAILABLE FROM THE MANUFACTURER FOR SUPPORTS. CONTROLS. ETC.. TO MAKE A COMPLETE SYSTEM. ALL EQUIPMENT OR ACCESSORIES NEEDED AND NOT SHOWN OR SPECIFIED SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. ADJUST THE EQUIPMENT FOR PROPER OPERATION, CHECK ALL CONTROLS AND VERIFY THAT ALL SAFETY DEVICES ARE FUNCTIONING PROPERLY.

A. THIS CONTRACTOR SHALL COMPLY WITH ALL CODES AND REGULATIONS IN EFFECT AT THE JOB SITE,

B. ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL

MECHANICAL, ELECTRICAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL

LOCATION AND CONFIGURATION OF THE WORK NECESSARY TO SUIT ACTUAL CONDITIONS AND OTHER TRADES.

ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL DAMAGED

. THE PLUMBING CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF OPERATION, MAINTENANCE AND

). CHECK AND VERIFY EXISTING CONDITIONS AT THE JOB SITE BEFORE BEGINNING WORK. ADJUST THE

PREVENTATIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF PLUMBING EQUIPMENT.

- PROVIDE ACCESS DOORS WHERE ACCESS THROUGH FLOORS, WALLS OR CEILINGS IS REQUIRED TO ACCESS PLUMBING COMPONENTS OR OTHER SYSTEMS REQUIRING ACCESS FOR MAINTENANCE, TESTING OR OBSERVATION. COORDINATE THE EXACT TYPE AND LOCATION OF ACCESS DOORS TO PROVIDE PROPER ACCESS TO THE ITEM CONCEALED.
- CHECK ALL SYSTEMS FOR LEAKS. CORRECT ANY DEFICIENCIES AS SOON AS DISCOVERED. OPERATE THE SYSTEMS AS A TEST AND DEMONSTRATE TO THE OWNER AND ARCHITECT OR ENGINEER THAT THE SYSTEM IS FUNCTIONING PROPERLY.
- . BEFORE COMMENCING WORK CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING, VERIFY THE LOCATION OF ALL SERVICES. NO EXTRA COSTS SHALL BE ALLOWED IF
- K. COORDINATE ALL NEW OR CHANGING UTILITY SERVICES WITH UTILITY PROVIDER AS SOON AS POSSIBLE. ALL WORK PERFORMED NOT IN ACCORDANCE WITH THE UTILITY COMPANIES REQUIREMENTS PRIOR TO COORDINATING WITH THE UTILITY COMPANY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- . INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. M. MAKE ALL CONNECTIONS TO EQUIPMENT AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER AS FAR AS TRAPS, DRAINS, FLEXIBLE CONNECTIONS, ETC. AND AS REQUIRED BY THE EQUIPMENT AND LOCATION.

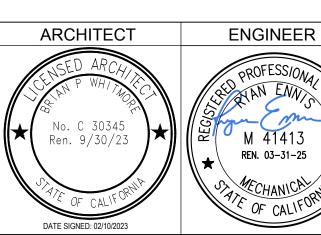
N. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, FIXTURE MOUNTING HEIGHTS AND ADA

PLUMBING SHEET INDEX			
SHEET NUMBER	SHEET NAME		
P0.0	PLUMBING SCHEDULES, LEGEND & NOTES		
P0.1	PLUMBING DETAILS		
P1.0	PLUMBING DEMO SITE PLAN		
P1.1	PLUMBING SITE PLAN		
P2.0	PLUMBING DEMO FLOOR PLAN		

SHEET NUMBER	SHEET NAME
P0.0	PLUMBING SCHEDULES, LEGEND & NOTES
P0.1	PLUMBING DETAILS
P1.0	PLUMBING DEMO SITE PLAN
P1.1	PLUMBING SITE PLAN
P2.0	PLUMBING DEMO FLOOR PLAN
P2.1	PLUMBING FLOOR PLAN



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NO.	REMARKS	DATE

	DATE
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BIDDING	
CONSTRUCTION	

KEY PLAN

Natomas Unified School

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

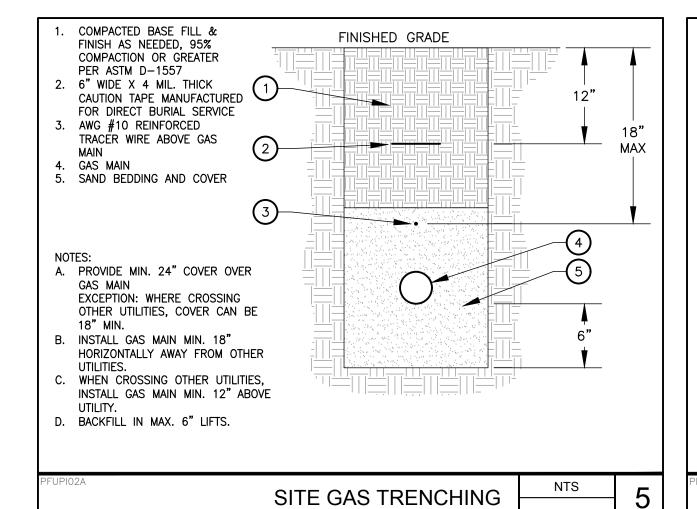
PLUMBING SCHEDULES, **LEGEND & NOTES**

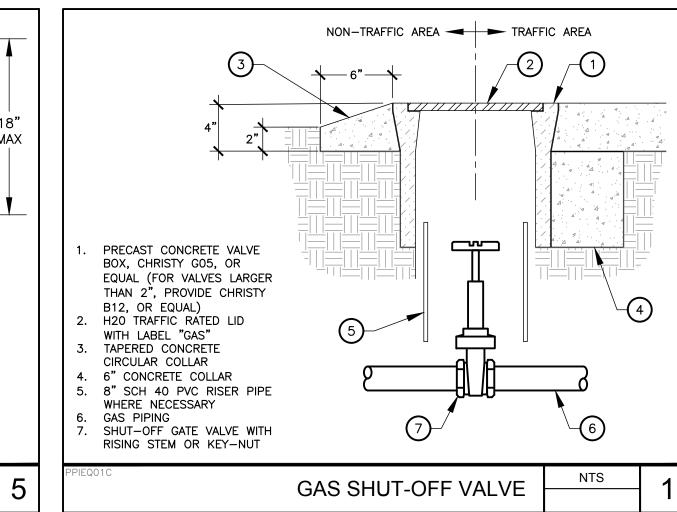
Project Number

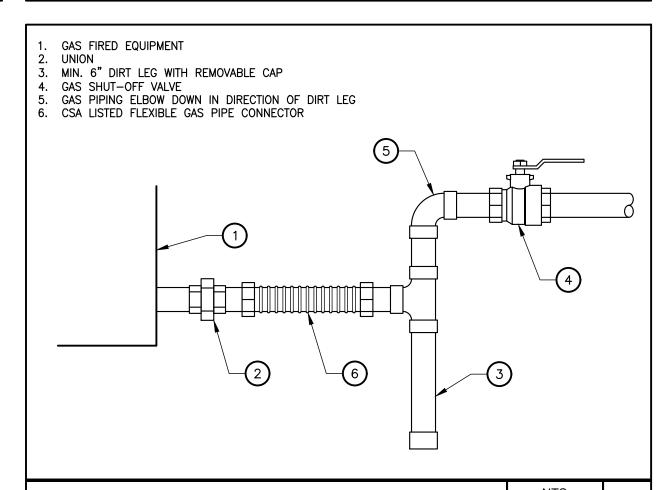
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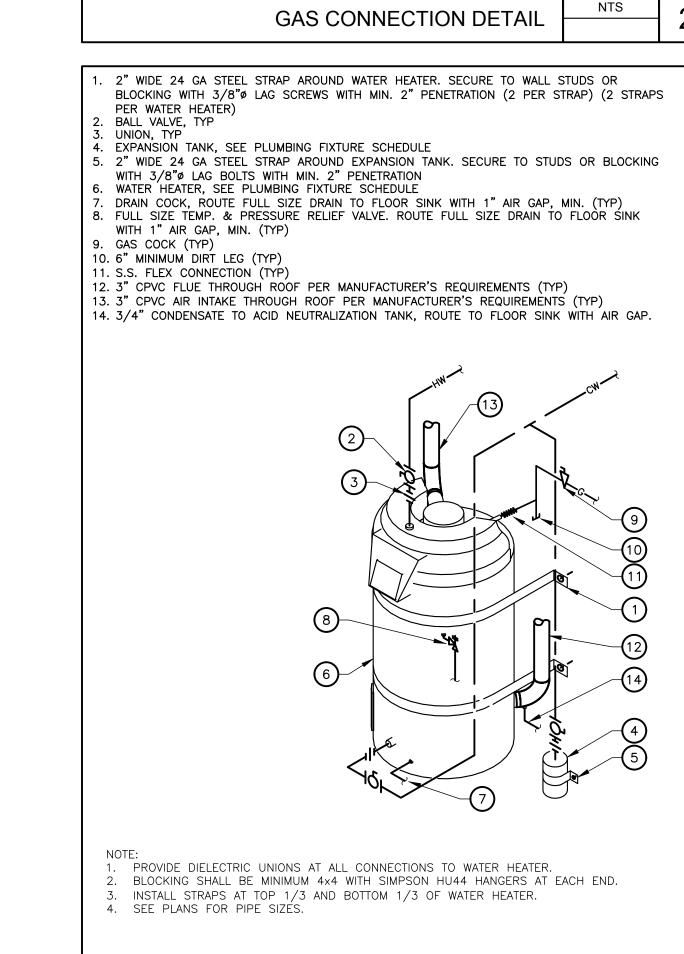
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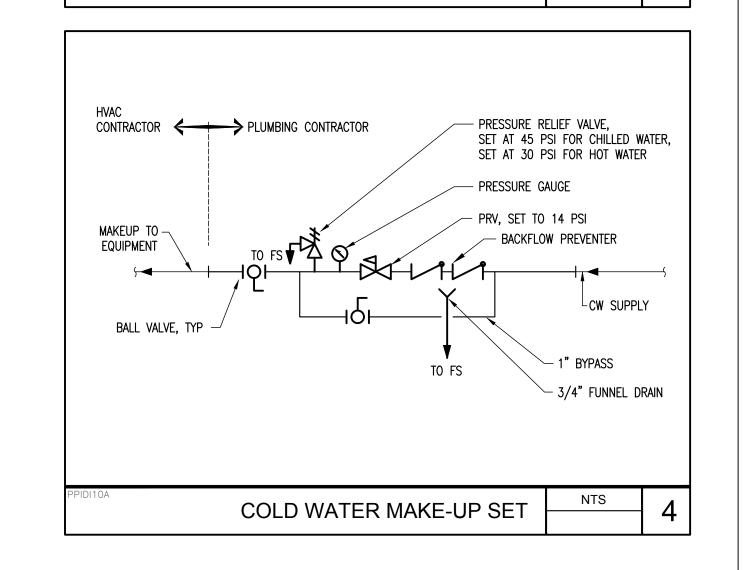
Application Number XX-XXXXXX









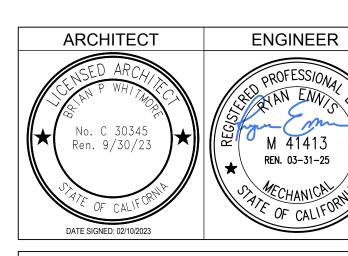


GAS WATER HEATER DETAIL

NTS



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CONSTRUCTION

KEY PLAN

Natomas Unified School

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

PLUMBING DETAILS

Date		Project Number	
02/10/2023		22033	
Application Number		Drawing Number	
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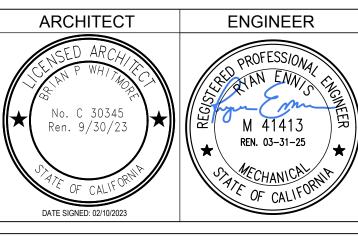


GENERAL NOTES

FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK AND NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

1 REPLACE EXISTING PIPING SHOWN HATCHED BACK TO POD.

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KEY PLAN

Natomas Unified School **District**

PROJECT STATUS

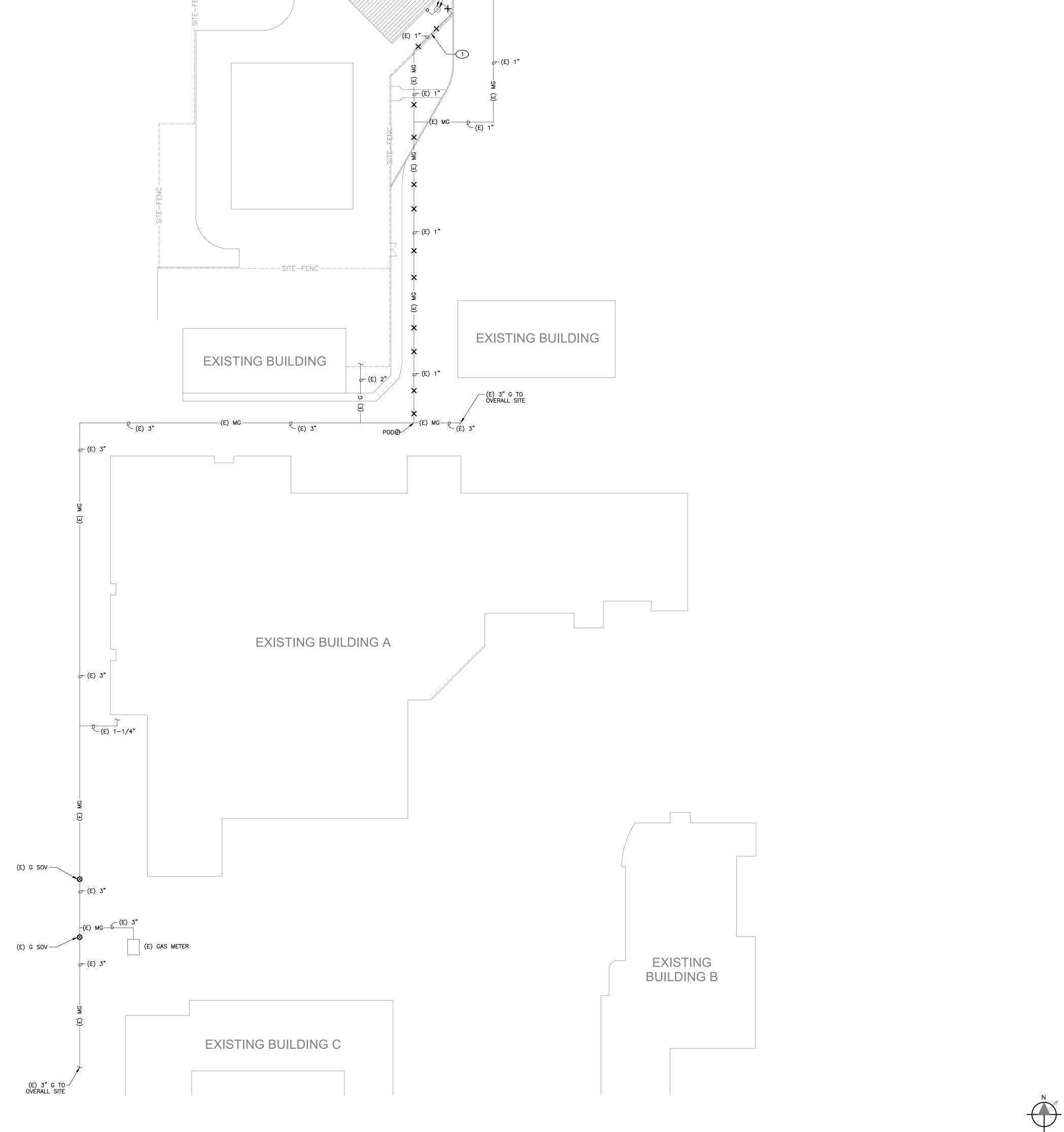
NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

PLUMBING DEMO SITE PLAN

Project Number 22033 Application Number XX-XXXXXX Drawing Number Drawn Checked

Author Checker

PLUMBING DEMO SITE PLAN | 1" = 30'-0" (1)



Y SITE-FENC

AREA OF WORK

(E) GAS REGULATOR

(E) 1" (E) MG

→ (E) 1"



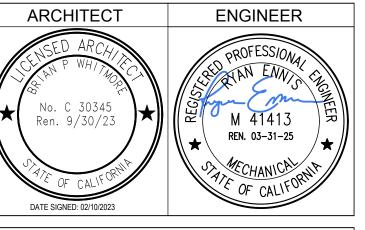
GENERAL NOTES

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1) COORDINATE NEW TOTAL GAS LOAD AT MAIN GAS METER WITH UTILITY COMPANY.



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KEY PLAN

Natomas Unified School District

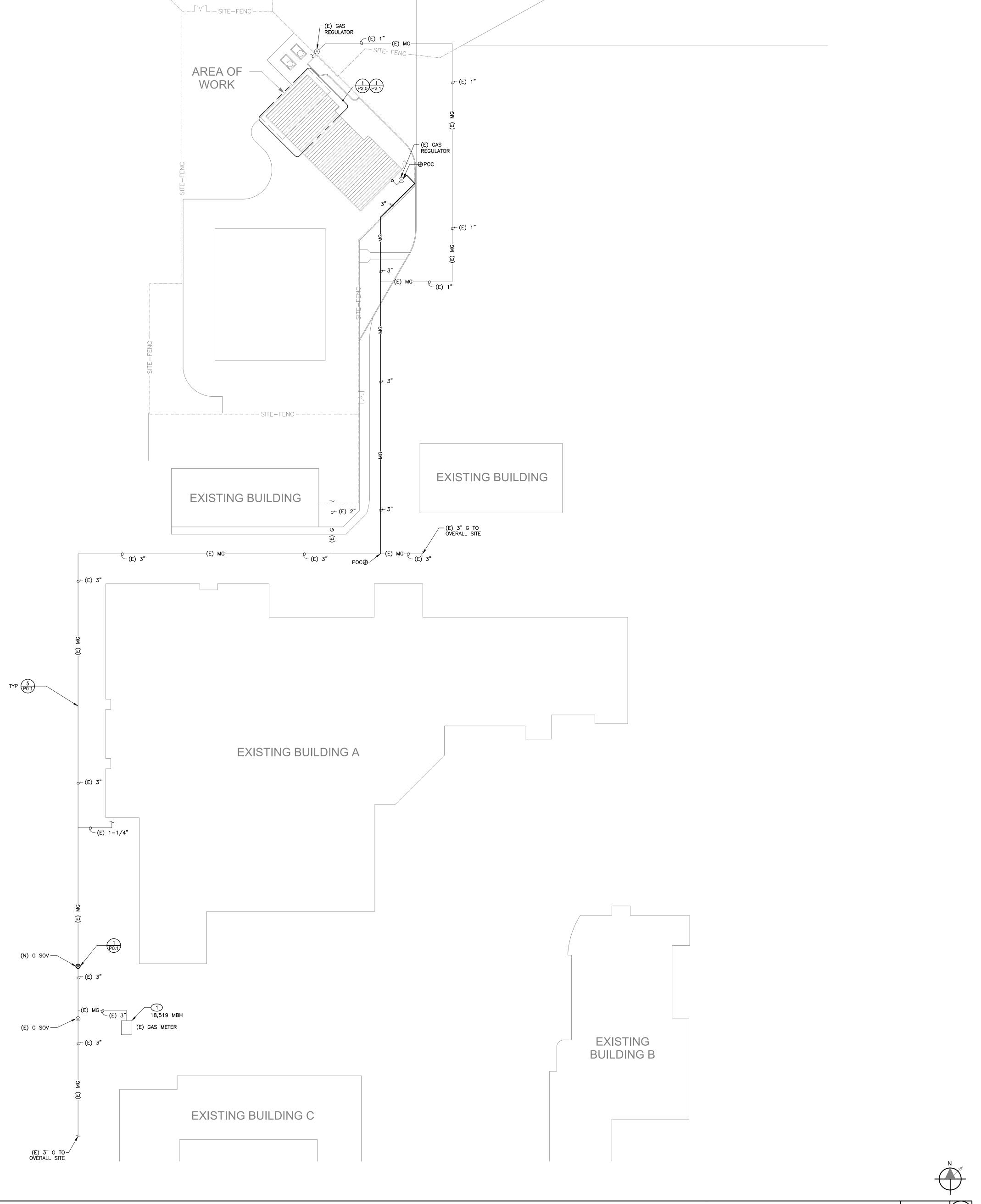
PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

PLUMBING SITE PLAN

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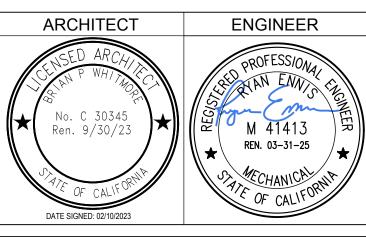
2 REMOVE (E) WATER HEATER SHOWN HATCHED.

3 REMOVE (E) WATER HEATER T&P RELIEF UP TO POD FOR CONNECTION TO (N) WATER HEATER.

4 REMOVE (E) 3" GAS CONNECTION TO POOL BOILER UP TO POD AT RISER. COORDINATE GAS LOCATION WITH (N) POOL BOILER.



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KEY PLAN

Natomas Unified School District

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

PLUMBING DEMO FLOOR PLAN

Project Number Drawing Number Application Number XX-XXXXXX Drawn Checked

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COGENERATION

/N.J.Ç./

(E) COTG—

(E) POOL EQUIP— DRAIN PIT

CHEMICAL STORAGE

PUMP 6"RO(E) s

STORAGE

/N,X,C,

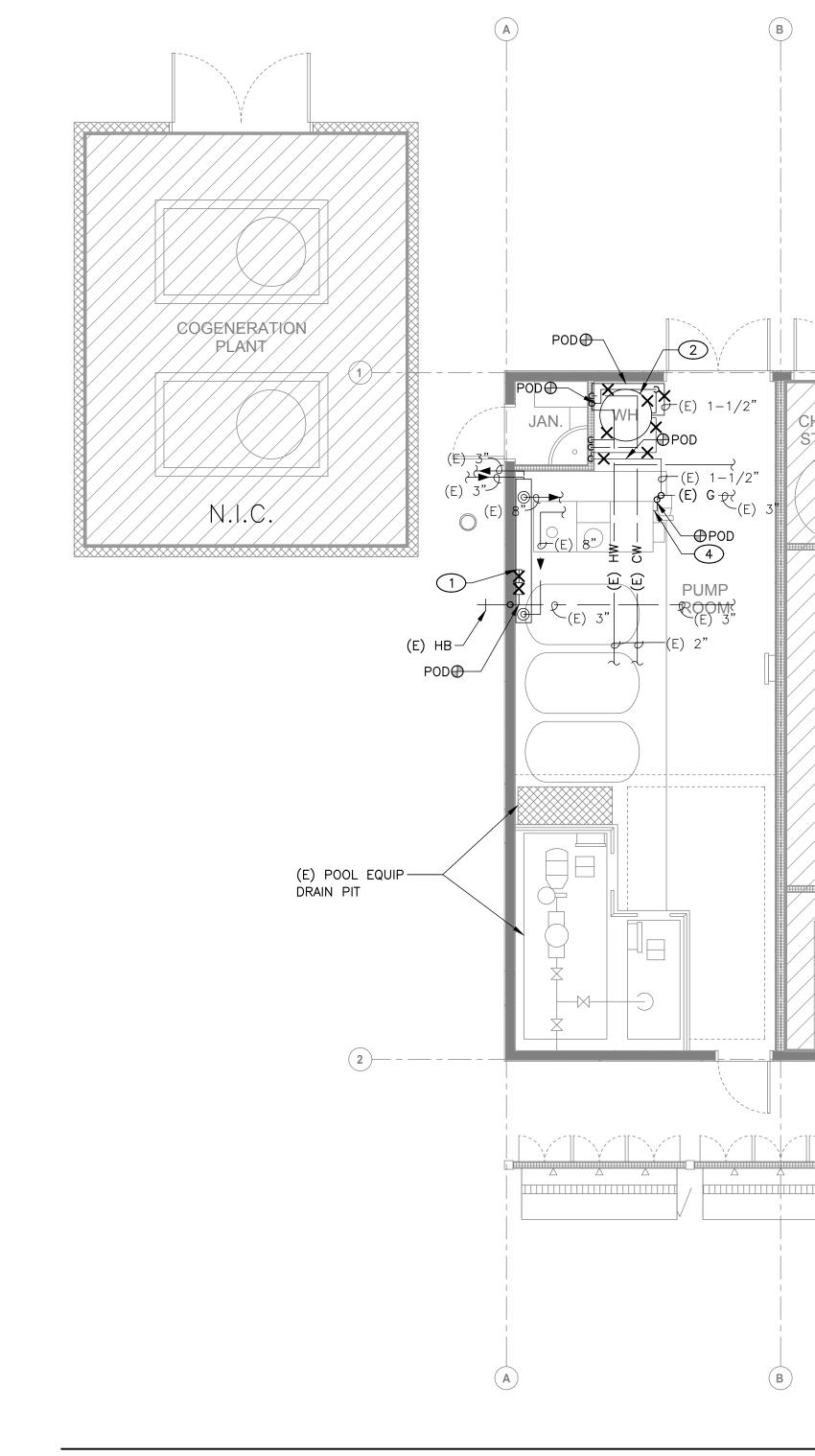
MEN'S

CHANGING

(E) 2" VTR

PLUMBING DEMO WASTE & VENT FLOOR PLAN 3/16" = 1'-0" (2)

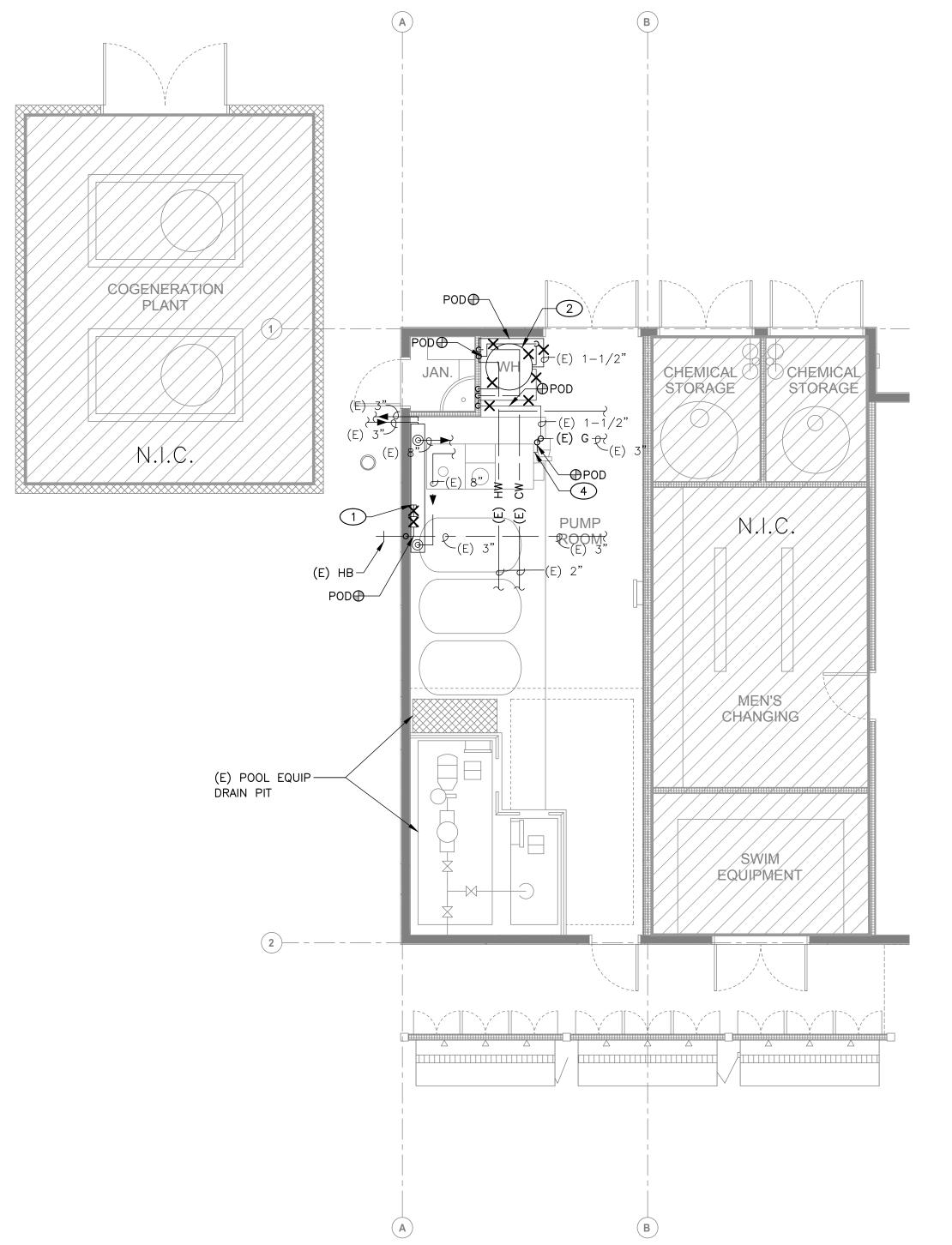
PLANT

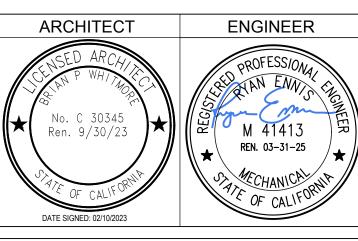


PLUMBING DEMO WATER & GAS FLOOR PLAN 3/16" = 1'-0" 1

GENERAL NOTES

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KEY PLAN

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD

PLUMBING NEW FLOOR PLAN

Project Number

KEY NOTES

1 ROUTE CONDENSATE DRAIN FROM WATER HEATER WITH ACID NEUTRALIZER TO FLOOR SINK WITH MIN. 1" AIRGAP.

PROVIDE 3/4" CW MAKE-UP SET FOR CONNECTION TO POOL BOILER SYSTEM. COORDINATE WITH POOL EQUIPMENT CONTRACTOR FOR CONNECTION.

3 CONNECT (N) T&P RELIEF PIPING TO EXISTING CONNECTION IN WALL WITH DISCHARGE TO ABOVE GRADE OUTSIDE.

COORDINATE WITH POOL EQUIPMENT CONTRACTOR FOR

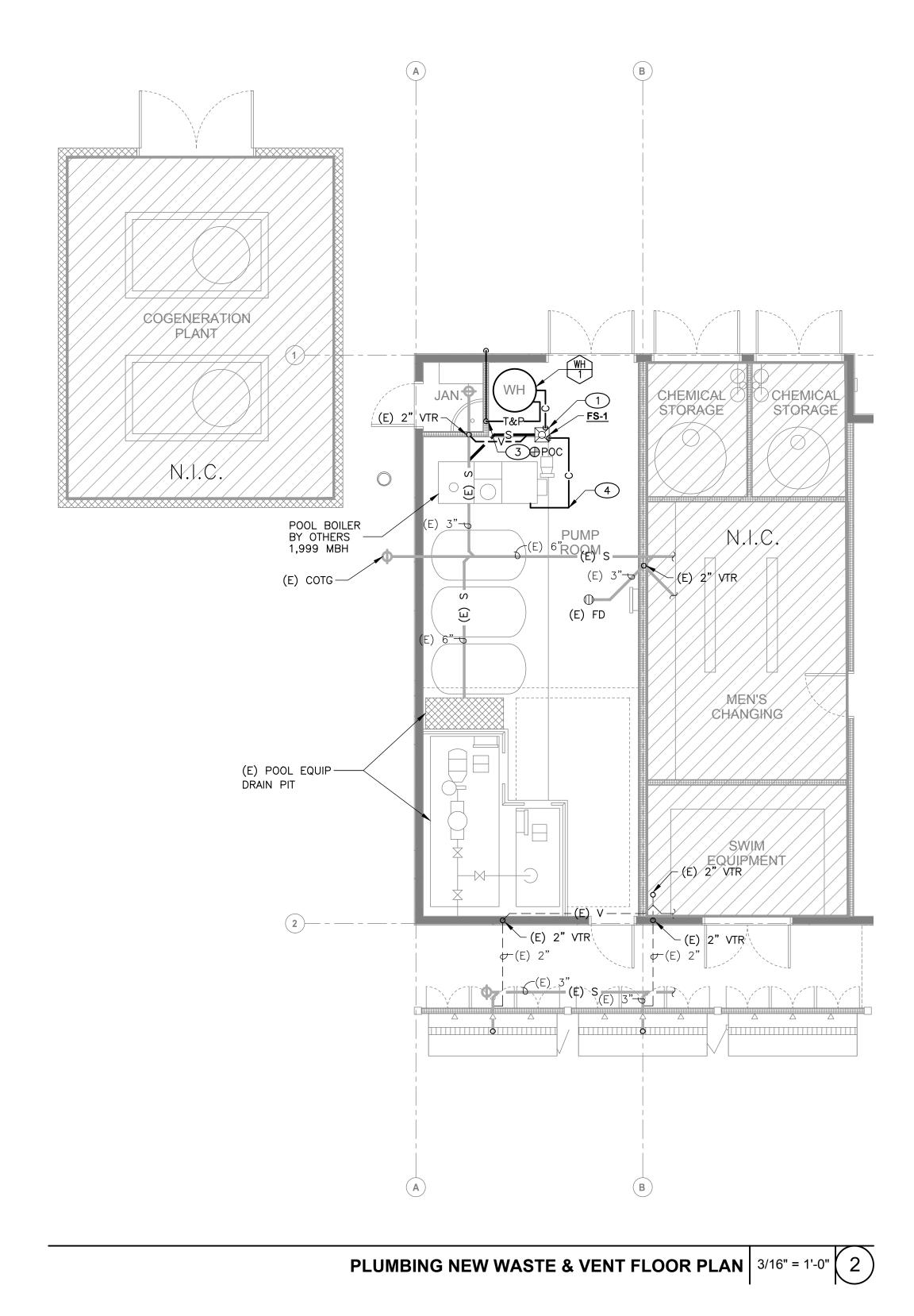
GENERAL NOTES

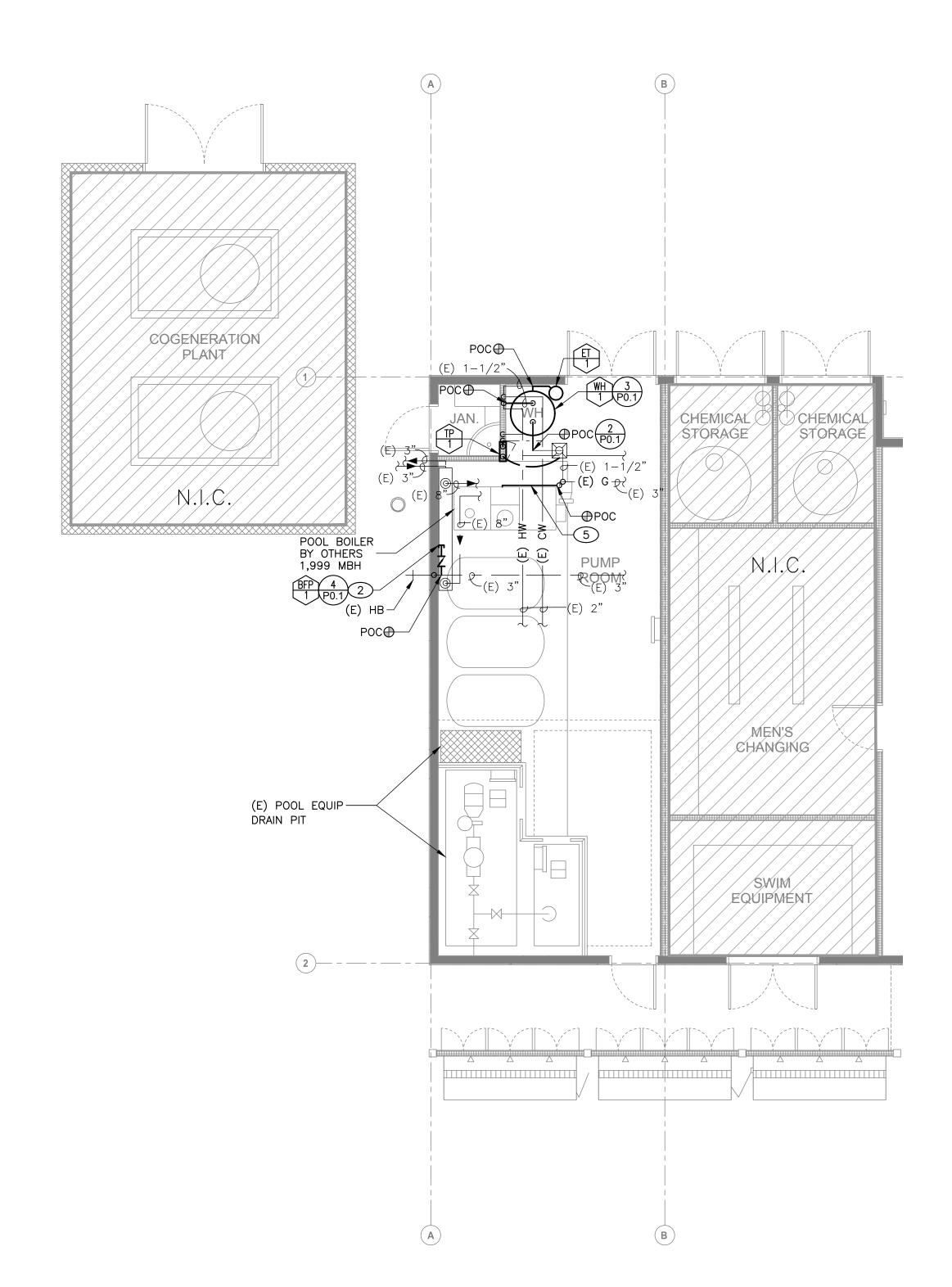
FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK AND NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

4 ROUTE FULL SIZE CONDENSATE DRAIN PIPING FROM POOL BOILER TO FLOOR SINK WITH MIN. 1" AIRGAP.

5 CONNECT (N) 3" GAS TO (N) POOL BOILER WITH SOV. COORDINATE WITH POOL EQUIPMENT CONTRACTOR FOR CONNECTION.

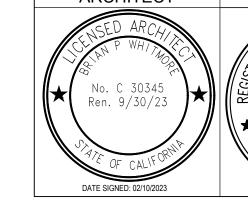
CONNECTION.





PLUMBING NEW WATER & GAS FLOOR PLAN 3/16" = 1'-0" 1

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Natomas Unified School District

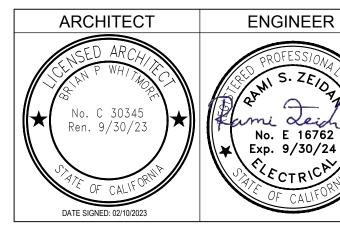
PROJECT STATUS

SACRAMENTO, CA 95834

Drawing Number Application Number XX-XXXXXX Drawn Checked Author Checker







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KEY PLAN

Natomas Unified School District

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

ELECTRICAL OVERALL SITE PLAN

Date
02/10/2023
Application Numb

Application Number

XX-XXXXXX

Drawing Number

Project Number 22033

Drawn Checked

Author Checker

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2 DEMOLISHED GAS POOL HEATER; PROTECT AND RESERVE ASSOCIATED (E) 120V, 20A POWER CIRCUIT(S) FOR RECONNECTION TO (N) GAS POOL HEATER. SEE SHEET E2.1

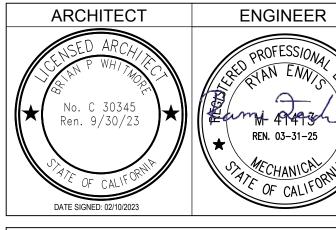
GENERAL NOTES

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3 (E) ELECTRICAL PANEL TO REMAIN.



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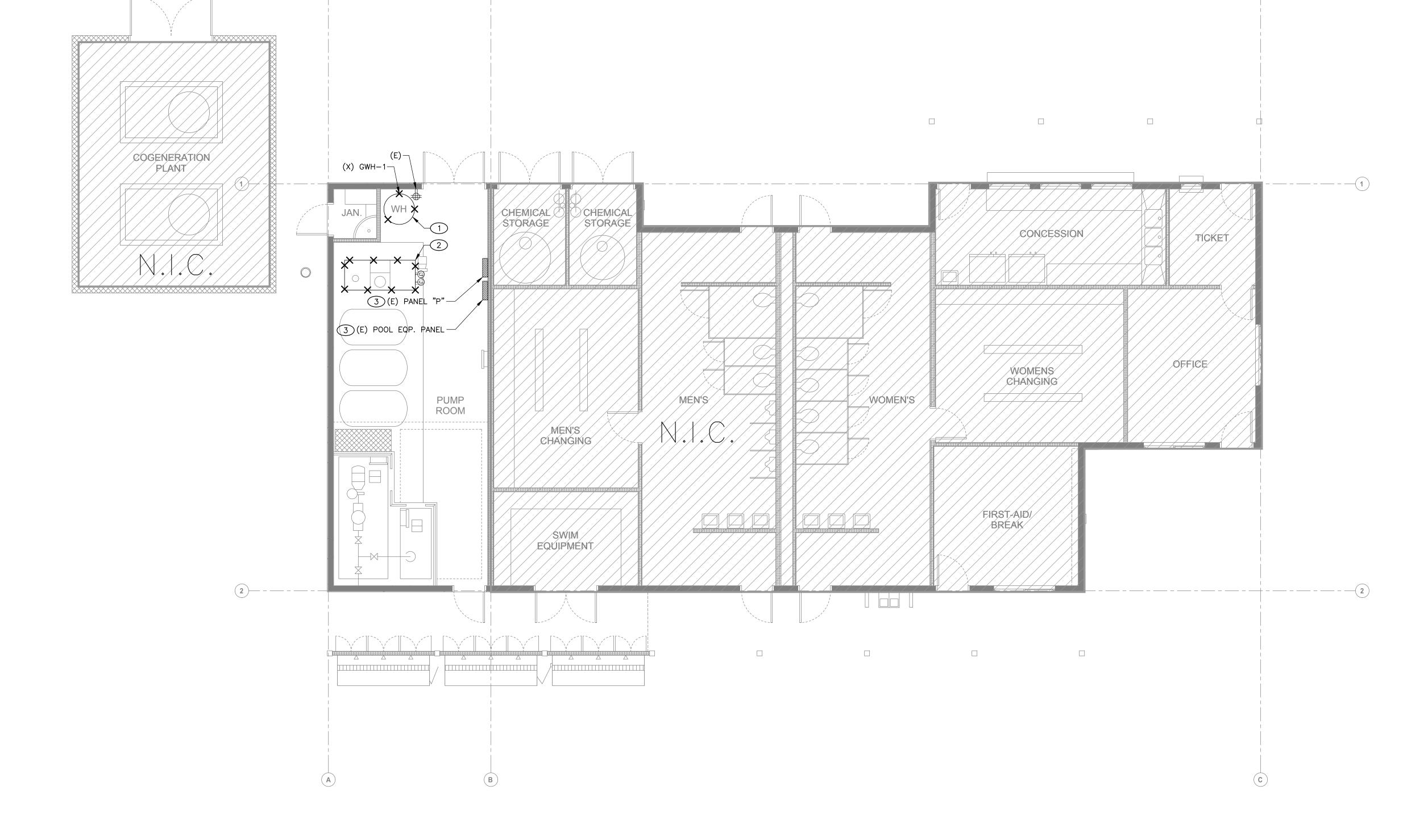
Natomas Unified School **District**

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD

ELECTRICAL DEMO FLOOR

Project Number Application Number XX-XXXXXX

Drawn Checked Checker



PROJECT STATUS

SACRAMENTO, CA 95834

PLAN

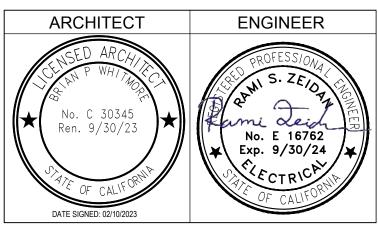
(N) GAS POOL HEATER; RECONNECT (E) 120V, 20A
POWER CIRCUIT(S). EXTEND THE CIRCUIT(S) IF REQUIRED.
VERIFY (E) CIRCUIT(S) CONDITION; IF (E) CIRCUIT(S) ARE
NOT IN APPROPRIATE CONDITION PROVIDE (N) CIRCUIT(S)
TO GAS POOL HEATER FROM (E) POOL EQUIPMENT
PANEL "P", AND DEMOLISH (E) CIRCUIT(S). SEE POOL
EQUIPMENT DRAWINGS FOR MORE INFO.

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KEY PLAN

Natomas Unified School District

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

ELECTRICAL FLOOR PLAN

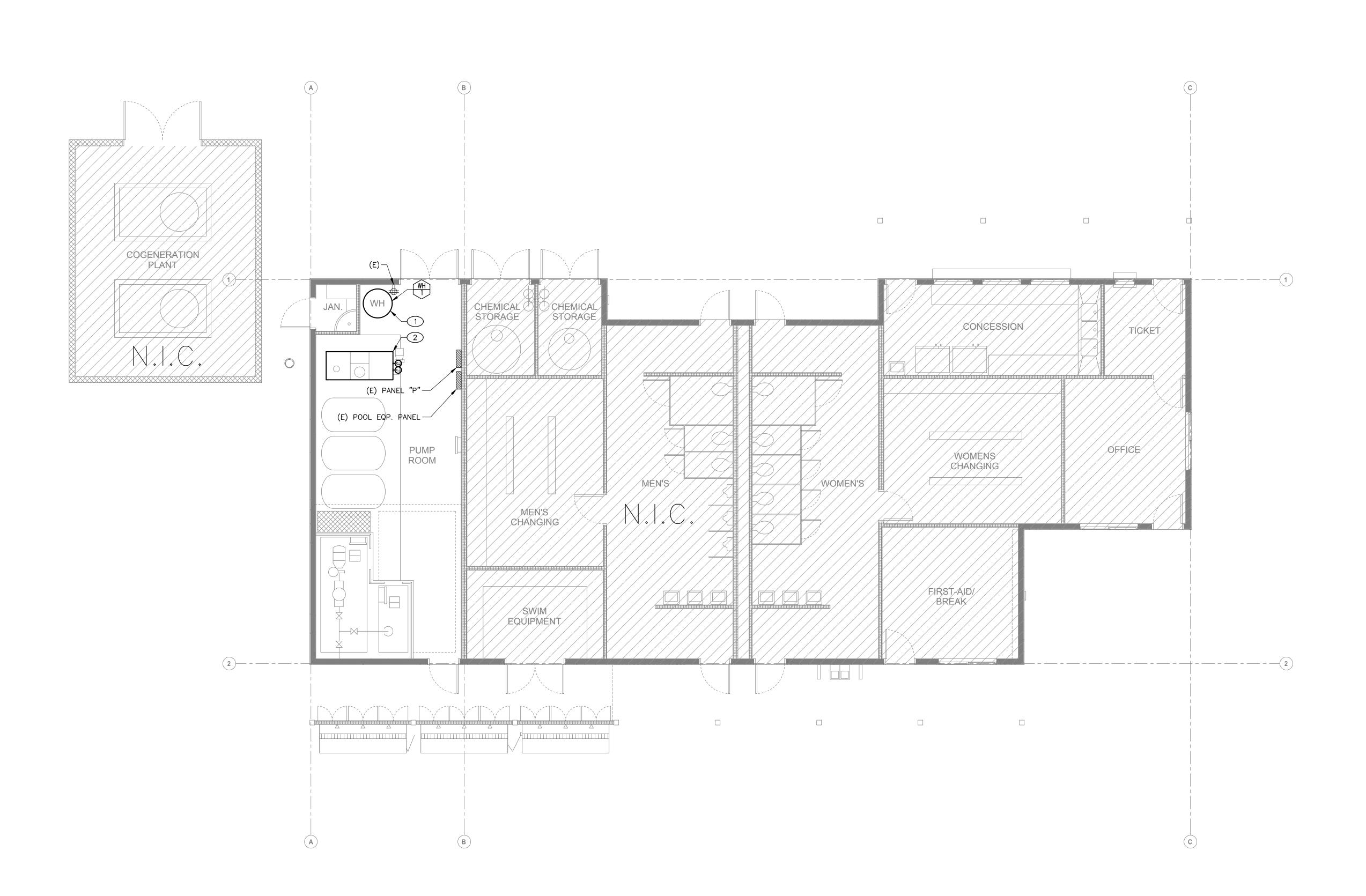
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02/10/2023
Application Number
XX-XXXXXX

Drawing Number

Project Number

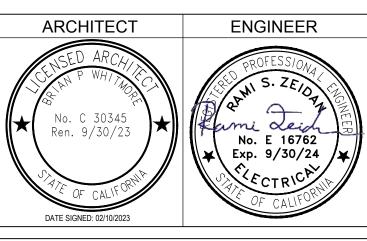
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3/16" = 1'-0" 1



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CKT.	BKR		Α	В	С	Α	В	С	DESCRIPTION	BKR	Ck
1	20/1	(E) POOL LIGHT	1,900			1,900			(E) POOL LIGHT	20/1	2
3	20/1	(E) POOL LIGHT		1,900			1,900		(E) POOL LIGHT	20/1	4
5	20/1	(E) POOL LIGHT			1,900			1,900	(E) POOL LIGHT	20/1	(
7	100/3	(E) CIRCULATION PUMP	8,400			1,900			(E) CHIMICAL CONTROLLER	20/1	8
9	-	(E) CIRCULATION PUMP		8,400			1,900		(E) HEATER	20/1	1
11	-	(E) CIRCULATION PUMP			8,400				(E) LIGHT CONTACTOR	20/1	1.
13	20/1	(E) PRESS. AMP. PUMP	1,900						(E) SPARE	20/1	1
15	20/1	(E) CONTRACTOR CONTROL		1,900					(E) SPARE	20/1	1
17	20/1	(E) SPARE							(E) SPARE	20/1	1
19	20/1	(E) SPARE						,	(E) SPARE	20/1	2
21	20/1	(E) HEATER BYPASS PUMP		1,900					(E) SPARE	20/1	2
23	20/1	(E) SPARE							(E) SPARE	20/1	2
25	20/1	(E) SPARE							(E) SPARE	20/1	20
27	20/1	(E) SPARE							(E) SPARE	20/1	2
29	20/1	(E) SPARE							(E) SPARE	20/1	30
31	20/1	(E) SPARE							(E) SPARE	20/1	3:
33	20/1	(E) SPARE							(E) SPARE	20/1	3
35	20/1	(E) SPARE							(E) SPARE	20/1	3
37	20/1	(E) SPARE							(E) SPARE	20/1	3
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41	20/1	(E) SPARE							(E) SPARE	20/1	4:
			•		PHASE T	OTALS				·	
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F	PANEL AN	ID CIRCUIT BREAKER NOTES:							DEMAND LOADS		
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									TACLES / OTHER x 100%	34,700	
									ST MOTOR x 25%	2,100	
									DEMAND LOADS	53,425	
									DEMAND AMPS	148	





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KEY PLAN

Natomas Unified School
District

PROJECT STATUS

NUSD Natomas HS POOL MODERNIZATION 3301 FONG RANCH ROAD SACRAMENTO, CA 95834

ELECTRICAL PANEL SCHEDULES

Date
02/10/2023

Application Number
XX-XXXXXX

Drawn Checked

Project Number
22033

Drawing Number

Author Checker